

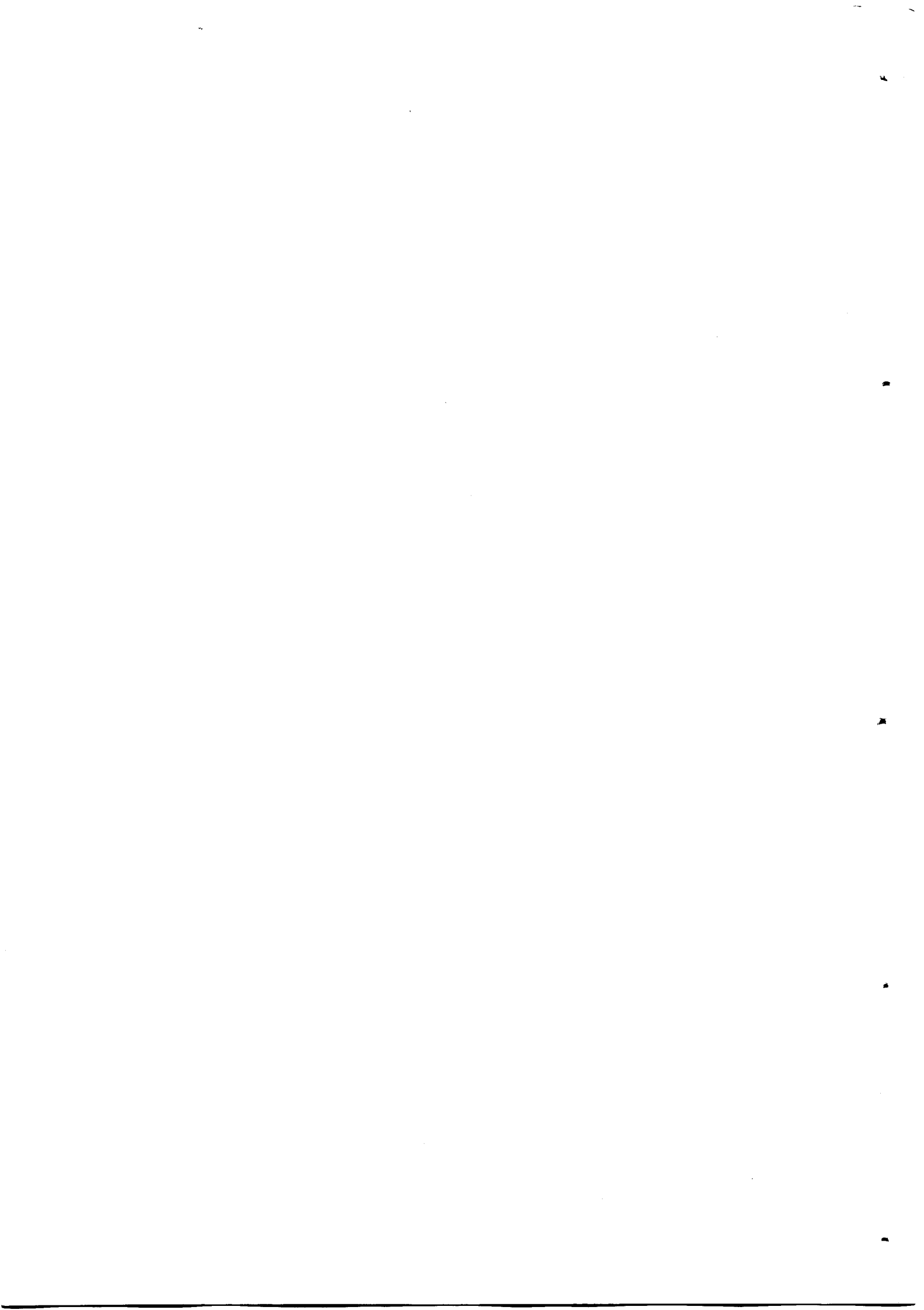
PLANNING EDUCATION IN SMALL DISPERSED ISLAND STATES
WITH PARTICULAR REFERENCE TO THE MALDIVES

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MEd (Wales)

A thesis submitted in candidature for the degree of
Philosophiae Doctor of the University of Wales

1991



DECLARATION

I hereby declare that the work presented in this thesis is the result of my own independent investigation, except where I have indicated my indebtedness to other sources.

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ABSTRACT

The study is aimed at assessing how far the key principles underlying educational planning (namely, the "manpower requirements approach", the "microplanning/ school-mapping approach" and the "social demand approach") apply in the context of the small dispersed island state of the Maldives. The analysis was based on "secondary data" (such as raw data from the Ministry of Education Schools Questionnaire of 1988, scholarship records, etc.) and "secondary sources" such as the census reports of 1985 and 1977, Statistical Year-books and documents.

The analysis related to the "manpower requirements approach" demonstrated that straight-forward coefficient-based projections were highly vulnerable to prediction errors over the "acceptable" range ($\pm 10\%$), when measured in terms of "percentage prediction error" and the "root-mean-square error". However, the limited local training capability, the shortage of skills and the external dependence for training and "technical and professional" labour, somehow demand the estimation of future manpower requirements and reconciliation of supply capability with them.

The smallness and fragmentation of the land, population and other resources by oceanic and communicational dispersion revealed the usefulness of microplanning and school-mapping principles in planning the provision of the levels aspired for universalisation (primary and middle-school education). The expansion and the development of the education system over the archipelago, together with the usual factors of social demand for education, is producing a pressure for education at the secondary level, the provision of which requires careful assessment and planning. The relevance of the social demand principle is discernible here.

A composite comprehensive approach is suggested for planning the total education system: to plan higher education and training, efforts should be made to devise some means of estimating the future needs; the social demand principle may be applied to the secondary level; and the microplanning/ school-mapping principle may be used for primary and middle school levels.

DEDICATION

This work is dedicated to development enthusiasts of small dispersed island states.

ACKNOWLEDGEMENT

First and foremost, unending thanks are due to Allah Almighty for all His generous blessings bestowed upon my family and me at all times and during this work.

I also hasten to express my most profound gratitude and respect to Dr. John Richards, Senior Lecturer of University of Wales College of Cardiff, for his valuable lessons, guidance and encouragement in my studies, both in the Masters programme and in this study.

I would also like to thank Dr. D. G. Moss, Senior Lecturer and Dr. R. Abouserie, Lecturer, of the University of Wales College of Cardiff for their lessons in relevant computer programmes and guidance in statistics respectively. Both these contributions proved to be of immense help in my work. I also thank Mrs. D. Taylor, Secretary, School of Education, UWCC, for her continued kind considerate support throughout my studies in the Master's programme and in this work.

I am indeed indebted to the Government of Maldives for giving me the opportunity to study in Cardiff. I, particularly, underline with appreciation the shares of the President's Office, the Ministry of Education and the Ministry of Planning and Environment.

I am also very grateful to a number of my personal friends, some very dear to me and most respectful, and a number of my colleagues who have supported me morally and helped me in data collection.

My family's personal support, and my parent's and my parents-in-law's sacrifice in terms of their endurance of our absence from home are incalculable. I am most grateful to them all indeed.

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LIST OF ABBREVIATIONS AND ACRONYMS

AGFUND	Arab Gulf Fund for United Nations Development
AHSTC	Allied Health Services Training Centre, Male', Maldives.
EDC	Educational Development Centre, Male', Maldives.
FAO	Food and Agricultural Organisation
IBE	International Bureau of Education, UNESCO
IDB	Islamic Development Bank
IIEP	International Institute for Educational Planning, UNESCO, Paris
ILO	International Labour Organisation.
ITE	Institute for Teacher Education, Male', Maldives.
Mauhadh	Institute of Islamic Studies, Male', Maldives.
MOE	Ministry of Education, Male', Maldives.
MPD	Ministry of Planning and Development, Male', Maldives.
MPE	Ministry of Planning and Environment, Male', Maldives.
NFEU	Non-formal Education Unit, Ministry of Education, Male', Maldives.
NIEPA	National Institute for Educational Planning and Administration, New Delhi
NPA	National Planning Agency, Male', Maldives.
RYVTC	Rural Youth Vocational Training Centres, Maldives.
SIS	Small island states
UNDP	United Nations Development Programme, Male', Maldives.
UNESCO	United Nations Educational, Scientific and Cultural Organisation.
UNICEF	United Nations Children's Fund
VTC	Vocational Training Centre, Male', Maldives.

REGIONS OF THE MALDIVES

<u>Initials</u> ¹	<u>Long Form</u>	<u>Constitutional Name</u>
HA	Haa Alifu	Thiladhummathee Uthuruburi
HD	Haa Dhaalu	Thiladhummathee Dhekunuburi
SH	Shaviyani	Miladhummadulu Uthuruburi
NU	Noonu	Miladhummadulu Dhekunuburi
RA	Raa	Maalhosmadulu Uthuruburi
BA	Baa	Maalhosmadulu Dhekunuburi
LH	Lhaviyani	Faadhippolhu
KA	Kaafu	Maale Atholhu
AL	Alifu	Ari Atholhu
VA	Vaavu	Felidhe Atholhu
ME	Meemu	Mulaku Atholhu
FA	Faafu	Nilandhe Atholhu Uthuruburi
DH	Dhaalu	Nilandhe Atholhu Dhekunuburi
TH	Thaa	Kolhumadulu
LA	Laamu	Hadhdhummathi
GA	Gaafu Alifu	Huvadhu Atholhu Uthuruburi
GD	Gaafu Dhaalu	Huvadhu Atholhu Dhekunuburi
GN	Gnaviyani	Fuammulah
SE	Seenu	Addu Atholhu
MA	Male'	Maale'

¹ Initials as used in this study

CHAPTER ONE: INTRODUCTION

I. THE PRINCIPAL RESEARCH PROBLEM

One of the factors that have helped to achieve the present day industrial and economic successes is the benefits derived from large scale production, bulk handling and agglomerate management. The underlying principle is the increasing returns to scale or the "economies of large scale production". Other factors include the technological advancement, automation, standardisation of parts, specialisation of functions and division of labour, and the use of non-human and non-animal power in production. However, these factors also, reach their full benefit-potential and success, by exploiting economies derived only when the number of units being produced is large (Samuelson, 1980, p.25-26). Thus, size is an overriding advantage in production of goods and services.

Apart from the benefits of economies in large scale operations, large size also gives the advantage of the ability to specialise in single or few activities (or commodities) or to engage in a wide range of activities (or commodities) if need be. It also enables the flexibility to adjust or adapt to internal or external changes in markets or needs, to manipulate resources to suit varying circumstance, research and experimentation, etc. Conversely, the small size deprives one of these benefits considerably; i.e. allows little or no economies of scale in production, leaves little or no room for manoeuvre, and makes initial investments and over-head costs and costs of experimentation unaffordable. (Jalan, 1982b)

The same principle seems to apply to a considerable degree at the level of the state as well. Chennery found that the size of the nation is a significant factor in its development process (Chennery, 1960), while Bhaduri et al found that a minimum size was essential and, at times, critical for survival in the world of competition and for a beneficial participation in international trade (Bhaduri et al, 1982, p.60). For example, the large size of the United States and its firms was found to have contributed advantageously to the country's economic and industrial advancement (see Robinson, 1960, ed.). The advantage is also evident by the increased interest of several countries to form economic associations like the European Economic Community, Association for South East Asian Nations, and Organisation for Economic Cooperation and Development etc. Today, it also seems that even such associations leading to a considerable dominance of world trade is never enough. The advantages of still larger formations are only too apparent. The advantages have indeed crossed economic boundaries, and even passed military and political frontiers.

However, at this point, it must be made clear that although large size is a favourable and desired condition for economic success, the disadvantages inherent in smallness are not always insurmountable. Hong Kong (though not quite comparable to the smallness of the case under study here), Singapore and Kuwait are examples of small countries that have achieved considerable economic progress. Some advantages were available to these countries to enable themselves to overcome the typical handicaps of small countries discussed in Chapter Three of this study. Such advantages include rich natural resource endowments and/ or foreign capital,

access to pools of cheap labour and markets. Similarly, it must also be acknowledged that there are also large countries that were, for all sorts of reasons, not able to benefit from large size. In fact, because of these exceptions combined with the difficulties of the definition of size, researchers found it difficult to establish a statistical relation between size of nations and the levels of economic development. (see Robinson, ed., 1960; Jalan, ed., 1982) However, the inability to establish this relationship at national level did not diminish the merits of large size at industrial, firm or operational levels.

Thus, it is a broad assumption in this study that some theories, principles, systems, methods and procedures (evolved out of the continuous drive by, and the dependence on, the economies of large size, particularly since the Industrial Revolution of the last two centuries) inevitably, are governed by the characteristics of large size. But it is not an objective of this study to test this hypothesis per se. However, given the fact that the conventional principles and methods of educational planning were also evolved in, and based on, large countries, and were viewed as large operations, beginning from the application in USSR, it may be construed that the study is broadly about how the principles apply in the contrastingly very different small and dispersed island settings.

A. Experience of Educational Planning

Educational planning in the present forms evolved in the settings of the developed world, mainly in large countries. Its application in developing countries through the 1960s and 1970s and later through 1980s have brought home considerable controversies and disappointments compared to success stories (Unesco, 1970; Coombs, 1970, 1985). Their application to small dispersed island situations is still limited

With the recovery of independence from the colonial rulers, the developing countries drew up plans for educational development on a massive scale with high hopes and naivety or "innocence" (Ward, 1974). By the close of the 1970s the image of educational planning changed to one of "scepticism" (Coombs, 1968, 1970, 1985; Ward, 1974). Many factors were responsible: over-ambition and misconception of planning; lack of effective commitment to the actual implementation; and weakness of the implementing structures are some of the broadly grouped causes of failures. But some of the causes were technical too. The methods and techniques used in planning were faulty and inadequate or not quite appropriate to the context. (Coombs, 1985; Najafzadeh, 1985; Seers, 1982, p.69-73; Unesco, 1970; Windham, 1975).

These are conclusions drawn from assessments made on the planning experiences of countries where the scale of operations is large. This prompts one to question how the planning principles will apply in a different setting - the small dispersed island states.

B. The Dispersed Island Setting

The Maldives is an archipelago state consisting of 1190 very small islands scattered over a sea area of about 90,000 square kilometres. It has a population of 200,000 (1988) living on 200 islands. Fifty-eight per cent of the islands have populations less than 500 (1985) (See Chapter IV, Table 4.5) In the absence of a proper study of the sizes of the islands, it is estimated that most of the islands are smaller than a square km (Maloney, 1980; Seidler, 1980).

Land is scarce in the Maldives. The total area of cultivable land was estimated by Butany (1974) to be about 7000 acres (about 28 sq. km.). Fisheries, still practised with very simple methods, remain the main sector of the economy and employment. Since 1985 tourism has overtaken fisheries in terms of its contribution to GDP and foreign exchange earnings. These two sectors constitute the main industries of the economy. In the GDP of 1987, the share of fisheries was 16% and of tourism 17%. Exports were mainly fish and garments. The two items added up to 97 per cent of the total visible exports of 1987 (see Chapter Four). On the other hand, the country imported 224 per cent of total export value the same year. The country depends on imports overwhelmingly for consumer (as well as capital or intermediate) goods. The narrow range of export commodities it has to rely on and the wide range of imports the country has to depend upon, illustrate the consequent high dependence on external trade and the vulnerability of the country's economy to changes outside. (see Chapter IV for socio-economic background)

The Maldives, like many other small countries, is socially and culturally idiosyncratic. Except for two interruptions, it has remained an independent country throughout its known two millenia history. The first time, it lost its independence to the Portuguese who conquered parts of the Maldives and ruled from Goa, India for 15 years from 1558 to 1573. The second time was from 1887 to 1965 when the British made it a Protectorate. In this second interruption the country had its own rule (as specified in the agreement) but rights of foreign affairs were relinquished. However, the total absence of a foreign ruler, foreign companies or foreign communities (not even the western missionaries) during the period, made the socio-cultural, economic and political position of the Maldives very different from other countries of the region, a region that underwent a vigorous colonisation process. The indigenous social, cultural and political systems of the country evolved over two millenia of history and characterised by the distinctive environment remained strong. (Maloney, 1986, p.134) This very fact did not only make it different from other countries that share similar stages of development but also created a very different basis for understanding the social, cultural and economic problems of the society which are inextricably related to developmental planning and administration.

Indeed, the country's geography and size have a significant influence on the existing social, cultural, political and administrative systems. These systems (evolved out of smallness and dispersion) now confront modernisation and forms of development that have, on their part, evolved out of large systems based on the characteristics and advantages of large size as described above. Thus, it must be recognised that some of the problems the country faces in development are unique, while some are common to other countries but are exacerbated by virtue of size and dispersion.

C. An Illustration of the New Settings

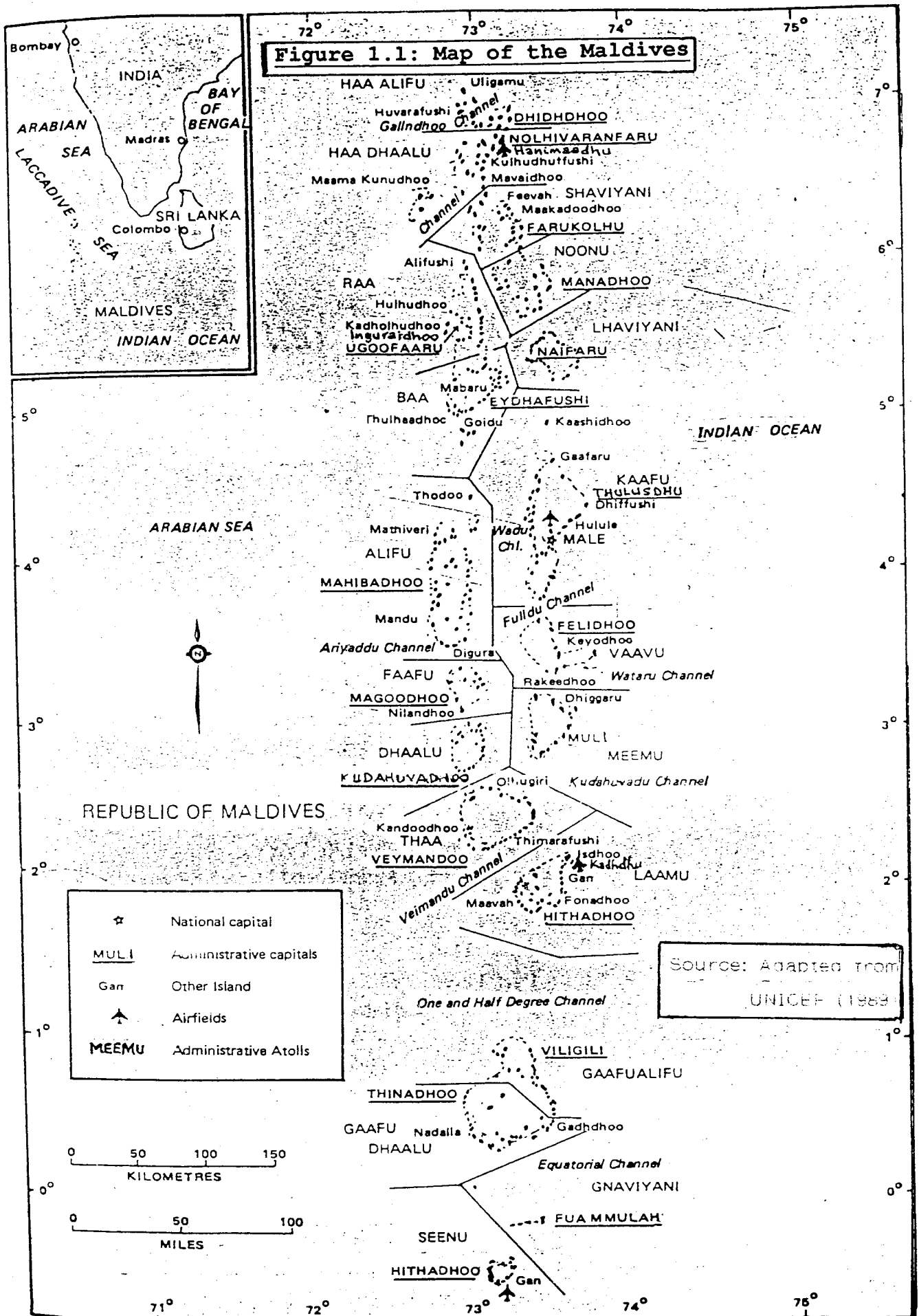
The following incident has been chosen from a newspaper to illustrate the nature of the problems that are encountered by the small dispersed island state, the Maldives. The example obviously does not cover each and every problem, nor does it exhaust all the facets of the problems. But, it is thought to provide a preview of the nature of the problems considered in this work.

A Maldivian fortnightly newspaper called *Sangu*, reported what it called a tornado that struck the island of Inguraidu in Raa Atoll. The following is a translation of a part of the news item:

According to sources, Raa Inguraidu was struck by a tornado on 8 April 1990. The damage caused is estimated at Rf. 40,000 [US\$4,444]. In this grievous incident the Government has sent financial assistance to the victims. To present the aid and convey sympathies of the Government over the misfortune, the President has also sent a delegation to the site. ... The delegation travelled in a helicopter hired from Hummingbird [a foreign multinational company] who reportedly rents them out at US\$1500.00 per hour. The Presidential team apparently spent 5 hours in the journey, costing the Government US\$7,500.00.

(*Sangu*, 15 April 1990, a translation)

Inguraidu is an island in about the middle of the northern half of the Maldives. The island is, approximately 137 km from the capital, Male' which is located more or less in the centre of the archipelago. (see Figure 1.1).



Inguraidu is an average island by physical size, population and economic potential. The population was 900 in 1990. Like all other islands, it belongs to a Parliamentary constituency of the Atoll it belongs to (namely, Raa Atoll with 15 other inhabited islands). Each Atoll is represented in the Majlis (Parliament) by two members, commanding 4.2 per cent of the votes. Inguraidhu constitutes 8 per cent of the population of its own electorate. Therefore, the island does not possess any unusual political power to invite any extraordinary attention. This illustrates the typicality of the island.

The number of victims and the extent of loss were not clear from the report, which itself is one of the problems in similar circumstances. The only information on the extent of damage is the estimation cited in the paper. The reliability of such information is always questionable. Apart from the technical problems of communication, the inadequacy of skills on site to assess such situations and the communication gap between the sources and recipients of information are some of the inherent problems in the information system.

1. Politics

In the event of a tornado, a storm or a gust striking an island, the government could not possibly ignore the incident, no matter what the size of the island or the affected community. The obligation of the government to respond to such incidents is not related to the size of the nation. Nor can the humanitarian responsibility be conditionally linked to the costs involved in such an operation. The ability to respond is, of course, a factor of the extent and the method of response, but the will to respond is not. In that respect, a difference between the small and the large nations exist only in the former and not the latter; for, the life of any one citizen must be equal and the same for the government regardless of the size of nation. Indeed, the ultimate aim of economic and political operations, whether in small or large nations, is the fulfilment of the needs of the life of the individual (Schumacher, 1973). Hence, in situations like the one described above, governments and politicians tend to behave similarly whether in small or large nations.

However, this is not to condone the government's responsibility to seek the most efficient and effective strategy to solve a problem. Means are incredibly limited while needs are unlimited in this small country. The need to make every effort within the available time and avenues, to find as effective and efficient strategy as possible is all the more crucial.

Thus, it is a precarious decision for the politicians and administrators of small states like the Maldives to make; whether to leave the incident unheeded for reasons of inability, or to attend to it promptly regardless of the costs involved. Depending on how one might look at it, such incidents also provide opportunities for political exploitation, by the government to win more support, or by opponents to discredit the government in power. Whichever the case, the application of rationale and scientific methods in decision-making is all the more important. Therefore, in the backdrop of the contextual difference in application of theories and methods, and the indispensability of scientific methods in decision-making, what is important then, is the choice of the methods, test for relevance, adaptations and/or development of new appropriate methods.

2. Management Aspects

The incident and the reporting also reflect other typical problems of small dispersed island states. Most profoundly it illustrates their inability to benefit from economies of scale in operations in the day to day affairs either by the government, the private sector or the individual. The heavy fixed costs, problems arising from physical distance, the barrier of sea and the lack of choice in solving problems of transportation and logistics are explicit. Although the researcher would not present the incident as a case for proneness of the small island state to natural disasters, it does, nevertheless, hint at the vulnerability of these states for large scale losses in such incidents. Such a tornado could easily devastate an entire atoll or a sole facility of a vital service such as the single international airport island or the only port of the heavily import-dependent country. The cost of restoration of any of these vital service could be beyond its immediate means.

According to the report, the estimated damage was Rf.40,000 or US\$4,444 while the transport bill alone was US\$7,500 in foreign currency which is equivalent to Rf.67,500. Alternative uses of the money are many. An apparent economic inefficiency in spending is evident at the face value. The transport bill is paid to a foreign company (Hummingbird -a multi national corporation), operating in the Maldives without a proper competitor while the country has no monopoly laws to protect the customer. On the other hand, the company on its part is also handicapped by the limits of market within the country, hardly any margin for economies of scale. These are typical features inherent in small states as identified and pointed out in UNCTAD (1974), Selwyn (1975), Shand (1980), Jalan (1982) and Dolman (1985). (see Chapter III).

In the light of the problems and features discussed in Chapter III, identified in the literature on small states (e.g. Robinson, 1960; Demas, 1965; Benedict, 1967; UNCTAD, 1974; Selwyn, 1975; Jalan, 1982; Dommen, 1985;), the following problems can be identified from the incident and the reporting.

- (i) the inability to benefit from economies of scale in operations.
- (ii) the political implications.
- (iii) transportation as a problem.
- (iv) difficulties in dealing with natural disasters.
- (vi) operation of multinationals or large companies as the only company or one of the few companies.

D. Smallness in Education

The education system of the Maldives has its roots in the history, and the socio-cultural evolution of the society over the last eight centuries. But not without influence from outside. Each and every wave of external forces that swept across the region had its impact in one form or the other. However, the influx into and the bombardment of foreign cultures on the local culture since the post-independence exposure to the wider world is overwhelming. The transformations in the society are faster too. The needs and aspirations of the individual and the parents are changing rapidly. But, what will not change are scale and dispersion, the hallmarks of the country. For good or for bad these are to stay with the country to challenge any new theoretical or practical applications in every frontier of development, not least, in education.

The formal education system of the country had a gross enrolment of 51,000 in 1990, a total of 1,519 teachers, 257 schools, and the schools spent Rf.13.5 million (data used in the analyses are mostly those of 1988). About 58 percent of the schools had total enrolments (ages 6 years and above) of 100 or less while only 5.83 percent had enrolments over 500. They are all scattered over long and short distances of sea from one another. The system is characterised by a broad base of primary enrolment and a very narrow secondary enrolment. There is no proper higher education facility in the country (it depends on external institutions for higher education). There were only six institutions for training the national workforce in skilled and professional occupations. These together trained 511 persons in 1987 in programmes of durations between 4 months and 2 years. Thus, briefly it reveals how different the education and training system in the Maldives is compared to the circumstances in which the standard educational planning methods have been developed, widely applied and experienced.

On the qualitative side, the small dispersed island states generally share the problems in the systems of the developing countries, but to a greater magnitude in terms of impact and remedies (Brock, 1984; Bacchus and Brock, 1987). Problems pertaining to the provision of education include, the lack of quality teachers, high pupil:teacher ratios (particularly in small enrolment situations), lack of textbooks and equipment, actual teaching time, the lack of economies of scale in the development of infrastructure, maintenance and administration, problems of transportation, lack of skills and lack of adequate facilities for skilled training and higher education, and heavy dependence of expatriates.

Thus, the fact that these problems and features have distinct characteristics, compared to their larger counterparts, planning and implementation of essential services such as education demand appropriate investigation and innovation. The standards, methods and strategies applied in large countries need to be examined for suitability before they are applied in these countries.

II. Research Objectives

In the above perspective, the research aims to study how far the principles of educational planning apply to small dispersed island states with particular reference to the Maldives. In so doing the study will:

1. Review the concept and the basic approaches of educational planning and discuss the main criticisms and controversies. It will:
 - i. Outline the concepts and the basic approaches of educational planning.
 - ii. Discuss the main criticisms and controversies in educational planning.

2. Discuss the definition, and review the main developmental problems and features, of small dispersed island states:
 - i. Discuss the definition of "small dispersed island state".
 - ii. Review the general developmental problems and features of the small dispersed island states.

3. Examine the main geographical, social, economic, political and cultural features of the Maldives the characteristics of which have a bearing on the developmental and educational activities of the country:
 - i. Describe the geographical features of the country, and how much a factor it is in the development efforts.
 - ii. Review the social and cultural context of development in the Maldives.
 - iii. Analyse the economic condition of the country.
 - iv. Discuss the political situation.

4. Analyse the current education system:
 - i. Review the historical foundation of the existing system of education.
 - ii. Outline the current system of education including the aims and objectives.
 - iii. Review the main developmental activities in education in the context of the basic features of the country.

5. Demonstrate how far the principles of educational planning apply to the small dispersed island state of the Maldives:

- i. Analyse selected parameters related to the "manpower requirements approach" with a view to assessing how far the principles apply in the Maldives.
 - ii. Analyse and discuss the parameters of dispersion, location and size of the islands, population and schools with a view to assessing how the "microplanning/ school-mapping approach" can apply in the Maldives.
 - iii. Analyse and discuss the factors of the "social demand approach" in relation to the prevailing and the emerging circumstances, with a view to assessing how the approach might apply in the Maldives.
6. Identify areas of further research.

III. Scope of Research

Education being a key factor, though not sufficient, in the development process, the planning of education has been considered an important exercise in the domain of public affairs management. This was demonstrated by the proliferation of educational plans throughout the developing countries with the wave of independence after the Second World War. Similarly, educational plans were also used as an instrument of reconstruction of the war-torn developed world too. The majority of the exercises were conducted for the purpose of generating the required manpower needed for economic growth (Coombs, 1985) which is, indeed, a very limited function of education.

Nevertheless, theoretically, educational planning may be pursued for the fulfilment of innumerable other purposes. For example, it may be used as a decision-making tool to increase the economic efficiency of educational investments (the "rate-of-return" approach), or to provide for the individual and private demand for education (the "social demand" approach), or to improve the quality of the education system (qualitative planning), or to introduce a reform into the education system or promote broader social reforms in the society, to improve the distribution of educational services to the community etc. Each purpose demands the adoption of a specific approach to educational planning or an individual emphasis. (Chapter Two reviews and discusses the main approaches to educational planning, and their criticism and controversies) This diversity of purpose and strategy of going about providing education, illustrates the vastness of the territory of educational planning.

The study will not be able to deal with each and every concept of either education or educational planning. It will focus its analysis on key parameters related to the principles of the most commonly applied approach to educational planning, namely, the "manpower requirements" approach (UNESCO, 1968; Youdi and Hinchliffe, 1985) The study will also examine on a more general level the factors of "social demand" and "microplanning/ school-mapping" approaches with a view to assessing the applicability of their principles. To relate the principles of these approaches to the context of the small dispersed island state, the Maldives, and understand fully how they may be applicable, the

study will broadly analyse the socio-economic setting and the education system of the Maldives.

The study will not deal with the "rate-of-return" approach which is basically the application of the principles of cost-benefit analysis to investment decisions in education. Indeed, the scarcity of resource that the Maldives suffer from immensely in development, in principle, demand more vigour in analysis of investment alternatives. But, as stated above, because of the size of the current education and training system in the Maldives (the narrow apex of the educational pyramid, the absence of higher education and advanced training, and the limited range and levels of education and training available), it has not been deemed so appropriate as the other three approaches, at this point in time, to consider as a holistic approach to educational planning. This is not to suggest that the tool of cost-benefit analysis is not recommended here in individual decisions in education.

IV. METHODOLOGY

A. The Basic Method

The nature of the study is evaluative. It attempts to evaluate the application of the principles and the methods employed in educational planning to the Maldives. However, to the extent that the study is an investigation of the characteristics of a case in its real situation, rather than as an hypothetical example, with the purpose of understanding how selected theories apply to it, it may be identified with the category of case-study research. (Yin, 1989)

B. Case Study Research

A case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, when the boundaries between phenomenon and context are not clearly evident, and in which multiple sources of evidence are used.

(Yin, 1989, p.23)

Basically, case studies, like the historical and experimental research methods, are used to explain a phenomenon and answer the "how" and "why" questions related to it, as opposed to the survey method which is used mostly to describe an incident or a phenomenon in order to predict certain outcomes. For example, to study "who" or "what" and "how much" were involved in an event or in a phenomenon, or "where" it occurred, one might prefer to conduct a survey study while, on the other hand, if one is interested in finding out "why" or "how" it has occurred, one might chose to conduct a case study or a historical research. (Yin, 1989, p.18-19) In that respect, this research attempts to study how far selected existing theories (the principles of educational planning) apply in the case of the Maldives.

A key difference between historical research and the case study is that the former normally investigates a past event while the latter is applied to a contemporary incident or

phenomenon. Thus, the two methods of research use similar strategies for data collection except that the case study uses more. The case studies can use other techniques such as interviews and direct observation. (Yin, 1989, p.18-19)

The main difference between the experimental method of research and the case study is that, in the latter, the researcher cannot manipulate any variable of the phenomenon to determine a particular result while, in the former, the researcher can control the variables to varying degrees. Thus, the case study only "observes the characteristics of an individual unit". The purpose of the "observation" is:

to probe deeply and analyse intensively the multifarious phenomena that constitute the life cycle of the unit with a view to establishing generalisations about the wider population to which that unit belongs.

(Cohen and Manion, 1989, p.125)

Data Collection in Case Studies: When the method "observes the characteristics of an individual unit" it implies, to some extent, that the appropriate strategy for data collection must be ethnography. It is true that, with some antipathy developed towards statistical experimental methods, the participant and the non-participant observation methods did become an attractive option for case studies. The methods were widely used, e.g. Patrick (1973) and Parker (1974). But the use of "observation" method for collection of evidence is not universal or compulsory for the conduct of case studies. Other methods in so far as they maintain validity and reliability can be appropriate too. An example of a case study that used multiple methods of data collection is Gross et al (1971). The methods employed include structured surveys, open ended interviews, review of documents and observations. Emphasising that case studies do not limit data collection to selected methods, Yin (1989) lists six methods for collection of evidence or data:

1. Documentation (e.g. Moore and Yin, 1983)
2. Archival Records (e.g. U.S. Office of Technology Assessment
commissioned seventeen case studies between 1979-1981)
3. Interviews (e.g. Whyte, 1943)
4. Direct- Observation (e.g. Dabbs, 1982)
5. Participant- Observation (e.g. Gans, 1962; Redman,
1973))
6. Physical Artifacts

(Yin, 1989, p.95)

C. Methods of Data Collection

Most of the data and evidence used in this study has been acquired from collections of "secondary data" and "secondary sources". Stewart makes a distinction between the two. According to the author, "secondary data" are raw data not specifically gathered for the research question at hand while "secondary sources" are the published

summaries of such data or processed data available in any other form (Stewart, 1984). Both of these types have been used in this study.

Intermittently, throughout the study it also reviews and refers to other existing studies and documents in related areas. Cooper emphasised the importance of the use of such studies.

Every research project in the social sciences should involve the inquirer searching out previous, related investigations. Without this step, an integrated, comprehensive picture of the world cannot be built. Researchers working in isolation repeat past mistakes and rarely achieve a sense of progress. Progress in social science comes from building on the efforts of those who have worked before.

(Cooper, 1989, p.7)

The nature of the study motivated the researcher into the choice of secondary sources and data. The core of the study, namely, the evaluation of the parameters pertaining to the principles of educational planning, involved data that are normally not possible for an individual researcher to collect for a study of this scale. Such data include: employed population in various occupations, categories of their employment, their levels of education, the Gross Domestic Product and its structure etc. Most of these data are normally collected and produced in the censuses and economic reports. Similarly, other parts of the study also involved data that are normally available in statistical publications, reports and documents. Thus, the study is based on secondary sources and secondary data.

1. Advantages of Secondary Data and Sources

Feeding on secondary data and information has its advantages and disadvantages. Stewart (1984) underlines the time and the cost spent on collection as the most significant of the advantages. The author believes that in most of the cases, the two advantages alone outweigh the disadvantages, provided the data available are sufficiently reliable.

The argument of cost and time is particularly relevant to the case of the Maldives where resources available are modest while logistics are costly, difficult and time consuming. For example, a study that the researcher was involved in planning in 1989, to assess the achievements of the Universalisation of Primary Education programme in the Maldives, in which the Ministry of Education and UNICEF were to collaborate was cost-estimated approximately at US\$60,000 basically for logistics and transport alone. This did not include the cost of labour expected to be provided by the atoll teachers and head teachers. Such a sum of money, in a country like Maldives, would compare with a good proportion of the annual developmental budget of a key educational institution in the country.

2. Disadvantages of Secondary Data and Sources

The use of evidence from secondary sources or data is not without problems. The main problems are validity and reliability of data. Firstly, the original data of the secondary sources would have been, in most cases, collected with a specific purpose in mind. A purpose that may or may not be compatible with the objectives of the study in question. Thus, the data could become a potential source of deliberate or unintentional bias in the results. Secondly, the data must have had their own definition of terms and categories, its own procedures of collection and processing (particularly true of "secondary sources") which could bias its conclusion towards the initial objectives for which they were collected. Thirdly, the data in the secondary source could exist in a different level of observation; for example, the units of aggregation may be inappropriate for use in certain studies. Fourthly, with the passage of time, the data could even have become obsolete (Stewart, 1984, p.14-15).

These problems are, by the very nature of it, inherent in secondary research. It is the researcher's responsibility to take every precaution to minimise the effects of the problems. Thus, by and large, the data used in this study have been subjected to questions such as the following:

1. What was the purpose of the study? (If the source of data was a study.) Why was the information collected?
2. Who was responsible for collecting the information? What qualification, resources, and potential biases are represented in the conduct of the study?
3. What information was actually collected? How were units and concepts defined? How direct were the measures used? How complete was information?
4. When was the information collected? Is the information still current or have events made the information obsolete? Were there specific events occurring at the time the data were collected that may have produced the particular results obtained?
5. How was the information obtained? What was the methodology employed in obtaining the data?
6. How consistent is the information obtained from one source with information available from other sources?

(Stewart, 1984, p.23-33)

3. Sources and Limitation of Data Collected

The following were the sources of evidence and the methods of collection used for the study:

(a) Secondary Sources (Documents and reports): These include selected published and unpublished documents and records of the Ministry of Education and organizations under the Ministry, the Ministry of Planning and Environment, United Nations Development Programme (UNDP) in Male, United Nations Children's Organisation (UNICEF) in Male, Ministry of Atolls Administration and Male' Municipality. It was found that various mission reports of international experts, project documents, their proposals and evaluations, published and unpublished contained some very useful data and information. These were mainly referred to in the libraries of the UNDP and UNICEF offices in Male'. Some reports and documents of the World Bank and the United Nations Scientific and Cultural Organisation (UNESCO) were also used.

(b) Secondary Data (Published and unpublished raw data):

For the analysis of the educational system and for measure of the educational characteristics of smallness raw data from the Annual Questionnaire of the Ministry of Education, 1988 was used. These were made available to the writer in the original form by the Ministry of Education. Out of the 253 schools to which the Questionnaire was sent, 250 returned them by the time of the writer's departure to the United Kingdom.

Census data from the Ministry of Planning and Environment constituted the next most important source of data. Data from these sources were selected with clear scrutiny of the original questionnaires and the underlying objectives. Data on external training were collected from the Scholarship Board of the President's Office while data for transport between administrative islands and Male' were collected from records of Male' Municipality. Other sources comprise partly processed data and descriptive statistics from official sources such as Enrolment Data and the Statistical Year Books published by the Ministry of Education and Ministry of Planning and Environment respectively.

(c) Limitations: The main limitation of the data is their age. Most of the data used in the core of the research, namely, the analysis of parameters related to the principles of educational planning, are from censuses of 1977 and 1985 which were the latest available. For comparative purposes, these made the study limit other data such as those on external training and higher education to around the same period. Besides, most of the data collection work was done in 1988 and 1989. There were also limited difficulties in obtaining more up-to-date data for internal training. Any other limitation specific to any individual datum used in the study will be stated at the time of use in the study.



**CHAPTER TWO: EDUCATIONAL PLANNING: EVOLUTION,
CONCEPT AND APPROACHES**

I. INTRODUCTION

This chapter will:

- (i) briefly outline the evolution and the experience of educational planning,
- (ii) discuss the concept of educational planning,
- (iii) review and examine the main approaches to educational planning, namely the "manpower requirements approach", the "social demand approach" and the "rate-of-return approach",
- (iv) review and discuss the main controversies related to educational planning, and
- (v) review two forms of non-conventional educational planning (namely, "microplanning" and "qualitative planning").

II. HISTORY AND EVOLUTION OF EDUCATIONAL PLANNING

A. Historical Origin

Planning is a natural process that is probably as old and as widely spread as human societies. Planning in relation to education could also be possibly traced to the remotest times and to the remotest place. According to Omer (1978), the Egyptians of 5000 B.C. (The Old and Middle Kingdoms) planned education for learning for the 'ideal' and the 'perfect' and meeting the needs of the society; selected people were trained for different vocations such as engineering, architecture, sculpture and medicine, and the less able were enrolled on apprenticeships. According to UNESCO (1970) referring to Xenophon (in the Lacedaemonian Constitution, chapter II), twenty-five centuries ago the Spartans set up an education system suited to well-defined military, social and economic purposes. Plato, in The Republic proposed a scheme to make school the servant of the society for the Athenians. The Han dynasty of China, the Incas of Peru and many other civilizations planned their education with greater or lesser rigour. In the mid-16th Century John Knox proposed a plan for a national system of schools and colleges to give Scots spiritual and material well-being. Similarly, other educational proposals are found in the days of new liberalism in Europe through the latter part of the 18th Century and the early part of the 19th Century under titles such as The Reform of Teaching. Rousseau also produced a plan for provision of education to every Polish citizen (Coombs, 1970, p.17). Adam Smith, in 1776, in his Wealth of Nations (1930; 1952) developed his human capital theory and proposed the relationship between education and the economy (Vaizey, 1962, p.16-21; Cohn, 1979, p.16-17).

B. Evolution of the Modern Form

Nonetheless, educational planning in a systematic sense, (with definition of objectives, assessment of alternatives with specialised techniques and co-ordination of educational development with the overall socio-economic development of the country) is a modern concept. This form of educational planning originated with the experience of the Soviet Union in 1923 when they prepared their First Five Year Plan (1923-1928) to help to realise a "new society". Though its initial methods were crude by today's standards it was the beginning of a continued comprehensive planning process that eventually helped a nation with two-thirds of its population illiterate in 1913 to be transformed into one of the world's most educationally developed nations (Coombs, 1970, p.18).

However, with the continued passionate debates between Marxist and liberal economists, the example (of planning in the public domain), was not followed by others except the newly emerged socialist countries which obviously followed the foot-steps of the Soviet Union. Yet, little by little, some of the non-Marxist economists such as Mannheim and Tugwell began to stress the importance of planning in the field of social policy. Soon, planning spread to non-Marxist economy societies too. France made attempts to plan its economy in 1929 and 1934. The plans were called the Tardieu Plan and the Marquet Plan respectively. Switzerland's agricultural plan called the Wahlem Plan of 1941 is another example of a planning exercise of the time. (UNESCO, 1970, p.28)

There was very little planning in the education sector before the Second World War, except in the USSR. Whatever planning was done it was, by and large, focussed on the mechanics and logistics of education. They aimed at the needs of the system rather than that of the student and the society. The plans were basically short range in outlook and extended only to the next budget year, were fragmentary in coverage of the whole system (different parts in the system planned independently), were non-integrated in the sense that educational institutions

planned their activities autonomously without any explicit ties to the evolving needs and trends of the society or the economy, and were non dynamic, adopting essentially static educational models that would retain the system's main features year in year out (Coombs, 1970, p.19; UNESCO, 1970).

C. Period After the Second World War

1. In Europe and the Developed Countries

After the Second World War, for various reasons planning spread throughout the world. The Eastern European countries followed the example set by the Soviet Union (Khoi, 1985, p.3927) while the Western European countries like France and West Germany, and Japan adopted planning as a strategy for a quick recovery from their war-torn state. With reinforcement of capital, technology and management from the United States under the Marshall Plan, the latter adopted new forms of planning and cooperation (Coombs, 1985, p.14).

In later years, the need for planning was amplified by the need for the manpower required for economic development. The Mediterranean Regional Project was a well-noted exercise of manpower planning in Western Europe. Similarly, the post war 'baby boom' also pressurised the Western European countries to plan education to meet the increasing need (Coombs, 1982, p.143). Even before the war ended, in the United Kingdom, the Education Act of 1944 required the 146 Local Boards of Education (now Local Education Authorities) to prepare plans for building new colleges in their areas. France made education an integral part of its national development plan in 1953 (the first development plan of 1946 did not include education). Soon almost all European countries began to plan education with different degrees of control, span and use of human and material resources (Coombs, 1970,p.21; UNESCO, 1970, p.28).

2. In the Developing Countries

Following World War II and the attainment of independence by many former colonial territories, the educational aspirations of common people the world over exploded like a genie from a bottle.

(Coombs, 1985, p.211).

With the wave of independence that washed across the colonial territories, educational planning gained a prominent focus in the newly independent countries. The First Indian development plan (1951-55) included education. Ghana's eight-year general development plan 1951 had education in it, Burma promulgated a four year plan in 1952, Colombia in 1957, Morocco and Pakistan 1958, and Tunisia 1959 (UNESCO, 1970, p.28-29). These are just a few examples to illustrate the trend that was followed by practically every country as and when it gained independence. The underlying motive was generally the same, quick social and economic development. The 1964 Education Commission Report for India summed up the general expectation of the role of education in development as:

The destiny of India is now being shaped in her classroom. This, we believe, is no mere rhetoric ... it is education that determines the level of prosperity, welfare and security of the people.

(cited in Watson, 1988, p.138)

D. Major Regional Conferences

Significant landmarks in the history of educational planning, especially in the Developing World, were the regional conferences of 1956-1965. With the endorsement by UNESCO of the importance of educational planning, increased attention was focussed on bringing together the education ministers and the ministers for economic development regionally to discuss the planning of education. Education was considered the key factor for development (UNESCO, 1970, p.29).

In the Latin American region, the Second Inter America Conference of Ministers of Education held in Lima in April-May 1956 was followed by the Inter-American Seminar on Overall Planning of Education held in Washington, in June 1958. This was the inception of

planning for the expansion and improvement of primary education in Latin America. The Santiago Conference of March 1962 concentrated on the relationship between education and the economic, social and demographic context. The Santiago Declaration envisaged an increase of the contribution devoted to education in the countries to 4 percent of their national incomes by 1965. The Buenos Aires Conference of June 1966 concentrated on content, method, yield and evaluation. (UNESCO, 1970, p. 29-30)

In Asia, the Karachi Conference of December 1959 and January 1960 approved a 'work plan' for universal, free and compulsory primary education of at least seven years within a period of twenty years (1960-1980) and urged the creation of national services for educational planning. The Tokyo Conference of April 1962 reviewed the progress of the Karachi Plan. The Tokyo Resolution recommended that Asian States reach the ratio of 5 per cent of GNP for education by 1980. The Bangkok Conference of Nov. 1965 followed its predecessors and adopted a Model for Educational Development (UNESCO, 1970, p.30).

In Africa, the Addis Ababa Conference of May 1961 adopted an Outline Plan for the Development of Education in Africa which stipulated an annual increase of enrollment in compulsory education of 5 per cent; secondary education from 3 per cent in 1961 to 9 per cent by 1966; increase the proportion of GNP to education from 3 per cent in 1961 to 4 per cent by 1965, 5 per cent by 1970 and 6 per cent by 1980. The Paris conference of March 1962 called for the creation and improvement of educational planning, the Abidjan Conference of March 1964 called for the inclusion of adult literacy, and engagement in scientific research, while the Nairobi Conference (July 1968) assessed the output of education in the previous years and focussed attention on wastage. (UNESCO, 1970, p.30-31)

In the Arab states, the Beirut Conference of February 1960 focussed on the training of higher level teaching staff and the planning of education in the context of over-all development, while the Tripoli Conference of 1966 concentrated on a review of the work of the previous conference, aims and priorities of education, literacy and regional cooperation. (UNESCO, 1970, p.31)

In OECD (Organisation for Economic Cooperation and Development) countries, the Washington Conference of October 1961 considered investment in education and assistance to the underdeveloped nations. These countries also organised major international conferences on educational planning, such as the International Roundtable Conference on Educational Planning organised by the French National Commission for UNESCO in Paris in 1959, the Bellagio Conference of 1960 organized by the International Association of Universities and the Ford Foundation, and the International Conference on Educational Planning organized by the Deutsche Institute for Entwicklungspolitik at Berlin-Tegel, July 1963. The significance of these conferences was that they intensified the concern for planning education and the need for constructing a scientific basis and a discipline for educational planning (UNESCO, 1970, p.31)

E. The Aftermath of the Conferences

These major conferences were followed by an unprecedented explosion of educational expansion in the countries of the regions. This required the authorities to engage in educational planning to a level never experienced before, and the subsequent evolution of "educational planning" as a discipline. UNESCO involved itself through the various stages and assisted the major regions of the world by sending experts and establishing purposeful centres. Centres were established in Asia, Africa, Latin America and the Arab states for training educational planners and to conduct research in educational planning.

The uniform goal adopted by the education ministers of Asia, Africa and Latin America at UNESCO's landmark regional conferences in the early 1960s was to complete universal primary education within twenty years (only ten years in the case of Latin America) while at the same time setting up a model core of secondary and higher education structures, all to be fleshed out at a later time. [the equivalent conference for the Arab states was held in 1966 in Tripoli].

(Coombs, 1985, p.70)

III. THE CONCEPT OF EDUCATIONAL PLANNING

A. The Generic Concept of Planning

The concept of planning has a history that predates its use in technical and professional fields. By its very nature, the concept has an inescapable aspect of thinking. Probably every person plans his or her daily activities to varying degrees. Wilensky (1983) illustrates the exercise of planning in the daily life by citing the example of a person who, one day, realises that a friend's birthday was approaching and decides to go to a shop, buy a birthday card and send it to the friend. From this example, Wilensky extracted a series of logical steps involved in the planning process exercised by the person. They were: "assessing a situation, deciding what goals to pursue, creating plans to secure the goals and executing the plans" (Wilensky, 1983, p.5).

The American Heritage Dictionary of the English Language defines a plan as follows:

n. 1. Any detailed scheme, program, or method worked out beforehand for the establishment of an object: a plan of attack. 2. A proposed or tentative project or goal: Do you have plans for the evening? 3. A systematic arrangement of details; an outline or sketch: the plan of a story. 4. A drawing or diagram made to scale showing the structure or arrangement of something. 5. In perspective rendering one of several imaginary planes perpendicular to the line of vision between the viewer and the object being depicted.

v. planned planning, plans. *tr.* 1. To formulate a scheme or program for the accomplishment of or attainment of: plan a campaign. 2. To have as a specific aim or purpose; intent: They plan to go to the beach. 3. To draw or make a graph representation of. *-intr.* To make plans.

(American Heritage Dictionary of the English Language, 1969, pp. 1001-1002)

The Oxford English Dictionary (second edition, 1989) defines planning as follows:

to devise, contrive, design (something to be done or something to be carried out); to scheme, project, arrange beforehand.

(Oxford English Dictionary, 1989, Vol. 11, p.595)

In the technical and professional usage of the concept, Dror provided a definition that has been widely used in the literature to define the generic concept and to derive the specialised professional fields like physical planning, educational planning, etc. Dror defined planning as:

The process of preparing a set of decisions for action in the future,
directed at achieving goals by optimal means.
(Dror, 1963, p.51)

Anderson and Bowman divided this definition into operative phrases as follows:

The process of preparing/ a set of decisions/ for action in the future/
directed at achieving goals/ by optimal means.
(Anderson and Bowman, 1964, p.9)

These writers, however, differed from Dror's view on two points. For one, they did not agree with the phrase "by optimal means" using the argument that none of the alternatives will necessarily be optimal, and for the other, they ignored the condition of "directed at achieving goals". Instead they redefined it as:

Planning is the process of preparing a set of decisions for action in the
future.
(Anderson and Bowman, 1964, p.9)

However, the mass of the literature on the subject clearly provides conclusive support that, both in everyday usage and in the various technical and professional fields, two elements are inherent in the concept of planning. They are goal and intent. Either explicitly or implicitly a plan is expected to have an aim as an integral part of the acts (or intent) that constitute it. Similarly, it is also self-evident that planning cannot dissociate itself from the means to achieve the aim and execute the intent, no matter how small the aim or intent. Theoretically the means may be secondary at conceptual level. But, given the wide experience of planning, especially in education, optimal means to achieve the set goal becomes something more than theory. In fact, in the terminology of economics, planning is basically about decisions to use resources more

efficiently and effectively (Blaug, 1970, 126; Parnes, 1964, p.53). The factor of 'means to achieve' is part and parcel of the realistic planning process.

When the concept is related to planning in the public domain, into which educational planning largely falls, the concept broadens even further. It incorporates the stage of goals formulation on the one side and the assessment of alternative strategies to achieve the goals and pursuing them to the end on the other. Thus, benefiting from the advanced scientific methods of research, planning then becomes the systematic application of rational processes to the formulation of realistic goals, to the design of appropriate ways and means to achieve them, to monitoring of the implementation and to evaluation. Friedmann explains the process in the context of the public domain:

[Planning is] to think in terms of experience larger than that which comes to the individual, to define distant goals, to arrange highly efficient ways and means of attaining them, and to pursue these distant ends consistently, yet with a flexibility which permits adjustment to changing conditions.

(Friedmann, 1987, p.422)

B. The Concept of Educational Planning

Planning is applied in a wide range of professional and technical areas such as economic planning, physical planning, engineering, etc. Depending on their associations, they feed on different disciplines. For example, there are the corporate planners who depend on management science with roots in operations research and systems analysis; the planners in public administration engaged basically in policy analysis feeding on econometric and systems analysis

methods; the city planners, community planners, environmental planners, transport planners etc, all depending on their own methods and disciplines. (Blanco, 1989, p.13-14) Educational planning is one of the areas of application in the public domain, which depends on the methods and principles of education, administration, economics and finance (Anderson and Bowman, 1964, p.10). They all, however, have a common ground in methodology and principle. That is, they all engage in analysis and design of action to achieve specified ends. (Blanco, 1989, p.14)

The definition of educational planning may also be approached via the generic definition of Dror. For example, Anderson and Bowman defined educational planning as:

The process of preparing a set of decisions for future action pertaining to education.

(Anderson and Bowman, 1964, p.9)

Although the authors reject the elements of goal and optimal means in the definition, this study takes the view that they are essential and useful ingredients of realistic planning in education, a sector of enormous expectations and comparatively limited means. Thus, a definition (based on Dror's general definition), though not very elaborate, may be derived as follows:

The process of preparing a set of decisions for action in the future, directed at achieving goals pertaining to education by optimal means.

C. Educational Planning As A Varying Concept

In the experience of the application of the concept, educational planning has also been understood and treated very differently at times, and by users and analysts. The concept has been widely influenced by the preoccupation and interest of the person defining or interpreting it. It has, in the very simple form without any qualification, often been understood as the estimation of

the number of student places needed in various branches of education, the number and requirement of schools and the determination of the national budget (William, 1972).

Yet, in contrast, it has also been taken as an attitude reflecting the desire for change and the formation of strategy by which change can be brought about (Diez-Holcheitner, 1964). On the other hand, politicians like Julius Nierere have clearly stated that planning is a question of prioritising the courses of action. But, then, the concept, in relation to education, has also broadened and incorporated various aspects of education, and social and economic activities as well. Waterston (1965) and Coombs (1970) emphasised that educational planning is a complex and many-sided phenomenon, the definition of which, according to the latter, should not be encased in a hard and fast encasement good for all time. Coombs then defined it as follows:

Educational planning in its broadest generic sense, is the application of rational, systematic analysis to the process of educational development with the aim of making education more effective and efficient in responding to the needs and goals of its students and the society.

(Coombs, 1970, p.14)

Vasudevan, when he defines the concept takes the line that educational planning is an integral part of broader national development.

Educational planning is a group of related activities which establish targets for educational development over a stated period. The activities take place within the context of overall development planning, in countries where such exists, or alternatively in the absence of such planning, within the framework of the constraints and possibilities set by economic and financial forecasts.

(Vasudevan, 1976, p.4)

On the other hand, there are others who did not approve the association of educational planning with all the aspects of educational development. Chirikos and Wheeler (1968) maintained that planning is fundamentally a technical activity related to the decision-making process, and its purpose is to assess the implications of alternative sets of policy in order to help decision-makers. McNamara (1972) also observed educational planning on the same definition.

Ruscione (1969) too, supported the same principle and went even further to dissociate planning completely from politics and administration.

However, this kind of perspective, that the planner is a 'technician' who only explores alternative strategies to achieve 'prescribed' objectives is rejected by Farrell (1975), who stated that the planner himself has his own political convictions, associations and biases. On this line of argument, Rowley (1971) was very precise when he stated that educational planning was basically a political activity in itself. Moreover, the point is emphasised by the fact that, sometimes, whether the planner does hold to a particular conviction or not, he is identified with party politics. For example, in Upper Volta the public opinion in 1975 was that the planner was a party worker with the task of justifying the party policy (Damiba, 1980, p.63).

With the above review one could see that there is a considerable divergence in the perceptions of the concept of educational planning. Probably Milkos was right in saying that how one sees planning varies depending upon one's own preoccupations, whether one is an economist, politician, educator, theorist or a practitioner (Milkos, 1972, p.3-4).

In that sense, it may be interesting to examine how the Regional Conferences conceived educational planning. Probably they attempt to incorporate as many points of view as possible. As one example, the Santiago Conference of 1962 defines educational planning as follows:

The overall planning of education is a continuous systematic process involving the application and coordination of social research methods and of principles and techniques of education, administration, economics and finance with the participation and support of the general public, in education for the people, with definite aims and in well defined stages and to provide everyone with an opportunity of developing his potentialities and making the most effective contribution to the social, cultural and economic development of the country.

(Anderson and Bowman, 1964, p.10;)

This broad definition not only attempts to bring about comprehensiveness to the concept of educational planning but also loads it with high ambitions and heavy responsibilities. In this definition, quite clearly, the task has become colossal and extremely complex. The definition also

indicates that there was less anxiety about the implications in the implementation phase of such an exercise (such as financial and human resource implications), and the possible problems a challenge of that magnitude can confront, which in the end it did. Ward called this period "the age of innocence" (Ward, 1974, p.xv).

IV. THE MAIN APPROACHES TO EDUCATIONAL PLANNING

The above examination of the concept of educational planning clearly illustrates the breadth of it. The diversity reveals the openness and variety of the possible and effective use of educational planning. For example, educational planning exercises may be conducted to serve the future manpower requirements (see below for examples and discussions), or to cater for the individual demand for education, or to increase the economic efficiency of the education and training system, to improve the quality of education of the system, to increase the relevance of education to local needs, or to increase local participation in effective implementation of education provision, etc. In principle, each of these exercises could mean a separate strategy or approach to achieve its own end. On a broad classification, Weiler groups them all into two broad categories, namely, those associated with the developmental needs of the society, and those associated with achievement of certain educational aims taking education as an entity by itself. The author referred to the first development as the external conception of educational planning, and the second as the intra-educational conception of educational planning (Weiler, 1985). Abdeen also synthesised the various approaches to planning into two main categories; one as an adjunct to economic planning, e.g. manpower planning, and the other, as planning in its own right with economic elements as an aspect of it (Abdeen, 1983).

However, for the purpose of the following review the three main approaches selected are what Soumelis calls the three classical approaches (Soumelis, 1983, p.13) to educational planning: They are (i) the manpower requirements approach (ii) the social demand approach, and (iii) the rate-of-return approach. These three approaches will be followed by the review of more

non-conventional forms of educational planning, namely: qualitative educational planning and microplanning. Microplanning is based on a technique called "school-mapping" which, according to Weiler (1985), is an approach by itself.

A. The Manpower Requirements Approach

Blaug (1970) has been very careful with the words "manpower requirements" which, according to him, have an implicit condition that in the approach, manpower has to be forecast and not projected. In that respect, he makes a clear distinction between "forecast" and "projection". By "forecast" he means the prediction of what will be achieved on definite growth targets with deliberate policy manipulation by the government, while by "projection" he means the prediction of the outcome of purely spontaneous forces; that is, what will happen in the normal course of events (Blaug, 1970, p.138).

A manpower requirements approach to educational planning has been adopted in one form or another in the majority of countries of the world (Hough, 1987, p.27; Demetriades, 1989, p.20). According to a survey carried out by UNESCO in 1968, the "manpower requirements approach" was the most widely used method for educational planning in both the developing and the developed countries (UNESCO, 1968). The approach is based upon the assumption that a nation with plans or aspirations for economic development cannot afford to neglect the preparation of human agents necessary for the production process. Sometimes, the assumption even goes further, to the extent that the basic purpose of educational planning by virtue of it should be the promotion of production by matching expected demand for skills with supply (Cohn, 1979, p.316). Nevertheless, the underlying obvious belief is that educated manpower is an important factor for economic development.

Essentially, a manpower approach constitutes the estimation of the required addition to the labour force during the planned period (e.g. 15 years) of personnel with various occupational

qualifications, and deciding for each educational category the required outputs (graduates), their levels and branches of education, the required enrollments for those branches and levels, and the provision of teachers, educational plant and equipment to produce the trained personnel (Parnes, 1964, p.55). The methodological assumption is that changes needed in the composition of the labour force can be derived from the projected path of economic and social development (IIEP, 1965, p.35), implying that those developments themselves are predictable. It is also assumed that the production targets of all categories of labour have corresponding occupational structures and fixed corresponding types and levels of education (Hough, 1987, p.27).

The wide favour of this approach in many countries may prompt one to think that the approach would have a single reliable appropriate forecasting method in use. But this is far from the case. This is admitted by the designer of the most widely used method of this approach.

There is no single universally accepted method of forecasting requirements for specific occupations or occupational categories.

(Parnes, 1977, p.125).

In fact, Blaug (1970) suggested that more than one method should be used in manpower forecasting.

There are four main methods of manpower forecasting used. They are (a) the employers' survey method, (b) the international comparison method, (c) the labour-output ratios method, and (d) the GNP method.

1. The Employers' Survey Method

One of the direct methods of forecasting manpower requirements is to go and ask the employers to provide their own forecasts for the plan-period or target year. This could be done through a questionnaire survey or an equivalent method. This approach might seem reliable since

it is the employers themselves determining their own requirements rather than someone else trying to judge what the employers might do in the future. They must be the best architect of their own ambition and future courses of action, for it is they who make judgments on their own investments, and foresee adjustments according to their own plans. But the process does not seem that simple. There are many problems inherent in it. (Hough, 1987, pp.34-35)

Each employer belongs to an industrial sector of the economy, each of which is greatly affected by macro-economic influences and technological changes. Employers are not able to predict an overall scenario of the future economic and technological situation, nor are they adequately provided to assume possible variants of the future positions in planning their own futures (e.g. high, moderate or low growth positions). Their predictions are made without any idea of how the national economy will perform in the future or how much the industrial sector he or she belongs to will share in the future economy. Under such circumstances, the employers are known to get wrong, normally over-estimating their own requirements. Sometimes the estimates are so high that it becomes impossible to meet them with the available resources. (Hough, 1987, p.34-36) Sir Solly Zuckerman, Chairman of the Advisory Council on Scientific Policy, in his evidence to the 1963 Committee on Higher Education, summarised the outcome of his continued effort to forecast manpower requirements as follows:

We discovered in our successive inquiries that one of the least reliable ways of finding out what industry wants is to go and ask industry.
(Committee on Higher Education, 1963a, p.432)

The "employers survey method" was, however, widely used in 1960s in less developed countries (such as Nigeria) and in advanced countries (such as the United Kingdom, Canada, Sweden and France) as well (Blaug, 1970, p.146). In the United Kingdom, the method was applied in 1956, 1959, 1962, 1965 and 1968 by the Committee for Scientific Manpower of the Advisory Council on Scientific Policy appointed by the Minister for Science (the Committee was renamed as the Committee on Manpower Resources for Science and Technology - CMRST) for predicting the requirements of scientists and technologists. Each time they concluded that Britain was to experience serious shortages of manpower in science and technology. But, later, it was

found that the apparent shortages were not so much the result of inadequate supply but the result of the inability of industries to absorb them. The finding was also reconfirmed by the evidence of "brain drain" during the period. (Dougherty, 1985, p. 77).

A second problem in this method is reliability. Employers may or may not take into account the various factors such as possible technological or economic changes in the future, or if they do, they will probably do it to varying degrees. Hence, the aggregation of the individual predictions can make estimates more and more unreliable. (Hinchliffe, 1985, p.3211) The UK experience revealed that the quality of the employers' estimates depended on the size of the firms and their ability to forecast their own manpower which depends, among others, on the degree of sophistication in their own manpower planning capabilities. (Hough, 1987, p.36).

Further problems associated with the method include the extent of coverage in the survey (the employer population) and the normal problems of survey. Such problems include partial response to questions and the questionnaire, and inadequate coverage of the fields and ambiguity in questions (Hinchliffe, 1985, p.3211).

2. International Comparison Method

This method of forecasting has been applied mostly in places where domestic labour market information is inadequate, especially in least developed countries (LDC) (Hinchliffe, 1985, p.3213). But the usage has not been exclusive to LDCs. France made use of this method in the early 1960s to forecast the distribution of the labour force in twenty-five sectors of its economy, applying time-series in other advanced countries (Blaug, 1970, p.150). The method employs either time series data from a single country whose experience may be regarded as relevant, or cross-sectional data from a range of countries at a given time.

In the early stages of the history of the application of this method, the 'Harbison rule of thumb' was widely used to forecast the number of persons that would be required for a country's future. The rules stated that the growth of degree-equivalent and secondary school manpower needed would be two and three times the growth of national income, respectively. If the growth rate of the national income was 4 percent, then the growth of senior manpower should be 8 per cent and the growth of intermediate manpower 12 per cent (Hinchliffe, 1985, p.3212). This method was used in Nigeria in 1960 and 1964 (Hinchliffe, 1973). These rules were, however, not accepted universally. For example, the Netherlands Economic Institute not only rejected these rules but also disproved their effectiveness. Using data from 23 countries the Institute showed that the ratios were actually 1:1.038 for the senior level and 1:0.659 for the secondary level and not 1:2 and 1:3 as Harbison suggested (Hinchliffe, 1985, p.3212).

There are a number of problems in the usage of the international comparison method. Firstly, it is questionable whether the development of one country would actually take place at the same rate as the other, on the same pattern of technological transformation, or whether the pattern of sectoral distribution of the economy and industries will be similar enough for such a comparison. Puerto Rico took the United States as an example in 1950 assuming that, in twenty-five years, she would be where the USA was in 1950; this did not happen (Hough, 1987, p.38). Secondly, the method assumes that educated and trained manpower in various fields will find employment in the sectors in one country in exactly the same way as they did in the other (Hough, 1987, p.37). This assumption, again, is clearly a very weak one. Thirdly, there has been a considerable inconsistency found by studies such as those of Layard and Saigal (1966), Horowitz et al (1966) and OECD (1970), in relating productivity to differences in occupational structure (Hinchliffe, 1985, p.3212).

3. Labour-output Ratio Method

The method does not involve the knowledge of current or past trends of the labour market. It limits itself to is a method based on the output per unit of manpower either in the individual occupational category or in the sectoral workforce. Three variants are found to be in use in this method. In the first variant, the ratio of output per worker in the selected occupational category is applied to future sectoral output to deduce the future requirements of that particular occupation. In the second, more sophisticated variant, time-series data of labour-output are extrapolated into the future. (Blaug, 1970, p.149; Hinchliffe, 1985, p.3213; Hough, 1987, p.40) This variant assumes that the fixed relationship between the category of labour and the output is constant.

In the third variant, the future sectoral labour force is derived based on sectoral manpower-output ratios which are then broken down into the occupational requirements by using the occupational ratios of the sector (also called occupational structure). (Blaug, 1970, p.149; Hinchliffe, 1985, p.3212; Hough, 1987, p.40) This variant assumes that the relationships between sectoral output and the sectoral labour force, and the structure of the sectoral labour force are constant.

The labour-output ratio was applied by the Zuckerman Committee in the 1950s (Hough, 1987, p.40). Other applications include those reviewed by Woodhall for forecasting the demand for engineers in India (Woodhall, 1973), by Gannicott for engineers in Sweden (Gannicott, 1973), by Gannicott and Blaug for scientists in the U.K. (Gannicott and Blaug, 1973), and by Ahamad for teachers in England and Wales (Ahamad, 1973a) and doctors in the United States, U.K. and Canada (Ahamad, 1973b).

The main weakness of the method is that it assumes that the existing pattern of labour-output ratios of the category and, or occupational distribution in the sector will remain the same over time. A second problem in this method is that it carries forward any imbalances in the

existing occupational distribution (Hinchliffe, 1985, p.3213). Such imbalances may exist as a result of anachronistic organisational structures and procedures, irregularities of recruitment and job distribution, etc.

4. Gross National Product (GNP) Method

This method is also called the Mediterranean Regional Project method after the famous application of this method to six Mediterranean countries namely, Italy, Greece, Turkey, Yugoslavia, Spain and Portugal. Hough briefly describes the GNP method as follows:

[It] commenced with a projected target GNP at some appropriate future, perhaps some ten years or more; this GNP is then disaggregated by major industrial and commercial sectors, appropriate total labour requirements are deduced for each, these are then broken down into discrete occupations each of which then has applied to it precise requirements of levels of educational attainments.

(Hough, 1987, p.38)

The Mediterranean Regional Project, based on the models developed by Parnes (1962), aimed to produce forecasts of manpower requirements up to 1975 for the six countries, as the basis for educational planning in those countries (OECD, 1965). By the close of the 1960s, the method was largely abandoned in the OECD countries largely because it became a way for educational planners to find bottlenecks in economic development planning. During the turbulent 1970s, the fixed coefficients involved in the method could not stand robust enough to face the economic uncertainties and variations. By 1980s the approach became a historic myth. (Williams, 1985, p.3300-3301) However, the methodology involved has continued to live in planning in the developing countries. According to estimates of Youdi and Hinchliffe, about 90 percent of manpower planning activities in the world were adopting the basic core of the methodology (Youdi and Hinchliffe, 1985, p. 16).

The method is the most comprehensive method of manpower forecasting. It assumes constant relationships between output, labour and education. The steps involved in this method are; (i) estimation of the total output of the economy, (ii) estimation of sectoral outputs, (iii) estimation of labour productivity by sectors, (iv) estimation of sectoral occupational distribution (also called the occupational structure), (v) summation of the occupational distribution (by individual occupations) of the individual industrial sector, (vi) estimation of the education associated with each occupation, (vii) estimation of the total educational stock, (viii) estimation of the increment of manpower by education, and (ix) estimation of total graduate flow. (Hinchliffe, 1985, p.3214)

The process of forecasting broadly falls into three stages. They are: the estimation of the workforce by occupational categories, estimation of the workforce by educational categories, and the estimation of the required increment of educational stock. Assuming that step (i) is entirely a part of economic planning, steps (ii) to (v) may be considered the first stage, step (vi) the second stage and steps (vii) and (viii) the third. The first stage of the computation may be represented by the following mathematical expression:

$$L_j = Z_i \{ (L_{ij}/L_i)(L_i/P_i)(P_i) \}$$

where:

P = Output or GDP or GNP
 L = Labour force
 i = Economic/ Industrial Sector
 j = Occupational category

(Source: Ahamad and Blaug, 1973, p.14 - slightly adapted)

The second stage involves the estimation of the labour force by educational categories. This calculation is based on the ratio of various levels or types of education of labour to the total of the occupational category in the individual category, which are then totalled to obtain the manpower requirements by educational levels or types for all the sectors. This process may be symbolically represented as:

$$L_e = Z_i(L_{je}/L_j)(L_j)$$

where:

L = Labour force

i = Economic/ Industrial Sector

j = Occupational category

e = Level or type of education/training of the labour force

(Source: Ahamad and Blaug, 1973, p.14 - slightly adapted)

The third stage involved the projections of the supply side of education and training.

The above methodology illustrates how much the method of forecasting depends on coefficients of both the GDP and its sectors, and the various characteristics of the labour force and their relationships with the type and level of education. It also illustrates how much the method depends on time, meaning that the ratios are reliable predictors of the future. That is, that they remain constant over time (reasonably constant), or at least forecasts made with them will be within reasonable margins of error. Needless to say that these procedures are further upheld on the taken-for-granted assumption that the mass of data required for this method will be available, and that they will be reliable and valid. The data required in this process are normally available from censuses which by their nature are available only after a considerable elapse of time.

Despite, the comprehensiveness and the wide application of the method, it attracts a number of criticisms. Parnes himself summarised its shortcomings:

even if forecasting were an exact science, to speak of ascertaining precisely the future occupational structure of the workforce implies a degree of rigidity in occupational composition that is unrealistic ... there is no nation for which patterns of occupational mobility can be described with sufficient precision to permit making estimates of separation from and accession to specific occupations ... there is frequently no unique and rigid relationship between educational background and occupational affiliations that would permit a knowledge of manpower requirements to be translated unambiguously into 'educational output' figures.

(Parnes, 1977, p.123-124)

5. Criticisms of the Manpower Approach

Apart from the flaws and the difficulties inherent in the individual methods of manpower forecasting described above, there are some general problems associated with the approach on the whole. They may be summarised as follows:

1. Some writers on the subject, like Coombs (1970) and Blaug (1972), cast doubt on the possibility of making reliable long-term forecasts of manpower requirement at all. They believe that the uncertainties of future technological and economic changes are too great to enable a sufficiently adequate forecast of long-term manpower requirements to be made. Coombs contends that the more refined the categories of occupation in the forecasts (e.g. electrical engineers rather than engineers) and the longer the term of forecasts (e.g. five to ten years versus one to two years), the fuzzier and less trustworthy the estimates will be (Coombs, 1970, p.41). But education by its nature is a long-term process. Highly skilled manpower such as "electrical engineers" cannot be produced in a short term of one or two years.

Because of the length of most educational cycles, manpower forecasts that attempt to be useful to educational planning are impelled to look ahead at least five to ten years. No one is surprised to discover that perfectly accurate forecasting is impossible over such length of time ... Fairly accurate predictions can be made for two to three year periods, and these are undoubtedly useful for an 'active manpower policy' that provides information for training programmes, labour placement services, vocational guidance and the like. In time, by continuously evaluating these long-term forecasts, we will learn to predict better in the medium and long-term. But over the next decade (1980) or so, there is little point in arguing whether the educational system should be geared to long term manpower requirements because it is a simple fact that it cannot be.

(Blaug, 1972, p.432-433)

2. The labour market does not function as competitively and as uniformly as manpower forecasts often assume. Manpower forecasts assume that (a) the demand for individual labour categories is inelastic, (b) the supply of individual labour categories is inelastic, and (c) the elasticity of substitution between different labour categories is zero. (Hinchliffe, 1985 p.3215). Similarly, it also assumes that occupational structures are stable within industries and that the pattern would

also stay the same across countries. For example, it is assumed that a given percentage of engineers in a particular sector will remain the same after five to ten years and similarly, for example, the labour-ratio of engineers or doctors will be the same in England, France or any developing country (Coombs, 1970, p.41). Cohn oriented this criticism more directly in the context of the economy:

[It] implies that the economy is characterised by a fixed coefficient type of production function- that is, in which labour productivity is invariant with respect to other factors of production, including other types of labour. A world in which no substitutabilities exist among factors of production is not likely to be found.

(Cohn, 1979, p.318)

3. A manpower approach as a methodology for educational planning in a country is considered as narrow and limited. The planner is limited to higher levels of education and to technical and vocational education. He has no choice because manpower planning methods employed are inapplicable to the requirements of primary educated workers (Blaug, 1972, p.432). The underlying assumption, at least implicitly, is that primary education should be curbed until the nation gets richer. Coombs made the following observation.

Most manpower studies confined their attention to 'high level' manpower needed by the 'modern sector' (that is, mostly urban employment). Thus, planners were given no useful clues about the educational requirements of the people who would constitute the vast majority of the nation's future labour force, namely, semi-skilled and unskilled workers in the cities... and in the rural areas.

(Coombs, 1970, p.40-41).

4. A fundamental problem with the manpower planning approach is also the equation of the manpower forecasts with educational requirements. It assumes clear cut boundaries of educational types and amounts, e.g. between general education and technical or vocational education. Eckaus found that substitutability between general education and special vocational education requirements actually did exist and that any job could be staffed by persons possessing varying amounts of education (Eckaus, 1964, p.181-190). Secondly, information needed for the identification of accurate educational requirements is so great and complex that a sufficient conversion becomes difficult. Thirdly, the employers' choice of the required educational level

varies with the availability of educated manpower. As the general educational standard of the society or that of the available manpower increases, the required qualification and standards generally rise. (Cohn, 1979, p.318-319)

UNESCO studied the situation in a number of countries and concluded the following:

Empirical studies reveal that in no country is there a rigid relationship between occupations and levels or types of education any more than between productivity by sector and levels of professional qualifications or levels of general education. All the coefficients seem to vary from one sector to another, from one country to another, and from one time to another. This significantly challenges the value of planning methods based on a rather rigid complementary relationship between production, manpower and education. If, on the other hand, we accept a greater flexibility in these relationships because of possibility of substitution between occupation categories and between types and levels of training, then any simple mathematical basis for calculating an optimum manpower structure vanishes.

(UNESCO, 1968, p.20)

5. It ignores other important aims of education, such as social and cultural objectives.

The approach provides no framework for analysing projects directed to increasing equality of access... The approach gives no consideration to non-cognitive products of education.

(World Bank, 1983, p.10)

Thus, there are considerable limitations in applying manpower planning methods to educational planning as a holistic approach. The dilemma of the short term nature of the methods and the long term nature of education is considerable. Its econometric orientation and limited engagement in the qualitative side of education and the qualitative objectives of education are also significant. However, on the other hand, the need to estimate future requirements of manpower and the concern to match the output of educational and training systems with the requirements are all the more essential, not least in countries where resources are scanty. In the context of the Maldives where higher education and advanced training are only possible by sending students abroad, implying heavy costs, the need to forecast manpower at higher levels, and the need to hit the target as accurately as possible cannot be over emphasised. However, the

application of the methods in the small fragmented situation will demand extra care. Projections made with small numbers will risk broader margins of error, and the repercussions of mistakes can be very greatly felt.

B. The Social Demand Approach

1. Principles and Method

The social demand approach to educational planning is a methodology that is based upon the individual or the private demand for education rather than the needs of the economy. Harbison makes a clear distinction between 'needs' and 'demand' for education in the context.

Needs are determined by the manpower assessment and represents the country's manpower or educational requirement to meet the specific social, political and economic goals. Demand reflects individual desires to prepare for a particular profession or trade, the desire for given types of education.

(Harbison, 1967, p.19).

Harbison believed that the two terms were divergent and had no connection. Coombs defined social demand as follows:

[Social demand is] the aggregate 'popular' demand for education; that is, the sum total of individual demands for education at a given place and time under prevailing cultural, political and economic circumstances.

(Coombs, 1970, p.37-38)

He further elaborated the definition by stating that if the available classrooms and places were fewer than the serious candidates to occupy them, then one could say that the social demand exceeds supply (Coombs, 1970, p.38).

UNESCO broadens the definition by referring to it as the quantity and type of education needed to ensure the harmonious functioning and the development of the society (UNESCO,

1970, p. 117). In this definition, there are two key elements to be considered by the planner. They are the aggregate individual demands and what the society needs for societal development and sustenance.

The social demand, however, is not as simple a concept as it may seem. It encompasses a whole range of considerations of the individual and the society. Without a clear analysis of them the term "social demand" remains a vague one (Coombs, 1970, p.37). Technically, the 'social demand' depends on a number of factors. Firstly, it depends on the individual determinants of educational choice which are based on factors such as individual's character, abilities, educational background, interests and aspirations, family background, peers, school environment and, not least, the private costs of education (including the direct costs such as books, fees, uniform, and indirect costs such as earnings foregone) and private returns to education (including pecuniary and non-pecuniary benefits such as social status). (Coombs, 1970; Harquist, 1985; Psacharopoulos and Woodhall, 1985)

Social demand also depends on the education system and some societal factors at large, such as demography, occupations and the economy, and cultural and social conditions. The increase of population will effect a general increase in demand while occupational transformations resulting from economic transformations will effect general shifts in demanded types of education. An example of cultural factors (such as traditions and religious beliefs that affect social demand) is the restraint exercised in some societies in sending girls to school beyond a particular age. Similarly, it is common in the rural areas of the developing countries for the boys to have to work on their farms with their parents and for girls to have to help in the domestic work including looking after younger siblings (e.g Philippines and Bangladesh). These are a few of the factors and examples. (Psacharopoulos and Woodhall, 1985, p.113)

The social demand for education can also be generated by societal goals and aspirations. In the interest of political, economic and cultural ends, the society or the government may choose particular targets of education (e.g. the imposition of compulsory education and the commitments

for universalisation of selected levels, usually the basic levels, of education in many countries). These can increase social demand quite considerably. (Coombs, 1970, p.38). Such stipulations are also motivated by resolutions of international communities such as the United Nations which adopted the Universal Declaration of Human Rights in 1948 recognising a basic education as a basic human right of every individual. Other such examples would include similar resolutions of the United Nations Educational, Scientific and Cultural Organisation (UNESCO).

With or without such influences, countries may also adopt policies to offer educational opportunities to their citizens to the highest level their abilities permit. Such policies generate social demand and require provision accordingly. An example of such a commitment was the social axiom adopted by Robbins Committee on Higher Education in the United Kingdom, in 1963. They explained in their report that:

Our guiding principle here is that ... all young persons qualified by ability and attainment to pursue a full time course in higher education should have the opportunity to do so.

(Committee on Higher Education, 1963b, p.49)

Indeed, this example is one that can only be pursued by countries of considerable capability. However, it indicates the principle that social demand for education increases with increase of prosperity and the aggregate national income of the country. The increase of both the national and the individual prosperity increases the level of education the society can afford to provide and individuals will be prepared to pay for (Vasudevan, 1976, p.90).

As a society's awareness increases, the general educational aspirations also increase. The mounting pressure for it becomes an inescapable necessity for the government to provide more and more, particularly if the prevailing political system is democratic where decisions are made by elected representatives (Parnes, 1964, p.52). Thus, in that context, to the extent that the individual demand becomes a societal need, 'demand' overlaps 'needs', somewhat contradictory to Harbison's (1967, p.19) distinction of the two as presented above. This common ground

explains the justification for the social demand approach to educational planning, at least at affordable levels of education.

In a very real sense, the individual's demand and the society's demand for education represent but the two sides of the same coin. Seen in this context, satisfying the social demand for education may be tantamount to acceptance of a policy of equalisation of educational opportunity insofar as at least the most advanced countries are concerned.

(Vasudevan, 1976, p.90-91)

In principle, the assessment of social demand is a difficult, and according to Coombs, even impossible exercise. To obtain a good approximate measure of voluntary demand may even require a house-to-house survey in most cases (Coombs, 1970, p.38). But normally the task is simplified by the imposition of compulsory attendance and by the national goals for universalisation at basic levels. In that situation, the method is based upon demographic projection at the basic levels and application of flow rates at the subsequent levels. Coombs outlines the steps as follows:

1. Collect best available estimates of how many children by age level there [are]... and how many of them are already in the primary, secondary and higher education.
2. Take the best available projection of the future youth population at each age level [for the planned period].
3. Choose participation rate targets [for the planned period] and certain intervening years and apply them to population projections to determine absolute enrolment targets.

(Coombs, 1970, p.38-39)

But even these methods are more complex than it may seem. Especially, in the third stage that Coombs has described, it requires a composite judgment of many feasibility factors. Questions like how much of education would the people really want, what it would cost, what the economy could afford, how much educated manpower the national economy would need, how many jobs the economy could provide, how much of financial and human resources would be available need answers (Coombs, 1970, p.39). Thompson drew attention to these aspects when he summarised the methodology as follows:

It amounts, on the one hand, to the calculation of what the situation in respect of costs, supply of teachers, plant and resources, and school leaver output will be at the end of a specific planning period if existing school provision remains more or less as it is, and on the other, to a calculation of what the situation would be and what would be required if various kinds of social demand were acceded to. Clearly such calculations are of vital importance in establishing the base line for projecting desirable changes in the system, notably of scale for example, where the aim is to provide universal education at certain levels of the school system or where the principle of doing so has been conceded.

(Thompson, 1981, p.133-134)

2. Criticisms of the Social Demand Approach

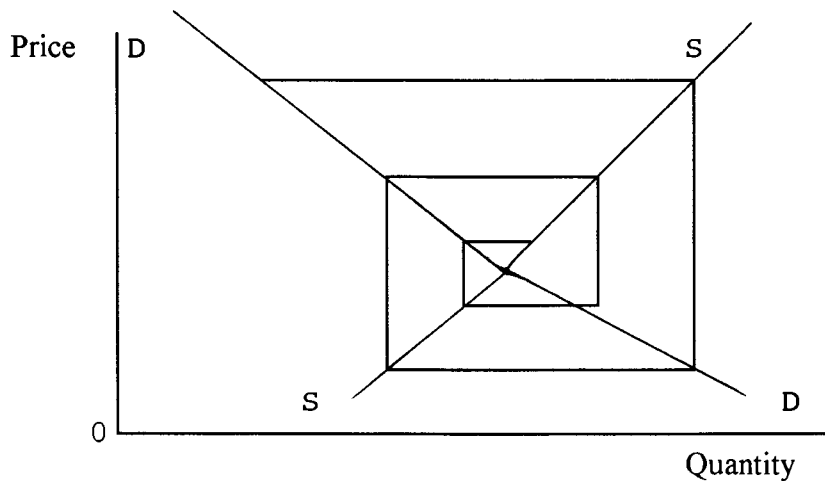
Three main criticisms are addressed to this approach of educational planning. They are :

1. Since the underlying philosophy of this approach is equal opportunity for every citizen, and the aim of the approach is to provide the service to everybody, it tends to ignore the larger national problem of resource allocation. It implicitly assumes that no matter how many resources went into education, that it was best for national development. (Coombs, 1970, p.40).

2. The basis of the approach is the individual desire or the aggregate social demand for education. Hence, the aspects of manpower requirements of the economy are often ignored. This could possibly result in producing too many of one type of manpower and not enough of the other (Coombs, 1970, p.40). Some economists believe that for reasons such as inelasticity of wages and the lengthy nature of educational production, the labour market is not perfect enough to respond effectively to the supply of and demand for manpower. They believe that if manpower needs are left to market forces to satisfy (meaning the individual persons and the individual employers to decide) it will lead to the cobweb cycles causing imbalance of supply and demand with extreme fluctuation of wage rates and over reaction for educational types (see Figure 2.1). (Psacharopoulos and Woodhall, 1985, p. 74-75)

3. By the nature of the underlying philosophy of the approach, it demands equal spread of the available resources

Figure 2.1: Effects of Cobweb Cycles on Demand and Supply



Source: Psacharopoulos and Woodhall, 1985, p.75

which are rarely upheld. Often, when such a plan comes into force, the maximum possible resources remain already committed in selected areas of education. Also it so happens that these commitments are well secured with sufficient political support or influential group-pressure. It is the remainder of the "available" resources or new resources found from unreliable sources, often scanty, totally inadequate and insufficient that the approach has to stretch beyond their effective capability. This is in terms of fiscal, human and material resources. Thus, the approach is also alleged as one that makes investments in education dubious (Coombs, 1970. p.40), leading to considerable internal inefficiency or high wastages. This is a common feature in the education system of the rural areas of the developing countries. (Coombs, 1968; Coombs, 1970; Coombs, 1985)

Considering the merits and demerits of the approach, it may be concluded that the approach has an important role to play in educational planning in places and at levels where the individual demand cannot be ignored regardless of the manpower situation or the cost-benefit position. A hypothetical example, but comparable to the unfolding situation of the Maldives,

would be a situation where middle educational levels such as secondary education are not universal but increasingly demanded by a large proportion of the public without much regard to employability or returns from it, perhaps as an individual's right or for the fulfilment of a desire. A similar position was assumed by Robbins Report for higher education. (Committee on Higher Education, 1963b)

C. The Rate-of-return Approach

1. The Principles and Method

The rate-of return approach to educational planning is basically designed to take into account the efficiency of resource allocation for education. It allows the optimal distribution of resources or investment between the education sector and the other sectors, and if applied within the sector, among levels and types of education.

[It is a] method of ascertaining whether a society is making the 'proper' investment in education.

(Parnes, 1964, p.53)

The principles underlying the approach stem from the concerns of the economists of the neo-classical tradition. The efficiency idea is well presented in the way Blaug relates the approach to educational planning.

The central principle of educational planning is to maximise the returns in some sense or the other, from given amounts of resources devoted to education, or alternatively expressed, to produce at the lowest possible cost what ever level of educational output is chosen as preferable.

(Blaug, 1970, p.126)

The approach is based on the 'cost-benefit' principle, requiring the analysis of costs and benefits of education alongwith other sectors, and weighing them against one another in making decisions to invest in them (Coombs, 1970, p.43). Similarly, doing the same analysis for the

various sectors of education for similar comparison. Thus, the technique attempts to find answers to questions such as, "Should investments be increased or decreased? Would we do better if we concentrated resources on the primary school end of the process rather than the higher education end? How does one [country] perform against another?" (Hough, 1987, p.53).

The technique has an industrial history and affinity. It was developed in the United States and spread to other countries, including the United Kingdom. Examples of its applications in UK include the M1 motorway, the Third London Airport and the Victoria Line of the underground railway (Hough, 1987, p.53). The technique is widely applied to evaluate public investment projects that compete actually or potentially with similar projects in the private sector. It allows the choice of investment projects in the order of their benefits per unit of cost (Blaug, 1970, p.120).

The approach may be used for all investment decisions (including education) provided the costs and the benefits can be measured and rates of return calculated. Over the last several decades economists have attempted to calculate returns to education. One of the outstanding works of the measurement of educational benefits was that of Schultz (1963). The benefits he listed include the benefits the economy obtains from educational research, the discovery and cultivation of potential talent by educational establishments, schools' contribution to increase the "capability of people to adjust to changes in the job opportunities", the preparation and recruitment of teachers as self sustaining activity, and the provision of manpower for sustaining economic growth (Schultz, 1963, p.39-42). Other works on returns to education include those of Hansen and Weisbrod (1969a, 1969b), Psacharopoulos (1973, 1981), Carnoy (1967), and Carnoy and Marenbach (1975).

Vasudevan identified two basic approaches in the application of cost-benefit analysis to education. They were the 'segmented approach' and the 'global approach' (Vasudevan, 1976, p.165). The segmented approach analyses the returns to education by segments in kinds and levels. The method of investigation involves the computation of lifetime earnings of a group of

individuals with a similar educational background, working in a given occupation, and then calculation of the cost of acquiring that education, including the opportunity costs (earnings foregone). The ratios of the two are used for comparison of costs and benefits among the different types and levels of education, and then used individually to decide what field of education one should choose to pursue. Similarly, the calculation of the social costs, on the same basis, allow comparison of various kinds and levels of education. This facilitates decisions of priority from the societal point of view, for example, as to what kinds of education should be offered, emphasised or expanded more in a given system or in a given school (Cohn, 1979). It also assists the government to decide on how much of the cost could be transferred to the student or the parents (Vasudevan, 1976, p.165).

Thompson summarised the approach as follows:

[Having constructed the] age earning profiles for various categories of workers, showing their educational background, it can be demonstrated that an individual who invests in his own education rather than choosing to take up employment at an early age can expect to earn more during his working life time than he would otherwise have done even though he might have started to earn money sooner had he chosen to work rather than receive education. By calculating how much his education costs including both direct costs and the earnings which he otherwise would have received, and by comparing this investment with lifetime earnings we can work out with apparent precision the returns to be gained by individuals from various amounts and kinds of education.

(Thompson, 1981, p.142-143)

The "global approach" assesses the aggregate costs of education incurred by the nation compared with the aggregate benefits or returns. The resulting ratio is compared with that of other sectors or investments. This facilitates the necessary policy decisions (Vasudevan, 1976, p.166).

2. Criticisms of the Rate-of-return Approach

Once human beings had come to be seen as a form of capital, akin to pieces of industrial machinery, it was inevitable that economists would endeavour to apply to them the same kind of calculations of investment criteria, profitability and rates of return, as had long been familiar in the world of industrial economics or accountancy.

(Hough, 1987, p.52-53)

There are several weaknesses in the approach. They may be summarised as follows:

1. The fundamental assumption underlying the whole approach is in itself a very weak one. It assumes that the differences in wages and salaries paid to workers reflect the differences in their productivity, and that the variations in their productivity are the result of the differences in the amount and the kind of education they had (Thompson, 1981, p.142). The weakness of this assumption was illustrated by UNESCO (1968) in the report of its survey, as cited elsewhere in this study (see Criticism of the Manpower Requirement Approach).
2. The usual method of calculation of the life-time earning differentials of a person that will result from an added increment of education is discounted for non-educational factors (such as superior intelligence, motivation, family background and connections) by using an arbitrary percentage based upon which the future income differentials are computed. The implicit assumption is that the same correlation of factors, if they did, will continue to exist in the future in the same proportion. This assumption is quite dubious indeed. (Coombs, 1970, p.44).
3. Arbitrary and unrealistic assumptions are made in applying data from cross-sectional analysis of lifetime income differentials. For example, if an average income of a person of sixty two years of age who completed four years of college in 1973 may be \$14356, it will be assumed, in this approach, that another person just eighteen years of age in 1973 and had four years of college education will earn the same amount when he reaches his sixty second year of age. (Cohn, 1979, p.43). This comparison is clearly flawed in a world that changes so fast.

4. Non-economic returns to education are difficult to measure and some are even immeasurable. For example, Stapleton (1976) indicated that high school and college graduates are more likely to participate in political activities while Lefocowitz (1973) argued that there was a relationship between levels of education and individual health (Cohn, 1979, p.52-53). So decisions based entirely on the rate-of-return approach can preclude very important elements of education from permeating into the society as a whole and the individual.

5. It does not incorporate the systematic assessment of the linkages between education and economic development. It only bases its calculations on the lifetime income of individuals for particular kinds of education in a selected period. This may not necessarily relate to the economic development of a country systematically. (Anderson and Bowman, 1964, p. 28).

6. The approach on the whole tells more about the past rather than a predicted future. This problem becomes more serious when the past experiences are full of mistakes such as those of some of the developing countries, that the country does not want to continue into the future. (Coombs, 1970, p.45)

The method has several inadequacies in its use as a complete approach to educational planning. However, the rate-of-return approach is a useful tool to compare alternatives, which is clearly an important element in educational planning and decision-making, particularly when it comes to allocation of scarce resources.

V. SOME OVERALL CRITICISMS AND PROBLEMS

RELEVANT TO EDUCATIONAL PLANNING

The key problems and limitations of the main approaches and the methods they employed have been discussed above. Apart from those problems and limitations, there are some criticisms and problems that are more general in nature, and are of interest to the educational planner. They are related to either the methodology and the techniques of educational planning and the planning process, or just to education broadly. UNESCO administered a questionnaire in 1968 and surveyed the problems and prospects of educational planning in the world (UNESCO, 1970). Some problems and issues summarised below are based on those findings. Those that are not, are indicated by their references.

A. Criticisms and Problems

1. Euphoria and Over Expectation

Educational planning spread throughout the world as a result of a euphoria that was developed over education in the period after the Second World War and following the attainment of independence by the previously colonised countries. Far reaching beliefs drove the expansion.

The aims of formal education were dramatically enlarged in the 1950s and 1960s by the thrust of two convictions- a political one and an economic one- shared by virtually all nations. The political conviction, simply stated, was this: the best available way a democratically inclined state could overcome gross disparities rooted in the past prejudices and socio economic injustices was a massive expansion in education ... The economic conviction lent strong support to the first conviction and was itself reinforced by studies in the relatively new field of educational economics. This gave a scientific gloss to the view that national growth followed from the technological progress and increasing labour productivity which in turn followed from progress in formal education.

(Coombs, 1985, p.66-67)

By the early 1970s there began to be a growing number of critics and sceptics on educational planning and formal education in general. For example, Coombs projected a world

crisis in education by the close of 1960s (Coombs, 1968). Concerns were expressed about the increasing number of unemployed school leavers (Blaug, 1973; Callaway, 1976), about the failure of education to address the social ills (Carnoy, 1976; Carnoy et al, 1979; Carnoy and Levin, 1985), about the excessive centralisation, about the planners' interest in figures and statistics more than the human beings, and about the fact that planners were mainly from an economic and administrative background (William, 1979).

Then there were allegations about the formal education system itself; that the "modern school" was designed to reproduce the established order and forms, strengthen class systems, and underpin the bureaucratic state and the excolonialists' interests (Illich, 1971, 1976; Johnston, 1973; Dore, 1976; Lister, 1976; Mazrui, 1978). The more moderate critics, however, diverted part of the criticisms towards the excessiveness of the expectations held by the people and the governments. Weiler (1980) and Levin (1978, 1980) observed that expectations of education were unrealistic and that planning was "oversold" in the 1960s and through the 1970s (Weiler, 1980, p.158).

2. A Quantitative and Technical Bias

A second major criticism addressed to educational planning was that the methodologies employed in planning were too technical and quantitative (Hallak, 1980) and that the methods, models and tools were applied too uncritically to wider economic, social and political situations (Weiler, 1980, p.158). Some believed that planning had even ignored the social, cultural, ethnic and linguistic aspects of the society (Najafizadeh, 1985; Weiler, 1980 p.158), and that considerations devoted to the multitude of factors involved in education and the development process were far too inadequate. (Weiler, 1980 p.158).

3. Lack of Prior Assessment of Action

Thirdly, educational planning was criticised for not having adequately undertaken assessment of the courses of action it laid down before they were implemented widely (Weiler, 1980, p.158). Windham criticised that the planning approaches did not compare alternatives. He observed that it was mostly trend analysis, instead, that was most widely used to project the future in planning and that there was no interest on the part of the planners for comparison of alternatives because "single minded policy makers and administrators" found it easier to understand. (Windham, 1975)

4. Weakness in Implementation

Failures of educational plans are attributed not only to the techniques and methods they employed but also to the weaknesses in implementation of the plans. According to Hallak (1980) many plans were prepared and never implemented. Reasons are obviously numerous, and they vary from one country to another. Problems of administration and logistics, instability of government and change of leadership have interrupted plans. Instability of governments undermined policies and goals that the plans were based upon (UNESCO, 1970, p.11). Similarly, when plans incorporate reform, they face adamant obstacles. Resistance to change is a natural and a common obstacle. It takes the form of inherent reluctance and lethargy in the system or reduction of commitment to mere rhetoric. Levin summed up his review of literature on reform implementation as follows:

A review of the educational reform and implementation literature suggests that the rhetoric of reform is probably a more important manifestation than the changes themselves

(Levin, 1978, p.66)

For educational planning this means that reform or change to be successful must be backed by strong political commitment and motivation of the actual actors of implementation at

various levels. Needless to say that plans themselves must be realistic. UNESCO discovered that plans have failed due the inertia and social conservatism in the education system working against change, innovation and renovation. In addition, the half-hearted attitude of key members in the administration towards the idea of educational investment in national development and the socio-psychological resistance towards planning itself contributed to the demise of plans. (UNESCO, 1970, p.10-11)

5. Inadequate Management Staff

The quality of plans in the developing countries, in the past, was largely affected by inadequacy of the planning agencies. Staff shortages, employment of ill-suited staff and the use of inappropriate methodologies were identified by UNESCO as problems of this nature. The administrators were found to be incapable and unskilled to undertake the enormous development tasks that were thrust upon them, and the officers under them lacked adequate understanding of planning. As a result of this the administrators feared that any drastic change or an attempt might usurp their own responsibilities and prerogatives. (UNESCO, 1970, p.11).

6. Lack of Coordination with Other Sectors

UNESCO, in its survey, also found that failures of educational plans were attributable to the lack of integration with other planning activities such as main economic planning and other sectoral plans, where they did exist. This resulted in the lack of communication with and cooperation from other sectors in the processes of decision-making and implementation. Where parallel planning in other sectors did not exist, educational planning often lacked the required framework to coordinate with the needs and provisions of other sectors (UNESCO, 1970, p.11). Erder, on the other hand, analysing administrative problems in educational planning in OECD countries, pointed out that planning had, sometimes, even overlooked objective evaluation of the needs of the economy and focussed on the demands or the pressures of the communities instead

(e.g. a community may pressurise for the provision of a general secondary school while the actual need by the economy and the industries may be for a technical one) which added to the mismatch between the requirements of the economy and the output of the education system (Erder, 1966). Similarly, Windham also observed that, in planning as a process of centralised systems, subjective political goals, by and large, took precedence over the objective sectoral goals (Windham, 1975, p.190).

7. Cost of Plans

Among the most significant problems encountered by educational planning were the rise in the costs of education coincided with low rates of economic growth and uncertainty of resources available for the future, combined with a lack of firm financial commitments from public sources (UNESCO, 1970, p.11). This, however, does not mean that room for rationalisation of resource distribution within the prevailing education system does not exist. In fact, manifest imbalances in the distribution of resources among regions, streams and levels continued in many countries. (Coombs, 1970).

8. Weakness of Information

Lack of reliable and updated facts to appraise trends and to analyse the existing educational condition was found to be a common feature in developing countries (UNESCO, 1970). Frederiksen (1981) reviewing the progress of the regional targets set by the regional conferences found that information available for planning their targets was grossly inaccurate, and in some cases was not available. In Erder's (1966) review of problems of educational planning, he found that the difficulty of collection of statistics was a significant problem. With the problem prevailing in OECD countries, one should not find it too difficult to imagine the magnitude of the problem in the developing countries.

9. Internal Coordination

Lack of coordination with other sectors was identified above as a problem facing planning and plan implementation. UNESCO identified the same problem internal to the education sector too. Lack of continued support by the teacher training programmes for professional renewal and development of staff sometimes hindered implementation of plans (UNESCO, 1970). Erder, on the other hand, found that failure to send or attract quality teachers to the under developed areas of the country was another problem (Erder, 1966).

10. Inappropriate Goals

Najafizadeh (1985), in his research on problems in educational planning in the developing countries, pointed out that many developing countries adopted stereotype goals and priorities, and concentrated on devising educational action to fit those targets without proper analysis of the local situation. Due to the inappropriateness of goals, plans had to fail. Similarly, it was also discovered that sometimes plans were prepared without proper policy guide-lines from their own superiors. The policies stayed in the minds of the ministers, or their personalities were the policies. Erder, in his research, found varying perceptions of the very concept of planning among the planners themselves causing similar interference (Erder, 1966, p..).

B. Conciliatory Perspective

Despite the above criticisms and drawbacks, there is a strong belief that education is effective in bringing about change or maintaining the status quo and preventing change, whichever direction the course of action. The transformations of the socialist societies through the first half of the twentieth century were examples of change in which education played a significant role while the claim by critics that the "modern school" reproduces the established order and forms, strengthens class systems, and underpins the bureaucratic state and the excolonialists' interests presents the idea that education prevents change (Illich, 1971, 1976; Johnston, 1973; Dore, 1976; Lister, 1976; Mazrui, 1978). These illustrate the instrumental nature of education. What strategy will be appropriate for planning and how effective the implementation can be will depend on a number of factors related to the political, social cultural and economic context. The participants of the seminar held in Senegal in 1977, organised by the International Institute for Educational Planning, UNESCO, identified the following as some:

- the degree of structural integration of a society (e.g. highly centralised vs. highly decentralised).
- the kind of overall policy goals (e.g. rapid industrialisation, development of rural areas, mass participation, etc.).
- the financial and other means at disposal of the political authority.
- the degree of autonomy of the planner vis-a-vis the government.
- the degree to which a society allows conflict to express itself (e.g. through media, associations, dissenting groups and individuals, etc.).
- the capacity of societies to resolve conflict by peaceful means (persuasion, compromise, tolerance of dissidents, etc.).
- the degree to which forms of popular participation are established or are possible within a society.

(Weiler, ed., 1980, p.159)

Despite the criticisms educational planning has never been considered an unnecessary exercise for development. In fact, planning continues to be a critical function of management, an indispensable one in the endeavour for social and economic development. The criticisms only demand the adoption of more comprehensive and more realistic plans, employment of more advanced and appropriate methods, and the use of more and better information. The role of

planning in solving problems have never diminished. After all as Nehru, the first Prime Minister of India after independence said, planning is about finding solutions to problems:

Planning is the exercise of intelligence to deal with facts and situations as they are and find a way to solve problems.

(cited in Waterston, 1965, p.8)

As a relief to the "euphoria" in educational planning, Hochleitner was precise and realistic when he, at the very early stages of the educational planning, reminded what educational planning actually was and was not.

Educational planning is not a magic formula that will come up with ready made solutions. It is an instrument to channel all knowledge about education and related disciplines into the preparation and implementation of long-term and short-term educational developmental plans. Since, it is primarily a tool of development, it can be applied to the most widely varying socio-political environments and adapted to the goals of each country. It involves willingness to size up to the situation, to measure the country's capacity to respond to that situation, and to prescribe the action to be taken. Because educational planning necessarily implies a global approach it brings to light short comings and needs that hitherto have been ignored or unknown.

(Hochleitner, 1964, p.86)

VI. SOME NON-CONVENTIONAL FORMS OF EDUCATIONAL PLANNING

A. Decentralised Educational Planning

Many of the past educational planning exercises in the developed and the developing countries could be said to have taken place on a macroplanning basis, where a central planning office, employing mainly economists and administrators, engaged in the exercise. Such exercises were aimed at achieving a set of goals that were newly added to the education system, mainly after the Second World War and the attainment of independence by many countries. These goals included, among others, "meeting the manpower needs of the economy", "ensuring equal educational opportunities to all citizens" and "enhancing efficiency". They were added on to the

traditional goals namely, "the development of the individual" and "promotion of knowledge" (Soumelis, 1983, p.13). To pursue the three added external goals, what Soumelis called the three classical approaches to educational planning were adopted. They were adopted by the developed and developing countries alike. The approaches were (a) the manpower requirements approach, (b) the social demand approach, and (c) the rate-of-return approach. Since, the goals were nationally orientated, the approaches, automatically, became centrally driven. These approaches were referred as macroplanning approaches. The techniques and methodologies involved in those approaches have been described above.

What a macroplanning approach is and what it is not has been stated by a macroplanning theorist in the following description:

Macroplanning refers to decisions made at a very aggregate level. In the case of education, for example, it could refer to the way a state budget is allocated between different levels of schooling. [It] is not concerned with curricula changes and the shape of classrooms.

(Psacharopoulos, 1975, p.214)

The centralised planning methods adopted over the past decades, employed heavily statistical techniques and were based on mathematical and econometric models. The models were advanced and sophisticated over time. In those methods, planning was basically a quantitative exercise. For many reasons including that just stated, lately, there have been many criticisms and controversies over these approaches. The criticisms and the controversies can be divided into two main debates. They are the quality vs quantity debate and the macroplanning vs microplanning debate. However, the two debates are found to be very much intermixed. Some critics of the quantitative approaches have often spoken in favour of micro level planning (UNESCO, 1970, 1983a; Windham, 1975, 1980; Caillods, 1983; Hajjar, 1983) while others have spoken for qualitative planning (Beeby, 1969; Adams, 1978; Weiler, 1978, 1980). The macroplanning theorists, on the other hand, seemed to favour quantitative models as cited above (Psacharopoulos, 1975).

Nevertheless, many of the criticisms and failures of educational plans were attributed to the distance planners kept from the actual site of implementation (UNESCO, 1970, 1983a; Windham, 1975, 1980; Hallak, 1977; Caillods, 1983). The plans were alleged to have been far from the reality. According to some critics, the planners and the administrators have even forgotten what they were supposed to do, for whom the system was to operate and the environment in which it had to operate (UNESCO, 1985a, p.9). These judgments led to the move towards decentralization of educational planning, which ultimately evolved microplanning and the school-mapping technique (Hallak, 1977; Caillods et al, 1980; Caillods, 1983).

Most directly, the reasons for the decentralization drives emanated from the extreme complexity of planning at national levels, the great difficulty in implementing centrally determined objectives and their plans at the local levels, the failure of many plans to reduce disparities between urban and rural and among other groups, and the failure to make education relevant to the needs of the local populations and regional development (Caillods, 1983, p.1). The deficiencies in central planning also include:

- insufficient knowledge the planner had of the situation in the different regions and sub regions. The planner worked with national averages, and was not able to make in-depth diagnosis of the characteristics of the population he had to serve.
 - the low level of importance attached to the way in which decisions were implemented at the regional or local level. Very often the plans did not move beyond the document and the printed circular stage.
 - lack of participation in the decision making process at the local level. This led to lack of interest on the part of the locals to implement the plan or the decision that they were not involved, and secondly, it also led to decisions that were ill-adapted to the region or locality.
- (Caillods, 1983, p.1)

1. Decentralisation Educational Planning

According to UNESCO, the modern concepts of educational administration are moving in the direction of an irreversible deconcentration and decentralization of its functions and decision making powers to regional and local authorities (United Kingdom is an exception to the trend).

The upper echelons in the hierarchy are becoming less and less capable of responding to specific requests coming into them from regions, towns and schools. (UNESCO, 1985a)

Two words, namely, "decentralization" and "deconcentration", used almost synonymously in this text need clarification. The two concepts are, both, measures of transference of decision making power from the centre to the lower levels, thereby bringing the decision making closer to the locality (Malpica and Rassekh, 1983, p.8). The two concepts, however, have two distinct meanings that may not be confused. The Education Committee of the OECD defines them as:

Decentralization: The devolution of jurisdiction and power (more than mere duties) from the central governmental administration to local authorities and other agencies which are legally more or less independent from the central government.

Deconcentration: The transfer of power for decision making and coordination at the regional or local level to the respective representatives of the civil service who continue to report directly or indirectly to the central administration, so that the responsibility for executing policy is delegated to the regional or local authorities but the power to make the basic decisions remains in the hands of the central governmental administration.

(UNESCO, 1985a, p.7)

Malan (1979) in his definition of decentralization added "resources" to go along with responsibility. Malpica and Rassekh supported that although resource may be taken as implicit in the devolution of responsibilities, decentralisation without reallocation of resources will only be a partial devolution and will not work. (Malpica and Rassekh, 1983, p.8)

Bordia identified five different uses of decentralization in educational planning and administration. They were:

- linking education with development and manpower needs.
- bringing about qualitative improvement.
- implementing some of the recent thinking on learning strategies and environmental orientation.
- giving more emphasis to non-formal education of the adults, out of school youth and preschool children.
- meeting the urge for reassertion of cultural identity.

(Bordia, 1983, p.31)

Different countries have adopted different strategies in the regionalisation and decentralization of educational planning and administration. Countries like Benin, Tanzania, Burma and Guinea Bissau applied the party power and mobilised a political movement to decentralize while countries like Bangladesh, Nepal, Philippines, Peru and Equador passed decrees to decentralize. Senegal, Nicaragua, India and Sri Lanka created certain innovative institutions based upon decentralized participatory approaches while countries like Indonesia and Thailand decentralized through reform of the public administration. (Bordia, 1983, p.41-42)

2. Some Inhibiting Factors

Decentralization and deconcentration, or regionalisation for that matter, are forms of giving away power from the centre. Hence, it naturally becomes a difficult objective to achieve. Lip service rather than active service is often offered to it. In giving away power to local levels or other parts of the country or the system, questions like 'How much power should be devolved?' and 'To whom?' become very important to the centre. Some, ostensibly, even fear that devolution can undermine national integrity, leading to divisions in societies and separatist movements (Bernal, 1983, p.55). Others fear political instability leading to authoritarian regimes, weakness in administrative institutional structure and inadequate educational administration at the local levels (Bordia, 1983, p.32-34).

One confusion often attached to decentralisation is democratisation. It is often assumed that decentralisation is a process of democratisation of management. In principle, that need not necessarily be true. The 1979 International Conference on Education, without pointing out to specific examples, made the observation quite clearly:

The attitude which associates centralisation with authoritarian management and decentralisation with democratic management is based on an incorrect analysis of the functioning of the administration, and can hardly stand up to a close examination. Some decentralised systems are still authoritarian and some centralised systems are still democratic ... in the final analysis, what determines the more or less democratic character of a system is its ability to enter into dialogue first between levels of the system and then vis-a-vis the communities which it is supposed to serve.

(IBE -International Bureau of Education- 1982, p.96)

3. Microplanning

Microplanning is the main form of application of decentralized educational planning. In the broadest sense, it covers every form of "planning of education at regional/ district/ school levels done and implemented by local personnel". (Caillods, 1982, p.12). Theoretically there is no limitation as regards the method and the use of it. It can be qualitative, quantitative, technocratic, participatory, political or administrative. But the explicit merit of this kind of planning lies in the involvement of the community and the local level personnel in the planning process with a view of facilitating smooth implementation and close coordination with other sectors in the end.

Microplanning should lead to better integration of education with the activities of other sectors and the society; and it should enable the objectives set to be better adapted to the people's needs; it should encourage greater community participation; it should lead to more active exploitation of new resources; and it should lead to contribute to clearer identification of inequalities and their reduction. In short, it will bring the real world closer to the ideal.

(Caillods et al, 1980, p.5)

However, microplanning, in its process of development and application, requires considerable focus on four key aspects. Firstly, it can have limits in coverage of the education system. Depending on how small the units of area are selected, it could be difficult to include all levels and types of education in it. Ideally, micro planning is applied to compulsory education, general post-secondary education, literacy and adult education. Higher education and specialised vocational education demand closer association with the national needs for manpower. Depending on the country's abilities to provide different levels and forms of education locally and the degree of centralisation of the system, such forms of education (in this case, two forms of education) become the meeting-point of microplanning and macroplanning. (Caillods et al, 1980, p.6)

Secondly, microplanning involves redirection of the flow of data and information, i.e. from the centre to the local levels. As a substantial part of the actual planning takes place at the local level, the necessary information about the central roles, their contributions and those stored

and generated centrally will have to flow from the centre to the local levels. (Caillods et al, 1980, p. 6).

Thirdly, despite the fact that microplanning calls for participatory approaches, it could still exclude teachers and the community from the planning and implementation processes. The decentralisation or the devolution can be made from the administrative level of the centre to the administrative level of the region without actually allowing wider participation of the key actors of the educational process. (Caillods et al, 1980, p. 6-7)

Fourthly, the diagnoses based on the details of local levels can produce proposals better suited to the local needs. That is the very purpose of microplanning. But, this may diminish the coordination role of the centre. (Caillods et al, 1980, p.7)

The International Institute for Educational Planning (IIEP) researched into three projects of microplanning. They were (i) "the school-map" project (Hallak, 1978), (ii) project on "regional disparities" (Carron and Ta Ngoc Chau, 1980), and (iii) the project on "administration of education at the local levels" (Lyons et al, 1980 and Gutelman et al, 1980). With reference to these studies IIEP made the following observations for microplanning:

The first, is the frequently inadequate nature of the existing data base when one leaves the field of global quantitative expansion. This applies both to the type of data collected (for example, it is amazing how inadequate the data is for measurement of quality of educational services and its results), and the way in which it is consolidated, which hardly makes it possible to detect disparities and inequalities.

The second, is the importance of being able to rely, in educational action, upon a well organised and efficient local administration. The strength of the local echelons thus appear to be an essential condition in the development of an education system better adapted to the needs of the local population.

The third is the paramount character of relations between the different echelons in the educational planning process. Improvement in the planning process and the assurance that plans will be implemented, depend upon the way in which these relations are organised.

(Caillods et al, 1980, p.9)

4. School-mapping

School-mapping was initially a set of techniques and procedure applied for the planning of school location at the regional and local levels. With the realisation of the difficulty of effectively planning the establishment of schools at the local levels by the central authorities, the responsibilities had to be delegated to the local levels. For example, in France, in 1963, when the government decided to extend the period of compulsory schooling up to the age of 16, the government was required to establish a large number of new schools throughout the country. When the Ministry of Education realised that it could not undertake the task of planning the location of all new schools by itself, nor would the regional offices be able to decide what type of schools would be required and where, the Ministry had to prepare regulations standards and procedures and send them to the local authorities. These regulations, standards and procedures were called "the school-map". (UNESCO, 1983a, p.6-7)

Although its origin lies in the preparation of the methodologies for the location of schools, the concept has been broadened and the uses expanded over the years. The technique now assumes, where necessary, the full role of educational planning at regional or local level. Weiler (1985) even classifies the technique (not just as a technique any more) as an approach to educational planning by itself. However, the fundamental character of location and distribution is still the dominant feature. Caillods defines the concept as follows:

School-mapping is a set of techniques and administrative procedures that are applied to plan the distribution and characteristics of schools in such a way that they match the distribution of the population to be served and satisfy the objectives of educational policy.

(Caillods, 1985, p.4436)

The function of school-mapping in this definition is very clear. It is planning the location of schools. Elsewhere, Caillods defined school-mapping as "a way of planning education at the local level" (Caillods, 1984, p.14) while UNESCO based upon the same source defined it as the following:

[School-mapping] is a set of techniques and procedures used to identify future needs in education at the local level and to plan for measures to be undertaken to meet them.

(UNESCO, 1983a, p.4)

In this definition the span of its role has broadened from "school" to "education". Leo-Rhynie provided a functional definition of school-mapping as

[School-mapping] is to establish a framework from which the educational services of any one region can be planned to meet effectively the needs of the future.

(Leo-Rhynie, 1984, p.77)

From these definitions one can find that school-mapping has at times broadened to incorporate the entire educational needs of a particular location or region while at other times it has remained just the mere location of schools. There is another term offered by UNESCO (1983a) for use in the broader context, a term that is occasionally used for school-mapping. That is, "educational mapping". The stated purpose is to take into account all forms of education including the education of the out-of-school youth, literacy, post-literacy and vocational education in planning educational provision. The suggestion goes further that it is not only schools that a planning exercise should take into account, but also places like mosques, churches and community centres. (UNESCO, 1983a, p.5)

(a) The Process of School-mapping

The school-map is based upon the qualitative and the quantitative aims of education as laid down by the national educational plan or the national educational policy decided by the central authorities after taking into account the national educational needs and the resources available. The central administration specifies for each region objectives compatible with the overall national goals. It provides regulations, norms and criteria for allocation of fiscal and human resources for each region. Those norms and standards laid down by the centre may later be revised within the policies to ensure that they are compatible with local needs.

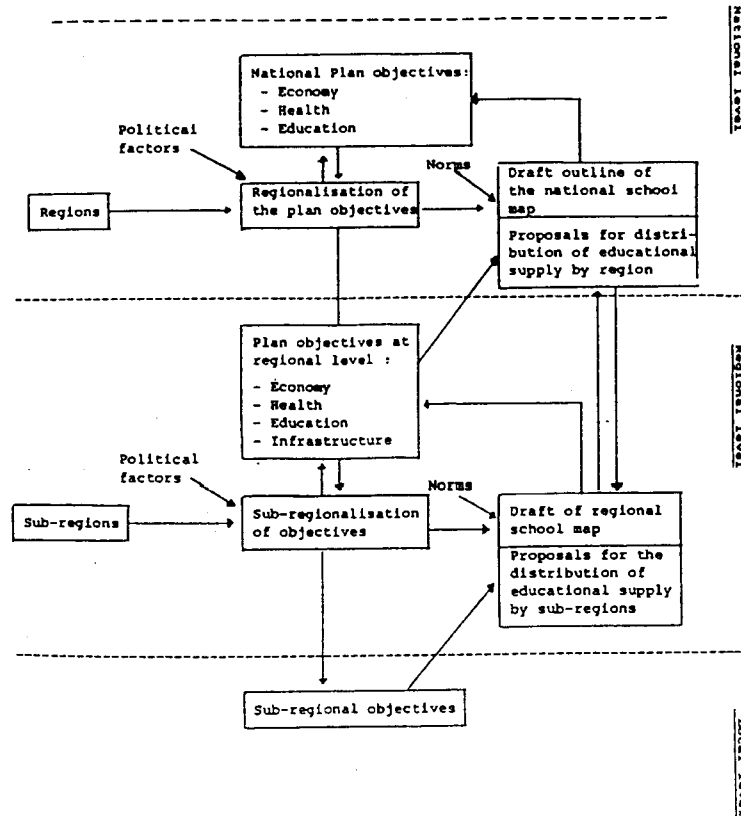
The work of the school-map, and the micro plan for that matter, would then be to translate the national aims into regional aims and objectives, and having verified them with the national authorities, design operative steps and strategies to achieve them in the local circumstances. Thus, the school-mapping exercise will have to take into account all the factors that are normally involved in any planning exercise. At this stage of the exercise it is the local authorities that are involved in the planning. (Caillods, 1983, p.14; UNESCO, 1983a, p.12-13)

The same procedure is adopted at lower levels if the region is divided into more than one administrative level. The number of levels entirely depends on the administrative organisation of the country or on how the country is divided up for the purpose of educational planning and administration. The levels can also vary with the levels of education that the plan is being prepared for. For example, as explained previously, higher education, and technical and certain vocational education are associated more closely with the manpower developments at the national level. Thus, the territorial unit chosen for the analysis and planning of post-compulsory education can generally be larger than the one selected for compulsory and basic education (UNESCO, 1983a, p.15).

The inter relationships of planning among the various levels and the distribution of their tasks are illustrated in Figure 2.2. It represents the interaction between the three levels, namely, the national level, the regional level and the local level, and illustrates how the national goals are regionalised and subregionalised, and ultimately translated into action. It also shows how the action plans are shuttled back and forth for verification, finalisation, approval and action.

Figure 2.2 presents how the tasks are distributed to the various levels and the vertical flow of communication in the working of the school-map. But linkages required in the school-mapping process are not only vertical but also horizontal.

Figure 2.2: Interaction Among Different
Decision-making Levels



Source: Unesco, 1983a, p.14

UNESCO points out that:

while school-mapping essentially requires vertical interaction among, and particularly by, the different administrative levels (local, regional and central) it requires also horizontal types of participation on the part of other administrative bodies, ... and also the various social groups concerned.

(UNESCO, 1983a, p.15)

(b) Uses of School-mapping

It is claimed by the advocates of school-mapping that the process is a forward-looking and dynamic one that enables a vision of the future services, facilities and resources necessary for the region. It is also considered as an instrument of educational policy at regional level. (Hallak, 1977; Gould, 1978). Thus, the method has been used, especially in developing countries, to serve policy objectives in the following ways:

1. Attain or consolidate Universal Primary Education (UPE). e.g. Morocco, Burundi, Sudan. Here school-mapping was used mainly to find alternative solutions to local problems in the implementation of UPE. Some of the alternatives considered were multigrade teaching, biennial intake and one teacher schools. It was also used to maintain demand for education by the locals and alleviate absenteeism. (UNESCO, 1983a,p.6-9)
2. Increase access to secondary education. e.g. Thailand, Tunisia, Tanzania and Nigeria. It was also used to extend the length of compulsory basic education to nine years. (UNESCO, 1983a, p.6-9)
3. Improve quality of education and promote better educational conditions without, however, entailing a large increase of costs. Here the main thrust was on making use of available resources in the best possible manner by reorganisation, regrouping and other strategies. (UNESCO, 1983a, p.6-9)
4. Organise a network of technical and vocational education. The task was more difficult than organising a network of schools of general education because it was difficult to determine the number of pupils who would take the different courses. (UNESCO, 1983a,p.6-9)

(c) Advantages of the School-map

As has been suggested earlier, microplanning (school-mapping) has an overriding advantage in bringing decision-making closer to the implementation site. In so doing, the following advantages were found to be effective in the process:

1. Gauge the hopes and aspirations of communities more accurately.
2. Diagnose the problems and the existing system more closely.
3. Involve the community and enhance their participation through the process until the end of implementation.
4. Enable better alternatives to be found for problems.
5. It could increase efficiency in utilisation of the available resources.
6. Avoid the need for boarding, by creating schools in each locality.
7. Avoid schools with several classes under-used or unutilised.
8. Speed up implementation (when power is entrusted to the local level).

(Summarised from Hallak, 1977; Gould, 1978; UNESCO, 1983a; Caillods, 1983, 1985)

School-mapping and micro planning, in effect, only supplement the national plan. They translate the national goals and objectives into action to be undertaken at the local level. This has been illustrated above. The procedural steps described were mostly applied to countries that are divided into more than one level in the administrative organisation. The procedure can differ from situation to situation depending on the degree of decentralisation or deconcentration. In a country that has only one tier of effective administration and caters for a small but widely dispersed population, such as the Maldives, the school-mapping methodology could be applied to purposefully identified regions and synthesised later to form a national school-map, just as the *national map* is produced in administrative systems with more than one tier (UNESCO, 1983a, p.18). It is essentially the distance of the centre from the site of implementation that microplanning and school-mapping fundamentally attempts to circumvent. Within that frame, the procedural organisation and the working linkages can differ from one place to the other to suit the specific setting.

B. Qualitative Educational Planning

As stated previously, after ten to fifteen years experience of educational planning world wide, and particularly after having a considerable period of time elapsed since the 'rampant' expansion of education, there was an upsurge of criticisms of educational planning. Many of them were addressed to the quantitative methods adopted and to the restriction of planning to the economists and the administrators. The critics suggested that the plans overlooked the qualitative aspect of education, that the related aspects were not sufficiently researched, and that the proposed strategies were implemented untested. (Coombs, 1968, 1970, 1982, 1985; Adams, 1978; Levin, 1978; Weiler, 1978, 1980; Von Recum, 1984)

However, macroplanning theorists favoured the methods that employed quantitative and econometric techniques. Some even believed that specialists in areas of the qualitative side of education lacked adequate knowledge of planning. At times, it was even thought that such persons even became negative elements in effective implementation of plans. For example, Corea, in his attempt to judge the effectiveness of the Latin American educational plans, concluded that:

A high proportion of employees with specialisation in education and social sciences [associated with planning] has negative effects on the degree of implementation of the plans. The conclusion is reasonable because the process of preparation and implementation of educational plans does not require knowledge of pedagogy or social sciences.

(Corea, 1975, p.249)

He further added that "planning departments in which the personnel are specialised in planning, administration and economics, produce plans with a high degree of implementation" (Corea, 1975, p. 249). Psacharopoulos (1975, 1981, 1988) also favoured macroplanning techniques when he conceded that the ideal would be to invite educators, sociologists, psychologists, economists and political scientists to elaborate the plan but contended that they would not talk the same language (Psacharopoulos, 1975, p.215).

Windham (1975) and Farrell (1975) criticised macroplanning methods. In their debate, however, they also admit that available studies are inadequate to conclude that macroplanning is a failure. They, nevertheless, believed that the criticisms and the problems of macroplanning methods demonstrate that much of the dissatisfaction in the achievement of the objectives of the plans were attributed, among other things, to the lack of insight into the complex nature of the process, especially at the implementation level or the micro levels. The macroplanning methods were heavily criticised for their limited concern for quality. The planners were allegedly interested in how many went into the system rather than what went on in the system.

It is probably fair to say that educational planning has so far been primarily concerned with how many people enter into, pass through, and re-emerge from the various sectors and levels of education, and not really with what happen to them in the course of this process. It has been assumed that graduates of the educational system have certain qualifications which make them employable or otherwise useful, but it has never been an explicit concern of educational planning to inquire into the conditions under which certain special outputs or outcomes of the educational process are being achieved.

(Windham, 1980, p.128)

With the above kind of criticisms, much of the literature on the subject has called for a *diagnostic* approach to educational planning rather than the exclusive *prognostic* planning, and to concern itself with quality as much as it does with quantity (Ruscione, 1969; Coombs, 1970; Hallak, 1978; Levin, 1978; McGrath, 1979).

1. Quality and Quantity

Coombs analysed the meaning of *qualitative changes* and *quantitative changes*. He stated that, in this context, the former connotes "changes of any kind in an education system other than a change in size alone" while the latter connotes "changes in size, pure and simple (should not be equated with numbers per se which often have application to qualitative aspects as well)" respectively (Coombs, 1969, p.28). It is most unlikely that one aspect will change without an effect on the other. They are two integral aspects of the same process. The dichotomy

created is somewhat artificial (Coombs, 1969, p.28). The most probable explanation for this traditional dichotomy between these two aspects is perhaps, the communication gap between the professional educator and the administrator or the planner, and the dividing organisational structure between their respective divisions or agencies in the hierarchy.

2. Reference Points of Quality

When quality of education is referred to in general terms, it can be confusing. It can mean quite different things depending on the level or aspect referred to in the educational process. The meaning varies with the level of analysis of quality of education (Burstein, 1975; Adams and Weiler, 1978). For example, if the quality of education referred to is the education system as a whole, then quality may mean the proportion of different sub-populations represented in the system or the level of performance of the system as a whole. Similarly, if the level of reference of the quality of education is the school or the classroom, then it may mean the distribution of access to the school by the privileged, the average or the under privileged of the society, or the performance of the school among schools or the class among classes. At the individual level, quality of education means how the individual makes use of his or her capabilities. (Adams and Weiler, 1978, p.86). Therefore, in a discussion or a debate on the quality of an education system, a clear definition of the reference aspects and levels of the system will be necessary.

Similarly, the methodology applied and the indicators used to measure the educational quality at these different levels will also differ. For example, at the level of the whole education system, quality may be measured in terms of predetermined definite standards by longitudinal or cross sectional comparison, while at the school or the classroom level, the quality may be measured in terms of general performance of the pupils, and at the individual level, it may be measured by the knowledge, understanding and the mastery of content in the form of examination results or otherwise. (Adams and Weiler, 1978, p.87)

3. The Quality of Content

In the final analysis, however, the heart of the quality of education is the pupil performance, which depends on many factors including what the teacher does for the pupil, the pupil's role and the curriculum. Harlen underlines ten different dimensions as very influential in the learning process. They were (i) the pupil's role, (ii) time for learning, (iii) content of activities, (iv) pupil participation, (v) range of goals, (vi) expectation of pupil's performance (vii) influence of teacher's decisions, (viii) influence of feedback, and (ix) teacher-pupil relationship (Harlen, 1978, p.44). These are only factors directly associated with the learning environment. Apart from these there are a number of non-school factors such as parents, home environment, peer groups, the media, etc. that affect the quality of education of a child.

While the above stated list constitutes the most important in-school factors of the quality of education, the role of curriculum remain fundamental. In that respect, the curriculum should constitute the sum total of all activities of all kinds which the school is supposed to promote or organise (IBE, 1980, p.43). And curriculum development is no longer an ad hoc undertaking pursued by an individual or small groups of persons. It is a systematically planned process that encompasses the instructional materials and the procedures for the pupil and the teacher. Postlethwaite identified two major aspects that distinguishes the current curriculum development process from that of the past.

(a) curriculum development is now of a planned systematic kind involving a series of steps- the determination of general objectives, the writing of materials, their try out, their implementation through dissemination in the school system, evaluation and quality control- all leading systematically to the further revision of the curriculum.

(b) instructional procedures (teacher activities, student activities, classroom management, etc.) all appropriate for the implementation of the curriculum, are developed to accompany the materials.

(Postlethwaite, 1978, p.28; see Postlethwaite, 1978, for the outline of the stages of curriculum development)

Not only has curriculum development become more systematic but also new technologies have evolved to support the curriculum (Lewy, 1977).

4. The Implementation Stage

Qualitative planning is mainly to do with what goes in the system. For this reason, the implementation stage of the curriculum becomes an important stage. There are some caveats that the planners are called to take note of. Adams reviewed six case studies of curriculum innovation from Papua New Guinea, Ghana, England, Israel and Indonesia. His conclusions were that: (i) the more centralised the system was and the less autonomous the teachers were, the greater the societal need for change; (ii) the more complex the operation, the more vulnerable to miscalculation at critical points; (iii) the state of education was not so secure that effects of action could be forecast with unequivocal confidence; and (iv) there was a considerable advantage in planned development with built-in safeguards, "fail-safe" and "trouble-shooting" mechanisms (Adams, 1978, p.26). These caveats have been looked at from a more aggregate level which are nevertheless, very important from the planning point of view. If the interest is to dive still deeper into the micro levels in the qualitative planning, which some writers like Windham (1975, 1980) insist, more findings emerge. Lee studied a curriculum programme in Manitoba and reported that:

(i) in the implementation of change or innovation, it cannot be taken for granted that teachers have the same assumptions as the curriculum developers. The teachers were generally aware of the innovation but they did not understand it.

(ii) student background diversity, access to resource, classroom organisation, distance among schools and even climate had effect on how it was implemented.

(iii) those responsible for implementation did not realise the importance of full implementation of the curricula.

(iv) lack of resources, too many curricula at once became factors influencing the teachers' attitude and ability.

(v) teachers felt enthusiastic in the implementation of the curricula when they were involved in the actual development and the process.

(Lee, 1985, p.14-17)

These findings highlight the difficulty of planning (the qualitative aspects) from a distance from the implementation sites. And yet, at the same time, emphasise the importance of planning nonetheless. This point is further illustrated by Wong who reviewed literature on curriculum

implementation on the whole to find that effective curriculum implementation had to recognise that:

- (i) implementation is a process not an event.
- (ii) the educational innovation is not immutable, the innovation will get modified, developed and adapted over time.
- (iii) implementation is a highly personal and social experience for those involved.
- (iv) implementation is a process of clarification, whereby users and practitioners understand and change new material behaviour and thinking.
- (v) interaction and technical assistance are important to implement because it is a socialisation and clarification process.
- (vi) planning at the school and the system level is necessary if obstacles are to be addressed.
- (vii) the education system and school plans to guide action, and change must address teaching materials, approaches and beliefs, and monitor and gather information used to assess progress.
- (viii) developing and using a plan itself is an implementation process.
- (ix) one hundred percent implementation is impossible and undesirable.
- (x) the goal of implementation is to develop the capacity for the system, school and the individual to use innovations and revision.

(Wong, 1985, p.1-2)

5. The Planning Stage

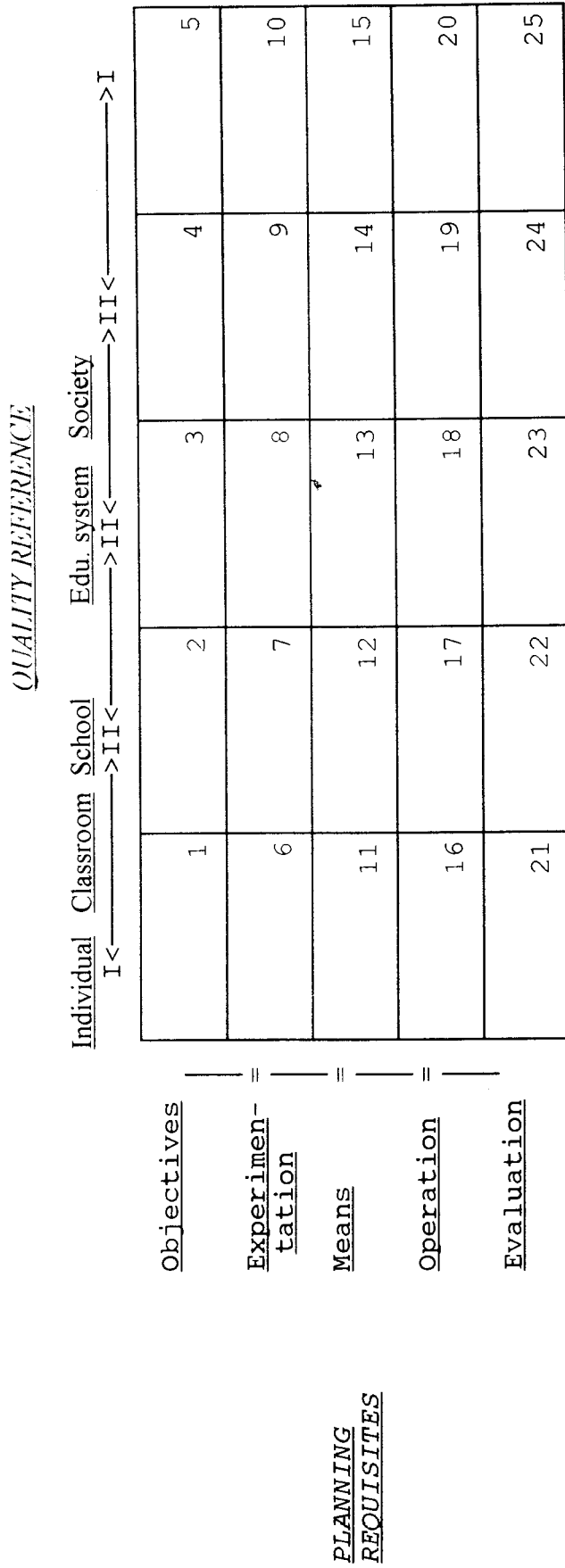
In qualitative planning, Adams and Weiler (1978) emphasised two additional but essential steps, apart from the traditional three steps (namely, (i) deciding on goals and specifying them, (ii) deciding on the means to achieve them, and (iii) determining the operational steps to achieve them). The two additional steps were: (a) experimenting, try-out and testing of procedures before implementing them, and (b) continuous and terminal evaluative assessment of the plans whether the goals were achieved or not, or were in the process (Adams and Weiler, 1978, p.86). Adams and Weiler proposed a two dimensional model to assess how much selected options in planning of educational activity had taken into account the various levels of quality reference.

The model is expected to allow choice of alternatives. The writers synthesised the discussions on qualitative planning by Adams (1978), Postlethwaite (1978), Harlen (1978) and Hallak (1978) in proposing the model presented in Figure 2.3.

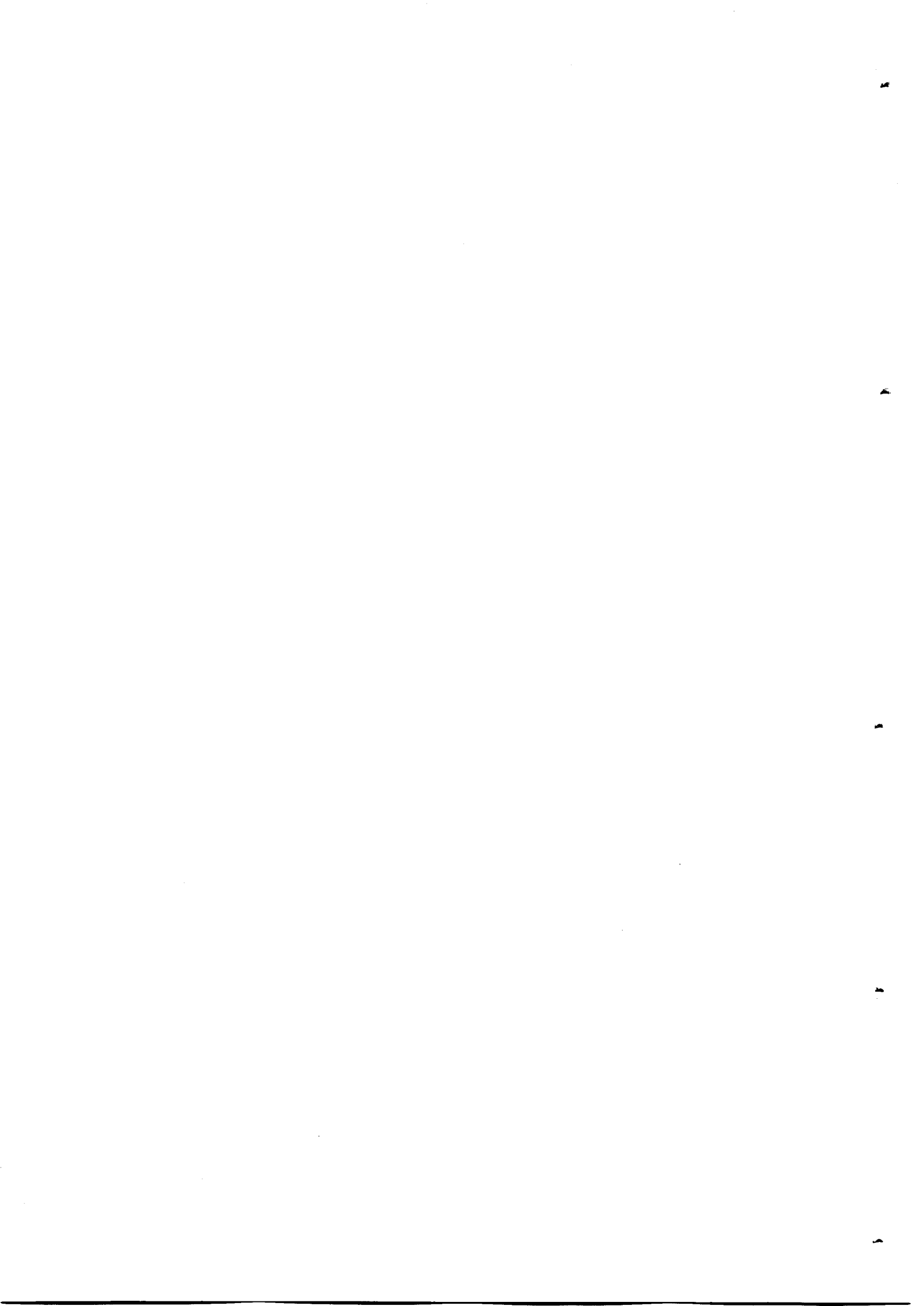
On the one dimension of the matrix (Figure 2.3) are the *planning requisites* (minimum considerations required to plan an educational activity) and on the other the *quality references*. What the quality reference dimension implies is whether or not quality is being defined in terms of the individual, the classroom, the school, the education system, and the society. The planning requisite dimension determines whether the activity meets the objectives, is experimented or tried first, are within the means available, will be operational and are evaluated. According to the authors a minimum of three requisites must be met for an activity to be planned anyway, and five requisites must be met for it to be planned efficiently. (Adams and Weiler, 1978)

While there has been much emphasis on employing qualitative methods in planning, including research, testing and experimentation, it has been thought useful and relevant here to cite an example of a country that integrated

Figure 2.3: Qualitative Educational Planning: a model



Source: Adams and Weiler (1978) p. 88



research and experimentation with planning. This example has been borrowed from Spaulding (1977, p.59). The Korean Educational Development Institute (KEDI) has the responsibility for research and development of curriculum, teacher education, and delivery systems while it is also entrusted with preliminary planning of education. KEDI as an educational policy, planning and research organisation of the Ministry of Education does not make decisions as to the allocation of resources or the implementation of strategies. What it does is to make clear to the decision-making bodies in the Ministry of Education or in other ministries what the possible implications of various approaches might be (not only in quantitative terms but also in qualitative terms), and KEDI undertakes pilot projects on a continuous basis to test out some of its assumptions. The method apparently proved to be highly successful. (Spaulding, 1977, p.59)

VII. SUMMARY

The discussions of educational planning have clearly indicated that educational planning is a broad concept. It is neither the mere projection of enrollments, nor just the assessment of the school construction requirements, nor the estimation of the educational budget. It is the design, testing and implementation of strategies for the development of a very complex process, namely, education, each stage of which is heavily dependent on a multitude of social, economic, cultural and political variables which are themselves interdependent and are, at the same time, interacting with the process itself.

Educational planning as a national strategy for development and for deliberate economic and social change has been a recent evolution. A large scale adoption of this strategy throughout the world is only about forty years old. Over this period of time it has gone through two main stages. First, a period of optimism, during which educational planning was taken as the panacea for every evil in the society or the magic formula for all the desires of development, and were "oversold" in all parts of the world. The period was

also called the "age of innocence" (Ward, 1974). This period of excessive expectation was followed by a period of disappointment and high criticism. It was called by Weiler "the period of scepticism" (Weiler, 1978). After much criticism from different angles, over this period of time, it seemed that it has moved into another phase wherein some writers think that there is an identity crisis in educational planning (Levin, 1981; Von Recum, 1984).

Despite the scepticism about educational planning, there have been no concrete studies to generalise and say that planning did not contribute to national development objectives such as "equality" or "development". According to Farrell (1975) the studies available were sketchy and did not provide evidence for that kind of generalisation. Since education was a long-term activity its effects could not have been observed in a short term anyway. Moreover, the economic and social ills that education was expected to eliminate could possibly have even worsened over the period, if not for educational planning. This was illustrated by Bray (1984) with the case of Papua New Guinea. He contended that progress was made towards equality in terms of regional and sexual access to education, through educational planning.

Not only has planning been a key factor in promoting this progress, it is unlikely that the trend would have been in this direction without planning.

(Bray, 1984, p.436)

Bray further substantiated his argument with studies of Psacharopoulos (1981), Heyneman (1980, 1984) and World Bank (1980a) which showed substantial returns to education in a large number of countries, even in the face of increased unemployment (Bray, 1984, p.436).

A synthesis of the literature on the debates on qualitative planning vs quantitative planning and the macroplanning vs microplanning allow some common ground to draw the following conclusions:

- (a) Qualitative planning also needs employment of quantitative methods and techniques.
- (b) Quantitative planning also needs to take into account the qualitative aspects of education without which educational effort becomes meaningless.
- (c) Both have indispensable roles to play in educational planning.
- (d) Wider participation is necessary for effective planning and implementation.
- (e) A micro level focus on problems is essential if plans were to address the problems and needs of the local populations or the those of the institutions.
- (f) It is not just one method that would be required for educational planning, but a combination of methods as may be appropriate. Different approaches may be applied to different levels and types of education while both qualitative and quantitative aspects must be allowed to remain integral parts of the entire process of educational provision.



CHAPTER THREE: THE DEFINITION, PROBLEMS AND FEATURES OF SMALL ISLAND STATES

I. INTRODUCTION

This chapter discusses questions related to the definition of small island states and broadly outlines the general position of small island states in the shared world where virtues of size along with other factors have overriding advantages in the development sectors of states. It then presents the general features and problems of small island states, discussing how these features characterise their development frontiers, making the tasks exceptionally formidable. The review and discussions are intended to provide a background for later analysis.

II. EMERGENCE/ RE-EMERGENCE OF SMALL ISLAND STATES

With the dismantling of empires that consolidated in the 19th century and later, many countries gained their political independence. Every time such an event takes place, the political map is redrawn, sometimes with very drastic changes indeed. Many of the movements for independence started before the Second World War, but it was not until the beginning of the 1960s and the United Nations Declaration on the Granting of Independence to Colonial Countries and Peoples (General Assembly Resolution 1514-XV of 1960) that decolonisation started to be applied to territories with a few hundred thousand people. However, when they did, the list of nations of the world increased phenomenally, including many countries previously little known to the world. e.g. island countries of the South Pacific and the Indian Ocean.

With the emergence of the newly independent nations, the literature divided the world into two major camps, the developed and the developing countries, the concepts of which have never been easy to define. However, with reservations, Varlack and Harrigan described them as follows:

the former are basically societies which (acknowledging the importance of traditional values and structures) rest in the base of considerable economic and social development. The latter are those on which the trappings of "modernity" have been superimposed upon traditional systems caught up in the process of critical and disruptive change

(Varlack and Harrigan, 1983, p.1)

The "developing" countries have also been referred to in the literature, as underdeveloped, transitional, emergent, etc. all of which indicate "backwardness" (Varlack and Harrigan, 1983, p.2). With a geographical connotation, but yet to underline the same division, the groups are also called "north" for the "developed" and "south" for the "developing" (Brandt, 1980). But the coincidence is not perfect.

The 'North' includes two rich countries south of the equator, Australia and New Zealand. The 'South' ranges from booming half industrial nations like Brazil to poor land locked or island countries such as Chad and the Maldives. A few southern countries -mostly oil exporters- have higher per capita incomes than some of the northern countries.

(Brandt, 1980, p.31)

As Varlack and Harrigan (1983) pointed out, in theory these categorisations, at least implicitly, recognise degrees of development in a country's transformation from one state to another, conveying the notion that "development" is a movement along a continuum on which a country in a state of under-development moves towards a predetermined point in the direction of the development end. Thus, in references made to the "developed" and the "developing" countries, it is implied that the latter are those suffering from a "development lag" compared to the former. (Varlack and Harrigan, 1983 p.2).

However, to be able to appreciate the problems of the "developing" countries, it would be extremely useful to understand and recognise the fact that by no reasonable definition would it be easy to group all those countries into one category or unit. They are found in different parts of the world and they are of different sizes and characters. They are populated by different races of mankind, have a variety of historical antecedents and cultures, and their geographies are diverse.

The broad category of "developing" countries also includes another subcategory called the small island states. In addition to the "development lag" the members of this group suffer, they have a number of idiosyncratic characteristics that call for special consideration in planning their development. Harrigan puts it as follows:

These are societies circumscribed by ecological, socio-economic and psycho-cultural constraints which are likely to make it impossible for them to catch up and attain the status of "developed" in the generally accepted meaning of term.

(Harrigan, 1977, p.3)

However, it should again be recognised that these countries too have their own differences on several dimensions (Bennel and Oxenham, 1984, p.1). They have their own peculiar problems which, though possibly caused by similar characteristics like limited land area, scarce resources, and the small populations, are very different in effect. Particularly badly off are the small dispersed island states. Their handicaps in development are greater in scale than the rest of the island developing countries. (Jalan, ed., 1982; Shand, ed., 1983).

III. FOCUS ON SMALL STATES

A first general attempt to explore the relationship between the size of a nation and its problems and prospects was made at a conference organised by the International Economic Association in 1957. The conference was held in Lisbon, and was attended, and contributed to, mainly by professors of economics. The Conference considered the "Economic Consequences of the Size of a Nation", but it focussed mainly on issues related to economic efficiency with particular reference to the European countries. (papers and proceedings in Robinson, ed., 1960). Very limited attention was paid to the developing countries. Vakil and Brahmananda (1960) presented a paper on The Problems of Developing Countries which considered the issues at a conceptual level. In the paper, they suggested the composite potentiality of population, geography and economy in economic performance.

The key questions dealt with in the Conference include the economically viable size of a nation (Kuznets, 1960), the extent of economies of scale (Jewkes, 1960), size of markets, scale of firms and character of competition (Edwards, 1960), size and stability (Leduc and Weiller, 1960; Tarshis, 1960), size and viability (Rothschild, 1960), size and the cost of administration (Robinson, 1960b), size and foreign trade (Marcy, 1960), and size and vulnerability (Triffin, 1960).

There was an express need for the inquiries made in the Lisbon Conference, including investigation of the role small European countries might play in the European Economic Community. Likewise, it was the growing pressure for independence of the island states in the early sixties that prompted the inquiries made into the problems of small nations, and particularly small island nations. The basic difference in approach, between the two forms of studies, is that the former was more a cognitive exercise attempting to investigate the relationship between size and development prospects while the latter is an exercise to catalogue and examine the problems of small island nations and possible solutions. Works of Demas (1965) and Benedict (1967a) constitute a beginning of the latter form of inquiries.

By the early 1960s decolonisation was in full swing. Small states, including the Maldives, were among those negotiating for political independence. (see UN General Assembly resolution no. 1514 of 1960 for its share of the pressure to end colonialism) A series of seminars was conducted by the Institute of Commonwealth Studies (University of London). It continued for two years beginning in 1962. The contributors explored the economic, political, sociological and demographic problems of the small states. They also examined several case studies (Benedict, 1967b). The countries studied were diverse, e.g. Grand Duchy of Luxembourg, Swaziland, the Tory Islands off the coast of Ireland, and also included an important study of Polynesia by Ward (1967), the first of its kind for the Pacific Islands (Shand, ed., 1980).

Demas based his studies on the Caribbean. Although some Caribbean countries gained their political independence in the fifties and early sixties, some were still in the process of achieving it. Thus, it became of interest to economists to study the economic development of these countries (Demas, 1965).

The contributions of individual academics were also significant in keeping the issues of small countries afloat, e.g. PhD dissertation of Harrigan (1972) and works of deSmith (1972). About the same time, a conference organised by the Institute of Development Studies, University of Sussex, held in Barbados in 1972, for practitioners and academics of the subject, contributed in five areas of the problems of small countries. The five areas were, the political status, external trade, monetary policies, aid and the operation of multinationals (Selwyn, 1975). A similar conference held in Barbados two years later considered independence, political and bureaucratic structures of small countries in the West Indies (Lewis, 1976).

Despite the fact that small countries gaining independence were increasing in number since the 1960s, and that they were joining the United Nations immediately they did so, the UN system took some time to recognise the special problems the countries encountered in development. A limited first recognition eventually came in 1969 when the United Nations Institute for Training and Research finalised a study that looked into the role of small countries in international affairs and the possible help that could be provided to them by the UN agencies (UNITAR, 1971). Soon a mandate was given by the UN to the United Nations Conference for Trade and Development to include small island and land-locked countries when the then newly-established section provided assistance to the least developed countries. In this connection, the report of the panel of experts who examined the special problems of the island developing countries constituted an important study (UNCTAD, 1973). The terms of reference of the panel of experts were drawn from the following operative paragraph of the UNCTAD resolution:

[The Conference] *requests* the Secretary-General of UNCTAD, in line with the objectives of the International Developmental Strategy, ..., to study the particular problems of these countries and to make recommendations thereon, giving special attention to the developing island countries which are facing major difficulties in respect of transport and communication with the neighbouring countries as well as structural difficulties, and which are remote from major market centres, and also taking into account over-all prospects for, as well as the existing level of, development ...

(UNCTAD Resolution, 65-III)

With this breakthrough a number of UN agencies began to work in the small island states. e.g. UN Development Advisory team in the Pacific and UNDP in other parts of the world. (Shand, 1980)

The Commonwealth is another organisation that has lately increased its attention to the small states as special cases. The main reason, quite understandably, is the increased representation of small countries in its membership. In 1984 it had 49 members of which 34 had populations less than five million, 29 less than two million and of the 29 states, 22 were island states (Sinclair, 1984, p.v). To look at it differently, of the 44 independent states in the world then with populations of around one million, 29 were Commonwealth members (Commonwealth Secretariat, 1985, p.9).

Commonwealth concern for small states was first expressed at the meeting of Finance Ministers in 1977 in Barbados. The Ministers, having considered a paper submitted by the Secretariat:

noted the special characteristics of small island economies, particularly their fragile nature, extreme dependence on exports and imports, high dependence on capital flows and in some cases the lack of natural resources urged the international community to adopt a more flexible and realistic approach to the requirements of these countries

(Dommen, paper prepared for UNCTAD Conference 1974)

The recommendation of the Finance Ministers was followed by similar recommendations from the regional meeting of the Heads of Governments from the Asia/Pacific region held in 1978, the Secretary-General's programme that followed it, and its endorsement in the

Commonwealth Heads of Government Meetings held in Sydney and in Lusaka in 1979, and subsequent reaffirmations in later meetings in Melbourne in 1981, in Delhi in 1983 etc. The follow-up activities that resulted included the organisation of conferences, seminars and workshops and the conduct of studies. Examples of such activities include the study conducted by the Commonwealth Secretariat in 1980 (Brock, 1984), the Report of the Commonwealth Consultative Group on the Vulnerability of Small States in the Global Society (Commonwealth Secretariat, 1985), Pan- Commonwealth Experts Meeting on "Educational Development: the small states of the Commonwealth" held in Mauritius in 1985 (Bacchus and Brock, 1987) and Pan-Commonwealth Meetings on (a) the supply, training and professional support of educational personnel in multi- island situations, held in Suva in 1987 (Commonwealth Secretariat, 1987), (b) post- secondary education colleges in the small states of the Commonwealth held in St. Lucia in 1988 (Commonwealth Secretariat, 1988), and (c) "the Organisation of the Ministries of Education in Small States" in Malta in 1989 (Commonwealth Secretariat, 1989).

Although small countries have been able to attract increased multi-national and bilateral attention, not every one believed that the attention was that strong and sufficient. For example, Varlack and Harrigan believe that these small states do not attract the attention that they ought to:

These societies do not constitute a substantial part of the world politics or population, but the problems they face are vital to their development and ought to be of interest to other countries with whom they must co-exist as well as to the academicians who seek a more rational understanding of social systems in the world.

(Varlack and Harrigan, 1983, p.3)

Despite the attention the UN has pledged for the microstates through UNCTAD and other agencies, as stated previously, some do not seem to be very much convinced about it. Hein thought that UN and its agencies gave only very limited attention to these countries (Hein, 1985, p.20). Others have gone even further to indict the international community generally:

To be poor and small is certainly much more difficult. There seems to be [a requirement of] a critical mass [of population in the recipient state] in order to provide the specialists and services that a microstate needs ... In addition, from the time of the League of Nations at least there has been a prejudice in the international community against small and powerless states, or entities that aspire to be states.

(Pitt, 1985, p.34)

To the extent that these indictments are true, they pose a major problem for the small states. Such negative attitudes could undermine the basic interests of these small states. The picture, then, is not as beautiful as some imagine, nor are the solutions to their problems as easy as their size may overtly present.

IV. THE DEFINITION OF SMALL ISLAND STATES

In attempting to define the "small island states", it is, at the outset, necessary to review the position of some criteria often associated with the concept of a state. This can be done by asking some key questions about what constitutes a state; whether it is a territory, a population, a government or a status of political independence? After clarifying the position of those issues or criteria in the concept of a state, the definition of an island and the concept of smallness will be dealt with; what an island is in the context and what smallness means. What is implied by an island? And what is meant by small? How small is small? And what has to be small to be small? These questions are fundamental not only to the definition of the island state but also to discussions of the implications of the small island state. But when one attempts to find answers to them one finds that there is hardly any straight-forward answer to any of them. The answers are more matters of interpretation rather than facts. Any consensus on a definition or an automatic acceptance of a criterion is rare or non-existent.

A. The State

The Oxford English Dictionary defines "state" as follows:

- (i) the body politic as organised for supreme civil rule and government; the political organisation which is the basis for government; the supreme civil power and government vested in a country or a nation. (29.a.)
- (ii) a body of people occupying a defined territory and organised under a sovereign government. (30.a.)
- (iii) the territory or one of the territories ruled by a particular sovereign. (31.a.)
- (iv) one of a number of polities each more or less sovereign and independent in regard to internal affairs, which together make up a supreme federal government. (31.c.)
- (v) all that concerns the government or ruling power of a country; the sphere of supreme political power and administration. (32.)

(Oxford English Dictionary, 1989, Second Edition, Volume XVI, p.554)

The above definitions suggest that the meaning of the word in various related circumstances implies possession of features such as a community (population), territory, government (political power included) and a sovereignty or part of a sovereign federation.

Since the current study is concerned with the implication of the nature of one particular group of the category of "state", namely the small island states, it may be more useful to look at the applications of the concept in the related contexts than to investigate the etymology.

Dommen (1985) examined the concept of state with a view to analysing its application to the microstate or the small state. The purpose of the review was to provide a background for the study of major social, economic and political problems of the small states. Since the purpose of that study has a close relevance to the current study, considerable use has been made of Dommen's review (Dommen, 1985) to produce the following discussion.

Within the context of this study the concept of state may be examined by reviewing the ways in which it has been understood in the communities of states. The most appropriate example undoubtedly, is the United Nations. Although the organisation has among its members a

whole spectrum of sizes of countries or states, it has never attempted to define what constitutes a state. According to UNITAR (1971) "it is doubtful that the Security Council or the General Assembly will ever embark upon a discussion on the definition of state". However, its charter indicates that it is states that are members of the organisation.

Membership in the United Nations is open to all other [other than the original members] peace-loving states which accept the obligations contained in the present charter and, in the judgement of the organisation, are able and willing to carry out these obligations.

(Article 4, paragraph 1)

According to this Article one could assume that once the organisation accepts a country's application for membership, it then automatically recognises that the country is a state like any other member. But it does not mean that the converse will have to be true as well; that for a country to be recognised as a state it has to be accepted a member by UN. What, then, qualifies a state for membership apart from that it is a state. Well, the state has to be "peace loving". Dommen doubted if there would be many members in the Organisation if it were to reassess its members.

1. Sovereignty

Is the status of political independence a criterion for membership of UN to confirm that the country is a state? India and Philippines became founder members of UN (in 1945) while they were still under colonial rule. Byelorussia and Ukraine are members of UN while they are still part of USSR. (Dommen, 1985, p.3)

2. Territory

State is often identified with a territory. But how much of a requirement is it? Should the precise definition of a territory be a condition of a state. If it has to be that precise, then there would hardly be a state in the world. Dispute of territory must be among the most common cause of wars and controversies among the peoples of the world. Boundary must be among the features least recognised by the most concerned parties. (Dommen, 1985, p.4-5) Recognition by the definition of territory is no better bestowed upon the larger countries than is upon the smaller ones, especially the small island countries.

3. Population

A permanent population must be an important criterion for the definition of a state. For a "political organisation or a government" to exist there must be a population to govern and to be governed. One exception to the rule, however, is the Vatican. Although the Vatican has a government, is inhabited, is considered a state and enjoys the status of a state, it has no permanent population. (Dommen, 1985, p.5)

4. Government

Another criterion of the state would possibly be the existence of a government. A state should possibly have some kind of political, legal and administrative structure, which ever form it might take. According to political scientists the state is an authority endowed with power to impose its obligations. However, this criterion, no matter how commonly acceptable it may be, is not that perfect in reality. Clearly, there are states that are not able to exercise authority over the entire territory and people it claims to incorporate in its statehood. Dommen states that:

It would ... be refusing to face facts to deny that there exist entities glorified with the title of State but the power of which to impose obligations is no greater than that of an ordinary gangster ... On the other hand, there exist entities perfectly able to exercise sole power over a specific area, although they are not honoured with the title of State: this is the case of numerous liberation movements.

(Dommen, 1985, p.5-6)

The question of the power of a state is another complex issue. The degree to which a state has power to govern its own people and conduct its own affairs varies greatly. Sometimes the amount of power a state has, in practice, could be influenced greatly by external elements such as bilateral agreements and multi-level conventions. For example, by joining the General Agreement on Trade and Tariffs or a regional association such as the European Economic Community, a country may relinquish some of its powers in exchange for some economic or other form of return. Another very strong example of external influence that could even question the state's own sovereignty is the case of Cyprus. Cyprus is an independent and sovereign republic by Article 1 of its own constitution of 1960 but, by Article 182 of the same constitution, it cannot modify that very constitution without previous agreement of the guaranteeing powers, namely Greece, Italy, Turkey and the United Kingdom. (Dommen, 1985, p.6).

The degree of power can also vary depending on the internal organisation of the government and the power distribution within and outside the government. Many of the dictatorships exercise a stronger power over their own people and the territory than democratic governments do. But surely this does not necessarily suggest that those countries ruled by dictators are entitled to a higher rank in the attributes of a state than those that are democratic (Dommen, 1985, p.6). Similarly, there may also be cases where the government's power to exercise its authority could be limited due to informal power structures such as pressure groups and influential economic and social classes within the state.

5. International Recognition

Acceptance of a state as a state by other fellow states and international communities consisting of states must be the most prestigious criterion and a privilege indeed. For a state to enter into negotiations and economic, political and cultural relations with other states and organisations, the state needs recognition by them. As was stated earlier, acceptance of a state by the UN as a member of the organisation would constitute a fairly strong recognition. But, how about the non members? There are so called states that are only recognised by one or two countries for some economic or political interests e.g. Bophutatswana, Transkei and Venda recognised only by South Africa. Taiwan is another case. It is no longer a member of the UN and is recognised only by about twenty countries. And yet it maintains dialogue and conducts trade and economic activities with many countries in the world. This illustrates that acceptance by other states and the ability to conduct relations is not just an attribute of a state but also a factor of the ability to do so. For, there are many states that meet all the previously discussed criteria, and yet are unable to establish the means to conduct such dialogue and relations with other countries. e.g. many member states of the UN do not have permanent missions to the UN in New York and Geneva, embassies or high commissions in states that they have diplomatic relations with or other vital forms of representations in locations of prime importance for trade and other needs. (Dommen, 1985, p.7-9)

6. Ability to Defend

Is the right to exist as a sovereign state or territorial integrity dependent on the ability to defend itself or repel predators? Prior to the establishment of the UN, the answer could have been, "Yes". But since the United Nations Charter outlaws aggression, it implicitly recognises an environment in which one state does not attack another, which is its basic aim. This, at least theoretically, eliminates the question of the ability to defend itself from such attacks. It is also not irrelevant to underscore the fact that, in actual practice, no nation ever seeks to preserve its

defence interest entirely on its own, unaided by other friendly countries. (Commonwealth Secretariat, 1985).

Even the two superpowers have deemed it necessary to build up military alliance systems supplemented by a network of other 'friendly' nations on whose goodwill and active support they feel they would need to rely if the moment arrived when they had to defend their territory.

(Commonwealth Secretariat, 1985, p.6)

As a final point, it might be worthwhile to mention a view expressed by the Commonwealth Consultative Group who studied the vulnerability of small states in the global society, in 1985. In their discussion of the nationhood in the report, they made a clear distinction between a 'weak state' and a 'weak power'. According to the panel the former was one that was characterised by internal factors such as a weak institutional structure, lack of a strong nationhood, unassimilated ethnic minorities and poorly defined borders, while the latter (weak power) was one that, because of lack of size, economic resources, population and military might, was not capable of exhibiting any strength before other states. The panel further elaborated the point as follows:

a state with few resources and/ or a very small population is clearly a weak power but at the same time, because of widely shared values among its people, firmly based institutions and long recognised borders, it can be a strong state.

(Commonwealth Secretariat, 1985, p.14)

In concluding this review of the concept of state it is clear that (a) none of the foregoing criteria, though useful, were quite automatic in defining "the state", and (b) there is no definite extent of any of the above criteria, often taken for granted, which enable a country to enjoy the attributes of a state. In other words, theoretically, there are no numbers or limits of population, territory, land area or economic output or the ability to act on its own in spheres of economy, politics or defence. Thus, for the purpose of this study, it will suffice if the state has "a body of people occupying a defined territory and organised under a sovereign government" (Oxford English Dictionary, 1989, Vol. XVI, p.554).

B. The Island

The Oxford English Dictionary (1989) defines the word, island as "a piece of land completely surrounded by water" (Vol. VIII, p.110) while the Oxford Dictionary of Current English (1969) adds a connotation as "detached or isolated thing".

The Webster's Third New International Dictionary (1986) defines island as "a tract of land surrounded by water and smaller than a continent" and adds a connotation as "an area isolated from its environment". (Vol. II, p.1198)

For a more technical definition one could refer to the new convention of the United Nations Law of the Sea Conference. For the purpose of identifying the Exclusive Economic Zone, the new Convention, after eight years of deliberations, defined the island as:

a naturally formed area of land, surrounded by water, which is above water at high tide. ... [And then it goes on to say that] rocks which cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf.

(Part VIII dealing with the "Regime of Island", Article 121, UN Convention on the Law of the Sea)

Two dimensions of the concept are discernible from the definitions. They are (i) "a smaller land mass completely surrounded by water", and (ii) "isolation". However, improved communications, with the use of advanced technology, has varyingly reduced the universal relevance of a physical isolation. Further, the effects of such an isolation may not also be deemed to remain the same all the time.

Nevertheless, the definition literally seems to be very precise. But at the level of application, qualifications such as "sustain human habitation" and "economic life" call for further interpretation. The interpretation obviously depends on the concern for it; whether one is interested in identifying an economic zone or studying the socio-economic problems experienced by the inhabitants or finding strategies to improve on them, etc.

Dolman (1985) identified more than 500,000 pieces of distinct land masses in the world that could generically be defined as islands. The range and size of these varied from sandbanks (like some of those in the Maldives), or pinnacles of rocks, virtually with no surface to measure, to extensive land masses full of life, like Malagasi. Hence, the definition of island, again, is contextual. For example, Dolman (1985), in his study, considered a small island to be:

a territory surrounded by a large body of water with a land area of less than 5,000 square miles (13,000 sq. km.) and a population of one million or less.

(Dolman, 1985, p.40)

Since his interest was to study the peculiar nature of the small island countries, their problems and prospects of development compared with other countries, an upper limit of size was sufficient for him. (Dolman, 1985, p.40)

From the above-stated definitions it was discernible that a land mass being surrounded by water was not precise enough to define an island. Theoretically any land mass on this earth is surrounded by water. Hence, there is a need to make a distinction between an island and a continent. Doumenge (1985), dealt with that question to some extent. He defined the island as:

a piece of land emerging above the surface of the sea at the highest tide surrounded by water on all sides and whose dimensions are smaller than those of a continent.

(Doumenge, 1985, p.70)

But, then how can the distinction be made? He proposed to judge it by the ability to generate its own climatic effects with its own size of land mass. If the island "has an emerged volume large enough to generate its own climatic effects, it enters the continental category". He further explained that, when the land mass or the island extends over more than 20,000 square kilometres of land, such as in Cuba, Haiti and Dominican Republic, Iceland, Sri Lanka, Taiwan, Tasmania, Japan, Philippines, Indonesia, New Guinea, New Zealand, Malagasi and the British archipelago, the islands become continentalised, and may be considered outside his definition of island in the subject that he was working in at the time. As defined in the Dictionary and pointed

out by Doumenge, another important aspect implicit in the concept, was the insular nature and the insularity endemism of evolution on the islands proper (Doumenge, 1985, p.70).

The above review on the concept of the island can be summarised as follows:

That the island is:

- (a) a land mass completely surrounded by water, which stays above water or sea level, as the case may be, at the high tide,
- (b) generally small (smaller than a continent) and unable to generate its own climatic effect, and
- (c) insular by nature which experiences a degree of developmental isolation from the rest of the world and yet has an endemism and ecology of its own.

In the case of the Maldives, various writers have expressed their concern at not having found an appropriate definition for "island". One writer, probably held with the highest esteem in the country for his historical and linguistic research, stated the concern and the possible explanation for it as follows:

The word "island" has never been precisely defined as to give a comprehensive meaning in terms of reality, relative to the islands of Maldives.

Islands wasting and island forming are common phenomena in the Maldives. No track of these was ever kept in the Maldives, or else where.

(Maniku, 1983, p.2)

The writer's conclusion is supported by the fact that related literatures such as the Census reports of 1977, 1985, National Development Plans of 1985-1987 and 1988-90, World Bank (1980b), UNESCO (1982b) did not define what constituted an island. But there is some

descriptive literature that explains how the island is formed and colonised eventually. Perhaps, the following might provide a descriptive clue:

As segments of coral collect on the reef, an island ecosystem develops around it. Islands emerge as tiny sand bars devoid of vegetation which eventually get colonised by marine life, plants and trees carried by the sea and by birds and other forms of life. The islands finally develop into self-sustaining environments suitable for human habitation.

(Maldives... , 1990, p.6)

It is clear from the above-mentioned documents and other writings that the word has been taken for granted. Therefore, the writer (with his experience of a number of official and unofficial applications of the word) has to define it for himself. The "island", as most commonly understood by the Maldivian, is:

a naturally formed land mass smaller than a continent, surrounded by sea, which stays above sea level at the high tide and bears a permanent natural vegetation on it, unless it has been or is being depleted by human activity or habitation.

(According to this definition, there are 1190 of such islands in the Maldives, of which 200 are inhabited.)

But then, there is a second context in which the word "island" is used in the Maldives, both in the formal as well as informal sectors; even in this study with clear indication to avoid confusion. The context is when it is used in islands or atolls administration. In the administration two of the 200 inhabited islands are divided into two administrative units each and referred in the related context as "islands", without any confusion whatsoever. In that context an island is the smallest civil administrative unit in the Maldives.

C. Small Island State

A small island state is a small state that comprises one or more islands. What constitutes an island has been discussed above. Similarly what is understood by a state has also been examined. What remains is the small state. Hence, once the concept of small state has been explored, the concept of "small island state", in the context of the current study, will be clear.

The small state is a vague concept. Existing definitions have been quite diverse. Probably there will never be a generalisable definition. It will all depend on the questions one asks in one's analysis. As Professor Robinson, in his summary of the discussions of the Lisbon Conference, concluded;

one has to be prepared to discuss not one single concept of size, but any or all of various concepts. For some purposes it is relevant and significant to discuss the relation of the number of persons comprising the population to the average productivity per head, for some the ability to provide a market for an optimum plant in some industries.

(Robinson, 1960b, p.xv)

According to the literature two principles underlie the determination of a criterion to measure smallness. First, it can be measured against a pre-set norm, a standard or criterion of size. Second, it can be measured against those that are larger than itself. On the first principle, a country or countries may be classified as small in relation to a predetermined cut-off point in size for selected aspects such as population, land area, GDP. This has to be done quite arbitrarily. For example, Kuznets suggested a minimum population of five million as reasonable to sustain smaller industries while a minimum of 50 million would be necessary to maintain the larger ones (Kuznets, 1960, p.14). (see Appendix A of Hein, 1985, p.23-25, for the diversity of criteria applied by different writers and researchers)

On the second principle, a country may be considered small because another country or other countries are large. Based on this principle, a country may be classified as small by comparing it with another larger than itself. Jalan (1982c) preferred to measure smallness by

comparing the characteristics with those of the largest counterpart in the selected group. Thus, Jalan proposed to construct indices for selected characteristics by equating the value of the country that had the highest number to 100. Thereafter, taking the average of the individual indices of the chosen characteristics. The composite index of smallness of the country, or the country size index, may be constructed as illustrated by the following equation:

$$I_i = 100/3 \{P_i/P_{\max} + A_i/A_{\max} + Y_i/Y_{\max}\}$$

WHERE: I_i = Country size index for country i ; P =Population; A =Arable land area; Y =GNP; \max = highest value.

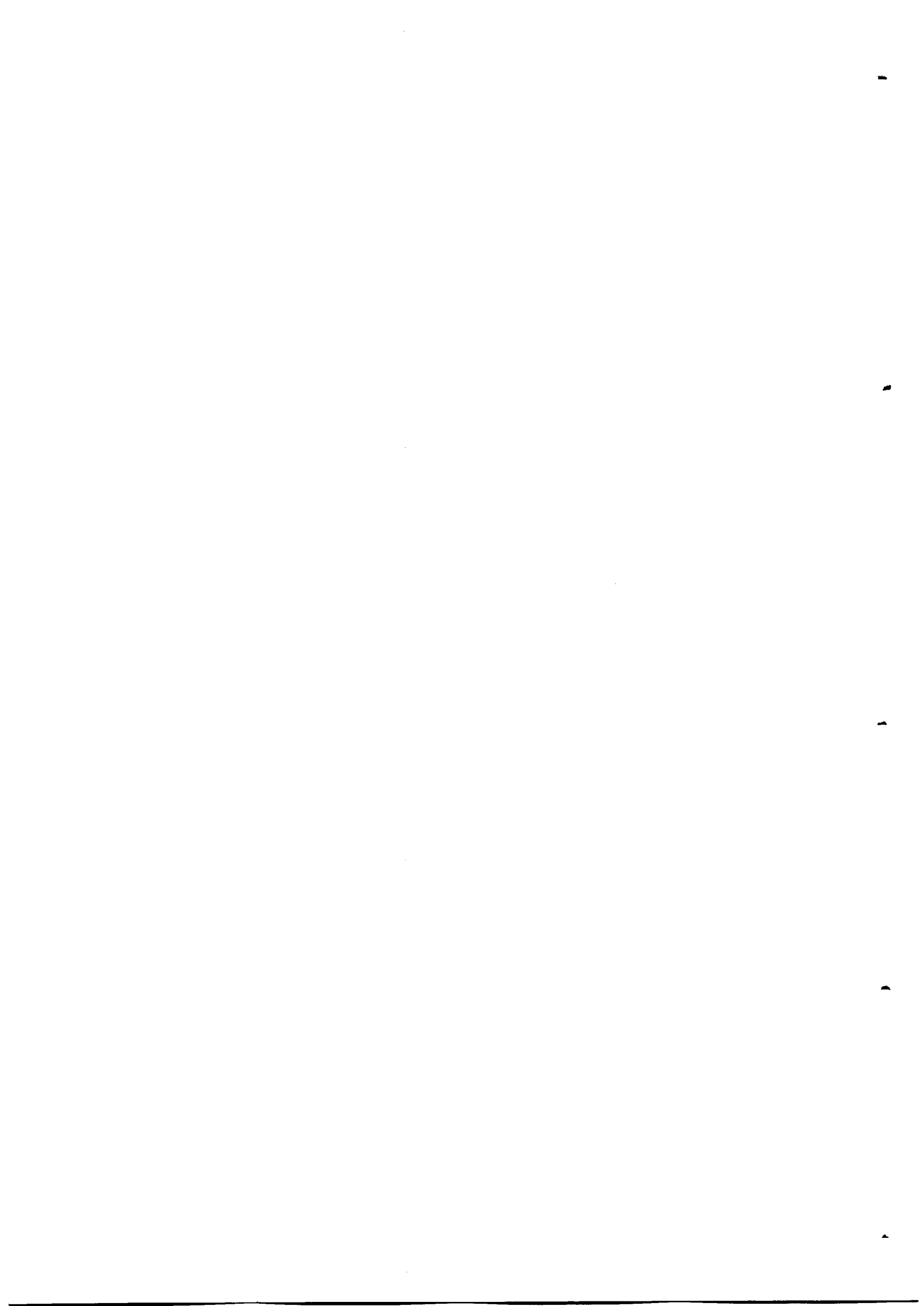
Jalan applied the formula to 111 countries. The chosen variables were population, arable land area and GNP. Table 3.1 presents those countries listed in the ascending order of the index. (Jalan, 1982c, p.43) According to the Table, the Maldives had a size index of 0.012, ranking second in the order of smallness in the list of 111 countries.

Table 3.1: The Composite Indices of Size of Selected Countries

Country	Composite Index	Pop. ('000)	Land (km ²)	GNP (US\$ mn)	Country	Composite Index	Pop. ('000)	Land (km ²)	GNP (US\$ mn)
St. Kitts Nevis	0.011	50	140	30	Jordan	0.820	2888	13650	1960
Maldives	0.012	140	30	20	Nicaragua	0.848	2411	15050	2090
Dominica	0.014	77	170	30	El Salvador	0.879	4256	7310	2510
St. Vincent	0.015	103	170	30	Benin	0.889	3229	29500	680
Seychelles	0.016	62	50	60	Malawi	0.915	5597	22780	860
Antigua	0.017	73	80	60	Angola	1.081	6575	18300	1840
Grenada	0.019	105	160	50	Yemen (Arab)	1.088	4982	15700	2540
Sao Tome & Princ.	0.020	82	360	40	Sierra Leon	1.106	3210	40980	640
Tonga	0.023	92	530	40	Senegal	1.152	5240	24040	1980
St. Lucia	0.024	118	170	70	Guinea	1.287	4989	41700	1000
New Hebrides	0.034	101	950	50	Central African Republic	1.351	1867	59100	440
Cape Verde	0.035	113	400	50	Dominican Rep.	1.357	4980	12300	4190
Belize	0.037	130	510	100	Uruguay	1.376	2876	19100	4170
Solomon Islands	0.038	205	540	80	Madagascar	1.383	8085	29290	1870
Western Samoa	0.042	154	1190	50	Mozambique	1.386	9691	30800	1320
Djibouti	0.042	300	10	130	Bolivia	1.423	5154	33050	2460
Pacific Islands	0.047	129	590	140	Nepal	1.453	13332	23140	1450
Comoros	0.051	370	900	70	Singapore	1.454	2319	80	6540
Equ. Guinea	0.088	338	2300	120	Zimbabwe	1.465	6683	24800	3070
Macao	0.091	291	20	370	Upper Volta	1.547	5465	56130	760
Bermuda	0.097	54	50	460	Sri Lanka	1.629	14097	21310	2290
Gambia, The	0.106	554	2650	120	Chad	1.714	4221	70000	560
Barbados	0.109	248	330	440	Lebanon	1.727	2939	3480	7390
Swaziland	0.115	511	1670	270	Zambia	1.734	5128	50080	2350
Bahamas, The	0.120	213	160	520	Guatemala	1.782	6436	18000	5350
Guinea-Bissau	0.122	747	285	130	Ghana	1.895	1064	27050	3940
Guam	0.127	94	120	590	Kenya	2.092	16416	22700	4300
Bhutan	0.137	1231	2540	110	Tunisia	2.184	5899	44100	4940
New Caladonia	0.142	145	100	650	Uganda	2.364	12049	55380	3140
Malta	0.146	333	140	620	Mali	2.398	6129	98000	720
Neth. Antilles	0.153	244	80	680	Cameroon	2.535	7882	73800	3280
Surinam	0.174	381	460	710	Tanzania	2.567	16363	51000	3440
Lesotho	0.201	1250	3550	320	Hong Kong	2.660	4536	90	11890
Mauritania	0.202	1503	1990	410	Afghanistan	2.979	14304	80500	3150
Mauritius	0.205	906	1070	670	Ivory Coast	3.358	7463	91600	5710
Guyana	0.205	817	3790	430	Niger	3.401	4862	150000	950
Fiji	0.236	589	2330	780	Sudan	3.517	16919	74950	5650
Yemen (Dem.)	0.265	1717	2650	600	Zaire	3.648	25694	61800	5290
Liberia	0.312	1684	3710	740	Peru	3.939	16363	34330	11800
Reunion	0.322	499	570	1450	Chile	4.380	10553	58280	13160
Congo	0.351	1423	6670	710	Burma	4.511	31512	99990	4330
Cyprus	0.359	644	4320	1180	Malaysia	4.522	12961	64800	12600
Namibia	0.373	926	6550	960	Morocco	4.775	18310	78400	11140
Botswana	0.385	728	13600	390	Ethiopia	4.965	30245	137300	3280
Somalia	0.490	3660	10660	430	Egypt	5.185	37796	28310	12950
Papua N. Guinea	0.518	2857	3560	1460	Colombia	6.197	24605	51050	18760
Rwanda	0.563	4379	9550	710	Bangladesh	7.407	81219	91250	6520
Burundi	0.581	4156	12720	550	Philippines	8.092	44473	81000	20410
Jamaica	0.617	2101	2650	2230	Korea (Rep.)	9.486	35953	22310	35150
Panama	0.636	1771	5650	2120	Thailand	9.555	43326	176500	18660
Honduras	0.642	3322	9150	1410	Pakistan	11.012	74905	203000	15070
Haiti	0.643	4749	8700	1090	Argentina	18.169	26036	350000	48710
Trinidad & Tobago	0.686	1118	1570	2930	Mexico	22.905	63319	232200	73720
Togo	0.706	2350	22850	650	Brazil	47.472	116100	407200	163880
Costa Rica	0.789	2061	4900	2870	India	87.043	631726	1694000	100180
Paraguay	0.796	2810	11200	2100					

Note: "Land"= arable land. All figures are for 1977. See text for the formula of size index.

Source: Jalan (1982c), p.46-47



Having constructed the composite index or the country size index for each country, Jalan made an arbitrary decision to classify some of them as small. To do that he first listed the countries in ascending order of the indices. Then the country that had the median composite index was chosen as a bench mark to identify the cut-off point for each of the individual variable index or index of the characteristic used (e.g. population, arable land area and GNP). It was then proposed that the country that had the highest value of a particular aspect or characteristic occurring below the country that had the median composite index as the upper limit of that particular aspect to judge the country as small. On that basis, Jalan identified 59 countries out of 111 as small. (Jalan, 1982c, p.39-47)

D. Diverse Views on the Criteria of Smallness

The most widely used criterion, at least for the initial classification as small countries, has been population. As was previously stated, UNITAR listed 96 states as small on the basis of a population that was less than a million (UNITAR, 1971) while the Commonwealth Secretariat has also, in related studies, recognised populations of five million, two million and one million as small (Commonwealth Sec., 1984, 1987, 1988, 1989). It is not without reason that population is given such an emphasis as a criterion for selection as small. Lloyd and Sundrum believe that there is a high correlation between population and other measures normally discussed for consideration of size (land area and GNP).

The size of population is very important as a measure of the number of consumers and as a measure of the labour force. Therefore, whatever index of size we adopt, it will have to give considerable weight to population size.

(Lloyd and Sundrum, 1982, p.18)

Based on a statistical analysis they suggest that it would be sufficient to draw the dividing line between small and other countries, on the population of five million (Lloyd and Sundrum, 1982).

Shand (1980) proposed the selection of size by the criteria of: size of population, geography and the gross domestic product. The justification was that the population would be indicative of the strength of the labour force, the physical area would be indicative of the natural resource base and the GDP of the internal market size. He believed that the GDP criterion was also rather widely used, though it never was universally serviceable. He believed that the definition of size is arbitrary and depends on the working context (Shand, 1980, p.7). Thus, Shand sorted the island nations and the territories of the Pacific and Indian Ocean into three criteria ranges. This classification is given in Table 3.2, in which he broke down the countries into "small", "very small" and "micro" states.

Table 3.2: Classification of Selected Pacific and Indian Ocean States and Territories by Size of Population, Land Area and Domestic Economy

Population	Land Area		
	Small 10,000-30,000 sq. km.	Very Small 500-1000 sq. km.	Micro <500 sq. km.
	Domestic Economy		
	GDP Small V.Small Micro \$A100m \$A25-100m <\$A25m	GDP Small V.Small Micro \$A100m \$A25-100m <\$A25m	GDP Small V.Small Micro \$A100m \$A25-100m <\$A25m
Small >250,000	Fiji	Mauritius	
Very Small 25,000- 250,000	New Caledonia Solomon Is Vanuatu	French Polynesia Guam Tonga Kiribati	American Samoa Seychelles
Micro <25,000			Maldives Nauru Cook Is. Wallis & Futuna Tuvalu Niue Tokelau

¹ Trust Territory of the Pacific Islands.

\$A = Australian Dollars

Source: Shand, R.T. (1980) Island Smallness: Some Definitions and Implication, In Shand, R.T. (ed.), p.14



According to the table, five island states (Cook Islands, Wallis and Futuna, Tuvalu, Niue and Tokelau) are micro by the three criteria, i.e. having less than 25,000 people, 500 square km and with 25 million Australian dollars in GDP, while, two other states are micro by two criteria, i.e. Nauru by population and area criteria, and Maldives by GDP and area criteria.

Not all were in favour of a stereotype use of the population, land and GDP criteria. Bhaduri et al suggested that the variables themselves could be self-conflicting. According to them, natural characteristics such as area and population might not necessarily be correlated with economic characteristics such as natural resource base or domestic market. For example, a country can be physically and, or in terms of population, small or micro but rich in natural resource like Kuwait, Brunei and UAE. Similarly, a country can be large in area and, or sparsely populated but well endowed with natural resources, like Papua New Guinea. Bhaduri et al believed that the concept is multidimensional and proposed to analyse size factors separately (Bhaduri et al, 1982, p.49).

Similarly, Percy Selwyn in his introduction to the Barbados Conference supported the idea of measurement by individual characteristics.

if we are concerned with constraints resulting from a narrow range of resources, we may identify size with physical area. If we are concerned with manpower limitations of the small clientele for public and other services, we will measure in terms of population.
(Selwyn, 1975, p.11)

Similarly, Shand (1980) chose to analyse the three aspects of smallness of the small island states of the Indian Ocean and the Pacific separately. He explained why the characteristics were different.

There are a number of criteria, each of which is useful in a particular context of smallness. The most relevant are population, geographical size and gross domestic product. Thus smallness in manpower resources will be indicated by size of population. Physical area can be used to denote smallness in natural resource availability, while GDP can be used to show its internal market size.
(Shand, 1980, p.7)

In view of the pros and cons on the issue of a definition of smallness, it may be fair to conclude that the proposition of Jalan (1982c) provides a balanced formula for measurement of size. Jalan's composite index fuses the three main characteristics, namely population, arable land and GNP, to derive the measure of size. This index can be useful for ordering countries by size of the chosen variables. But, then, the question of what purpose such a list is supposed to serve arises. Perhaps, a political purpose such as the identification of a cut-off point for small countries. But if one were more interested in identifying the problems of smallness, then the characteristics as to how the country became small cannot be any less important.

In respect of the present study, the task of interpreting smallness is simpler. Maldives, without any debate, will fall into the small category whatever characteristics or whatever range of measure selected. As Percy Selwyn stated in his introductory speech to the Barbados Conference, in respect of small countries of the Caribbean:

This ambiguity may, however, be less important than it may appear; many of the countries with which we are concerned were in fact small on any measure.

(Selwyn, 1975, p.11)

Thus, the question of the smallness of a state can be summarised as follows:

- (i) that it is, to a degree, a perspective of the beholder;
- (ii) that it can be a measure of selected characteristics based upon given criteria;
- (iii) that it is the problems associated with smallness that are more important rather than the question of the measure of smallness itself. Should a measure of smallness be necessary, the purpose of such a measure should determine the characteristics to be chosen to establish the measure.

V. FRAGMENTATION AND DISPERSION

UNCTAD (1974), the first study of its kind, analysed the distances of the island developing states from the nearest continent. That is what this study would call "external remoteness". The distances of these islands from other countries and their location out of the way of major trade routes is a major constraint. But, apart from that, the fact that some of these states, including the Maldives, comprise small islands, themselves separated by vast areas of sea, is an additional factor that complicates and simultaneously amplifies the existing problems, particularly, the problems arising from lack of economies of scale. The UNCTAD panel of experts noted the issue by drawing attention to the importance of transportation in these states (UNCTAD, 1974, p.15).

The small archipelago island states are scattered on vast ocean areas, the magnitude of which is not often comprehended very easily. Dolman (1985) illustrated the vastness of island regions by making some comparisons with more widely known distances:

Island regions are vast. Even in the Caribbean, compact by island standards, the distance from Jamaica to Barbados is the same as the distance from London to Leningrad (now Petersburg) or Toronto to Miami. In the Pacific the Solomons are separated from French Polynesia by 5,500 kilometres, about the same as Paris to New York.

(Dolman, 1985, p.43)

This aspect, along with other features of the island states, have drawn the attention of other international organisations and writers. For example, the Commonwealth Secretariat has conducted studies over the last decade on scale, isolation, dependence, smallness and other disadvantages of its small member states. (Brock, 1984; Bacchus and Brock, 1987; Commonwealth Secretariat, 1987, 1988, 1989; Farrugia and Attard, 1989). Similarly, the Australian Government, with its change of policies in the 1970s began to appreciate the special problems of the small island states of the Pacific and the Indian

Ocean when attention was focussed on the aspect of scatter (Shand, 1980). Practically all writers (such as Brock, 1980, 1988; Parker, 1982) on the subject of small island states have, in one form or the other referred to the aspect of dispersion, but their reference is always to point out the problem, rather than studying it:

There is typically a significant disadvantage for all these islands owing to the geographic isolation within the two oceans. This is further intensified if, as is frequently the case, there is fragmentation of the state or territory into small and scattered islands, e.g. Cook Islands, Maldives, Tuvalu, and Tokelu.

(Shand, 1980, p.13)

VI. HOW NORMAL IS THE OCCURRENCE OF SMALL STATES?

When the United Nations Institute for Training and Research (UNITAR) finalised its study in 1969 there were 96 small states or territories with populations of one million or less of which 48 had fewer than 100,000 (UNITAR, 1971, p.34-38). When Jalan collected data for 133 developing countries, the author found that, of those, 78 (59%) had populations of less than 5 million and 49 (37%) less than one million (Jalan, 1982b, p.1).

The 1973 Report of Experts to the United Nations Conference on Trade and Development (UNCTAD) studied the island countries on an arbitrary base line of smallness of less than one million and found that, in 1970, of 52 island countries 39 (75%) had populations of less than one million; of these, 27 (52%) had less than a quarter of a million. In terms of physical area 15 (29%) out of 52 had physical areas of less than 1,000 square kilometres (UNCTAD, 1973).

In the Commonwealth, of the 49 member states in 1984, 34 had populations of less than 5 million, of which 29 had under 2 million. Of those with under 2 million 22 were island states (Sinclair, 1984, p.v).

Brock (1984) presented data for 1978 and found that more than half the nations of the world had a surface area of less than 100,000 square km; a population of less than 5 million and a GDP per capita of less than 1,000 US dollars. (Brock, 1984, p.4).

This clearly reflects that a major proportion (as much as over a half) of the community of nations of the world are small countries; a significant proportion (as much as over one-third) of the nations are island states. Their smallness "may not be beautiful but it is normal". That is to say that it is not unusual to be a small nation or island state. Regardless of their size, they are widely recognised as entities anyway, and have their own problems in development.

VII. PROBLEMS OF SMALLNESS

Often the small island countries are introduced to the wider world, especially to the western public, as a holiday destination. The ordinary journalists or producers of other audio, video and printed materials do not seem inclined to spend too much of their valuable time on presenting the concerns of the small states. Hence, it is the tour operators or the travel agencies that have an interest in providing an introduction. Obviously they draw the most attractive picture in order to interest potential customers. Quite rightly, those who respond to the advertisement are not normally disappointed. They fly back home wearing a tan to show to friends, and sweet memories to keep for themselves. For they visit the country as VIPs or 'guests', as they are called in these countries, and spend the short vacation in the most capable hands, enjoying the maximum possible luxury the country could offer. Hence, it is not surprising that for some people, cliches like "small is beautiful" and "tropical paradise" have become the standard impression of these countries. (Brock, 1984, p.3) What they fail to depict is the hardship in life of the ordinary people.

The problems these countries face in development appear insurmountable, and the struggle of the population for survival, with scarce resources, is strenuous. The effects of size alone reshapes the impression altogether. Brock (1984) disregarded these stereotype cliches as nothing more than an "escapist platitude". He contended that the world is actually a difficult place when looked at from the angle of the small nation:

The world is a different place when perceived from say Vanuatu, Swaziland or Belize as opposed to Australia, Canada or Nigeria.
(Brock, 1984, p.3)

A. The Question of Size of State

The leading societies and the dominant economic and political systems of the world are organised on the basis of economies of scale where mass production, bulk orders, massive wholesale and large scale purchases, mass transportation and large markets provide significant positive advantages (Brock, 1984, p.3). In addition, the economic drive behind every facet of society today further reinforces these advantages in the process of development. The modus operandi of the systems of the day seems to shift towards market based operations. This would, in effect, mean that every activity in small and large countries must be economically justifiable. In the shrinking world of today no country is completely isolated from the influence of other stronger economic forces. Those who cannot compete are doomed to fail.

The size of nation is an important factor in economic development, a question reviewed at the Lisbon Conference of 1957. They found that in larger economies firms became highly specialised, the economy had a wide range of activities, there was greater flexibility and adaptability and capacity to shift resources in response to both internal and external market signals. The smaller states, on the other hand, had little diversification,

found it difficult to specialise, had a narrow range of profitability and were highly vulnerable to market changes. (Robinson, 1960). These fundamental limitations deprive these countries of many economic benefits. In his contribution to the Conference, Kuznets underlined that "small countries are under a greater handicap than large in the task of economic growth" and noted three reasons for their economic limitations. They were: the size of the supply of natural irreproducible resources, a conflict between minimum or optimum scale of plant, and the comparative disadvantage of the supply of resources (Kuznets, 1960, p16-18).

However, any relation between size of state as a whole and economic performance has not been easy to establish. The main reason is that size itself is too complex to define, and that the individual characteristics and background of these states are too varied to be measured on the same scale. The degree to which economies of scale can be exploited as a result of increasing returns, depends on the scale of output, which in turn depends on a range of other factors such as size of market. These factors will obviously vary greatly from country to country. For example, the size of market itself, as normally assumed, may not just limit itself to the domestic market because, as Lloyd and Sundrum explained, the levels of per capita income and population vary from country to country and the real boundary of the market for a particular commodity may extend beyond the country's physical boundary (Lloyd and Sundrum, 1982, p.24-25).

For more than one reason, including that presented by Lloyd and Sundrum, Singapore and Hong Kong are two states that stand as exceptions among small island states. They have been able to extend their boundaries in terms of markets, sources of labour and capital, thereby negating some of the problems of scale that others are entangled in. Clearly their economic performances have been significant. What helped them to do it?

Singapore and Hong Kong were not remote and had access to large populations. Their colonial relationship with the maritime power of the United Kingdom of Great Britain and Northern Ireland ensured that shipping, trade, technical expertise, financing and security were available. Geographically Singapore and Hong Kong were ideally situated on what were to become, if not originally, major international trade routes.

(Foster, 1987, p.42)

Furthermore, the economies of both were blessed with relatively high incomes, a stock of entrepreneurial and commercial talents, and easy access to cheap labour (Lall and Ghosh, 1982, p.149). Thus, the two exceptions had inherent advantages, unusual for other small states.

Jewkes contested the question of scale or size of state on a different ground. He pointed out that more than half of the manufacturing output of the Western world was produced in factories employing fewer than 500 workers and that still larger factories mostly depended for spares and supplies on smaller factories. (Jewkes, 1960, p.97-100)

Nonetheless, despite the fact that no systematic theory exists to explain a relationship between economic growth and size of a country (Blazic-Metzner and Hughes 1982, p.91), it is a well-established fact that handicaps and disadvantages do exist in the development efforts of small states, especially in the individual sectors such as the economy, trade, social services and transport. For example, Chenery (1960) found size to be a significant factor of industrial development while Bhaduri et al (1982), in their attempt to examine the constraints imposed by small size on long term growth, found that a critical minimum size was essential:

without some critical minimum economic size in terms of the relevant variable - employment or investment - a small country will not be able to sustain its dynamic comparative advantage in international trade over time.

(Bhaduri et al, 1982, p.60)

Having analysed the various theoretical elements in the question, they concluded that:

(a) ... even under the assumption of only moderately increasing returns to scale over time, the economic size of a country can produce both an absolute and (when no positive growth of labour productivity is possible) a comparative disadvantage, which makes its international trading position unsustainable over time.

(Bhaduri et al, 1982, p.57)

(b) ... to maintain its international competitive position, a small country has to maintain a minimum growth of labour productivity which may not be possible [for small countries] due to the limitations of its economic size.

(Bhaduri et al, 1982, p.65)

(c) ... with moderate increase in returns its population size or employment may act as a fundamental bottle-neck while with strong increase in returns, its income size or level of investments can operate as the basic constraint.

(Bhaduri et al, 1982, p.65)

Lall and Ghosh examined the disadvantages of small size, arising from the limited ability to improve indigenous technology and to market manufactured goods. They pointed out that a difficulty exists in the small states to the extent that any foreign investor investing in them has to provide capital, technology and marketing, or product designing and marketing in case of retailing firms. Even absorption or adaptation of foreign technology poses problems because it normally requires a period of learning, making mistakes and innovation which the financial and economic capabilities in these small states do not allow. (Lall and Ghosh, 1982)

Thus, an array of constraints and disadvantages are identifiable. They may not necessarily be exclusive to small states. They may be shared by other developing countries as well. But they all have a dimension particularly associated with the characteristics of the small state, making the problem more intense and grievous. The following discussions of constraints and disadvantages are largely based on Robinson (ed., 1960), UNCTAD (1974), Selwyn (ed., 1975), Shand (ed., 1980), Jalan (ed., 1982), Dommen and Hein (ed., 1985) and Foster (1987), unless stated otherwise.

B. Lack of Economies of Scale

Although economies of scale are not attributable to the state as a whole, they remain a significant advantage in the production and provision of services in the economic and social sectors. Conversely, a small scale of production and a small number of clients to serve probably means higher unit costs. One example is the public service sector. The costs of the operations of a government, no matter what size the state may be, cannot be reduced beyond a particular limit in terms of infrastructure, personnel and expenditure. For example, Helleiner (1982) found the advantages of the economies of scale to be quite significant in financial management. The costs of administration do not fall in the same proportion with the decrease in population, the land area or the GNP. Jacobs pointed out that "the size of the public services expressed in terms of percentage of total population tends to be, in fact, higher for small states". (Jacobs, 1975, p.134)

Some operations of the public administration can be combined to exploit economies of scale in provision. But that has its limits as well. Operations like airports, hospitals, rubbish disposal and areas of specialist skills and technology cannot be combined by virtue of their nature and the required expertise. Similarly, there are minimum requirements in certain public operations as well. Foster believes that "a diplomatic mission will require at least one person, and then one more person for every additional post no matter what the size of the nation represented" (Foster, 1987, p.42). Blazic-Metzener and Hughes also pointed out the presence of economies of scale in public services:

Tasks governments have to carry out, like economic activities, have economies of scale. A country needs only one prime minister or president no matter what its size; the number of ministers and government departments needed to take care of economic development is not proportional to a country's size (and is often inflated in small countries).

(Blazic-Metzener and Hughes, 1982, p.94)

Furthermore, according to the same authors, the cost of administration of a state even worsens as remoteness from other countries increases. For example, they found that the costs of administration of states like Monaco and Macao, which are close to other larger states, are relatively less than the costs of running isolated island economies, and that the costs also diminish as population increases with income growth (Blazic-Metzener and Hughes, 1982, p.94).

The impact of the smallness of states is also significant for their private sectors. According to the literature (such as Robinson, 1960; Shand, 1980; Jalan, 1982), investments in the small economies generally tend to take a long time to become profitable while their vulnerability to internal and external market changes is high, risks involved are great, and the flexibility for manoeuvre and ability to shift resources around in difficult circumstances are limited. For these reasons, among others, the role of the private sector is significantly small in those states, and many services normally provided to the public by the private sector in large states, are fewer if not absent. If they did exist, as UNCTAD (1974) pointed out, they often did so in the form of single large companies or monopolies, subjecting the public to very disadvantageous consequences. Thus, as a feature of these small states, delivery of important services and production of essential goods are found to be undertaken by the state under its own ownership or heavily subsidised by it. Examples of such services include transportation (by land, air or sea), food processing and storage, research programmes and health services. (Shand, 1980; Murray, 1981; Foster, 1987, p.42)

In both the private and the public sectors, the disadvantages of the absence of economies of scale are most severely felt in the provision of the infrastructure. For the provision of at least the basic services to each community, it requires the establishment of a minimum infrastructure such as buildings for schools, health centres, religious centres, etc. , ports, airports, and electrification most of which cannot normally be shared in the

dispersed island situations. These undertakings clearly imply heavy capital costs that can exploit few, if any, economies of scale.

C. Problems Magnified by Fragmentation and Dispersion

The problems of scale are increasingly complicated and aggravated by fragmentation and dispersion in the island states. The fragmentation results in duplication of services and heavy capital expenses on each island at greater cost or the absence of services completely. (Foster, 1987, p.42)

On the industrial side, fragmentation inflates prices with added heavy transportation costs to the production costs already affected by the absence of economies of scale (Foster, 1987, p.42). As Dolman pointed out, virtually all small island countries suffer from the lack of economies of scale in production, the negative effects of which are magnified by remoteness. Furthermore, the disadvantages caused by the lack of economies of scale, as reported by Dolman, "are not linear but increase exponentially as a consequence of isolation" (Dolman, 1985, p.42).

D. Vulnerability

By virtue of their size, small states are vulnerable to adverse consequences or threats in a number of areas. Their vulnerability is high on territorial and economic security, political stability, and social and cultural identity. In 1984, the Commonwealth Secretariat appointed a group of eminent persons as a Consultative Group to study the vulnerability of small states in the "global society" and make recommendations to improve their situation (Report as: Commonwealth Secretariat, 1985). Much of the following review is based on the Report of the Consultative Group.

1. Vulnerability of Territorial Security

As far as their territorial security is concerned, the small states can be victimised relatively easily by an external aggressor such as another country or a group mercenaries. Examples of such incidents include the invasion of Grenada by the USA in 1983, an attempt made on Seychelles by mercenaries in the early 1980s, and the invasion of Kuwait by Iraq in 1990. It may not be possible for a state to repel a super power, but the small states are often not able to repel even attempts at aggression by mercenaries. The maintenance of an army that can adequately protect their territory is beyond their means.

The Consultative Group identified three types of military and two types of non-military threats to the territorial security of the small states. They may be listed as follows:

Military:

- a. Direct aggression by another state or agency.
- b. Establishment of foreign bases.
- c. Secession in island states

Non-military:

- a. Abuse of its territory by non-governmental parties for illegal purposes such as smuggling (e.g. arms) and drugs trafficking.
- b. Trespassing in its EEZ (Exclusive Economic Zone) and poaching by vessels of major world maritime states.

2. Vulnerability of Political Stability

The small states are politically vulnerable to five types of threats as identified by the Group:

a. Political or economic pressure for policy changes. In dealing with powerful neighbours or in the process of bilateral or multilateral relations, small states could be coerced or pressurised by larger states to adhere to their policies or enter into agreements that are not necessarily in the best interest of the smaller states.

b. Destabilisation or subversion through externally based dissidents or other means, to fulfil political objectives of large powers. The Group avoided citation of examples by stating that international politics since 1945 is replete with examples. The possible media of intrusion were spelled out by the Group:

... it is also relatively easy for major states to threaten the core social, cultural and political values of small societies by influencing the media and the non- formal education system, co-opting sectors of the elites, or forming alliances in particular with the business sector, trade unions or elements of the military. Overseas-based national dissidents can often be very effective abroad, because of their increased access to media, publicity, arms and funds as well as the clandestine political support which they often receive from official or private sources in the metropolises.

(Commonwealth Secretariat, 1985, p.26)

c. Another source of political threat to which the small state is vulnerable, are the political changes in member countries of the region. This kind of threat can be initiated especially through ideological conflicts of major powers operating in the region. Grenada was a victim of such a conflict in 1983 (Commonwealth Secretariat, 1985, p.26) and later Panama in 1989.

d. According to the Group, hostile unsympathetic reporting by foreign media has been a threat to the political stability of small states. The smaller states are ill equipped to

make their view-points clear to the rest of world. In addition, small countries depend heavily on international news agencies as their sources of news of world events. Thus, the societies are highly vulnerable to information generated in foreign countries. The effect of such news is fast in these states.

News and rumour travel quickly in a small state, and governments can be at a disadvantage in countering any subversive effects of news which has the imprimatur of an international agency.

(Commonwealth Secretariat, 1985, p.26)

e. A subtle type of threat that can be confronted only by very strong powers is the attempt by another country to impose its own jurisdiction on activities in the other territories. According to the Group, such an encroaching country might insist on application of its own laws and regulations on subsidiaries operating in the small states. Such an imposition not only undermines the authority of the small states but also becomes a detriment to the economy of the small states. (Commonwealth Secretariat, 1985, p.27)

3. Vulnerability of the economy

The small states in their capacities as "small economies", are "price takers". The supply of goods and assets of the small state is so small in terms of the global market that any changes in its own production have no effect on the price or its terms of trade. (Lall and Ghosh, 1982, p.144). A second serious problem is the vulnerability to the converse effects. The small economy is relatively open compared to large ones (UNCTAD, 1985, p.132) and the effects of negative changes in the outside market become detrimental. The main reasons for this vulnerability were:

- a high ratio of foreign trade to national income,
- a high degree of concentration on a few products in exports,
- a high degree of concentration on a few countries to which exports are sold, and
- a low degree of concentration by commodity in imports.

(Lall and Ghosh, 1982, p.145)

Lloyd and Sundrum (1982) also underlined the limited substitutability of imports and vulnerability of the economy to changes in the outside world by the fact that small economies concentrated on a few industries and a few export commodities. They called this the concentration phenomenon. (Lloyd and Sundrum, 1982, p27). The relatively high dependence on foreign trade classifies these states as dependency economies (Lloyd and Sundrum, 1982, p.28; UNCTAD, 1974, p.9).

4. Vulnerability to Social and Cultural Identity

The small states are also exposed to social and cultural influences from outside. The impact felt is relatively larger because of the size. The Commonwealth Consultative Group underlined the vulnerability as follows:

While small states like other states stand to benefit from interaction with the rest of the international community their integrity and stability can sometimes be threatened by deliberate and aggressive penetration of their culture and core values. Such penetration is sometimes designed to change life styles and create new consumer markets without respect for local priorities. It can influence the young particularly and alienate them from their own society, encourage discontent because of aroused but frustrated ambitions, and have serious negative effects on national cohesion and loyalty.
(Commonwealth Secretariat, 1985, p.27)

E. Limited Natural Resource Endowments

The smaller island states are generally endowed with a narrow range of natural resources (UNCTAD, 1974, p.9). The small island states lack not only commercially exploitable resources but also, in the case of islands formed with calcareous soil, such basic resources as soil, water and vegetation. (Dolman, 1985, p.41)

F. Distance from Markets/ Transportation

This is basically a problem of remoteness in respect of the distance from other countries and, or the scatter within. The problem is partly a problem of distance and partly a problem of transportation. Small island states located far away from major populations or continents experience a problem of easy access to foreign markets. When the country is characterised by heavy dependence on external trade, high concentration of export commodities and low concentration of imports, the distance goods have to be transported becomes a crucial factor in trade and in the performance of the economy. Thus, the role of transportation, for which not many means are available to the small island states, becomes very significant:

For archipelago economies, the exchange of goods among the component islands has to be carried out by sea, and in some cases also by air. Ports, inter-island shipping, and overseas shipping therefore are of much greater importance to the welfare and progress of developing island economies than to mainland countries.

(UNCTAD, 1974, p.15)

The comparatively heavy transportation cost makes the trading position of these countries weak, which is a hazardous situation for the already vulnerable economy. It becomes disastrous when a disruption occurs to transportation, which can lead to serious consequences such as starvation and austerity due to shortages of essential supplies, and deterioration of the few export commodities which would normally constitute the major part of the entire GDP. (Foster, 1987; UNCTAD, 1974)

The problem is equally true internally. Although islands were more or less self sufficient centuries ago they are not any more. They depend heavily on supplies from outside. These are transported from the main centres to the individual islands. Conversely, the produce of the individual islands needs to be transported to main centres

which play the role of the main or intermediate market. The problems of distance and transportation cannot be over emphasised.(Foster, 1987; UNCTAD, 1974)

The problem has been further worsened over recent years by technological changes that have occurred in ship building and cargo handling. The changes called "containerisation" transformed the carriers into larger vessels designed to handle larger cargo units often incompatible with the cargo requirements of the small states while at the same time transforming the design and equipment of the ports to suit these changes, demanding heavy capital investment, which the small states could not afford (Persaud, 1982, p.137).

G. A Range of Other Problems

Other problems, disadvantages and features that constrained the development of the small states, as identified by Robinson (ed., 1960), UNCTAD (1974), Selwyn (ed., 1975), Shand (ed., 1980), Jalan (ed., 1982), Dommen and Hein (ed., 1985) and Foster (1987) include the following:

(a) The small state generally has a narrower range and a smaller pool of local skills, and experiences greater difficulties in providing necessary skills than large states. The absence of higher education institutions and specialised education is a common feature of these countries. While the problem of matching skills to available jobs is a problem they share with other countries, though not on the same scale, the reliance on expatriates is a more constraining feature. (UNCTAD, 1974; Lloyd and Sundrum (1982 p.27)

(b) With their dependence on foreign trade and the growing volume of imports, especially of energy and food, the small states suffer from serious balance of payments problems.

(c) Often these states depend on one or few large companies, foreign or locally owned, operating on highly privileged terms. The companies not only monopolise trade but also control vital resources of the state. Similarly, financial institutions such as banks are also scarce and dominant on the economy. Fry (1982) in a study of a sample of eleven small economies, found a strong negative correlation between economic size and dominance of foreign banks, imposing a restricted competitiveness in the international markets.

(d) Limited access to capital markets: The problems of smallness has been mainly associated with economies of scale in production which constitutes a deterrent in attracting national or foreign sources of capital. In addition, these states often lack the knowledge and skills to make use of opportunities and take full advantages of such markets. Further, the states do not provide the potential markets with confidence in their capacity to handle prospective investments (Officers of Caribbean Development Bank, 1980).

Further, the Consultative Group of the Commonwealth found that the capital flow to the small states, from multilateral institutions was reducing even in nominal terms. The main inhibiting factor was noted as the criterion used by the institutions. For example, per capita income was found to be the main criterion used by the International Bank for Reconstruction and Development (IBRD) while it was the exclusive criterion used by the International Development Association (IDA) to determine the states' eligibility and the ceiling. (Commonwealth Secretariat, 1985, p.86)

(e) The small island states in particular, are more prone to natural disasters, one incident of which could cause a destruction amounting to a significantly large share of the

GDP. A hurricane or any other natural disaster can devastate complete villages and a major part of the food provisions of the entire country.

(f) The island states are based on a highly fragile natural ecology and vulnerable environment. The less diverse genetic resource base of the small islands, especially those on the islands, are prone to extinction. Although they have little to contribute to global warming, these low-lying island states are listed as first to disappear in the event of the sea level rise consequent the changes.

(g) Small states were found generally to suffer from a lack of important institutions. They depend heavily on institutions outside their borders for vital services such as higher education, specialised training, monetary arrangements, and health services.

The Secretary General of the Commonwealth, in his paper to the Meeting of the Heads of Government Meeting in Lusaka, recognised the problems of small countries by summarising them as follows:

Such states are characterised to a great or lesser degree by limited natural resources, high relative distance to external markets, an undiversified economy, greater economic vulnerability due to export income being dependent on a narrow range of commodities (and in some cases a single product), serious balance of payments problems, high unemployment and underemployment, limited access to capital markets and, consequently, a heavy dependence on official aid from bilateral and multilateral sources. All these factors give rise to fundamental structural problem which block the process of economic transformation.

(Shand, ed., 1980, p.x)

VIII. SMALLNESS HAS ADVANTAGES TOO

On the positive side, however, small countries are more likely to be able to reach social and political agreement on issues, tend to be more homogeneous, more equity oriented and governments tend to be more democratic and stable, making development objectives easier to achieve (Kuznets, 1960, p.28-31).

IX. SMALLNESS APPLIES IN EDUCATION TOO

The examples and arguments cited above are related to the economic sector but, in theory, the same principles apply to other sectors as well. The lack of economies of scale is as disadvantageous in education as it is in the economic sector. While the limitation of resources does not permit the establishment of the necessary infrastructure in education, the limited pool of skilled manpower acts as major deterrent to educational development. Trial and experimentation in the development and production of complete curricula and materials or innovation face the same problems as it does in development and transfer of technology. For these reasons, among others, it is a common feature of most of the small states to lack the complete ladder of the education system, in terms of fields of specialisation and sectors (Bacchus and Brock, 1987, p.10).

Smallness of the geographical area or the size of the clientele to be served does not necessarily reduce needs for education in a state. The levels, forms and specialisation of knowledge and skill requirements remain more or less the same as in their larger counterparts. The number is small, but only nominally, and not proportionately. This makes the problems all the more difficult:

A state of 100,000 inhabitants like a country of several millions establishes a Ministry of Education to handle the same range of functions as their counterparts. Small states require a Ministry or a Department to deal with personnel management, school administration, curriculum development, overseas linkages, examinations, maintenance and so on.

(Farrugia and Attard, 1989, p.19)

Some problems small countries encounter are, obviously, similar to those of their large counterparts though they may be more severe in the former. For example, in all countries, large or small, there has often been a problem of a mismatch between the output of the education system and the needs of the society, or the needs of the economy. In large countries, due to the on-going structural changes and diversification in the economy, adjustment of the education system to the changing economic needs becomes very difficult, while in small economies the same problem hits harder due to limitations in the substitutability of labour and fewer options. (Bacchus and Brock, 1987, p.19-22)

Then there are the problems that are especially associated with the characteristics of smallness. Just as Jalan (1982) pointed out in respect of an economy, these countries suffer disadvantages in developing their own "know-how" and the basic institutional structures in education. While skilled manpower is in short supply in these states, they are required to compete with the outside world to retain the available few or to attract others. The working environments and the incentives are less attractive and yet the demands made on the employees are greater and more diverse. The employees have to play multiple roles in discharging their duties. For example, a senior administrator in the Ministry of Education would be required to discharge the duties of a permanent secretary, a welfare officer, attend to day-to-day administrative responsibilities and often play the role of a professional in curriculum and pedagogy as well. Similarly, a teacher in a small country, apart from being a multi-discipline and multiple role teacher, would often be required to attend to administrative responsibilities. (Bacchus and Brock, 1987, p.10; Farrugia and Attard, 1989, p.19-22).

Advantages in Education Too

There are, nonetheless, advantages in being small. They are largely associated with the spatial compactness of the state. One advantage is the close proximity between policy makers, administrator and the clients. This facilitates exchanges of views through formal or informal contacts. As a positive aspect, such contacts could minimise the effects of the 'dead hand of large bureaucracies'. Such closeness also facilitates speedy implementation and quick feedback of programmes. The compactness also helps to increase the relevance of curricular content to the local physical, social, economic and cultural realities. (Bacchus and Brock, 1987, p.11).

X. SUMMARY

The above discussion outlined the position of small island states in the global society in general, and that of the dispersed island states in particular. The main points may be summarised as follows:

1. That the parameters of the definition of the state are not absolute and discrete; there are no limits to the extent of territory, political status, economic or military capability or size of the population.
2. By virtue of the smallness and scatter, the small dispersed island states face a number of serious problems in development:
 - (a) Problems arising from the lack of economies of scale in most forms of production of goods and services,

- (b) Problems of logistics and costs in transportation in dispersed situations,
- (c) Vulnerability in security, political and economic stability and cultural identity,
- (d) The narrow range and small pool of local skills available to meet the needs of development, worsened by having to compete with the outside world to retain them or recruit expatriates,
- (e) Balance of payments problems and external trade characterised by a narrow range of exports and a wide range of imports,
- (f) Dependence on one or a few large companies, which control vital resources and the production of goods and services,
- (g) Limited access to capital markets; discriminatory criteria used by some international financial institutions and lack of confidence in the ability of the states to administer prospective investments,
- (h) Proneness to natural disasters, and
- (i) Lack of important institutions such as higher education institutions, financial services, advanced medical centres.

3. Problems of smallness and dispersion apply to the education sector too. They also emanate from the characteristics of size and scatter.

CHAPTER FOUR: GENERAL BACKGROUND OF THE MALDIVES

I. INTRODUCTION

In Chapter III, it was shown that the literature on small island states revealed that, by virtue of their smallness and dispersion, the countries faced fundamental problems in development. These broadly circumscribe the principal research problem of the study at a general level. It is in that perspective that this chapter aims to examine the general features and the problems of the Maldives in the following aspects:

1. Geography and the natural resource endowments.
2. Historical and socio cultural background.
3. Population and labour.
4. Political and administrative system.
5. Economy.
6. Transport and communication system.

To the discussions of some of these aspects some historical perspectives are added to demonstrate the position of what the Advisory Expert Group of the Commonwealth called the cultural "strengths" of the state (Commonwealth Secretariat, 1985, p.14).

II. GEOGRAPHY AND NATURAL RESOURCE ENDOWMENTS

A. Location And Physical Structure

The Maldivian archipelago is located on a ridge named after itself in the Indian Ocean. The archipelago lies 760 kilometres south west of Sri Lanka, and the northern-most island of the archipelago is about 600 km south-south-west of the southern tip of Indian subcontinent. The

archipelago is long and narrow, 120 km in width at the widest point and 750 km in length, spreading the islands on an ocean area of about 90, 000 square km. (see map in Figure 1.1). (MPD, undated3)

The archipelago comprises 26 natural geographical atolls. (The word "atoll" originated from the Maldivian word "atolu" used to describe the atolls of the Maldives.) Although a Maldivian may be expected to be a better expert to define an atoll, the definition provided by Thomas suits the context of this study:

An atoll is a calcareous reef, the rim of which is just above or slightly below sea level, surrounding a distinctly deeper lagoon. Low sandy islets are usually scattered along the enclosing reef, which is surrounded by the open sea and is an entity separated from other reefs or atolls some distance away.

(Thomas, 1963, p.13)

The atolls of the Maldives arrange themselves in, more or less, double rows in a north-south direction forming what some ancient writers called "a garland of islands". (According to one etymological analysis the word "Maldives" was derived from Sanskrit words *mala* meaning flower and *dives* meaning island.) The atolls are more ring-shaped, distinct and definable towards the south of the archipelago while in the north the reefs are submerged deeper. (Maloney, 1980; MPD, undated3)

B. Number of Islands

The current official counts (Directives of the President's Office) enumerate the number of geographical islands in the Maldives at 1190, of which 200 are inhabited. Of the 200 inhabited islands, two islands have separate communities administratively recognised as two separate "islands" each. This makes a total of 202 inhabited administrative island units (see Table 4.1). Similarly, for administrative convenience the 26 natural atolls are also re-grouped into 19 provincial units called "atolls" with an administrative connotation. (Most of these fall on the

geographical atolls.) Hence, in administrative terms the country consists of 19 atolls and Male' (a total of 20 regions), 202 inhabited islands and 990 uninhabited islands (Note that the number of uninhabited islands counted in the 1977 Census, presented in Table 4.1, does not tally with

Table 4.1: Number of Administrative, Inhabited
and Uninhabited Islands in the Regions

Region	Administrative	Number of Islands Inhabited	Uninhabited
HA (Haa Alifu)	16	16	23
HD (Haa Dhalu)	17	17	16
SH (Shaviyani)	15	15	26
NU (Noonu)	14	14	57
RA (Raa)	16	16	65
BA (Baa)	13	13	51
LH (Lhaviyani)	4	4	53
KA (Kaafu)	9	9	72
AL (Alifu)	18	18	58
VA (Vaavu)	5	5	19
ME (Meemu)	9	9	25
FA (Faafu)	5	5	10
DH (Dhaalu)	8	8	50
TH (Thaa)	13	13	54
LA (Laamu)	12	12	75
GA (Gaafu Alifu)	10	10	83
GD (Gaafu Dhaalu)	10	10	154
GN (Gnaviyani)	1	1	0
SE (Seenu)	6	4	29
MA (Male')	1	1	0
TOTAL ¹	202	200	920

Note: ¹ The number of uninhabited islands does not add up to the more current official figures (990) due to difference of criteria applied.

Source: Census 1977 (NPA, 1981); MPD (undated2)

this figure due to the difference of criteria used). (NPA, 1981; MPD, undated2; MPD, undated3)

C. Size of Islands

The small size of the islands is a major concern and a serious handicap in development. The islands are very small, and some are tiny. Ancient visitors reported the problem of finding "standing room upon a thousand islands". There is no documented study available to estimate the actual sizes of the islands. Existing estimates vary greatly. The National Planning Agency (NPA), without any survey (for which reason it was declared by Official decree of 1986 as void), stated the average size of the islands as about 1/10 sq. mile (1/4 sq. km) (NPA, 1981, p.1), while there are others who estimated that most islands are about 0.8 km (half a mile) in length, very few are over 3 or 4 km in length. (see Maloney, 1980, p.3; Seidler, 1980, p.11) The largest island, as quoted by the World Bank (1980b, p.1) is 4.5 miles (7.2 km) in length.

D. Problems Arising From Physical Size

The small size of the islands poses serious problems indeed. Less than a score of islands have even modest areas of land for any agriculture on a commercial scale. The same is true of the need for land for other industrial sectors. In a number of islands sufficient space is not available for the accommodation of the population itself. Such islands include the capital Male, R. Kandholhudhoo, B. Thulhaadhoo, Lh. Hinnavaru, Lh. Naifaru, M. Maduvvari, M. Dhiggaru, Th. Thimarafushi, GA. Vilingili and GDh. Thinadhoo. This is not an exhaustive list of such islands. Unlike the continental cities these island villages or cities cannot expand with the growth of population and industrial activities.

There are no mountains or rivers. The source of fresh water is the water lens in the ground, floating on top of the denser sea-water. The water-lens is formed by rainfall of several centuries having seeped into the ground pushing out the sea water. When the island is too small, which most of them are, the trapping capacity of the rain water in the ground is either absent or is too low to enable the formation of the lens. When the island is able to hold the water lens, the island often becomes too small compared to the population it caters for and the water lens is

depleted faster than it is replenished by rain. This leads to an irreversible destruction of the lens. It has already happened in many islands such as Baa Thulhaadhu, and now the capital, Male'.

Thus, apart from the problems of size as discussed in Chapter III, the immediate problems emanating directly from the small size of the islands include:

- the lack of space for homes and essential facilities such as schools, hospitals and recreation,
- the lack of space for agriculture and other industries,
- the lack of space for the establishment of a larger infrastructure necessary for economic and industrial development, and
- the limited fresh water supply, and its low quality.

E. Use of Uninhabited Islands

Since the earliest records available, most of the land in inhabited islands and all the uninhabited islands have been owned by the state. It would be rare for any individual to own a piece of land. Land outside the village area of the inhabited islands and the uninhabited islands is normally leased by the government to individuals and sometimes to island communities. In principle, any Maldivian can apply to lease an island if fallen free, usually for an unlimited duration.

This is the theory of the operation. In practice, most of the economically attractive islands have remained, for decades or more, leased to individual absentee-landlords from the elite and influential families in the capital, Male', passing the islands from one generation to the other within the family. In 1979, when the World Bank reviewed the economy of the country (World Bank, 1980b), they found that out of the 985 uninhabited islands they studied, 307 islands (31%) were leased to residents of Male' who subleased them (formally or informally) to a resident of the atoll, 402 islands (43%) to residents of the same atoll and 39 islands (4%) to government

agencies (see Table 4.2). Those islands leased to the government agencies are used either for industrial development or to sublease to selected island communities with shortages of firewood and supplementary food crops such as coconuts and breadfruits in their own islands.

Table 4.2: No. of Uninhabited Islands
by Lessees - 1979

<u>Lessee</u>	<u>Number</u>	<u>%</u>
Residents of the Same Atoll	420	42.6
Residents of Male'	307	31.2
Residents of Other Atolls except Male'	17	1.7
Government Agencies	39	4.0
Unleased <u>1/</u>	202	20.5
<u>Total</u>	<u>985</u>	<u>100.0</u>

1/ Mostly too small and lacks sufficient land for any form of growth naturally or cultivated

2/ Total number information was available to the study team

Source: World Bank (1980b), Table 7.8, p. 152

The important weakness in this table is that the percentage measures of islands do not reflect the size or the productive capacity of the island. It is unfortunate that the study team did not analyse the islands by value of the leases at least which reflect the size and the productive capacity of the islands. As stated previously, some of the islands are very small and are comparable to mere sand banks, with only small non-productive littoral vegetation. Out of the 990 uninhabited islands less than a third may be considered suitable for agricultural activities. Most, if not all, of these islands can be assumed, without much dispute, to be leased to residents of Male'.

There is more to reveal from the use of uninhabited islands than what the data in Table 4.2 has to tell. Firstly, these islands are a vital source of the livelihood of the communities of the Atolls. Neighbouring communities depend on them considerably. For example, the communities depend on the produce of the uninhabited islands to supplement their food (e.g. with coconuts) and depend on the islands for their supply of firewood (the main cooking fuel), and timber for

boat-building, making homes and furniture. The islands offer some employment too. The employment may be direct or indirect, and paid in kind or in cash. This may take the form of work in the uninhabited islands or in processing their produce in their resident islands. For these reasons, among others, a leasehold of a sizeable island in an atoll constitutes a power base over the communities of the Atolls (see the section "Political System" below).

Secondly, the lease system of the uninhabited islands forms one of the root causes of continuing inequalities among classes, and between the Atolls and the capital (World Bank, 1980b, p.140).

Thirdly, this pattern of leasing has promoted and sustained absentee-landlords, which is inconsistent with modern forms of enterprises and entrepreneurship. The problems arising from this phenomenon, and the resulting neglect, have prevented development of the islands to their full potential. Most of the islands barely continue to sustain the natural regeneration process of coconut trees and other tropical food and cash trees. Apart from a very few islands (e.g. Alifu Ariyadhu) an attempt by anybody to develop an island for agriculture would be unheard of.

Three islands are used for airports and one for a tuna processing plant. The other most important use of the uninhabited islands was introduced in 1971. That was to turn them into tourist resorts. By 1987, 57 uninhabited islands were developed for tourism and 15 more were under construction (MPE, 1988, p.37).

F. Other Natural Endowment

As described above, the country is basically sea: over 99 per cent of the territory. In addition, the Exclusive Economic Zone provided by the United Nations Law of the Sea Convention allows a 200-mile zone around the country. Thus, sea becomes an important primary resource-base for the country. It provides the basic nutrition, namely, as a source of protein for the population and the chief export which helps to buy almost all other necessities. The

exploitation of the sea resource, however, is still limited to a very narrow range of fishing only. (see section on "the Economy" below) The other potential for still further expansion is tourism which is also very much limited to the sea side and the sea. The land resources are considered poor and any commercially exploitable mineral is so far not known to exist. But mention should be made of a project launched by the multinational oil company, Shell, in 1988 for oil exploration. So far there is no news of any success.

Apart from the above outlined sources (and the humans), the country has virtually no natural resource. The World Bank summarised the resource position of the country as follows:

The Maldives is among the 20 poorest countries in the world. Like most island developing countries (IDCs), its resource base is narrow in relation to population, and it lacks known mineral resources. The country is heavily specialised in fishing and tourism and increasingly dependent on food imports.

(World Bank, 1980b, p.i)

III. SOCIO-CULTURAL BACKGROUND

A. Origin and Ethnic Identity

Who the first settlers of the islands were, where they came from, and when, are lost in antiquity like those of many other civilizations. The Maldives lie at the cross roads of much-travelled ocean routes. The 4000 year old navigation routes of the Mesopotamian and Indus civilizations could not have missed the country. According to hypotheses based upon the traces of cowrie found in the Indus Valley harbour of Lothal and elsewhere dating back to 1500 B.C., Maldives could have been regularly visited. The cowrie was an important commodity. (Heyerdahl, 1986, p.256, p.301-313)

Similarly, the exodus of the Gujrat civilization which moved south to South India, Sri Lanka and further down to Java and Sumatra in the fifth and fourth centuries B.C. is believed to have passed through the Maldives. This remains the best established theory for the main

settlement of the Maldives. The theory is further supported by historical evidence, linguistic and anthropological evidence and characteristics of the present people. Further, according to historical documents and maps it is evident that the Chinese and the Arabs, and later the Europeans did not by-pass the Maldives. (Bell, 1940; Heyerdahl, 1986, p.301-313; Maloney, 1980, p.49-71) Based on relics and artifacts excavated one writer suggest that:

These islands were not just found by primitive drift voyagers. They were settled by civilised people who were already sailing the open sea in antiquity ... They were already great artists and architects before they sailed to the Maldives. And that was earlier than the Viking Age in Europe.

(Heyerdahl, 1986, p.301)

The present people are of Indo-Aryan race with a closer resemblance to the Sinhalese, the majority ethnic group of Sri Lanka. However, the features also reveal a mix of Arabs, Malays and Africans, as evidence of historical contact and relations with countries that bordered the Indian Ocean. (Bell, 1940; Maloney, 1980) There are no identifiable ethnic groups or culturally separate communities in the population.

B. Language

The Maldives has a language of its own called Dhivehi. It is derived from the same origins as most of the languages of the region, namely Sanskrit and Pali, and has a close relation with an old form of Sinhala called Elu which was a dialect from the lower Punjab over a thousand years ago. The linguistic and phonetic analysis of the language, along with remnants of Iranian dialects, have traced the language and core ethnic identity back to north western parts of South Asia. With substantial Arabic and Islamic influence since the middle of the 12th century, the language has picked up a substantial number of Arabic words. Similarly, with continued contact with parts of India, elements of Tamil, Malayalam and Urdu are also found in the language. (Geiger, 1919; Maloney, 1980, p.87-88)

Since the 16th century, the language has been written by a unique script called *Thaana*, written from right to left. Thaana was phased in since then as the official and the working script of the language to replace the previous script called *Dhives*, another unique script. Dhives is also known to have been in use for several centuries before it was abandoned. Dhives script had to be phased out to give way to Thaana, invented to meet an emerging need at the time. That was Islamisation. Islamic scholars of both Maldivian and Arabic origins insisted on usage of Arabic words in the teaching and practice of Islam, in their original form, for fear of confusion of the Islamic concepts. Thus, Thaana was invented to flow with the Arabic script from right to left in order to accommodate Arabic words without much difficulty. A still earlier script called *Eveylaa* (ancient) script is known to have been in use even before the use of Dhives script. (Bell, 1940; Geiger, 1919; Maloney, 1980, p.92)

C. Religion

Until the Maldivians embraced Islam in 1153, the religion of the country was Buddhism. There is also emerging evidence of a pre-Buddhist era. After the acceptance of Islam, the people throughout the archipelago have remained firm in the Sunni sect of Islam. The ethos of Islam was strong, in that it was inconceivable and legally impossible for one to become a Maldivian without being a Muslim first. (Maloney, 1980, p.211-241)

How much a part of the society is Islam in the Maldives today? How important is the religion in the life of the people? Islam remains the faith of 100 per cent of the Maldivians. It makes up most of the social and spiritual backbone of the individual and the society. It provides most, if not all, of the Maldivians with the nourishment of their conscience. The Maldivians on the whole show a strong commitment to Islam. Its laws provide the state with the necessary legal underpinning. The constitution of the Maldives recognises and depends on Islamic Shariah as the source for almost all its legal prosecutions. Islam is one of the common bonds of the nation that unites the Maldivian people from the northern-most island to the southern-most island, most of

the youth and all of the old. The unanimity of the public in the Islamic beliefs and the ideology makes Islam a very powerful source of social authority, political power and leadership. It should be recognised that with the increasing contact with other cultures and values over the last two decades, and as a result of western education, the existing values including those of Islam are being eroded. (Maloney, 1980)

IV. POPULATION AND LABOUR

A. Censuses

Annual population counts or registration began in 1573 with the liberation of the country from the Portuguese. It was conducted by the Chief Justice or Qazi in the capital island and by his assistants in other islands. The prime purpose then was to collect the end of Ramadhan Alms from individuals (NPA, 1981). This was also reported by the shipwrecked Frenchman (in the early 17th century) Francois Pyrard (Pyrard, 1888). Similar population counts were also conducted for the age group of 15 to 55 in later periods, for the purpose of taxation. The last of this kind of census was recorded in 1889 (for implementing a tax of 120 Lari or one rufiyaa per year in cash or kind). The 15 to 55 age group was enumerated at approximately 45,000 (Census, 1931).

The beginning of the modern form of census was that of 1911. A system that was pioneered and introduced to the countries of the region (e.g. Sri Lanka) by the British was used. Thereafter a census was conducted decennially until interrupted by the Second World War. Since, 1957, it became an annual routine until it became a burden and the interval had to be increased. The population figures for selected years of the period 1911 to 1990 are given in Table 4.3.

Table 4.3: Selected Census Populations 1911-1990

Year	Population	Sex Ratio M/F	Rate of Growth
1911 (Oct.)	72,237	118.95	-
1921 (Mar.)	70,413	118.41	-0.27
1931 (Apr.)	79,281	119.94	1.18
1946 (Jun.)	82,068	117.34	0.23
1953 (Jun.)	77,273	116.96	-0.86
1957 (Jun.)	83,075	116.00	1.83
1962 (Jun.)	92,744	114.23	2.23
1967 (Jun.)	103,801	114.22	2.28
1972 (Jun.)	122,673	112.42	3.40
1977 (Dec.)	142,832	111.26	2.80
1985 (Mar.)	180,088	107.94	3.25
1990 (Mar.)	214,139	106.16	3.52

Sources: Census 1931, 1977 (NPA, 1981), 1985 (MPD, undated2), 1990 (MPE, 1990)

B. Growth and Distribution of Population

At first glance, the population figures in Table 4.3, reveal a male predominance throughout the century and a high rate of growth since the mid 1960s. It was only then that the population has shown a trend of recovery from the preceding slow growth during and immediately after the Second World War. The War brought a depression to the Maldives and famine. The unprecedented increase in growth of population beginning in the mid 1960s may be explained as the "post war baby boom", experienced by the Maldivians much later compared to other countries.

The population of the Maldives maintained a high rate of growth through the 1970s and 1980s. The average annual rate of growth for the whole country was 3.5 per cent for 1977-85, showing a doubling period of 20 years. Table 4.4 presents the population distribution and rates of growth for Male' and the rest of the country for 1977, 1985 and 1990. Among the regions, the most significant growth during this period, most dramatically from the 1970s, was experienced by the capital, Male'. On average, the population of Male' grew at 6.27 per cent in 1977-85 and 4.09 per cent in 1985-1990 recording doubling periods of 11 and 17 years respectively.

Table 4.4: Population Distribution and Growth
Between Male and the Rest, 1977, 1985, 1990

	Country Total	Male'	All Other Islands
<u>1977</u>			
Population	142,832	29,522	113,310
Per cent	100	20.67	79.33
Annual Rate of Growth	3.01	n.a.	n.a.
<u>1985</u>			
Population	180,088	45,874	134,214
Per cent	100	25.47	74.53
Annual Rate of Growth	3.25	6.27	2.36
<u>1990</u>			
Population	214,139	56,060	158,079
Per cent	100	26.18	73.82
Annual Rate of Growth	3.52	4.09	3.33

Sources: Census 1977 (NPA, 1981), 1985 (MPD, undated2), 1990 (MPE, 1990)

The difference of growth of population in Male' is caused by internal migration from other islands. People migrate to seek employment, and for essential services and opportunities available in Male. An unprecedented phenomenon started with the inception of an increasingly widening gap of prosperity between Male' and the rest of the country. (MPD, undated1, p.5) However, as reflected in Table 4.4, to the surprise of many, the increasing trend of the growth of Male' population has slowed during the period 1985-1990. The reason has not been examined yet, but two reasons are probable. One, that since 1979, the government has been working on several development programmes in the Atolls to improve the conditions there. This could have started yielding to some extent. The other could be the strict regulatory measures the Government imposed on the Atoll people during the period to check migration into the island. (The measures, however, became bitterly unpopular and had to be abolished in 1990.) Or is it just the tightness of physical space that is naturally producing its own resistance to the ever increasing population on an island of less than four square kilometres? The problem of population and space as pointed out, though from a slightly different perspective, as early as 1920. (Census Report of 1931)

The Census Report of 1931 quoted H.C.P. Bell, an archeologist who visited the Maldives about three times in the late 19th and early 20th centuries:

[the mosques and burial grounds] occupy so much of the total area that some form of expansion - very probably by utilising the nearer islands of the atoll - will ere long have to be devised. Male' with its teeming population of over 5,200 souls, is far too over-crowded already. Migration, or other measures for relieving the congestion, must inevitably be resorted to in the not distant future.

(Census Report 1931, p.7)

As mentioned in the previous section, the problem is not unique to Male'. There are other islands with equally deplorable or even worse living conditions (probably not as high in density) created by crowding. The cause for those islands was the small size of the island and a prosperity once brought by good fishing. The islands cannot expand as

Table 4.5: Frequency Distribution of Islands
by Population 1985

Class size (Population)	Valid No. of		Cumulative No. of	
	Isl.	%	Isl.	%
Less than 100	2	1.0	2	1.0
100 - 199	17	8.4	19	9.4
200 - 299	29	14.4	48	23.8
300 - 399	39	19.3	87	43.1
400 - 499	30	14.9	117	57.9
500 - 599	19	9.4	136	67.3
600 - 699	13	6.4	149	73.8
700 - 799	10	5.0	159	78.7
800 - 899	6	3.0	165	81.7
900 - 999	12	5.9	177	87.6
1000 - 1499	10	5.0	187	92.6
1500 - 1999	7	3.5	194	96.0
2000 - 2999	3	1.5	197	97.5
3000 - 3999	2	1.0	199	98.5
4000 - 4999	1	0.5	200	99.0
5000 - 5999	1	0.5	201	99.5
Over 10,000	1	0.5	202	100.0
All sizes	202	100	-	-

Sources: Census 1985 (MPD, undated2)

they are surrounded by the reef and the ocean. The problem is indeed common to small island countries.

Table 4.5 presents the frequency distribution of islands by size of population in 1985. It is clear that most of the islands cluster between populations of 200 to 500. More than half (117 islands or 57%) had populations under 500. Two islands had populations less than 100 and only one island had a population over 10,000, and that was Male'. These figures show the small size of the communities to be served.

C. Some Characteristics of the Population

Since the early 1960s, the population has grown at a relatively high rate, over 3 per cent annually (1985-1990 registered 3.5%; 1977-1985 registered 3.3%). According to the 1985 census, more than half of the population that year was under 20 years of age (full results for 1990 are not yet available). This indicates the heavy load on the school system and the share of the youth in the dependent population (the other group being the elderly). Table 4.6 presents selected self-explanatory health indicators that feature demographic characteristics.

Table 4.6: Demographic Health Indicators 1984 & 1987

<u>Indicators</u>	<u>1984</u>	<u>1987</u>
Crude Birth Rate (per 000 pop.)	47	43
Crude Death Rate (per 000 pop.)	9	8
Infant Mortality Rate (per 000 pop.)	68	68
Child Mortality Rate (per 1000 pop.)	8	7
Maternal Mortality Rate (per 1000 live births)	4	5
<u>Life Expectancy at Birth</u>	<u>52.2¹</u>	<u>61.3²</u>

¹ 1983

² 1985

Source: Ministry of Planning and Development (MPD, undated³, p.124)

D. Labour Force

Table 4.7 presents the labour force and the status of employment in the country for 1985, and the projection for 1990. In 1985, the working-age population (ages 15 and over) constituted nearly 55 per cent of the population, while the economically active population (excluding those defined as "only marginally employed") in relation to the working-age group was 52 per cent (in relation to total

Table 4.7: Labour Force and Employment Status
1985 and 1990

	1985		1990	
	Population	%	Population	%
Total Population	180,088	-	212,200	-
Male'	45,874		61,390	
Atolls	134,214		150,810	
Pop. Age 15 & over	98,836	54.9	115,680	54.5
Male'	28,698		38,410	
Atolls	70,138		77,270	
Pop. Economically Active	51,478	52.1	58,420	50.5
Male'	14,895		19,190	
Atolls	36,583		39,230	
Pop. Employed	50,705	98.5	57,540	98.5
Male'	14,895		18,900	
Atolls	36,134		38,640	
Pop. Unemployed	773	1.5	880	1.5
Male'	324		290	
Atolls	449		590	
Pop. Not Econ'y Active	45,987	46.5	57,260	49.5
Male'	13,430		19,220	
Atolls	32,557		38,040	
Not stated	1,371		-	
Male'	373		-	
A'tolls	998		-	

Source: MPD (undated3), Tab.2.2, p.8

Note: 1985 based on Census 1985 (MPD, undated2), and 1990 on MPD estimates

population, it was 29 per cent). Of the economically active population, about 99 per cent was employed. Ministry of Planning and Environment reports that a large number of women in the Atolls who have been excluded from the labour force figures of 1985 (because they were employed marginally and only contributed to supplement family income) would be rejoining the work force in the ensuing period of the programmed development projects. (MPD, undated1, p.8). This, however, is not reflected in the projection for 1990 (Table 4.7). To the contrary, the economically active population is projected to fall in proportional terms from 52 per cent in 1985 to 51 per cent in 1990, now to be assumed for other reasons. Apart from that, there was no significant change expected by 1990.

E. Employment Structure

Traditionally most of the Maldivian men were fishermen. The rest, and most of the women, mainly engaged in agriculture. But with the emergence of new lucrative employment opportunities such as in tourism since 1972, the simultaneous mechanisation of fishing boats since 1974 and an unprecedented economic growth through 1970s and 1980s, the employment structure has undergone significant change. While mechanisation of fishing boats through the 1970s and 1980s drastically cut down the number of crew needed on each boat, new sectors such as tourism, construction, transport and manufacturing opened up for more employment. During the same period, Government expanded rapidly, increasing its services and employment opportunities through them. With these changes, the employment structure for 1985 evolved as presented in Table 4.8.

Table 4.8: Employment Structure - 1985

<u>Sector of Employment</u>	<u>Employed Pop.</u>	<u>%</u>
1. Agriculture and Atoll Manufacturing	11,955	22.1
2. Fisheries	12,712	23.6
3. Coral and Sand Mining	643	1.2
4. Construction	2,863	5.3
5. Manufacturing (Urban) and Electricity	4,103	7.6
6. Distribution	2,649	4.9
7. Transport	3,511	6.5
8. Tourism	3,858	7.1
9. Finance and Insurance	451	0.8
10. Total Services	(11,184)	(20.7)
a. Private Teachers and Doctors	166	0.3
b. Government Administration	6,126	11.4
c. Personal Services	4,892	9.1
Total 53,929	100.0	

Source: MPD, undated³, Table 2.3, p.9

Fisheries and agriculture accounted for 46 per cent (24 and 22 respectively) of the total employment while in the tertiary sectors government administration accounted for 11 per cent, tourism for 7 per cent, personal services for 9 per cent and transport for 7 per cent. In the secondary sector, manufacturing provided employment for 8 per cent.

V. POLITICAL AND ADMINISTRATIVE BACKGROUND

A. Sovereignty

The country had its own independent rule through the known pre-Islamic era (before 1153 A.D.) and thereafter up to the middle of the 16th century. The Chinese or the Arabs, or other trade expeditions from countries bordering the Indian Ocean (some of which regularly visited for their annual supply of money cowrie and to an extent other commodities like Maldivian fish, copra and rope) did not bother the country's rule. Nor did the trespassers who helped themselves by replenishing their food and water supplies through the territory. Jackson was more precise on the point:

Until the late 15th century, the Indian Ocean was a peaceful region in which to trade. But when Vasco da Gama sailed to India's Malabar coast in 1498, Portuguese traders and pirates followed. They were determined to control the seaways, and possessed the weaponry to do it.

(Jackson, 1979, p.7)

The Maldives lost its independence to a foreign country twice in history. The first was when the Portuguese forces from Goa, having failed in five previous attempts, conquered Male, the capital, in 1558. They ruled Male' and some parts of the territory until 1573 when independence was recovered after a period of relentless resistance and struggle. (Bell, 1940; DIB, 1984; Maloney, 1980)

The second time was when the Sultan of the Maldives had to accede to the demands or "requests" made by the British, then the reigning power of the region. The authority and the policy was signalled rather unequivocally by the Colonial Government in Sri Lanka (then Ceylon) in 1883 in a correspondence to the Sultan of the Maldives with regard to an outstanding request. The letter to the Sultan stated that "whether Your Highness likes it or not there will be a coal depot in the Maldivian Islands" (DIB, 1984, p.8). The Sultan was also offered British "protection". An agreement was signed by the governments in 1887 to the effect that the Government of Great Britain protected the Maldivian Islands from any external aggression, in return for which the Maldives would refrain from any relations with another country except through Britain. The understanding clearly stated that the British government would not interfere with any internal matters and the people would continue to have their own choice of government. In short external affairs was traded for defence. This status continued until 1965 when it gained its full independence. (Bell, 1940; DIB, 1984; Maloney, 1980)

Indeed, the protection provided a time of peace from external threats which the country did not have in the preceding three centuries (see Bell, 1940, for the wars fought by the Maldivians to repel foreign aggression since the 15th century). But this unprecedented restriction from normal relations with others also constituted a period of isolation and stagnation causing the

greatest set-back in its development in history. As Bell (1940, posthumous) described in 1921, it was a period of "lotus eating". It removed from them the dynamism, stamina and anxiety they had to keep pace with the developments elsewhere.

B. Political System

1. Political and Constitutional History

The current political and administrative system is an evolution from a millenium old system in which monarchs (Sultans and Sultanas since 1153 A.D.) governed the country with advice and varying participation of the nobles or the ministers, who shared not only power and authority with the rulers but also the wealth of the country. The principles and methods of rule over the archipelago have changed very little over the years. The basic design of the current formal and informal systems and organisation still remains closely identical to that of the old systems. (Maloney, 1980, p.175) These will be discussed later in this chapter.

Political history of the Maldives may broadly be reviewed in two main periods. They are the pre-constitutional monarchy era (1153-1932) (Very few studies are available for the period before 1153.) and the constitutional monarchy era (1932-1968). Post-1968 system is the current system.

During the pre constitutional monarchy era, the country was ruled by the Sultans and Sultanas (except between 1558-1573 when the Portuguese occupied the capital and a few other islands) with varying degrees of delegated authority to, and shared responsibility by, a chief minister, a Fadiyaaru (Chief Justice) and high officials or ministers. Three councils advised the monarch as and when the monarch required it. They were (i) Raskamuge Is Majlis (The First Council of the Realm) consisting of Kileges (High Nobles), (ii) Raskamuge Dhevana Majlis (The Second Council of the Realm) consisting of the Furadhaana members (chief officers with key portfolios) and (iii) Raskamuge Thinvana Majlis (The Third Council of the Realm) consisting of

specialists and experts. The councils were all appointed and summoned by the monarchs. (see Bell, 1940; DIB, 1984; Maloney, 1980 for details).

By the close of the 19th century, powers drifted from the monarch into the hands of the prime minister. This drift was caused, among other reasons, by a long reign by a relatively weak and humble Sultan alongside a strong prime minister coinciding with some excuses of threats to internal peace in order to attract the indirect blessings of the Protecting Power, the British (although they were not supposed to be involved in internal affairs). This drift of power ultimately ended in the formulation and proclamation of a written constitution in 1932, which promulgated a constitutional monarchy and provided the organisational framework for a modern administration. The monarchy was abolished in a second attempt (first in 1953), in 1968. Since then, there is officially a republican form of government. (DIB, 1984)

2. Current Political System

According to Article 20 of the Constitution in force (1968), the principal organs of the state are (a) The President, (b) The Cabinet, and (c) The Citizens' Majlis (Parliament). But there is a fourth non-standing organ that is constitutionally important. That is the Citizens' Special Majlis convened only for the enactment or amendment of the constitution, the ultimate authority over the other organs of state (Article 82).

(a) The President

The President is "the supreme head of State" (Article 21), and "the final authority for the propagation of the tenets of Islam" (Article 32). He appoints the judiciary (Article 85), the Cabinet (Article 50) and eight out of forty-eight (16.7%) members of the Citizens' Majlis (Article 62). He also appoints 16 members (apart from the Cabinet who are ex-officio members) to the Citizens' Special Majlis (Article 83). The total number of members in this Majlis is 96 plus the

Cabinet (numbered twelve in November 1990). These are the basic constitutional powers of the President. Limitations of his powers as specified by Article 30 of the constitution are that his authority should be confined to the limits laid down by the law (including the Constitution) and Shariah (laws of Islam).

The President is elected by, first, making nominations by the Parliament by secret ballot. The nominee is required to secure 25 votes which is the simple majority of the whole House without discounting for the absentees. Having formally confirmed the acceptance of the nominee, his candidature for the Presidency is publicly declared and subjected to a referendum. If the candidate obtains a simple majority of the votes in the referendum he is duly elected for Presidency of the Republic (Article 23). If the candidate fails to secure the necessary votes in the nomination stage or in the referendum, the procedure begins again. The term of office of the President is five calendar years (Article 43). He could be removed from office if he is found to have lost any of the requisite constitutional qualifications of the Presidency, or has committed an offence specified in Shariah, or if proved to be acting against the spirit of the constitution or has contravened any of them (Article 48).

(b) The Cabinet

The members of the Cabinet are appointed and removed by the President (Article 50). Their term of office is that of the President who appoints them. They do not have to be members of Parliament but they can be questioned by the Parliament (Article 54). If the Parliament passes a "no confidence" motion on an incumbent member of the Cabinet, it will be compulsory for the member to resign immediately (Article 55).

In November 1990, there were 12 members in the Cabinet. According to Law No.1/68J. these members are responsible for the conduct of all affairs of the offices assigned to them. By the constitution and laws of the country, ministers are delegated powers which, in reality, are

exercised by different ministers to different degrees, depending on a number of factors such as individual personality, informal power base in the social structure and capability in the office. In practice, some incumbents have exercised extremely high authority while some were deplorably weak in administration.

(c) The Citizens' Majlis

According to the written constitution the Citizens' Majlis constitutes the medium of the peoples' authority on the executive and the judiciary which Article 20 rather equivocally states. The Citizens' Majlis comprises forty eight members; eight members appointed by the President, two members elected by each of the nineteen atolls and two members elected from Male'. The life of the Majlis is five calendar years.

It is empowered to make laws within the provisions of the constitution. The bills passed by the Majlis are sent to the President for ratification which he could refuse and return if he chose to disagree. But that refusal may be over ruled by the Majlis by securing a subsequent two-thirds majority. The Majlis can question ministers and remove them (force to resign) from office, and control government spending.

3. Other Bases of Power

The foregoing are some of the constitutional powers vested in the Majlis to oversee and, if necessary, to control government activities. This makes it the legal hub of political power and political activities in the country. But this is only the theory of it. In reality, one would be too naive to draw such conclusions on such a simple level. The Majlis (Parliamentary) system was introduced only when it ensured that the centuries old systems of social organisation and power

structures would not be threatened. This rule is guarded in every political or constitutional reform through a fundamental principle: that every constitution or law of a state should take into account the local customs, conventions and practices. In fact, this was a stated precondition in the formulation of the constitution itself, in 1930: that it should be based on the "customs, conventions and other traditional administrative practices" (DIB, 1984, p.23). Once these (the existing administrative practice, customs and conventions) are secured, very little changes indeed.

The main sources of power in the Maldives, like anywhere else, include the ownership and, or control of the country's wealth and the means to accumulate it (e.g. leases of uninhabited islands, ownership of fishing vessels and dominance of trade and now tourism), high powerful public offices and awarded or acquired social status. This is not an exhaustive list of power bases, but they are some significant sources of power that sometimes undermine the spirit of the democratic system. The degree of influence obviously varies depending on the source, circumstance and the location. Such influences potentially disrupt the neutral execution of legal and official procedures in the process of administration. Powles, in his analysis of law, decision-making and the legal services in the Pacific, identified the problem:

Wealth and chiefly status operate outside the (legal) framework and tend to interfere with it. The smaller the state the less opportunity there is for the constitutional office holders and institutions to perform in the manner intended by the law, and reasonably free from those outside pressures.
(Powles, 1980, p.410)

The social forces and power structures outlined above are not unique to the Maldives. They are basic to most, if not all systems. But they, nevertheless, have significant implications for the planning and administration of development activities particularly in small countries like the Maldives. The compactness of the society creates a conducive environment for such forces. Their effectiveness is enhanced by the characteristics of that compactness. These characteristics include the increased interlocked interdependence among the individuals in managing their affairs, lack of anonymity, and the close knit of the families in the small communities, through blood relations, extended families systems and kinship relationships. The characteristics prevent contest

or challenge among the various levels and classes, and breed a greater degree of tolerance among people.

Within the informal and formal organisational and power structures, as described above, the government on its part exercises leverage over and controls the atoll territories through allocation of land, centralisation of authority of governance, control of the flow of government finance and capital, appointment of influential officers in the provinces, such as island heads and atoll chiefs. A further source of social power is Islamic scholarship. Scholars of various Islamic disciplines are held in esteem over and above an "ordinary" individual or a scholar in any other field. (Jackson, 1979; Maloney, 1980)

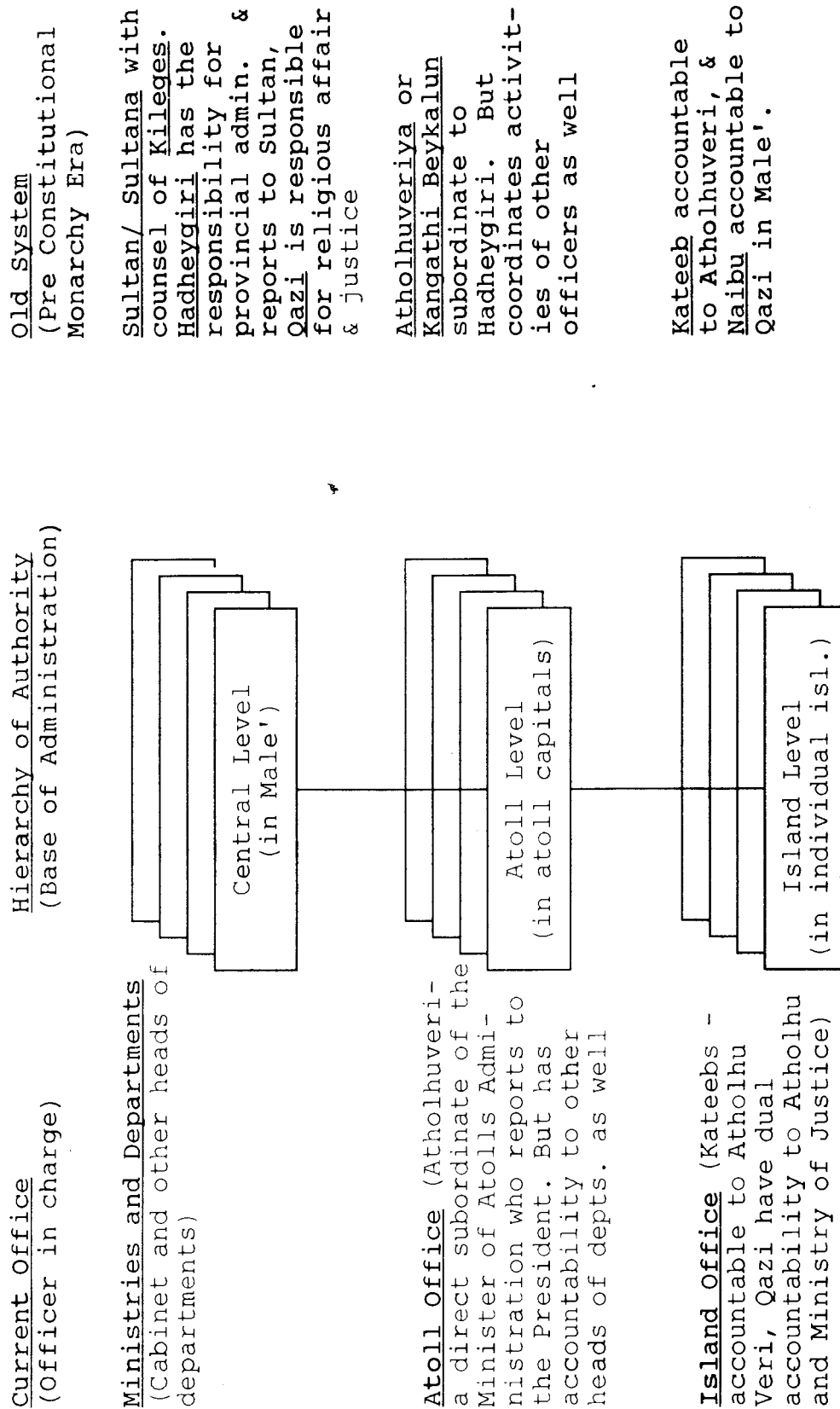
C. The Administrative System

1. The Broad Hierarchy

Although the name of the constitutional system has changed, the overall administrative structure remains exactly the same as it was several centuries ago. Throughout, (at least since 1141 A.D.) the government administration has operated on three levels. They are the central level based in the main capital, Male, the provincial level based in the atoll capitals and the individual island level. Figure 4.1 presents the broad hierarchy of the levels of administration. The island administrations are accountable to the atoll administrations in the atoll capitals. These, in turn, are accountable to the administration in Male'. A minister (ministry or its equivalent) in Male responsible for the affairs of the Atolls reports to the head of the government. What has



Figure 4.1: Broad Hierarchy of the Levels of Administration





changed is some of the titles used for the position. In effect it was the language used to name the offices and the titles that mainly changed, from Maldivian to Arabic and then to English. (Bell, 1940; DIB, 1984; Maloney, 1980)

2. Island Level

There are 201 administrative islands, excluding Male'. Each individual island has four key government positions. They are: (i) the Kateeb (the chief officer), (ii) Kuda Kateeb (Assistant of the chief officer), (iii) Mudhimu (primarily in charge of the mosque or the main mosque), and (iv) the Qazi (the judge). Islands with populations over 2,000 may have an additional Kateeb called Bodu Kateeb (Chief Kateeb). Over the last decade with increased developmental programmes operating in the islands, some clerical and other support staff have been added to the administration. The number of staff varies depending on the population and the work load in the island. The average number of support staff directly in the offices may not be more than 5 to 10. In smaller islands it may even be less.

The Kateebus, Midhimu and Qazi are all recruited by their respective departments in Male'. In the past, in some atolls Kateebus used to be selected by consensus of the people, the procedure for which was conducted by older members of the community who commanded wide respect in it (Maloney, 1980, p.184). But the result would have been endorsed by the central government later, anyway. For records indicate that Kateebus have always been appointed and removed by the government in Male'. Nonetheless, each of the above-mentioned positions always required an educational qualification. Over the last decade they have been undergoing in-service training and orientation on development programmes run in the atolls.

Traditionally, the Kateebu was, and still largely is, responsible for :

Preach on Fridays (lead the Friday prayer), teach Islam, bury the dead (usually done by Mudhimu), dispense justice in minor matters, control factions and report behavioural violations to the Atoll Office. He settles vexing disputes, such as over a breadfruit tree overhanging two lots. For important violations of law he may call the Qazi (if one is not available in the same island call one from another island or from the atoll capital).

(Maloney, 1980, p.184-185)

The traditional role of the Kateebu is diminishing in relative importance and the image is also transforming with new demands made on him and his administration. The Kateeb or the Bodu Kateeb is, on the whole, responsible for the overall local administration of the island including the maintenance of law and order. Theoretically his duties include the whole spectrum of affairs of administration, be it welfare, health, education, agriculture, fisheries, customs or immigration. But in actual practice the work load he is assigned in each sector depends on the interests, initiatives and the programmes the respective authority in Male' has for the island. Apart from the traditional roles and the developmental works assigned to him by the individual sectors (through the Atoll Office), his normal duties include general monitoring and feedback to various government departments, record keeping, community works, running the school and supervision of the work of other government positions, e.g. the health worker.

It must be underlined here that with the traditional and the routine duties, together with numerous ad hoc activities and official responsibilities assigned to them, the Kateebus and their subordinates, are normally kept exceptionally busy. This is made more cumbersome by the fact that the administration is rather disorganised, outdated, ill-staffed and understaffed compared to the demands currently made on it. Assistants and a few staff are engaged in office duties. In the absence of the Kateebu, his assistants act for him. In the absence of the Kateeb and the Assistant, Mudhimu is the third to take over island office.

Historically Qazis (assistant judges, they were called Naibus until late 1960s) belonged to a separate hierarchy from the administration. In the current system the Qazis in the islands belong to the hierarchy of the Justice Ministry which is accountable to the President, the Chief Executive. But, inasmuch as all the interests of the government lie within the authority of the Atholhuveri, the Qazis in the atolls are under the jurisdiction of Atholhuveris for their organisational matters. They have separate offices in the islands wherever it has been physically possible. They have no professional accountability to anybody except the law. Each island is supposed to have a minimum of one Qazi except when one with the necessary qualifications cannot be found, in which case the post will remain vacant.

3. Atoll Level

This level consists of a local administration directly under the Ministry of Atolls Administration. It is responsible for all the interests of the government in the atoll and supervision of the activities of all the sectors operating there. The head of this administration is, as it was called several centuries ago *Atholhuveriya* (Head of the Atoll). This post has been a strong and senior position in the government throughout the history.

Atholhuveriya has always been among the few special appointments that the Head of State appointed in person. However, the Head of State always seeks recommendations from the relevant cabinet minister.

The *Atholhuveriya* has two assistants, and administrative and communication staff in his office. Attached to his office are the Atoll Court, Atoll Health Centre and the Assistants of the Attorney General. The Court is staffed with the Atoll Qazis and his support staff while the Centre is staffed by Health Assistants. The Assistants of the Attorney General advise the *Atholhuveriya* on legal matters and assist him to prosecute perpetrators.

4. The Central or Male' Level

Male' has been, and remains, the hub of a highly centralised government system. Not only are all important arms of the government, namely the ministries (headed by the ministers) and departments (headed by directors) based in Male' but also most of the essential services (e.g. modern medical treatment, secondary and post-secondary education, mechanical, technical and technological services), facilities (e.g. telephones, banks, insurance, fuel supplies) and public or private enterprises. People from all corners of the archipelago are required to come to Male' for their basic supplies, essential services and the most trivial need. Paid employment, recreation (like cinemas, a TV station and FM radio services are largely exclusive to Male'). Capital and commercial opportunities are also advantages more or less exclusively concentrated in Male'. The World Bank summarised it as follows:

Male' dominates the political, economic, and social structure of the country. It is here that a small national elite preside over the archipelago's affairs and takes decisions that are crucial to the well-being of the atolls. Not surprisingly, a disproportionate share of government expenditure directly benefits Male' and ensures a standard of living that is substantially higher than in the atolls.
(World Bank, 1980b, p.5-6)

The report further adds that:

The other islands now rely upon it as their main trading post and contact point with the rest of the world.
(World Bank, 1980b, p.5-6)

5. Some Features of the System

There are some features that characterise the system of public administration in the Maldives. It is useful to examine them here in order to understand the political and administrative environment in proper perspective. Although the features are selected from

the public administrative system, there is no reason why they should not exist in other Maldivian organisations too, be it in the private or the public sector. The characteristics of the communities and the environment which breed such problems (see Chapter III) are common to all such organisations.

Nevertheless, it must also be stated here that some of these features or problems are in the process of change consequent to deliberate reforms by the government, expansion and modernisation of the sectors, natural developments unfolding from expansion of education, social and economic changes, improved communication and relations with the outside world.

(a) Centralisation by Levels

The hierarchical levels outlined in the foregoing subsections (see also Figure 4.1) only illustrate subordination by the geographical levels and not necessarily a hierarchy of delegated or devolved authority. In fact, very little authority is delegated to the Atoll or Island levels. Administration is tightly controlled and centralised. This is true today as much as it was centuries ago, if not more. While increased communication is an advantage to delegated operation, it is also instrumental in the concentration of authority. Thus, relatively little initiative can be expected in planning or implementation at the atoll or the island levels. The mode of operation is only obediently carrying out orders. Decisions rest with higher levels of the hierarchy.

Male' is overwhelmingly the centre of political and commercial power. No worthwhile decisions are made elsewhere. An island businessman who wants to achieve real status and influence will move to Male'. It is hardly surprising, therefore, to find that the Government's presence in the islands is not so highly developed.
(Jackson, 1979, ch.5)

A tight control is kept not only just on the authority of normal administrative operations but also on every other means available as well. One example of paramount

importance is finance. Little or no budget is sanctioned to the island administrations and relatively little is sanctioned to the Atoll Offices. This, in a round about way, also reflects the degree of representativeness of the atolls if the Parliamentary system. Thus, it must be assumed here that major programmes or even plans of lesser significance such as nonformal education classes are planned and run only by the centre and from the centre, Male.

(b) Centralism and Authoritarianism

Another feature of the public administration of the Maldives is concentration of authority in a few hands. Little authority is delegated to lower levels. Ironically, it also seems that not all levels are prepared to take the responsibility for the authority that could be delegated. Hence, except for a few highly technical decisions most decisions are made by senior administrators. Even the technical decisions can at times be influenced by the senior administrators to the extent that the technical considerations of the decision become insignificant in the implementation (Jackson, 1979). Exceptions to this rule are few in the Government sector, as much as it is true in the private sectors. To address this weakness, several civil service reforms are currently underway which, when implemented, could bring about major changes.

The reasons for such a centralist and authoritative character may not be unique to this small dispersed island state, but its prominence in the system is more profound and more concentrated due to the smallness. One central reason underlying this feature is, as mentioned previously, a desire to keep control of power in the hands of a few families or elites and the interest that their members alone should constitute the political and the bureaucratic elite (Jackson, 1979). This indictment can be fairly directed at the administration in respect of decisions it makes, such as appointments to influential positions. But, what about appointments made by the public at large such as the election of Members of Parliament? The result is surprisingly the same. Should a member of the

"aristocratic family" stand for the election, the chances of anybody else to winning is remote.

Another reason for the reluctance to delegate is the kind of accountability the public understands. For trivial matters the public tends to hold the highest authority responsible. Although some administrators show little anxiety about public opinion, most would like to avoid allegations, to keep the public image clear. Although this may be true to any state, in the compact situation that these small societies are, the damage of such a charge can be quick and long-lasting. The distances news or rumours have to travel in the "rumour media" are short and are delivered fast and with undiminished initial force. This makes the reaction to such news or rumours also spontaneous and strong.

(c) Dualism or Multiple Role Phenomenon

It is not unusual in the Maldives that a person plays the multiple role of the politician, the bureaucrat, the businessman, the community leader and even more. It has even become an accepted (sanctioned) and encouraged custom in the public service for employees to find other employment such as part-time work or a second job in the government or the private sector to work side-by-side to his full-time job. The phenomenon may be explained as follows:

(i) Theoretically, the probability of one person engaging in more than one occupation or profession is higher in smaller societies than in larger ones, provided the system is fully-fledged. For example, the Classification of Occupations and Directory of Occupational Titles (CODOT) in the United Kingdom in 1972, identified 3,500 different key occupations and a number of residual occupations (Manpower Services Commission, 1972, p.7), in comparison, an exercise to classify occupational titles in the civil service alone in the Maldives in 1988 (in which the writer was personally involved) identified more than 1000 different titles. Indeed, the developmental and industrial gap and size of

economy will not permit a very good comparison of the size of diversity of occupations in the two countries. However, considering the relative size of the population to be served in the Maldives, one could imagine how the occupations can be compressed on to a few incumbents depending on the volume of work and the structural organisation. Thus, in the existing system in the Maldives, largely concentrated in Male' which accounts for more than 50 percent of the economy, the propensity for multiple roles is high.

(ii) The inherent interest of the power elites (as pointed out) at the level of the higher echelons in the civil service and the public and private sectors to protect the status quo of control.

(iii) The lack of qualified and trained manpower in most categories, but more commonly in technical categories.

(iv) Low wages in most levels but more commonly in lower levels.

(v) The working hours of the civil service (from 7.30 a.m. to 1.30 p.m.) is designed to allow the civil servants to engage in other occupations.

At times the phenomenon poses serious problems for effective and efficient administration. The problems include the following:

a. The roles of the individual sometimes clash with one another, undermining the very purpose of the roles themselves. The strongest examples would include the clash of the roles of the Member of Parliament, the powerful bureaucrats, the dominant economic and social elites of the society, the politicians and more. When they all become the same people, the very purpose of the Parliament or the Executive or the Judiciary can be dismal indeed. At times, these organs become rather ineffective instruments for making laws that will affect and govern particular sections of society. The same principle applies to every level and aspect of government in the exercise of authority or provision of services.

b. Overlapping or conflicting interests and multiple roles produce split loyalty. For example, when a civil servant is concurrently employed in the private sector, he or she

is then subjected to a closer supervision and vigorous accountability in the small private organisation. Both, being full time jobs, often demand dedication and devotion of the employee to his or her maximum physically and psychologically. As far as the job to be done is concerned, none of them takes into account the other. In such circumstances, when loyalties are divided between public and private responsibilities, (or public and personal interests, if the second job is self-employment), it is always the public system that suffers. Public duties are neglected without much hesitation. They realise that job security is less in the private organisation than the public services. Hence, they would always like to ensure that the private job is done to the best satisfaction of the employer even at the expense of the public duties and their time.

c. Dualism also creates a conducive environment for maladministration, corruption, misappropriation of funds and time, and private or personal use of public property, facilities and personnel. At the same time it makes these menaces all the more difficult to control. As Jackson noted:

There is little or no punitive action taken against those who may need to transact private business during already modest hours (of official duty - 7.30 a.m. to 1.30 p.m.).

(Jackson, 1979, ch.5, p.5)

VI. THE ECONOMY

A. Current Structure of the Economy

The World Bank estimates of the economy for 1978 (the first estimation of GDP) revealed the following structure: a heavy services sector of 54%, a substantial primary sector of 40% of which half accounted for monetised fisheries, and a relatively poor

secondary sector (manufacturing) (Table 4.9). However, with the introduction of some amount of manufacturing in the 1980s the structure has changed.

Table 4.9: Gross Domestic Product - 1978

	Rf. million	% of Total
Primary Production	79	39.7
of which: Fisheries ^{1/}	40	20.1
Secondary Production	12	6.0
Services	108	54.3
of which: Tourism	23	11.6
Government	25	12.6
<u>Total (including not stated)</u>	<u>199</u>	<u>100.0</u>

^{1/} Excluding non monetised fishing

Source: World Bank (1980b), Table 2.2, p.130

The estimates of GDP have been continually updated and revised by the planning authorities. Table 4.10 presents the revised and updated estimates for 1982 and 1987, analysed by their structure and the average annual rates of growth over the period (see Appendix A for the yearly estimates). The Ministry of Planning and Environment (MPE) notes a caution to the effect of "inadequacy of consistent and reliable data and variation in analytical and estimation procedures" sometimes adopted in calculations (MPD, undated³, p.16).

In 1982, the highest contributor to the GDP was Fisheries accounting for 21% of the total, followed by Agriculture 20%, Tourism 16% and distribution 14%. By 1987 (actually it was by 1985 - Appendix A) "Fisheries" was overtaken by "Tourism", sharing 17% of the GDP by the latter, 1% more than Fisheries. Other significant sectors were Distribution 16% and Agriculture 11%.

Table 4.10: Gross Domestic Product - 1982-1987
(Revised) (at 1985 prices)

Sector	% share of '78	1982		1987		Rate of Growth p.a. (%)	
		Rf.(mn.)	%	Rf. (mn.)	%	1982-87	
Agriculture		68.563	19.73	77.909	10.98	2.59	
Fisheries	20.10	72.184	20.78	116.543	16.42	10.05	
Coral and sand mining		9.652	2.78	13.193	1.86	6.45	
Construction		33.421	9.62	58.066	8.18	11.68	
Manufacturing 1/		25.984	7.48	39.655	5.59	8.82	
Distribution		49.479	14.24	115.487	16.27	18.47	
Transport 2/		16.346	4.70	37.106	5.23	17.82	
Tourism	11.56	56.049	16.13	122.402	17.25	16.91	
Real estate 3/		16.233	4.67	30.899	4.35	13.74	
Service 4/		10.017	2.88	37.861	5.34	30.46	
Government administration	12.56	22.197	6.39	60.547	8.53	22.22	
Gross Domestic Product (GDP)		347.433	100.00	709.668	100.00	15.36	

Note: GDP Revised in 1988

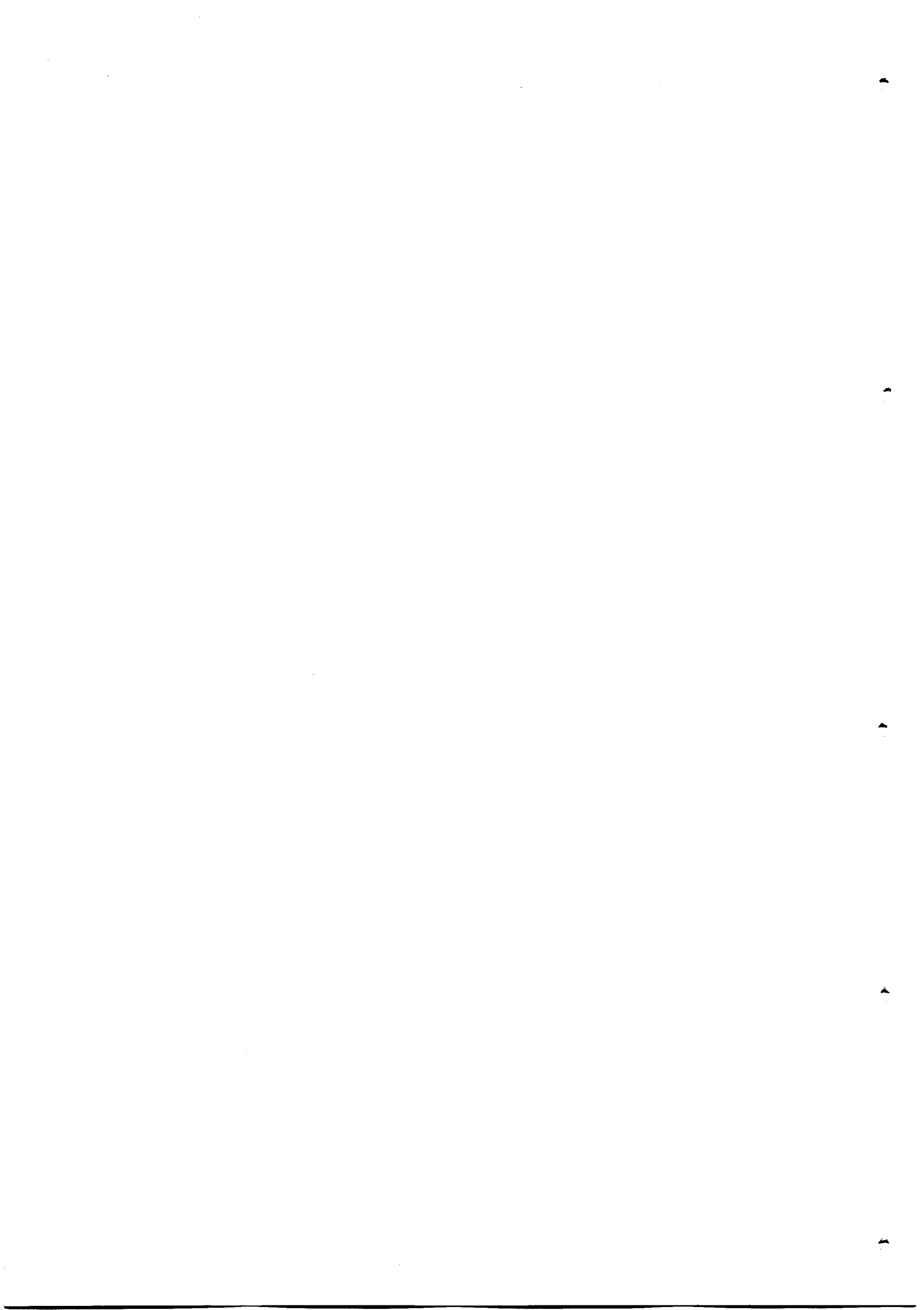
1/ Including electricity

2/ Including international shipping operations

3/ Excluding imputed rental of owner occupied dwellings

4/ Mainly banking

Source: 1978 data from Tab. 4.9 in this Chapter, 1982 and 1987 data from MPD (undated3) Table 3.1, p.16.



Over the period 1982-87, GDP grew at an annual rate of 15%. Five sectors grew faster than the average. They were: Services (mainly banking) 30%, Government Administration 22%, Distribution 18%, Transport 18%, and Tourism 17%. The four most significant contributors to the GDP in 1987, were: Tourism, Fisheries, Distribution and Agriculture, which grew at 17%, 10%, 18% and 3% respectively. (MPD, undated3, p.16)

B. Gross National Product

Table 4.11 presents the Gross National Product for the period 1984-1986, in constant prices of 1985.

Table 4.11: Gross National Product 1984-1986
(in million Rufiyaas, at 1985 prices)

	1984	1985	1986
GDP	528	600	652
Plus: Earnings of Maldivian workers abroad	14	16	17
Minus: Earnings of Foreigners:- wages and salaries	(76)	(89)	(101)
profit	(69)	(72)	(80)
Adjustments:			
International shipping transactions:-			
plus: wages & salaries	7	8	10
minus: surpluses	(2)	(3)	(0.5)
Gross National Product	402	460	497.5

Source: MPD (undated3) Table 3.6, p.22

Due to shortages of manpower, a relatively large number of foreigners work in the Maldives. They are imported to fill vacancies that are reportedly difficult to fill with locals and, for this reason, the expatriates are offered higher incomes. Wages and salaries of foreigners amounted to 101 million rufiyaas in 1986 (at 1985 prices). On the other hand,

some Maldivians find employment abroad, mainly as seamen and bring in their earnings, which amounted to 17 million rufiyaas in 1986 (at 1985 prices). Apart from profits of foreign investments, these two items affect the Gross National Product most significantly.

C. Fisheries

By the very nature of the geography of the country, fisheries have been the leading sector of the economy. They contributed the highest share up to 1985 (Appendix A). The sector accounted for 20.1 percent of the GDP in 1978 (see Table 4.9), 20.8 per cent in 1982 and 16.42 per cent in 1987 (Table 4.12). The sector exhibited an annual rate of growth of 10 percent between 1982-87.

The fisheries sector was also responsible for a significant share of employment of the population in the past and continues to lead at present. It provided for 45 per cent of the workforce in 1977 (World Bank, 1980b, p.17) and 24 per cent in 1985 (Table 4.12) which was a seasonal figure expected to increase generally.

Table 4.12: Fisheries in the GDP and Workforce
(GDP at 1985 prices)

	1982	1987
GDP (in million Rf.)	347.433	709.668
Share of Fisheries (in million Rf.)	72.184	116.543
Percentage of GDP	20.78	16.42
Annual Rate of Growth 1982-1987 (%)		10.05
Total Workforce of the country (1985)		53,929
Population Employed in Fisheries (1985)		12,712
Percentage of Fisheries Workforce		23.6

Source: MPD (undated3) Table 3.1, p.16 and Table 2.3, p.9

In the Maldives, "fisheries" is defined to cover exploitation and harvesting of any living resources of the sea. Fisheries comprise two broad categories: off-shore fishing, and the inshore resource harvesting. The off-shore fishery consists of tuna fishing conducted in the inter atoll area and in a limited range of the deep sea. The fish caught are tuna varieties; specifically, skipjack, yellow fin tuna and smaller varieties of the species. The vessel used is the locally designed and built boat called *dhoni* which has an overall length of about 12 metres. In 1987, 1051 dhonis (of which 1031 were mechanised) were mainly engaged in fishing. The method employed is pole and line, and the fleet consists of independently operated dhonis owned by individuals. This fishery accounts for the lions' share (over 93 % in 1987) of the total catch of the country. The method of fishing is also responsible for the relatively high employment of the sector and the wider distribution of benefits compared to other sectors. (MPE, 1988)

The inshore harvesting fishery consists of fishing smaller varieties of tuna species, reef fishes, sharks, turtles and the collection of sea cucumbers, black corals, red corals and sea weed. The areas of inshore fishing are outer and inner atoll reefs, the atoll basins some of which are submerged banks, intertidal lagoons, reefs and islands, and a limited extent of the inter atoll area. The type of vessels mostly used are called *vadhu dhonis*, smaller than the dhonis and row boats. The number of boats engaged in these types of fishing has however, decreased drastically over the last decade, a total of 3390 boats in 1978 to 655 vadhu dhonis and 28 row boats in 1987. The methods employed in the inshore fisheries vary depending on the kind of fishing or harvesting. (MPE, 1988; MPD, undated3)

1. Production and Processing

Fish production and export for 1982-87 are presented in Table 4.13. The total fish catch for the period ranged between 30,000 metric tons and 62,000 metric tons. The catch is processed in four main forms. They are: canning, freezing (fresh), salt and dry,

and production of Maldivian Fish. (The process of making Maldivian fish is a form of drying boiled skipjack tuna in a traditional method, the product of which over centuries became a delicacy in some countries in the region - e.g. Sri Lanka).

Table 4.13: Fish Production and Export
(live equivalent in '000 m/tons)

Year	Total catch	Exported (includes current stock)				Unaccounted
		Frozen	Canned	Mald. Fish	Other	
1982	30.3	9.8	- 1/	0.2 2/	6.7	13.6
1983	38.5	7.9	4.0	1.4	1.8	23.4
1984	55.1	13.8	2.2	2.0	5.6	31.5
1985	61.9	17.0	2.6	4.0	8.5	29.8
1986	59.3	17.8	1.6	6.6	9.5	23.8
1987	57.0	15.0	7.1	6.6	10.9	17.4

1/ Processing plant under recommissioning

2/ Beginning to recover after a serious decline of export due to a market crisis in the seventies.

Sources: MPE (1988) Tables FS-4, FS-6 and FS-11, p.112, 113 and 115

There is only one cannery in the country. It is owned by the State and operated by the State Trading Organisation. The plant, with its associated facilities, has a cannery with a capacity of processing 50 metric tons of fish a day, a can factory with a capacity of producing 150,000 cans per hour, an ice plant with a capacity of producing 15 metric tons of water per day, a fish meal plant of an input capacity of 30 metric tons per day, and a laboratory for quality testing. The cannery was, however, under recommissioning during 1982-86 and began to recover its production level only in 1987. The production of Maldivian fish is a very old industry, dating beyond known history. After an unexpected market crisis in 1971 (an unwarned cut down of imports by the buyer in a monopsony situation) the production of this variety declined drastically to nearly a complete stop. It began to pick up in mid-1980s. Export of fresh frozen fish to far eastern markets was the quick solution sought in the market crisis of 1971. Between a third (30% in 1986) and a

fifth (21% in 1983) of the catch is exported in this form (frozen fresh). The unaccounted weight of the catch in Table 4.13 is consumed. As other studies (MPE, 1988, p.54) have revealed, fish being an important part of the Maldivian diet, nearly half (45.5% between 1982-87) of the catch was found to be consumed.

2. Age Groups of Fisheries Workforce

In the Census of 1985, the workforce engaged in fisheries was enumerated as 12,434 men, 24 percent of the total workforce. Despite the fact that there has been a drift of the workforce away from fisheries, its share of labour force compared to its share in 1977 (40%), is lower than expected (MPD, undated1, p.57). Since, the main types of fishing are seasonal, the Ministry of Planning and Environment (MPD, undated3) cautions that the actual figure may be higher. (This implies that the Census of 1985, coincided with the off season of fishing, at least, in some parts of the country.) Nevertheless, the fisheries sector still leads the others in providing employment. The Census also revealed that children as young as 12 years (see Table 4.14) continued to be engaged in fishing. In fact, in 1985, the number of workers in the 12-24 years age bracket was as significant as that of the 25-34 years age bracket. Participation of the 35-44 years-old population was the

Table 4.14: Fisheries Workforce by Age Groups
(1985 - Both sexes)

<u>Age Group</u>	<u>Population</u>	<u>Percentage</u>
12 and over	12,434	100.0
12 - 24	3,718	29.9
25 - 34	2,778	22.3
35 - 44	1,799	14.5
45 - 54	2,292	18.4
55 and above	1,847	14.9

Source: MPD (undated3), Tab.7.1, p.52

lowest. This workforce, however, does not include women who take over from men in the processing of Maldivian fish, from the point of fish landing up to packing for despatch to the market.

3. Income From Fishing

According to the National Development Plan 1988-1990, the income of the fishermen in seven atolls surveyed was found to be generally lower than income from other economic activities such as tourism. But the Ministry of Planning and Environment notes that this finding is not uniform for all the atolls. Income of fishermen in atolls that have easy and permanent disposal facilities of the catch (such as collecting freezer vessels and the cannery, e.g., Laamu and Lhaviyani) is expected to be higher. (MPD, undated, p.52)

4. Future Prospects and Plans

Fish is the chief source of protein in the diet of the Maldivian population, and forms the single most important part of it, in fact the major part, that is locally produced. In 1978, the per capita consumption of fish was reported to be 58 kg which, according to the World Bank, was one of the highest in the world (World Bank, 1980b, p.35). The local consumption of the catch averaged to 45.5% between 1982 and 1987 (see Table 4.13 above).

Fisheries was the main foreign exchange earner up to 1985 and remain the most reliable source in a country highly dependent on imports. The other most important sector, namely, tourism is relatively more vulnerable to internal or external changes than fisheries. Fishing still has a great potential for expansion. The Exclusive Economic Zone

(sea territory of 200 miles from the outer reef from all sides allowed to every country by the Convention of the Law of the Sea to exploit for economic purposes) remains untouched by Maldivians. The Ministry of Fisheries and Agriculture estimates the potential in this zone to be very high (MPD, undated3, p.56). In addition, the scale and methods of fishing employed have tremendous room for expansion and improvement if that can be done before poachers exhaust the extractable resources of the EEZ.

The following objectives were set by the Ministry of Fisheries for the Three Year Plan 1988-90:

- (a) To achieve a high level of fish production, at the same time preserve the renewable natural marine resources.
- (b) To increase fisheries contribution to GDP and overall growth.
- (c) To improve the export position with respect to an export performance and growth stability of fish export resource.
- (d) To diversify export products and export market channels.
- (e) To raise the income and living standard of the traditional fishing population.
- (f) To maintain the highest possible level of employment the sector can accommodate.
- (g) To increase food supply and nutritional standard of the island community.
- (h) To develop commercial catch of fish species other than tuna.
- (i) To develop the catch of high value reef fish through special farming methods or marine culture.
- (j) To preserve fisheries stocks and marine environment.
- (k) To tap the Exclusive Economic Zone (EEZ) potential, at present estimated to be very high.
- (l) To upgrade the full range of fisheries statistics.
- (m) To improve the supply of professional and technical personnel for the fishing industry in general and the Ministry of Fisheries in particular.
- (n) To give more emphasis to small scale fisheries.

(MPD, undated3, p.56)

Although the above objectives were stated for the Plan 1988-90, they are very general in nature, so that they can (and probably will) be carried forward into the future. For example, all the five objectives made explicit in the Plan 1985-87 have been incorporated in the Plan 1988-90, in a, c, i, and k above, while most of the other objectives spelled out above were implicit in the activities of the Ministry of Fisheries during the period.

Eleven strategies were spelled out in the Plan 1988-90 for the achievement of the objectives. All of them heavily rely on skilled manpower. About half of the strategies are directed toward skills development, which will be discussed in Chapter VI. To achieve the above objectives, 22 programmes were planned for 1988-90 and most of them were underway (see Appendix B for the list of the programmes). Some of them extend over the period. (MPD, undated3)

D. Tourism

Tourism is a recent activity compared to fisheries and agriculture. As an industry it started in 1972, and by 1985 it had become the highest contributing sector of the GDP (18 percent in 1985 - Appendix A). According to the data presented in Table 4.10 above, "tourism" accounted for 16 percent of the GDP in 1982 and 17 percent in 1987, exhibiting an annual growth of 17 percent for the period 1982-87. The sector provided direct employment for 7 percent of the workforce in 1985 (Table 4.15).

Table 4.15: Tourism in the GDP and Workforce
(GDP at 1985 prices)

	1982	1987
GDP (in million Rf.)	347.433	709.668
Share of Tourism (in million Rf.)	56.049	122.402
Percentage of GDP	16.13	17.25
Average Annual Growth 1982-1987 (%)		16.91
Total Workforce of the country (1985)		53,929
Population Employed in Tourism (1985)		3,858
Percentage Employed in Tourism		7.1

Source: MPD (undated3) Table 3.1, p.16 and Table 2.3, p.9

Tourism is basically a private venture. Except for a very few, the resort hotels are privately-owned, as are all the resorts privately-managed. The main forms of revenue to the Government from tourism come from the resort rent, island rent and a tourism tax (charged on occupied bed-nights). Tourism has now become the chief source of foreign currency. Yearly receipts exceeded the yearly total of export earnings in 1984 (see Table 4.16). The increase over export earnings rose from 30 per cent in 1984 to 79 per cent

Table 4.16: Tourism Receipts Related to Export
Earnings and Import Bills 1984-1987

	1984	1985	1986	1987
Export receipts (US\$ mn)	23.0	25.5	27.3	31.5
Tourism receipts (US\$ mn)	30.0	38.0	42.0	56.5
Import Bills (US\$ mn)	61.0	57.9	59.0	66.6
% Tourism receipts exceeds export earnings	30.4	49.0	53.8	79.4
Tourism receipts as a % of Import Bills	49.2	65.6	71.2	84.8

Source: MPD (undated3), Table 8.2, p.65

in 1987. When related to import bills, tourism receipts accounted for 85 percent by 1987. (MPD, undated3, p.65)

Table 4.17: presents some indicative data on tourism. As the Table reveals, tourism has become a substantial sector of the economy bringing in a growing income into the country. It is also a sector that has helped to boost other sectors (such as construction, transport, trade and services) substantially.

Tourism has been developed in a geographically restrictive manner. Up to 1988, the resort hotels were, with a few exceptions, confined to one atoll: namely, Male' Atoll. Clearly, the reason was the convenience of the airport, and the facilities and services of the capital. This is quite contrary to the often suggested reason that it is to isolate these activities from local communities for

Table 4.17: Data on Tourism

	1985	1986	1987
Total arrivals (in '000)	114.6	114.0	131.4
Vacation tourists (in '000)	105.0	101.7	118.7
Other tourists (in '000)	9.5	12.2	12.7
Tourist bed nights (in '000)	1,053.5	1,036.5	1,267.8
Gross receipts (in million US\$)	41.4	39.9	49.5
Number of resorts	55	56	57
Bed capacity /total	5,936	6,414	7,324
Resorts	5,375	5,559	6,203
Hotels	178	178	170
Guest houses	204	332	405
Vessels	179	345	546
Capacity utilization (in %)	55.4	50.9	59.6
Average length of stay (in Days)	9.5	9.1	9.7

Sources: MPD (undated3), Tables 8.4 and 8.5, p.66

the purpose of minimising the social and cultural effects on the life of the people. Since 1988, plans are underway to expand tourism activities to the neighbouring Ari Atoll (Alifu Atoll). This programme, the Ari Zone programme is expected to take a minimum of three years for completion. Once the Zone is in full operation, it is expected to bring in a direct revenue of US\$ 1.4 million to the Government through rent of resorts and islands and

tourism tax, provide 1,200 jobs and increase the standard of living of the local communities of the Atoll through the direct and affiliated activities (MPD, undated3, p.71).

Apart from the Ari Zone developments, the targets for the expansion of tourism in the plan period 1988-90, are presented in Table 4.18. The Table shows that the projections for the three years have been made on set percentages of about 13.16 percent for 1989 and 10.77 percent for 1990.

Table 4.18: Projected Tourism Targets

	1988	1989	1990
Arrivals	139,283	157,619	174,592
% Increase over previous year		13.16	10.77
Number of Beds	6,850	7,773	8,610
% Increase over previous year		13.47	10.77
Tourist Bednights	1,253,550	1,418,573	1,571,325
% Increase over previous year		13.16	10.77
Bednight Capacity	2,507,100	2,837,145	3,142,650
% Increase over previous year		13.16	10.77
Capacity Utilization Rate (%)	50.0	50.0	50.0
Average Length of Stay (Days)	9.0	9.0	9.0

Source: MPD (undated3), Table 8.7, p.70

E. Agriculture

Agriculture accounted for about 20 percent of the GDP in 1982 and 11 percent in 1987. Over the five year period it performed at a growth rate of 2.59 percent per annum. In 1985, the population engaged in agriculture and rural manufacturing was enumerated in the Census at 11,955 which was about 22 percent of the workforce (Table 4.19). Discounting for the population employed in rural manufacturing indicated in Table 4.10, the figure was

Table 4.19: Agriculture in the GDP and Workforce
(GDP at 1985 prices)

	1982	1987
GDP (in million Rf.)	347.433	709.668
Share of Agriculture (in mn Rf.)	68.563	77.909
Percentage of GDP	19.73	10.98
Average Annual Growth 1982-1987 (%)		2.59
Total Workforce of the country (1985)		53,929
Pop. Employed in Agriculture (1985) 1/		11,955
Percentage of Agricultural Workforce		22.1
MPE estimate (%) for Agricultural workforce		6.0

1/ Includes those employed in rural manufacture

Source: MPD (undated3), Table 3.1, p.16 and Table 2.3, p.9

estimated by MPD to be about 6 per cent (in 1985) which is expected to decline further in the following years due to the diminishing advantages in employment in the sector compared to other growth sectors. (MPD, undated3, p.39).

Table 4.20: Agricultural Produce

	Annual aver- age 1984-86	Projection for 1990
Cereals (m/tons) (maize, sorghum, finger millet, Italian millet)	4.70	7.35
Roots/tubers (m/tons) (calocasia, alocasia, cassava, sweet potato)	1,233.90	1,410.00
Coconuts ('000)	11,177.74	13,000.00
Ereanuts (m/tons)	7.83	9.00
Fruits (m/tons) (bananas, papaya, lemon/citrus, mango, watermelon, breadfruit)	1,192.53	1,350.00
Vegetables (m/tons) (onions, pumpkins, eggplant)	1.50	2.00
Spice (m/tons) (chillies)	310.68	350.00

Source: MPD (undated3), Table 6.2, p.43

Coconuts are the main product of the sector. They are produced by trees grown through the natural regeneration and reproduction process. Other produce includes bananas, chillies, some coarse cereals and root crops. Table 4.20 presents an incomplete list of crops; the average yearly production between 1984 and 1986, and the estimated production for 1990. The Table presented in Plan 1988-90 was incomplete for lack of data and this was indicated in it. The World Bank noted that a substantial part of agriculture takes place in the homestead, and goes unrecorded. The produce of the homestead and part of the produce from outside the home area are consumed to supplement the family diet. (World Bank, 1980b, p.57; MPE, 1988). The Table, however, indicates the poor performance of the sector as a result of which the country has to depend heavily on imports of food, including the staple food: rice, of which not a grain is produced in the Maldives.

The cultivable total land area was estimated by FAO (Butany, 1974) to be about 6,900 acres of which two thirds were expected to lie in inhabited islands. The total cultivable land is distributed over 162 islands. Fertility of soil varied with location in these small islands. It is usually richer towards the centre of the island than outwards near the beach. (World Bank, 1980b, p.60)

The condition of the land and the soil, together with the primitive methods used for cultivation, as described by the World Bank (1980b, p.57), remain the major problems facing development in agriculture in the Maldives. But, in addition, the problems of land tenure as described by the Ministry of Agriculture and Fisheries (MPE, 1988, p.85) are also an inherent deterrent to enterprising initiatives in agriculture (see section on "the Use of Uninhabited Islands" above).

F. Trade

External trade is an important sector for any nation, but its significance in the small economies is much greater. They produce only a narrow range of goods for consumption or export while they depend on imports for most of their consumer goods (barest necessities to luxuries) or intermediate and capital goods. (Dommen, 1980a; Dommen and Hein, 1985; see Chapter III for discussion). This is indicated by export import ratios and the proportion of consumer goods in the imports. (see Tables 4.21 and 4.22) Imports range between 183 per cent and 265 per cent of the visible exports between 1984 and 1987. And on average consumer goods accounted for 43.7 per cent of the total imports during that period.

Table 4.21: Exports and Imports 1984-87

<u>Year</u>	<u>Exports (mn US\$)</u>	<u>Imports (mn US\$)</u>	<u>Import as a % of Exports</u>
1984	23.0	61.0	265.21
1985	25.5	57.9	227.06
1986	27.3	50.0	183.15
1987	31.4	66.6	212.10

Source: MPD (undated3) Table 4.1, p.24

Table 4.22: Structure of Imports 1984-87

	1984	1985	1986	1987
Consumer goods (mn US\$)	26.5	25.8	21.6	29.0
as a % of Total	43.4	44.6	43.2	43.5
Petroleum prod. (mn US\$)	6.6	7.4	6.0	7.3
as a % of Total	10.8	12.8	12.0	11.0
Intermediate/ capital goods (mn US\$)	18.5	14.7	12.0	16.0
as a % of Total	30.3	25.4	24.0	24.0
Project Imports	9.4	10.0	10.4	14.3
as a % of Total	15.4	17.3	20.8	21.5
Total	61.0	57.9	50.0	66.6

Source: MPD (undated³) Table 4.2, p.25

However, imports as a percentage of the GDP are not as significant as the data presented by Dommen and Hein (1985) for selected small island states. According to the data they analysed for 47 states, 30 states imported goods of value more than 50 per cent of their GNPs in 1981 while 9 of them imported goods of value more than 100 percent. Import ratios ranged from 16.9 for Nauru to 894.4 per cent for United States Virgin Islands. To compare these figures, all developing countries averaged to 19.1 per cent that year. Imports of the Maldives were reported by Dommen and Hein (1985, p.153-4) as 75.5 per cent for 1981 while the figure for 1984-87 ranged between 7.67 (1986) and 11.56 (1984) per cent of the GDP (Table 4.23).

Table 4.23: Import as a Percentage of GDP

(a) Year	(b) GDP ¹	(c) Imports ¹	(d) c/b as a %
1984	527.527	61.0	11.56
1985	600.344	57.9	9.64
1986	651.894	50.0	7.67
1987	709.668	66.6	9.38

¹ (mn US\$)

Source: Table 4.21 and Appendix A

Studies (referred to in Chapter III) generally characterise the small states with a narrow range of export and a relatively wider range of imports (Dommen and Hein, 1985, p.153). This is largely true of the Maldives. The export of the Maldives by the end of 1970s was predominantly Maldivian fish (World Bank, 1980b), but beginning in 1982 a

Table 4.24: Main Export Items 1984-87

	Total 1984-87 (mn US\$)	Average 1984-87 (mn US\$)	Av./ Av.T1 in %	Av./ Av.T2 in %
Fish (canned, processed & other)	59.6	14.9	55.6	63.4
Garments	32.1	8.0	29.9	34.0
Others	2.3	0.6	2.2	2.6
Re-export	13.3	3.3	12.3	14.0
Total of all exports (T1)	107.2	26.8	100.0	114.0
Total <i>minus</i> re-exports (T2)	93.9	23.5	87.7	100.0

Source: MPD (undated3), Table 4.4, p.25

few garment factories were established. With the introduction of garments as an export item and other diversification, the range still remains very narrow indeed (Table 4.24). Fish accounted for an average of 56 per cent and garments 30 per cent (totalling to 86%) of the total exports between 1984 and 1987. If the total values of exports are discounted for re-exports, the two items together averaged to a total of 97.4 per cent (63% for fish and 34% for garments) of the exports for the period.

Sufficient data were not available to present in figures the wide range of imports of the Maldives. But it is a totally undisputable fact that the Maldives depend for almost anything from abroad, ranging from the basic necessities to luxuries, not necessarily for increasing choice for the consumer but for satisfying essential demands for which not even bad substitutes are produced or available locally. As a cliché in the Maldives says, "she

imports everything from tooth picks to machinery". It is a stated priority in the Plan 1988-90 "to accelerate the process of import substitution especially in food and agriculture products" (MPD, undated3, p.3). However, if one reviews the agricultural sector one hardly finds a concrete project to boost any significant production. The sector's production is insignificant even to slow down the increasing trend of import dependence year after year.

Import dependence in the basic diet was found by the World Bank to be significant. Ninety-nine per cent of the cereals consumed were imported while 75 per cent of the total diet was imported (World Bank, 1980b, p.59). It must be stated here, however, that this figure is a very rough estimation done by the World Bank team. The diet can vary greatly from one region to the other depending on local production and the availability of imported food.

G. Manufacturing

The narrow range of exports leads to the question of manufacturing. According to the data for 1982 and 1987 presented in Table 4.10 above, manufacturing accounted for 7.5 per cent of the GDP in 1982 and 5.6 per cent in 1987 exhibiting an annual growth rate of 8.8 per cent. In the analysis of the Census of 1985, the sector was found to provide employment for 7.6 per cent of the workforce (see Tables 4.8).

Table 4.25 presents data compiled by the Ministry of Planning and Environment in a different method to Tables 4.8 and 4.10. The data are more exclusive and distinct. The individual subsectors in the Table have been drawn from other sectors such as agriculture which included atoll manufacturing in the previously applied form of accounting, and excluded some components like urban electricity from manufacturing. The way it has been compiled has not been explained in the source, Plan 1988-90 (MPD, undated3). But

the source is reliable. Hence, these figures are useful to understand the sector, but may not be jointly read with GDP or workforce figures elsewhere in this chapter.

Table 4.25: Employment and Output of Manufacturing (1985)

	Employment		Output	
	Persons	%	mn Rf.	%
Canning	450	3.96	10.0	7.5
Salt and drying	2,000	17.58	33.0	24.7
Beverages	15	0.13	3.8	2.8
Garments	2,200	19.34	60.0	44.9
Plastics	15	0.13	1.5	1.1
Printing	75	0.66	5.0	3.7
Boat building	150	1.32	4.8	3.6
Wood working	220	1.93	5.1	3.8
Metal work	220	1.93	5.1	3.8
Handicrafts	6,031	53.02	5.4	4.1
Total	11,376	100.0	133.7	100.0

Source: MPD (undated3), Table 9.3, p.75

The sector on the whole provided employment for 11,376 persons (21% of the workforce) in 1985 and contributed a value of Rf.133.7 million (22%) to the GDP. The leading sub-sectors of manufacturing were handicrafts (providing 53% of the employment and 4% of the output value of the sector), garments (providing 19% of the employment and 45% of the output value), and salt and drying of fish (providing 18% of employment and 25% of the value). It must also be stated that garment production is a joint ownership between foreign and Maldivian enterprises. Printing and beverages have expanded significantly since 1985.

VII. TRANSPORT AND COMMUNICATION

A. Internal Transport

In the Maldives, when one asks for a taxi from the airport to the city or the hotel, one should be referring to a canopied boat, a speed launch, or a high speed ferry: some form of a sea transport, for the airport and its facilities occupy one island, the city the other, and the hotel another. Internal transport in the Maldives is basically sea transport. The islands (cities or towns or villages) and some important facilities like the airport and the resort hotels are all separated by sea. Most of the islands are so small that there is hardly any room for motor driven land vehicles anyway. Internal air transport operates on a relatively small scale.

1. Sea Transport

Most of the internal traffic is between the individual islands and the capital, Male'. This is due to the heavy centralisation of trade and essential services. Produce of the islands such as fish, coconut, vegetables, fruits and firewood are carried to Male' to be sold. For the money received from such sales or for income made from employment in Male' or Male' region, goods unavailable anywhere else are bought from Male' to satisfy essential needs of life in the islands. Similarly people travel to Male' for essential services such as education and health, and for paid employment which cannot be found to any comparable degree anywhere else. There is very little traffic between the atolls or between islands of the atolls. Data are not available for either of the traffic, but they will be insignificant compared to the traffic of Male' - Individual island route.

Table 4.26 presents the number of sea transport vessels registered in the Ministry of Transport. These, however, do not indicate whether they are in service or not. Less

than a third are mechanised. Those that are not mechanised operate infrequently over short ranges or do not operate at all.

Table 4.26: Sea Going Vessels 1985-87

	<u>1985</u>		<u>1986</u>		<u>1987</u>	
	No.	%	No.	%	No.	%
Dhonis	8,401	74.5	8,598	73.4	9,105	73.2
Baththelis	175	1.6	185	1.6	185	1.5
Launches	530	4.7	583	5.0	543	4.4
Boats	248	2.2	257	2.2	257	2.1
Others	1,920	17.0	2,096	17.9	2,342	18.8
Total	11,274	100	11,719	100.0	12,432	100.0

Source: MPD (undated3), Table 11.1, p.91

The vessels operating between the individual islands and the capital are all privately-owned. Most of those operating in Male' region including the airport and the ferries to and from the hotels are owned and operated either by private individuals, private enterprises, or a public company called "Maldives Transport and Contracting Company".

Nonetheless, the most common means of transport in the Maldives is dhonis, the locally designed and built boat. Out of a total of 12,432 vessels registered in 1987, 73 per cent were dhonis. These include 1051 fishing vessels (mentioned in section on Fisheries) which are also used for transport between Male' and individual islands or between islands. The total number of vessels suggests a high vessel: island ratio for inhabited islands but, in the absence of information on the operating location of the dhonis, it is difficult to draw any conclusion from it. From personal knowledge, the distribution of dhonis over islands is in fact deplorably uneven.

Baththelis are local boats especially designed to carry passengers and cargo between the capital and the island. They are mostly mechanised, but slow. Launches are considered luxury travel by present Maldivian standards, and are normally used to

commute to hotel islands or the airport, or for special travel such as official missions to other islands. Unless under very special circumstances they are not used for normal transport to the inhabited islands.

Despite the overwhelming number of vessels registered, the severest handicap in the system is that there is no reliability, regularity or timed operation of any of these forms of transport. There is no sea transport service over the archipelago.

2. Land Transport

Land transport is mostly used in Male and on a smaller scale in Seenu (Addu) Atoll. A few vehicles are used in the domestic airports in two other atolls and bicycles very rarely in other islands. In 1987, there were 19,456 registered vehicles, of which 16,681 were bicycles, 401 motor cars, 234 lorries and trucks, and 192 were pick-ups. (MPD, undated³, p.92) Most of them run in the capital.

3. Air Transport

There are three domestic airports in the Atolls including one opened in 1990. Figure 1.1 shows the locations of the airports. They are Gan in Seenu Atoll, Kadhdhu in Laamu Atoll and Hanimaadhu in Haa Dhaalu Atoll. Inter Atoll air services, started in 1981, operate between Male' and Seenu Atoll. The service, perhaps, attracts just enough customers to survive but has much to improve to gain recognition for reliability. The other two airports are waiting for a commercially feasible project to evolve.

4. The system

The above-mentioned forms of transport to and from Male' do not exist for every island, the main reason being commercial viability. Those islands that do not have this service available directly depend on other islands that have them, provided the islands are close enough. If that is not possible, one has to make one's own arrangement to travel, or wait for an opportunity to join someone else who arranges his or her own vessel or hires one to travel for a personal reason. This is true even in fulfilment of the transport needs of the government. Either an operator or owner of any of the above forms of transport has to be contacted or a vessel with crew has to be hired for the purpose. Except the air services, none of the above forms of transport operate on a time-tabled basis.

The absence of a reliable transport system remains one of the principal handicaps to development in the Maldives. It constrains the development of infrastructure in the atolls, implementation and monitoring of activities and access of markets. It deters enterprising initiatives of the private sector, the Government and the island communities.

This problem cannot be over emphasised, as the World Bank underlined in its report:

The present system (of transport) is inadequate to meet the country's social and economic development needs. On the social side, lack of inter-island transport is the most serious constraint to the spread of education and health facilities to the atolls. Import substitution in relation to Male' and the tourist sector's consumption of fresh fruits and vegetables could also become a reality if regular and fast inter-island transport services were available.

(World Bank, 1980b, p.71)

B. External Transport

1. Air Transport

In 1987, there were six scheduled commercial air lines and eight chartered airlines operating into the international airport. The chartered flights exclusively serve the tourist industry. The regular flights operated to and through Colombo (Sri Lanka), Trivandrum (India), Dubai (UAE), Karachi (Pakistan) and Singapore in 1988. The following aircraft movements were recorded for the international airport in 1989:

Scheduled Flights	1027
Chartered Flights	354
Non-scheduled Flights	95
Total	1476

Source: MPE (undated5)

2. Sea Transport

Sea transport outside the Maldives now operates for cargo purposes only. Private and Government ships operate mainly between Male' and Colombo, Indian ports and Singapore. In addition, chartered sailings organised for transport of special shipment from distant origins such as Europe and the Far-east also operate at infrequent intervals.

At present, shipping in this seafaring country, is declining dramatically. In the 1970s some one hundred ships flew the flag of the Maldives. Of these about 65 were owned by a Government company and the rest by other Maldivian companies (Jackson, 1979). Most of these ships were small (5000-8000 tons) and engaged in third country tramping around the Indian Ocean and in the Gulf. A few larger ships occasionally

operated to the Far-east and Europe but, after the shipping slump of the early 1980s, (MPD, undated1, p.81), and consequent to the containerisation revolution of merchant ships, the Government fleet had shrunk to 14 by the end of 1986. The dead weight capacity of the ships, in 1986, was 141,000 tons, carried 608,000 tons of cargo and provided employment for 455 Maldivians. The same effect was felt by the private ship owners. (MPD, undated3)

C. Post and Communication

1. Posts

Normal postal services have been available between Male and the outside world since 1906. However, internal postal services outside Male' are extremely poor. Improvement has always been on the agenda of the government but, after 84 years, no regular postal service operates either within the atolls or among the atolls or between Male' and the atolls. It has either not worked (no significant programme is known to have existed) or not enough effort has been made to design and try out an appropriate system. In theory the service exists. If one did care to post a letter to a destination in the atolls it can reach the destination in some indefinite time, which can be several weeks or months. For this reason, government offices, private businesses or individuals use the internal postal services very rarely.

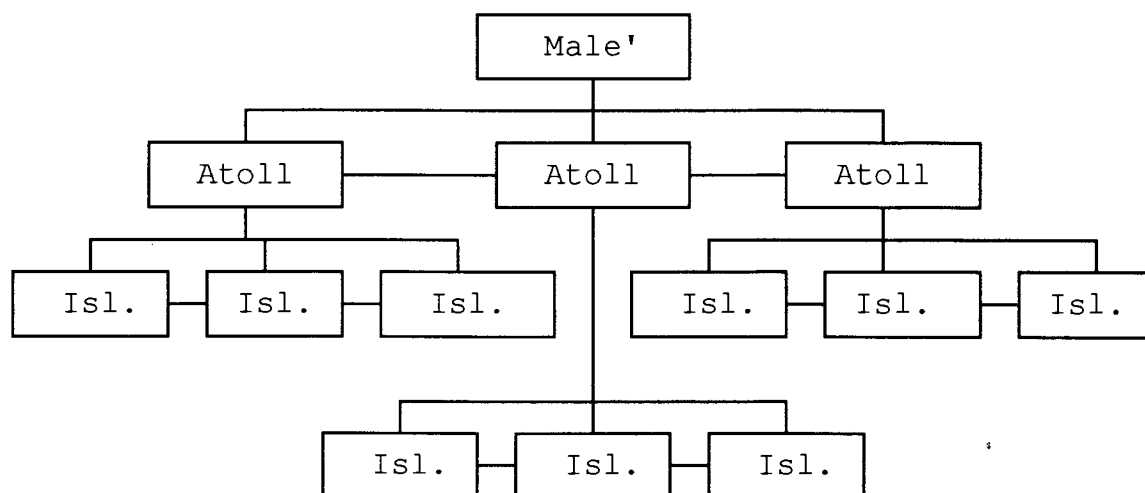
Delivery of letters, parcels or any other items to or from the islands are made by individual arrangements with travellers to and from the islands, who are so far courteous enough to deliver it quite reliably, often free for small items such as letters and small parcels. Larger packages fall into the category of cargo handling and will be charged a freight that varies according to size, weight and destination. The government also depends on the same form of service for their delivery needs. They, on their part, require

the captain of every vessel arriving at Male' from other islands to report to specified departments (those likely to have deliveries to the atolls) before they leave Male' to collect mail, free of charge for small items. Similarly, every vessel leaving an island has to check with the island office or the Atoll Office first to see if there is mail for a government department in Male'. For packages and cargo, the government has standard rates fixed for all the atolls.

2. Telecommunication

All the Island Offices have walkie-talkie sets and the Atoll Offices have radio telephone transmitters. The Island Offices have regular hours of communication every day. Similarly, the Atoll Offices are time-tabled to open their sets at fixed times of the day. Figure 4.2 presents the network of transmission of official and personal messages between Male' and the atoll capitals, among atoll capitals, between atoll capitals and individual islands of the same atoll, and among islands of the same atoll.

Figure 4.2: Basic Telecommunication System



Since 1988 Male' has been served by an electronic digital telephone system, replacing the old system. A trunk network of telephones is being extended to the atolls as well. By 1989, most of the Atoll Offices were linked by telephone. This facility in the atolls will greatly improve the quality and quantity of information passing between the atoll capitals and Male', with an increased promptness of feedback. Currently, the outside world is linked to Male' and tourist centres via satellite (installed in 1977) providing facilities for telex, telegraph, facsimile, data traffic, voice, and media channels. (MPD, undated3, p.97)

C. Media

The national radio operating from Male' is the only medium that effectively covers the entire country. The radio is popularly heard widely enough to serve as a medium for educational programmes. Although most of the programmes are entertainment, educational programmes have taken a considerable share since 1978. Male' television broadcasts cover a radius of 30 kilometres. For the quarter of the population residing in Male' television is a popular medium and an entertainment indeed.

In 1988, 2 dailies, 2 weeklies, 2 fortnightlies, 2 monthlies and 38 magazines were published in the country (in effect, in Male'), on a regular basis (MPD, undated3, p.103). Newspapers and periodicals, however, always suffer serious problems that ultimately lead to discontinuation. The main problem is financing. The second is distribution. Newspapers, which demand prompt services and a greater workload, have never been

commercially viable. Either the government has to operate them or provide the necessary finance or at the least a subsidy. This can obviously impinge on the freedom of press.

VIII. SUMMARY

The main points of this chapter may be summarised as follows:

1. The Maldives comprise an archipelago of 1190 small islands, on average less than a square kilometre in area and dispersed over 90,000 square kilometres of sea in the Indian Ocean.
2. The population of the archipelago was about 214,000 in 1990, (180,088 in 1985) living on 200 islands of which 58 per cent have fewer than 500 people on them and 2 islands have more than 5,000 (one is the capital with a quarter of the total population). The 200 inhabited islands are scattered over the same area of sea, 90,000 sq.km.
3. The country has a recorded constitutional history of 800 years and is a constitutional democracy evolved out of its own socio-cultural, geographic and historical features, although the current system remains influenced by Islam and western democracies.
4. In 1985, the strength of the workforce was 53,929 of which 24 per cent engaged in fisheries, 22 per cent in agriculture and rural manufacturing (6 percent in agriculture), 11 percent in government services and 7 percent in tourism.
5. Tourism and fisheries constitute the main sectors of the economy, contributing 17 percent and 16 percent respectively to the GDP of 710 million rufiyaas in 1987 (in 1985 prices).
6. The country depends heavily on external trade, with a narrow range of exports and a wide range of imports. The two main items of export, namely, fish and garments added up

to 97 per cent (63% and 34% respectively) of visible exports between 1984 and 1986. In 1987, it imported goods to the value of 212 percent of the value of visible exports, while the imports comprised 44 per cent of consumer goods and 24 percent of capital and intermediate goods. As a percentage of GDP imports fell to 9.38 percent in 1987 from 11.56 in 1984.

7. There is irregular transport between most individual islands and the capital; they do not operate on a time table and cannot be relied upon. An inter atoll air service operates between the capital and the southernmost atoll. Transport remains the most serious handicap in social and economic development.

8. The islands are connected by radio and a radio telephone system. A new telephone network currently being extended to the atolls is expected to significantly increase the efficiency of communication and the flow of management information.

CHAPTER FIVE: EDUCATION SYSTEM OF THE MALDIVES

I. INTRODUCTION

This chapter will examine the historical roots and analyse the main features of the current education system of the Maldives with a view to:

- (a) providing an appreciation of the characteristics of the system within the distinctive context of the country, most profoundly the smallness and fragmentation, and
- (b) assessing the strength of the capability of the system to supply educated and trained manpower for economic and social development.

II. HISTORICAL BACKGROUND

The current education system has inherited several characteristics from its ancestral origins. These include the organisational pattern of classes and the individualised approaches in teaching. The small rolls, the limited pool of skills and the nature of the distribution of responsibilities in the small communities are but a few of the factors that have shaped the features of the education system now and then. Experience of attempts to bring about structural change to the organisation of teaching and schools tells that much care and study is necessary in the introduction of reforms. It is not within the scope of this study to analyse those aspects indepth, but it is deemed useful to outline the historical roots of such aspects in the current system.

A. Origin of the Basic Form of Education

Organised teaching has been an integral part of Islam and its practice in the Maldives since 1153. Over the centuries, royal decrees (Faiykolhu) and the decrees from Fandiyaaru (the Chief Justice and the chief religious leader), called Naibu Faiykolhu required individuals to be literate (read and write Maldivian and Arabic) and to learn the minimum essentials of Islam to be able to fulfil the rituals and other religious duties. According to Batutta, the salaried prayer-leaders and muezzins (in charge of the mosque) were responsible for the implementation of such decrees (Batutta, 1929, p.250).

Following the liberation, in 1573, from the Portuguese occupation, a new emphasis was given to teaching. The auspicious return of a renowned Maldivian scholar, Sheikh Muhammad Jamaluddin, marked the beginning of the spread of scholarly knowledge in Male', and (unprecedentedly) in the atolls, particularly in the far south. After spending some years as the first Fandiyaaru of the country after liberation, he resigned from the high office to devote himself to teaching in the southern atolls. This precedent was followed by generations of his own students one after the other, other arrivals of similar scholars educated abroad and their students (Jameel, 1985).

The scholarship of the foreign-educated teachers and their student-teachers was high compared to the muezzins previously mentioned, and they taught advanced subjects such as Islamic law, theology, philosophy, Arabic literature and grammar. Islamic scholars were not the only ones who devoted their time to teaching others. Specialists in Unani medicine, mathematics, navigation, "charming" and astrology also took to teaching others what they knew. For example, Captain Morseby who was surveying the reefs of the atolls in 1830s reported the existence of navigation schools in several islands during the time. Similarly, schools of Unani medicine were also reported to exist at that time. (Maloney, 1980) The Census Report of 1931 enumerated schools in and towards the end of the first quarter of this century as in Table 5.1.

Table 5.1: Number of Schools 1911, 1921, 1931

	1911	1921	1931
Quranic schools	n.a.	839	518
Arabic schools	n.a.	n.a.	3
Navigation schools	28	18	34

n.a.= not available

Source: Census Report, 1931, p.23

B. Organisation and Conduct of Basic Teaching

The above forms of education, namely the basic teaching conducted by muezzins and the Edhuru Dhaithaas (Teacher Sister/ Aunt), and the more advanced or technical forms taught by specialists or Edhurus existed side by side. Both were mostly organised and taught by the teachers on their own initiative. Some occasional support in kind and in the form of social status in the community was all that was gained by the teachers. The community, the students and individuals living in the community sometimes contributed to maintain the classes. Intermittently the government also supported morally and, rarely, with remuneration to selected teachers. Another strategy of the government was to add teaching responsibilities to the existing duties of selected capable civil servants. (Jameel, 1985)

During the period 1153 - 1927, the teachers and the students organised themselves according to their own conveniences and capabilities. The arrangements were more ad hoc in nature than systematic. Some classes or schools continued for generations while some did not survive in the environment of small communities. The enrollments, sizes of classes, levels of education (depth of content) and the subjects taught were more circumstantial than predetermined. The teacher was the key factor in decisions about the curricula. Arabic textbooks were used for higher levels of education (in later periods Urdu textbooks were also used), and for lower and intermediate levels books (translated or compiled by locals) were also used. Apart from these, students depended on notes as the main source of reference. Classes

were often small and the educational backgrounds of the students were not necessarily uniform. The most extensively applied method was rote learning. (Jameel, 1985)

C. Old Institutions

The old institutions responsible for the above two forms of teaching were generally called Kiyavaage (House of Learning or School) and Edhuruge (House of the Specialist/ Expert). Their origin and the meanings of the names make a clear distinction between them. Kiyavaage(s) were associated more with general forms of education (the first type of education described above), while the Edhuruge(s) were associated with specialised education (the second type of education described previously). However, over the years, with the haphazard manner in which they operated under innumerable constraints, the distinction between what they taught and how they were named was not maintained. The names were often confused and were treated synonymously.

Two other names were borrowed over the years. They were "Maktab" and "Madrasa". They both mean "school" in the Maldives (in original Arabic, the former means "desk" and the latter "school"). They were both borrowed from Arabic systems abroad.

What is interesting, as far as this study is concerned, is the experience of the attempts to introduce a new system. Every time a new system was introduced with models from abroad, the existing system was considered inferior and was officially neglected. The most probable explanation must be that the existing system was seemingly inadequate to provide for new expectations. So, little or no effort was made officially to develop and strengthen the existing institutions or modify them with the merits of the imported new systems.

Thus, after the arrival of "maktab" and "madrasas", edhuruges (which, then, were institutions of advanced learning) were allowed to continue its already deteriorating condition into basic rote learning institutions; similarly, when "schools" arrived in 1961, the prestigious

madrastas and maktabas were even ridiculed and subjected to the same fate. It also seems that, politically, every reform had to appear to have begun as a completely new initiative, so that it may be attributed to a particular leadership or a founder. New programmes and personal initiatives get the best attention. The old institutions are left for themselves. The phenomenon must be true to any society, but the impact of it in small societies must be greater.

The communities, as the direct beneficiaries of the old institutions, kept them going, although, reduced to the most rudimentary form. They, somehow, remain integrated in the communities as the base of their learning traditions. They contribute heavily to the sustenance of whatever level of education the population at large (especially the under-privileged strata) have (Seidler, 1980) and the generally high level of literacy (93% in 1986 for 10-54 years).

D. Evolution of a System (1945-1953)

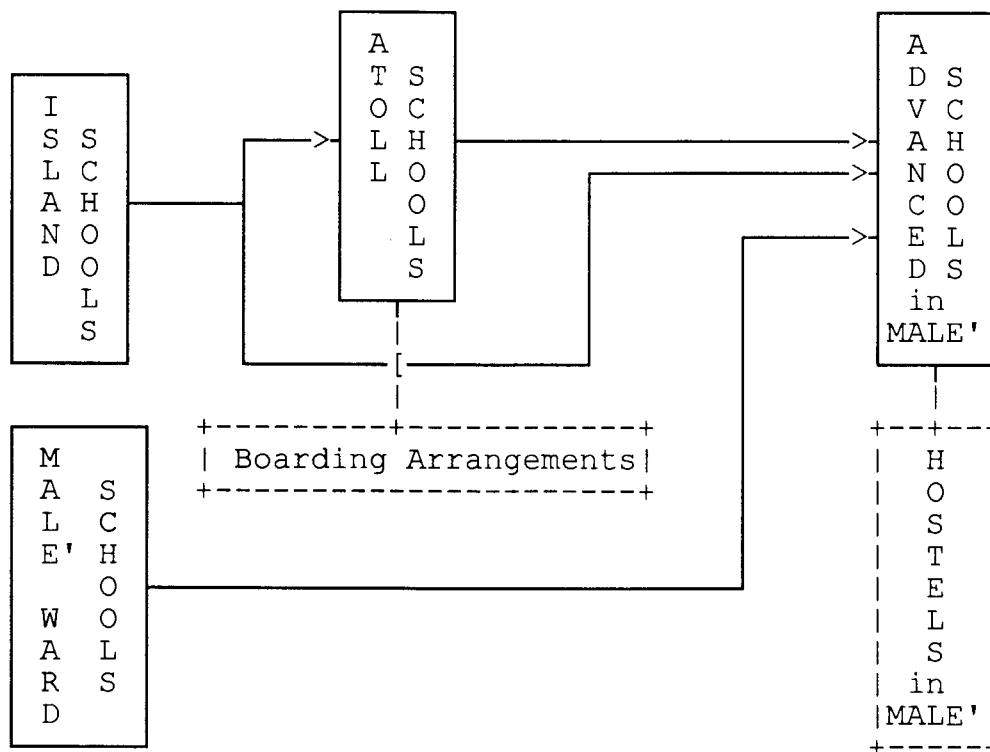
The model school based on the modern school system was introduced in Male' in 1927. The model was immediately duplicated by one in the north, in Lh. Naifaru and one in the south, in GDh. Thinadhu. With the significant influence of these model schools on the organisation and methods of teaching, a country-wide school system was designed and introduced beginning in the early 1940s. The system aimed to provide a modern education for a wider child population. The following summary outlines the overall set-up of the system (between 1945 and 1953).

- Every island established an island school provided and managed by the island administration. The school provided basic education to the children of the island and literacy classes to the adults.
- Every atoll capital established an atoll school called "Atholhu Madrasa" provided and administered by the atoll administration in the atoll capital. Places were offered to outstanding students of the island schools of the atoll. Students boarded with hosts in the capital islands and were supported either by the students' own island administrations or through atoll committees or by the hosts themselves. In every case, parents, depending on their ability, contributed to the child's education. These schools were geared to provide education and training for the kind of jobs in the atolls and for further opportunities of education.
- In the main capital, Male', four ward schools, provided and administered by the ward authorities, catered for the first level students.

- Two advanced schools, Saniyyas, (one for boys and one for girls) were established in Male'. These schools recruited students from the Atoll Schools and the Male' Ward Schools. Occasionally outstanding students from individual island schools were also recruited. Two hostels were established in Male' to board students from the islands, one by the government (in 1945) and the other by the atoll community funds (in 1946). The two schools taught basically for secondary levels, although some subjects were of much higher standard. The curriculum consisted of Islamic subjects, Mathematics, History, Geography, Health, Dhivehi (Maldivian Language), Arabic and Urdu, etc.
(Based on MOE, 1985; Shafeeq, 1986; Latheef, 1986/7).

Figure 5.1 presents the organisation and student flow of the system. The system was very short-lived: it emerged by 1945, and began to be neglected in 1953 with the demise of its architect, the President of the First Republic. According to information provided to the writer by the National Institute for Linguistic and Historic Research (NILHR), 1958 was an official turning point of the education system. The four Ward Schools in Male' were abolished and the government took charge of five schools in Male', officially putting an end to community involvement in education in Male'. Three of the five schools were later

Figure 5.1: School System of 1945-53 and its Student Flow



Source: Adapted from Latheef (1986/7)

(in 1961) converted into English-medium schools and the other two abolished. (Source: NILHR)

The Government left a vacuum in official policy and action on education in the rest of the archipelago. This position led to the deterioration of the post-war education system. While the government dictated literally every administrative decision both in the atoll authorities and the islands, by the mid 1970s, education in the atolls, with very few exceptions, had elapsed back into the previously described basic forms of education.

What observations can be made on the experience of the post-war (1945-53) system? Up to now (1991), the experience has not been studied or evaluated. Even observations are rare. The experience left behind a euphoria for a popular service that attempted to take giant strides from scratch, but the lifetime of the system was too short to witness the usual problems that education systems face in a lifetime. Such problems include those associated with quality of education, relevance of its curricula to the emerging and changing national needs and individuals' aspirations, problems of staffing, finance and administration and, not least of all, unemployment of its "products".

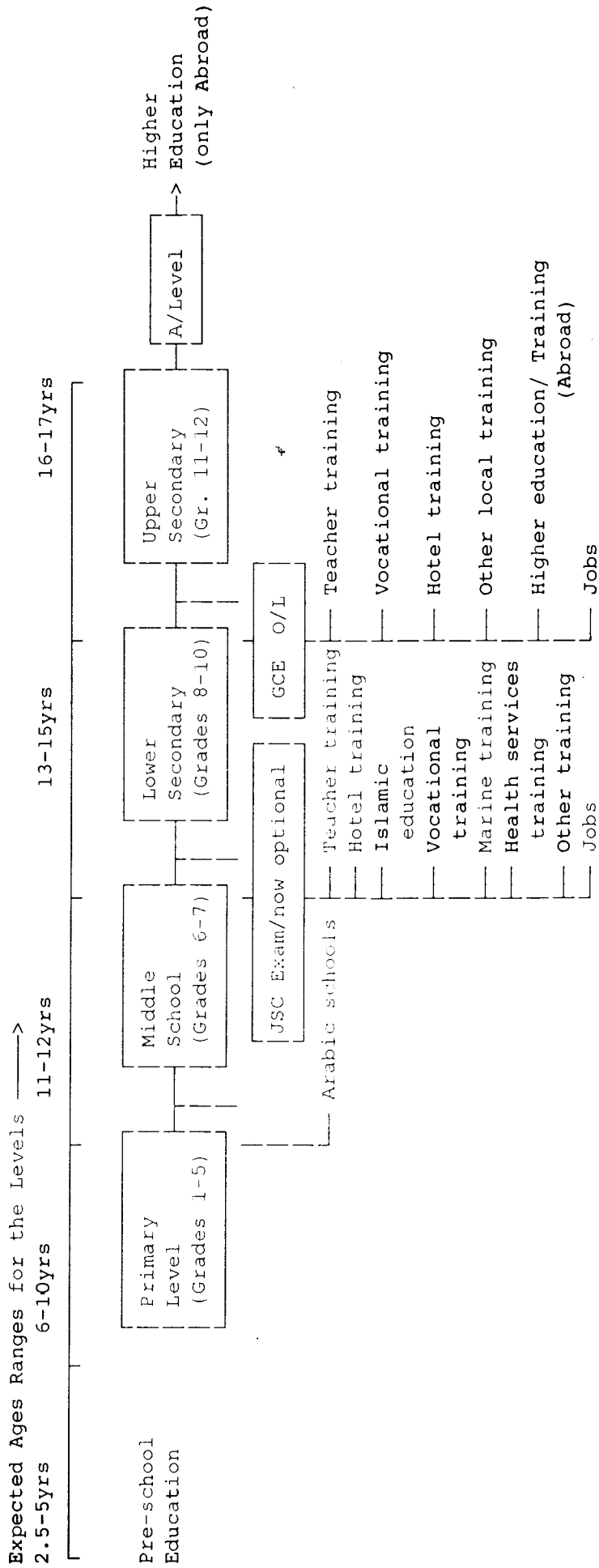
There are two other observations that are of great importance for planning purposes. Firstly, that the design of the system has a significant parity with the geography and the formal administrative set-up of the country. (see Chapter IV for geographical and administrative landscape) It took into account the individuality of the islands and their dispersion while, at the same time, provided the individuals in the islands with an opportunity for mobility through the Atoll Schools and the advanced Schools in Male'. It, ideally, kept opportunities open for all the children over the archipelago. Some of the features of the system may be anachronistic for the present time, but it clearly provides useful ideas. Secondly, the demise of the system with the change of the government shows that plans in this small country can be turned around in short periods of time with political changes, no matter how wide-spread the system is.

III. THE CURRENT SYSTEM

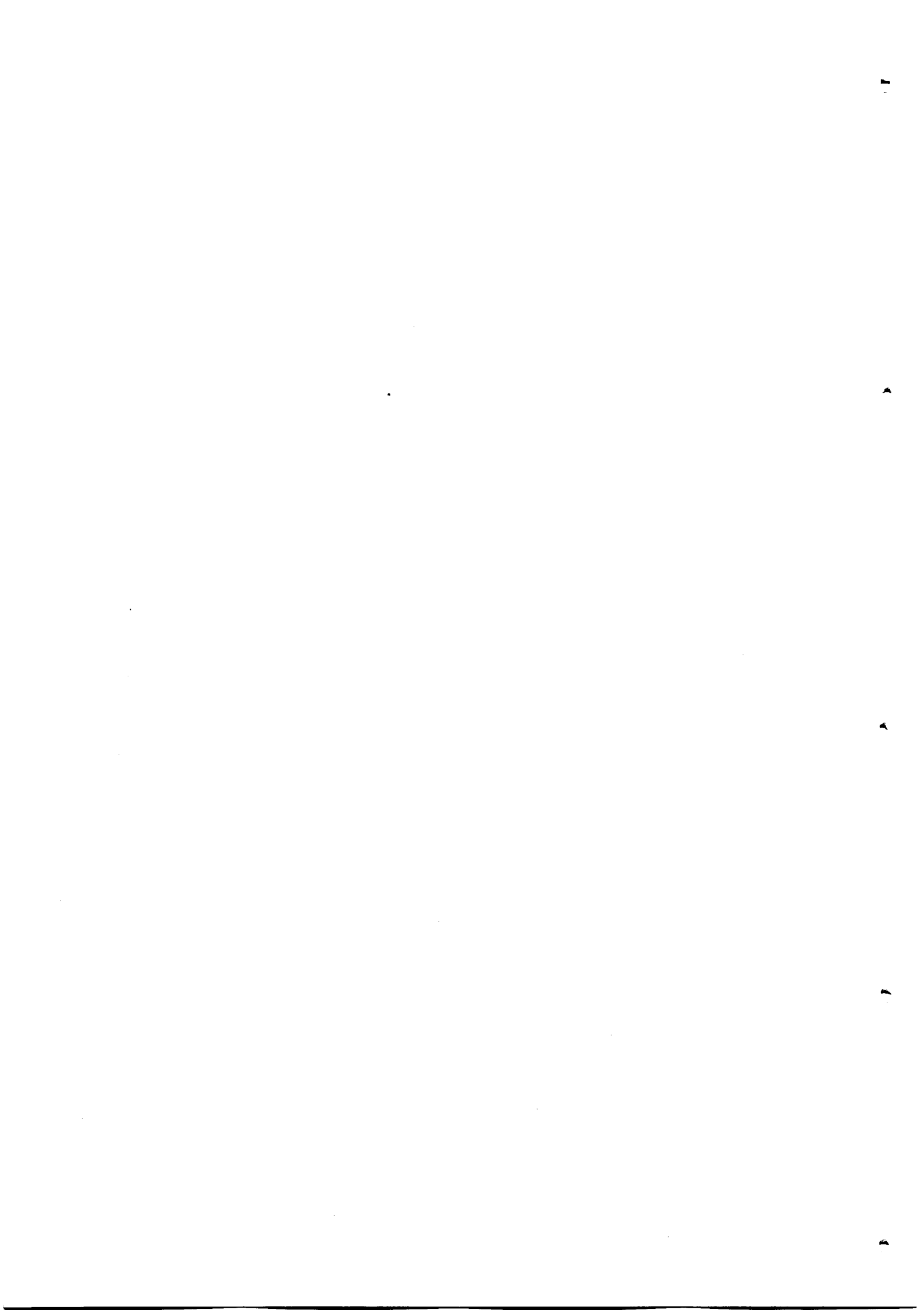
In terms of the levels of education, the formal system of the Maldives comprises four tiers, 5+2+3+2 years (see Figure 5.2). They are the primary, middle school, lower secondary and higher secondary levels respectively. It is important to underline the fact that the physical organisation of the schools does not necessarily conform to the above hierarchical structure perfectly; instead the schools tend to continue to teach through to the highest maximum level their capabilities permit. In fact, the organisation of schools is mostly circumscribed by their ability in terms of resources and enrollments rather than the theoretical framework.

Proper higher education streams are not available in the country. Students are sent abroad for advanced training and education. Various forms of pre-school education are offered by the traditional "eduruges", "kiyavages", modern nurseries/kindergartens, "maktabas" and "madrasas". These forms of pre-school education vary from one another in quality and content. Some emphasise on reading and writing Thaana (Maldivian script), Arabic, reading the Holy Quran; some emphasise activity-oriented learning and some a mix of both. Because of the variations and the limited coverage of provision, this level is not considered part of the formal system.

Figure 5.2: Education System in the Maldives



Source: Source: MOE (1985) adapted



Within the formal system (but off the main streams) are the very narrow vocational education and the Islamic education streams offered by very few institutions. These streams will be dealt with later in this chapter.

There is a range of non-formal education programmes offered for the out-of-school youth, the drop-outs and the adults. These include the literacy programme, community non-formal education programmes and the special classes and courses. In addition, there are a few, but important, training centres that are of significance to this study. They are the: Institute for Teacher Education, Vocational Training Centre, Rural Youth Vocational Training Centres, Allied Health Services Training Centre, and School for Hotel and Catering Services. These forms of education will also be examined later in this chapter.

A. The General Education Schools

For an examination of the education system, the general education institutions of the Maldives may be broadly be divided into the following categories:

- the traditional schools
- the atoll centre schools
- the English-medium schools
- the Arabic-medium schools

As stated previously, the schools are not organised to conform to levels of education. The size of pupil populations in the small islands does not permit the organisation of separate schools for each of the levels. According to the 1985 Census, 58 percent of the islands had total populations of less than 500, which means a child population (between 5-15 years of age) of less than 100; fewer than 16 children of secondary school age. This, naturally, makes separate schools non-viable in most of the

islands. Thus, for convenience, the following discussions will examine the institutions as they exist, while levels of education will be examined separately, later in the chapter.

**1. The Traditional Schools/
(Pre-primary, Primary and Post-primary)**

The traditional schools have a history and background, as outlined above. These schools are mostly provided and managed by the communities within their capabilities and circumstances. Some also receive government assistance in the form of teachers, and grants for continuous operation for 10 years, 20 years and 30 years. The communities contribute in the form of labour for construction and maintenance, teaching and donations in cash and kind. Some of these schools also charge fees. Those who have the ability to pay, pay. The most interesting feature of all these schools is that they do not deny any child admission for his or her inability to pay fees. (MOE, 1990b, p.5)

The traditional schools comprise edhuruges, kiyavages, maktabas and madrasas. Of these, **Edhuruges and kiyavages** are the oldest forms of institution. Historically, these institutions offered education of varying levels and types to students of mixed ages and abilities. But, as already outlined above, over the centuries, their role has diminished. According to a survey conducted by the Ministry of Education in 1988, these institutions were found to be teaching children mainly to read and write Arabic and to recite the Holy Quran (in Arabic). Out of the 165 edhuruges surveyed on 52 islands (there are 202 islands altogether), "some" taught Thaana (Dhivehi script), numerals and some basics for rituals (such as procedures for ablution), and, in a few cases, even the English alphabet. The report attributes a substantial share of the high rate of literacy in the country (no figure is given for it) to these institutions, mainly taught by women called Edhuru Dhaitaas. The teachers in these schools are traditional and have attained only a minimal education. The schools are privately-owned and are often housed in neighbourhood homes. (MOE, undated)

Maktabs and Madrasas are of recent origin compared to eduruges and kiyavages. These two categories of institutions were most widely propagated during the post-war period, 1945-53, when the first school system was designed and introduced. At present this sub-system of traditional schools exists side by side with more recent modern institutions namely, the Atoll Education Centres (AECs) and the Atoll Schools (APSs) in the Atolls and the English-medium schools in Male'.

Out of the 260 general education schools in the country in 1989, 202 schools (77.7%) were maktabs and madrasas which catered for 26,973 pupils, 45.2 percent of the pupil population. These traditional schools are the chief source of education in the Atolls. In the Atolls (excluding the main capital island, Male') out of the 238 schools 197 (82.8%) were such schools and accounted for 26,289 pupils or 65.5 percent of the total enrollment of the Atolls. In Male', English-medium schools dominate the system. The traditional schools have become more or less redundant; only 5 were reported to exist in 1989.

Maktabs and Madrasas still play a key role in the Maldivian education system. Not only because they still cater for the majority of the pupils from the under-privileged sections of the society but also because they have fully integrated into the community, with a high chance of survival in small, vulnerable communities. The schools often take in students starting from the pre-school age up to grades 6-7 of the national curricula or their equivalent. After six years, it is assumed that these institutions adopt the national curriculum. The extent to which that is true is not yet established: their facilities and ability to implement such a curriculum will tend not to allow such a generalisation. The teachers are often part-timers, under-qualified and untrained.

2. Centre Schools/

Primary and Middle Level

The Atoll Education Centres (AECs) and the Atoll Primary Schools (APSs) are central schools (expected to provide various educational services to the entire atoll) established mostly in 1980s. They are provided and managed by the government. There is one AEC and one APS in each of the 19 atolls except the one-island atoll, Gnaviyani, where there is only the AEC. Also as exceptions, there are a third centre schools in Haa Alifu, Alifu, and Seenu Atolls, making a total of 40 centre schools in the 19 atolls. These schools essentially offer primary and middle school education, although they also conduct a limited number of non-formal education programmes, including adult literacy and community education courses. To a limited extent, these schools also host outpost activities of the Ministry of Education and its organisations, such as holding examinations and in-service training programmes organised from Male'. Although the schools (centres) were initially conceived with a number of ideas of central roles and services to provide for the entire atoll, up to now they have not been able to go very far beyond the role of a school in the host islands.

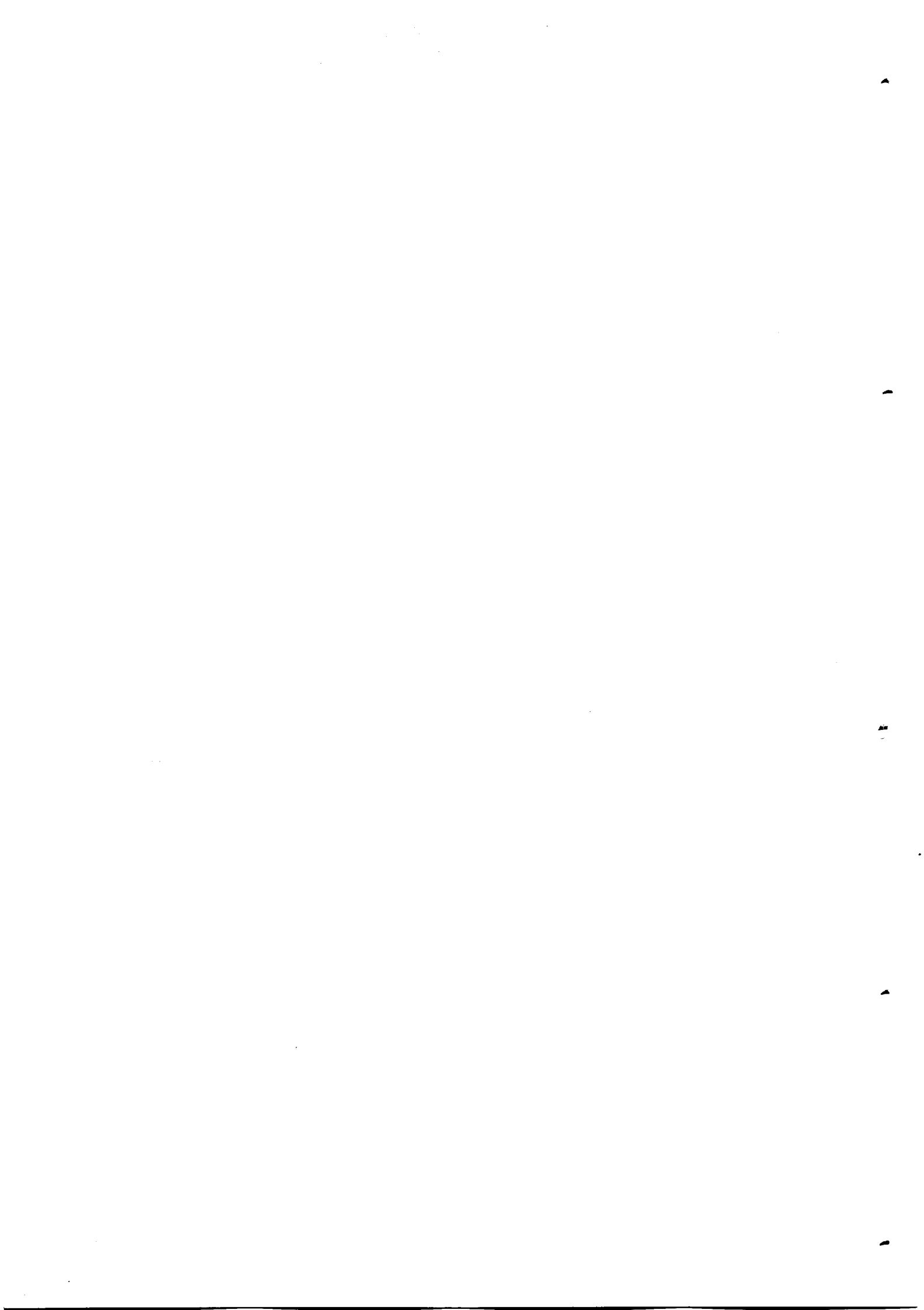
Table 5.2 presents the number of general education schools and their enrollments in 1989. There were 40 centre schools (19 AECs, 18 APSs and 3 other government schools) in the Atolls in 1989. These schools enrolled a total of

Table 5.2: General Education Schools - (1989)

	Number of Schools			Enrollment		
	Total	Male ¹	Atolls	Total	Male	Atolls
Traditional types ^{1/}	202	5	197	26,973	684	26,289
(% of total)	(77.7)	(22.7)	(82.8)	(45.2)	(3.5)	(65.5)
Atoll centre schools	40	-	40	13,705	-	13,705
(% of total)	(15.2)	(-)	(16.8)	(22.9)	(-)	(34.1)
English-medium Schools	15	15	-	18,645	18,645	-
(% of total)	(5.8)	(68.2)	(-)	(31.2)	(95.2)	(-)
Arabic-medium schools	3	2	1	400	254	146
(% of total)	(1.2)	(9.1)	(0.4)	(0.7)	(1.3)	(0.4)
Total	260	22	238	59,723	19,583	40,140

^{1/} Kiyavaages and Edhuruges not included, these are only maktabas and madrasas

Source: MOE (1990a) Basic Data on Student Enrollment- Sep. 1989



13,705 pupils which accounted for 22.9 percent of the total enrollment of the country and 34.1 percent of the Atolls. The quality of education in these schools is better than most other schools in the Atolls, and they have more modern and purpose-built facilities. They are financially better provided and better staffed with trained teachers. (see "Educational Finance" and "Teachers and Teacher Training" below)

3. English-medium Schools/

From Pre-school to Higher Secondary

English-medium schools were introduced to Male' in 1961, and they are still limited to Male'. Out of 22 general education schools in Male' in 1989, 15 were English-medium. They consisted of 7 government schools, 4 ward schools (after abolition in 1958, ward schools were allowed again in the 1980s) and 4 private schools. These are the most attractive schools of the country - they are mostly staffed with expatriate teachers and consume the lion's share of the resources spent on education in the country. In 1989, they enrolled a total of 18,646 pupils (see Table 5.3).

Table 5.3: Enrollment in English
Medium Schools in Male'

7 government schools	9,260
4 private schools	3,815
4 ward schools	5,570
<u>15 Total</u>	<u>18,646</u>

Source: MOE (1990a), Tables 3 & 5, p.5,8

This enrollment of 18,646 accounts for 31.2 percent of the total enrollment of the country and 95.2 percent of that of Male'. All Maleans are guaranteed, by the Ministry of Education, a place in these elite English-medium schools. Except for the advanced level school, there is no selection involved through the English-medium system. Theoretically, this offers every child in Male' a place in these schools up to the Ordinary Level or end of Grade 10.

English-medium education is geared towards the modern sectors of the economy and for higher education and training abroad. The schools provide opportunities no other schools can provide at present. The second and the only alternative for higher education is the main Arabic-medium school, namely, the Institute of Islamic Studies which prepares students for higher education in the Middle Eastern universities.

English-medium education was introduced at a time when the country was poised for independence. Following independence and the eventual opening up of the country to the outside world, the country's economy and the government sector urgently needed skilled manpower capable of assuming new responsibilities. The pressure for expansion of the various sectors was at an unprecedented level. One of the skills demanded of the new workforce was the ability to communicate with the outside world in the English language. Most timely, the English-medium education system began to provide the urgently-needed manpower to cope with the expansion and developments. Inevitably, the products of this system took the unchallenged advantages of the new opportunities in the expanding economy and the key positions in the government and the private sectors. High social and economic status and great advantages followed.

Indubitably, the schools were given the credit. They are now considered the guarantor of social status in the newly-emerging elite. They are also taken as guarantors of jobs and opportunities. Thus, the English-medium schools have become the aspiration of every child and parent in the country, wherever he or she may be.

4. Arabic-medium Schools

As English-medium schools are the ideal of economic development enthusiasts, Arabic-medium schools remain the ideal of some advocates of spiritual development in the (Islamic) society. As outlined at the beginning of this chapter, Arabic forms the basis for learning the religious teachings in the country. Since the 16th century, Arabic schools have existed in the Maldives in one form or the other (see Table 5.1 above) and have influenced the culture of the society greatly. Arabic has always been pursued as the chief medium of religious education and, occasionally, of other forms of education.

Just as English is seen today as the main vehicle for higher social status, Arabic was, until its key position was replaced by English, one of the chief forces for social mobility. It is also the second medium through which one could proceed to higher education and training abroad. The Institute of Islamic Studies follow syllabuses set by the Al-Azhar University in Cairo, as the English-medium schools follow those of London University.

There are 3 Arabic-medium schools, 2 in Male' and one in Seenu Atoll. Two are basic general education schools providing Islam-biased subjects, in addition to the normal school subjects. The third school, the Institute of Islamic Studies, apart from its role of providing a general secondary education in the arts and sciences to pre-university level, provides training in a number of fields of Islamic and Arabic studies, including Law (Islamic and Maldivian Law). The Institute conducts in-service and pre-service training for Judges, Imaams (prayer leaders) and others. The contribution of the Institute is vital for the judicial, legal and religious systems of the country. The Institute of Islamic Studies and Al-Madrasathul Arabiyya (the second school in Male') enrolled 254 students in the general education streams in 1989. (MOE, 1990a)

B. Number of Schools and Enrollment

At the outset, one must be cautioned that the sizes and the quality of schools vary so much that any attempt to compare or draw conclusions from the number of schools would be meaningless. With that word of caution, Table 5.4 presents the number of schools in the Maldives from 1978 to 1989 in the main regions, and their providers.

Towards the end of the 1970s the schools in the Atolls began to regenerate. The number increased consistently until every island had at least one school. This was confirmed by the Ministry of Education in 1988 (MOE, 1990b). Renewed efforts of the government and the communities went into rebuilding the degenerated system in the Atolls and strengthening the existing ones. In 1978, there were 192 schools, 6 elite schools in Male' (most of them were English-medium), and 182 schools in the Atolls (most of them were the remains of the post-war system and the traditional schools) (MOE, 1985; MOE, 1990b).

The most prominent feature of the school system in the Maldives is that a large majority of schools are provided and managed by private individuals or bodies and by the island communities. There were 188 institutions in 1978 (6 in Male' and 182 in the Atolls) privately-owned or community-owned which increased to 211 by 1989 (10 in Male and 198 in the Atolls). These schools accounted for 97.9 percent and 81.2 percent of the schools in 1978 and 1989 respectively. The number of government schools was 4 in 1978 and 50 in 1989, a significant increase indeed. (MOE, 1990b)

Table 5.4: Number of Schools by the Two Regions

	Male		Atolls		Total by Provision	
	Total	Govt.	Com.& Pvt.	Total	Govt.	Com.& Pvt Total (%)
1978	192	3	6	183	1	188
1979	216	5	8	203	2	209
1980	241	5	9	227	4	232
1981	261	5	11	245	27	229
1982	263	6	12	245	31	226
1983	265	6	12	247	32	227
1984	245	6	15	224	36	203
1985	256	7	13	236	37	212
1986	257	7	13	237	40	210
1987	257	8	12	237	40	209
1988	253	8	12	233	40	205
1989	261	10	13	238	40	211
						19.2
						80.8

Note: Large proportion of Pvt. & com. in Atolls is community owned schools while that in Edhuruges and Kiyavaages not included but Vocational Training Centre included
 Com. = Community owned and provided
 Pvt. = Privately owned and provided

Source: MOE (1990b), Table I

Male' is private owned.



How much educational provision is shared between the government and the community (including private bodies) may be better reflected in the distribution of enrollment between them. Table 5.5 presents enrollments by provision of schools. The share of the enrollment of government institutions at national level has increased from 17.9 percent in 1978 to 39 percent in 1989, while that of the community and private institutions has decreased from 82.1 percent to 61 percent respectively. The share of the government institutions in the Atolls has increased from 0.6 percent in 1978 to 34.1 percent in 1989, the share of the community and private schools still remaining at 65.9 percent high, almost all of which is community contribution. (MOE, 1990a)

In Male' education was shared very evenly between the government and the private provision in 1978 (45.7 and 54.3 percent respectively) and still closer in 1989 (49 and 51 percent respectively). This, however, must not be construed as one half of Maleans being in the private and community schools and the other half in the government institutions. In fact, the fee paying private and community schools in Male' are dominated by children from the Atolls. Maleans mainly stay in private and community schools only for their pre-school education, which is heavily subsidised by the government.

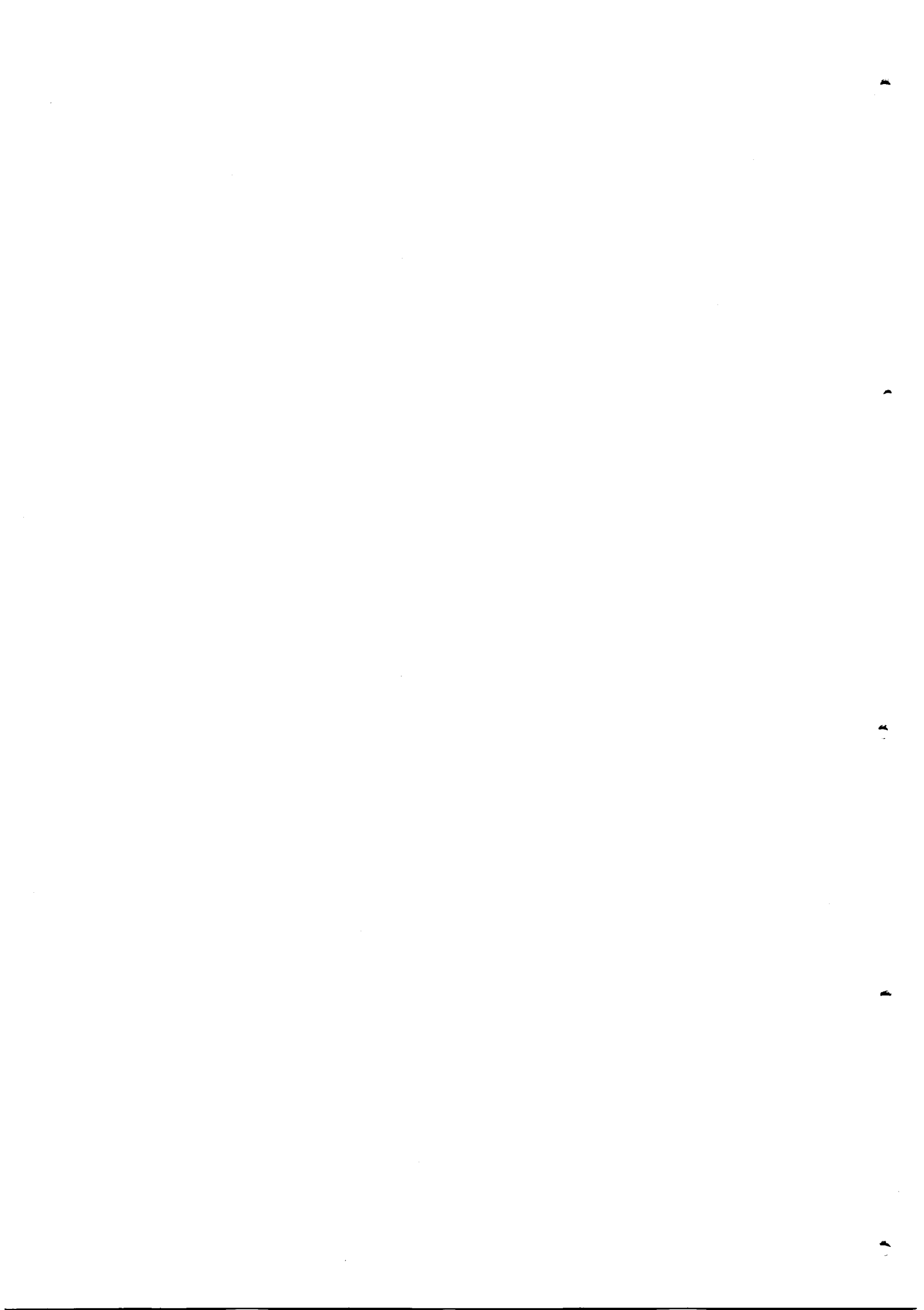
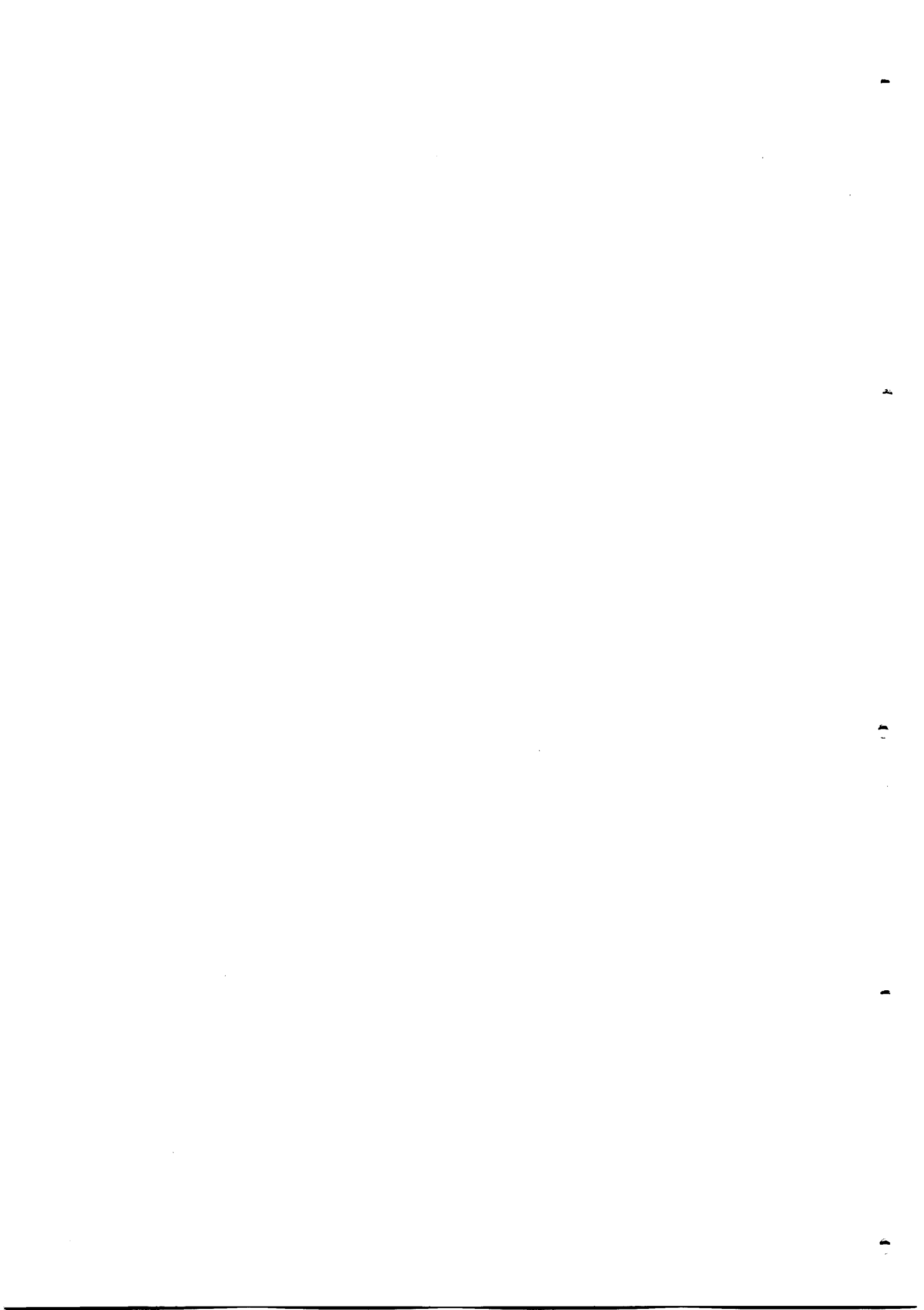


Table 5.5: Enrollments by Provision of Schools
(1978, 1982, 1985, 1989)

	1978	%	1982	%	1985	%	1989	%
Total	15,032	100	38,086	100	46,575	100	59,879	100
Government	2,690	17.9	11,697	30.7	15,729	33.8	23,375	39.0
Pvt. & Community	12,342	82.1	26,389	69.3	30,846	66.2	36,504	61.0
Male'	5,756	100	8,972	100	14,074	100	19,739	100
Government	2,631	45.7	4,978	55.5	5,744	40.8	9,670	49.0
Pvt. & Community ¹	3,125	54.3	3,994	44.5	8,330	59.2	10,069	51.0
Atolls	9,276	100	29,114	100	32,501	100	40,140	100
Government	59	0.6	6,719	23.1	9,985	30.7	13,705	34.1
Pvt. & Community	9,217	99.4	22,395	76.9	22,516	69.3	26,435	65.9

¹ No community school exists in Male' in 1978

Source: MOE (1990a)



A survey conducted by the Ministry of Education in 1988, to study the proportion of Atoll students in Male' schools revealed that 79.6 percent of the enrollment of the private schools and 21.6 percent of the enrollment of government schools were from the Atolls. These include children who may be permanently resident in Male' but a male parent born in Atolls, though the parent could be currently employed in the civil service or in the private sector or self-employed in Male'. Children of the Atolls not permanently resident in Male' accounted for 3.8 percent in the government schools (315 out of 8,257 pupils) and 36.8 percent in the private sector, 2035 out of 5532 (see "Origin of Enrollment in Male'" and Table 5.7 below - based on data from the Ministry of Education). These ratios also indicate the extent of the distribution of the government contribution to education among the populations of the regions. In this respect, it will also be useful to examine how the financial burden of education is shared between the private and community schools, and the government schools. This aspect will be analysed later under "Educational Finance".

C. Schools and Enrollment by Levels of Education

Official statistics for education in the Maldives have always preferred to refrain from classification of the traditional schools into the levels of education offered.

Table 5.6: Levels of Education Offered
in Government Schools-1989

	<u>No. of schools offering</u>		<u>Enrollment</u>	
	Male'	Atolls	Male'	Atolls
Pre Primary	7	2	4,594	123
Primary	14	40	7,894	9,791
Middle School	11	30	4,102	1,822
Lower Secondary	6	-	1,938	-
Upper Secondary	2	-	111	-
Special Classes ¹	7	25	558	1,568
Commercial Classes	2	-	226	-

Note: Many schools offer more than one level

Includes only Government provided schools of the Atolls, the other 198 not included

Vocational Training Centre not included

¹ Special Classes are classes of primary and middle schools levels offered for over age children

Source: MOE (1990a), Tables 4,6,8,10; p.7,10,13,16.

The reasons, as discussed earlier, include the inconsistent ways some of these schools organise themselves and the unreliability of data. The official statistics can, however, confirm data on the schools the Government directly manages and the schools in Male'. These totalled 62 institutions (not including the Vocational Training Centre), i.e. 23.8% of the country total of 261 schools in 1989 and accounted for an enrollment of 32,887 (54.9%). Table 5.6 presents data for these schools by levels offered.

The writer has been given the opportunity to analyse, in this research, the Ministry of Education Questionnaire of 1988 (as stated in Chapter One). Of the 253 schools (see Table 5.4) to which the Questionnaire was sent, 250 returned by time of the writer's departure to U.K. for this study in 1989. According to the analysis of that Questionnaire, most of the schools (52.7%) terminated at grades 2, 3, and 4, levels, only 10.4 percent of schools terminated at grade 7 and 6 schools completed the lower secondary (GCE O/Level) (see Table 5.7). With the exception of four secondary schools, most of the

schools are straight-through schools. Hence, one could assume that, in general, the grades below the terminal grade indicated in the Table (beginning from grade one) will be present in the school.

Table 5.7: Number of Schools by Highest Grades Offered in 1988

Highest Level Offered	No. of Schools	Valid % ¹	Cumul. %
Pre-school	15	6.5	100.0
Grade 1	18	7.8	93.5
Grade 2	28	12.2	85.7
Grade 3	42	18.3	73.5
Grade 4	51	22.2	55.2
Grade 5	31	13.5	33.0
Grade 6	13	5.7	19.5
Grade 7	24	10.4	13.8
Grade 8	0	0	3.4
Grade 9	1	0.4	3.4
Grade 10	6	2.6	3.0
Grade 11	0	0	0.4
Grade 12	1	0.4	0.4
Missing	20	-	-

Note: ¹ Percentage excluding the schools that failed to answer to the question but returned the Questionnaire.

Cumulative percentages must be used with caution.

Source: Schools (MOE Questionnaire 1988)

Table 5.8: Enrollment by the Main Levels (1988)

Pre-primary Level	7,209	16.57
Primary Level	25,263	58.06
Middle School Level	4,374	10.05
Lower Secondary Level	1,247	2.87
Higher Secondary Level	87	0.20
Special Classes and other	5,331	12.25
TOTAL	43,511	100.00

Source: Schools (MOE Questionnaire 1988)

Table 5.8 presents the enrollments of the main levels of education, analysed from the Ministry of Education Questionnaire of 1988. According to the data, more than half (58%) of the enrollment was in the primary level and only 2.87 percent (3% including the higher secondary) was enrolled in the secondary level.

D. Origin of Enrollment in Male'

In a discussion of the distribution of educational provision in the Maldives, it is useful to examine the origin of the students in Male' schools. Because, as mentioned earlier, children from the Atolls move to Male', among other reasons, for education:

- a. Proper post primary education is not available in most of the 201 islands. Very few islands have the middle school level. Anyone continuing education must move to Male'.
- b. The unreliable nature and quality of education in the islands greatly diminishes its chances being recognised for further education or opportunities of jobs.
- c. A decent job, which is the ultimate aim of the individuals, is available only in Male' or Male' region. It is the dream of everyone to send his or her child(ren) to Male' for education.
- d. Children of the Atolls also come to Male' with their parents who come for employment in Male' or the Male' region and often reside in Male' indefinitely. Since the introduction of the centralisation policy in 1958, an unprecedented internal migration towards Male' has taken place at an increasing rate. (A significant number of expatriate workers have also found employment in Male' and the Male' region over the last two decades.)

According to the survey conducted by the Ministry of Education in 1988, out of an enrollment of 13,889 in education institutions in Male', 6,262 (45.1%) were from the Atolls and 7,627 (54.9%) were Maleans (see Table 5.9). Of the enrollment classified as of Atoll origin, 1,266 (20.2%) children had parents working in the government in Male', most likely in permanent jobs. In other words, most of

**Table 5.9: Origin of Enrollment in Male' Schools
by Provision- January 1988 (Grades 1 - 12)**

		Government Schools	Private & Comm. % Schools ¹	%
1. Total Enrollment	13,889	8,257	59.4	40.6
2. Maleans	7,627	6,476	84.9	15.1
(as % of 1)	(54.9)	(78.4)		(20.4)
3. Atollis	6,262	1,781	28.4	71.6
(As % of 1)	(45.1)	(21.6)		(79.6)
	<u>Of whom:</u>			
a) With Parents in				
Civil Service	1,266	410	32.4	67.6
(as % of 3)	(20.2)	(23.0)		(19.1)
b) Without Parent	2,338	315	13.5	86.5
(as % of 3)	(37.3)	(17.7)		(45.1)
c) Other	2,658	1,056	39.7	60.3
(as % of 3)	(42.4)	(59.3)		(35.8)

Note: 156 unaccounted may be foreigners or VTC

¹ Pre-school enrollment of 1987 deducted from Pvt. schools

Source: Ministry of Education survey January 1988

these children are permanent residents of Male'. There were 2,338 (37.3%) children staying without any of their parents in Male', on arrangement made with host guardians. These children have, most likely, come to Male' purely for education. Most of the "Others" group in the Table are children with parents working in Male', most likely in the private sector or self-employed. They can be classified as residents in Male' alongwith the children with parents in the civil service in Male'. This shows the extent of permanently resident children counted in the survey as Atollis.

The writer feels that the survey is very confusing, as far as its usefulness in education is concerned. The survey very strictly adhered to the registration criteria of Male' Municipality, which, the writer believes, is not necessarily constructed with these kinds of needs of the public services sectors in mind. For example, the current criteria counts the child with an originally Malean registered male parent as Malean regardless of his or her residence, presence or absence in Male' while categorically omitting the child with the Malean female parent (when the male parent is not a registered Malean) to be counted as Malean whether the child has never lived anywhere else in his or her life or whether the female parent owns residential property in Male' that the child will probably inherit and live in for the rest of his or her life. Such criteria cannot be very helpful in services planning anyway. For this reason, a proper survey will be proposed and discussed in Chapter Seven, to enable an assessment to be made of the demand for education at the secondary level.

How do the Atolls' students divide up between government schools and, the private and community schools in Male'? Out of the 6,262 Atollis, 28.4 percent are enrolled in government schools and 71.6 percent in private and community schools. Out of the Malean pupils, 84.9 percent are enrolled in government schools and 14.1 percent in private and community schools (Table 5.9). If students without parents resident in Male' are counted as children who have actually come to Male' for education, then 2,338 (13.5%) were in government schools and 86.5 percent in the private sector. (Based on data from the Ministry of Education)

E. Sex Ratios of Enrollment

As a tradition in education in the Maldives, boys and girls are expected to go to school and be educated alike. UNICEF acknowledged the Maldives as "one of the few countries in the developing world to overcome the gender bias" in providing educational opportunities to children (UNICEF, 1989, p.51). This statement can be verified by

analysing the aggregated gross enrollments. Table 5.10 presents sex ratios for the enrollments in 1989 for the regions. The ratios are close, assuming that the population itself does not have a significant sex-bias. The proportion of girls varied between 47.1 and 52.2 percent while the ratio for the country was 49.1 percent.

The same is also true in the enrollment at secondary level. For example, in 1988, the enrollments for grades 8-12 in schools in Male' maintained a proportion of 50.3 percent for females in the total (see Table 5.11).

But a problem emerges when the statistics for educational attainments are examined. Table 5.12 presents data from the Census, 1985. Opportunities may be offered without any discrimination of sexes, but achievements have reduced as they moved up the ladder in the system. By the time they reach higher education, the percentage reduces to 20.6 percent. Clearly, girls dropping out of the system have done so with lower attainment.

Table 5.10: Student Enrollment by Sex - 1989

<u>Region</u>	<u>Total</u>	<u>Female</u>	<u>Male</u>	<u>% Fe</u>
Haa Alifu Atoll	3165	1604	1561	50.7
Haa Dhaal Atoll	3159	1591	1568	50.4
Shaviyani Atoll	2297	1111	1186	48.4
Noonu Atoll	2393	1204	1189	50.3
Raa Atoll	2467	1278	1189	51.8
Baa Atoll	2382	1173	1209	49.2
Lhaviyani Atoll	1944	937	1007	48.2
Kaafu Atoll	1378	649	729	47.1
Alifu Atoll	2959	1471	1488	49.7
Vaavu Atoll	384	188	196	49.0
Meemu Atoll	1096	539	557	49.2
Faafu Atoll	715	343	372	48.0
Dhaalu Atoll	939	482	457	51.3
Thaa Atoll	2348	1165	1183	49.6
Laamu Atoll	2051	1070	981	52.2
Gaafu Alifu Atoll	1579	786	793	49.8
Gaafu Dhaalu Atoll	2741	1340	1401	48.9
Gnaviyani Atoll	1564	754	810	48.2
Seenu Atoll	4579	2266	2313	49.5
Male'	19739	9430	10309	47.8
<u>Total</u>	<u>59879</u>	<u>29381</u>	<u>30498</u>	<u>49.1</u>

Source: MOE (1990a) Basic Data on Enrollment, Tab.2, p.3

Table 5.11: Enrollment by Sex/ Secondary
(1988)

	Total	Female	Male	% Fe
Grade 8	575	321	254	55.8
Grade 9	422	203	219	48.1
Grade 10	235	121	114	51.5
Grade 11	48	11	37	22.9
Grade 12	54	15	39	27.8
Total	1334	671	663	50.3

Source: Schools (MOE Questionnaire, 1988)

Table 5.12: Educational Attainment Levels-1985
(Population 6 years and above)

	Total	Male	Female	% Fe
All Levels above	121,847	63,485	58,362	47.90
No standard passed	29,709	15,177	14,532	48.91
Primary Level	54,879	27,215	27,664	50.41
Not Completed	50,688	24,978	25,710	50.72
Completed	4,191	2,237	1,954	46.62
Middle School Level	3,955	2,273	1,682	42.53
Not Completed	2,269	1,266	1,003	44.20
Completed	1,686	1,007	679	40.27
Secondary Level	1,943	1,189	754	38.81
Not Completed	1,371	845	526	38.37
Completed	572	344	228	39.86
Pre-university Level	720	444	276	38.33
University Level	136	108	28	20.59
Informal and Vocational	30,505	17,079	13,426	44.01

Source: Census 1985 (MPD, undated2), Table P-12, p.80-89

This imbalance is not a recognised problem yet. It needs to be diagnosed properly first, and the causes identified. Proper studies have not been conducted in this area. Naseem conducted a very limited study in school enrollment and drop-outs in island

schools (basically primary schools) in Seenu Atoll (Naseem, 1987). He found that the main reasons for not sending children to school were financial difficulties, family problems (e.g. separation), sickness, distance from school (applies only to six to eight islands in the south), parents' dissatisfaction with the quality of education offered in the schools (Naseem, 1987, p.46). None of these reasons or any other was found to be particularly associated with girls.

As the level of education goes higher the child will obviously be required to move to Male'. This imposes several limitations on many children, most of all on girls. Parents are more unwilling to separate girls from them than they are to separate boys. They believe that girls require more secure custodians in the destination island. As the girls grow older and the level of education increases, the problems obviously increase. The higher the education the farther the candidates have to travel for it. Higher education and training can be acquired only abroad.

F. Coverage

Two difficulties restrict construction of a sound indicator for educational coverage at various levels. The first is the difficulty of sorting enrollment data into levels as discussed previously. The second is the reliability of the data available. For these reasons, indicators such as net enrollment ratios are impossible to calculate to a reasonable accuracy. The closest ratio possible to obtain from the available data is the gross enrollment ratio (the ratio of the enrollment of a level of education to the population of the age bracket set for that level) presented in Table 5.13. The populations for the age brackets are projections made by the Ministry of Planning and Development. The enrollment figures for Male' schools and the government schools in the Atolls are original

Table 5.13: Gross Enrollment Ratios - 1989

	Primary	Middle School & Secondary
Population	26,066 ¹	22,296 ²
Gross Enrollment: AEC+Other	9,791	1,822
Trad. Sch.	17,131 ³	571 ³
Male'	7,894	6,040
Total Gross Enrollment	34,816	8,433
<u>Gross Enrollment Ratio</u>	<u>133.57 %</u>	<u>37.82 %</u>

Note: ¹ Population projection for 5-9 age group for 1990

² Population projection for 10-15 age group for 1990

³ Calculated on the basis of the distribution in 1987

Sources: MOE (1990a), MOE (1990b)

figures while those for the traditional schools have been calculated using the ratios of distribution among the levels in these schools in 1987. It is assumed that the pattern of flow through the traditional system did not change significantly in the Atolls in 1988 and 1989.

According to the data, the gross enrollment ratio for primary level for the country was 133.57 percent while that for secondary level including the middle school but excluding the upper secondary, was 37.82 percent. The ratio for the secondary level excluding the middle school but including the upper secondary would be lower. It was not possible to calculate the ratios for the regions separately. But, from the above discussion the picture is clear: lower and Upper Secondary levels are completely absent in the Atolls while the middle school level is relatively small.

IV. HIGHER EDUCATION AND TRAINING

The absence of higher education institutions is another feature the Maldives shares with the small dispersed island states in general (see Chapter III). The Institute of Teacher Education and the Institute of Islamic Studies provide some advanced training programmes in their respective fields. Apart from them, Maldivians have to travel overseas for higher education and training. They go to any country where they can simultaneously secure a sponsorship and seek an admission to an institution. They go to countries in the Middle East, in the region and in Europe, the United States, Australia and New Zealand, etc. According to information from the Ministry of Education on the placement of students abroad, and the writer's experience as a member of the Scholarship Board 1979-81, the successful seizure of an opportunity of higher education or training abroad, in principle, must meet the following requirements:

1. There is an identified need for training in the particular field in the public sector. Occasionally consideration is given to the private sector. Training organised by the private sector for its own manpower is very rare.
2. Availability of a sponsor to finance the training needed by the public sector. Very few individuals are capable of sending their children abroad for higher education. Normally, it is an external donor, either bilateral or multilateral, who have their own priorities and areas of interest in financing training.
3. Availability of the required educational or training programme in an institution the sponsor will accept to finance.
4. Suitability of the available candidate or the availability of a suitable candidate who can meet the admission criterion of the institution. Often,

this is a difficult hurdle due to the lack of secondary school graduates with the necessary examination results.

5. Acceptance of the candidate by the institution identified.

Although this is the formal procedure, compromises are often made to make placements possible. Successful placements are desired so much that considerable flexibility is exercised on the specificities of the required training. This tends to distance the training programme from the actual needs.

Nevertheless, Maldivians were able to avail themselves of 335 training programmes in 1989. Table 5.14 presents the frequency distribution of the number of courses by their duration. Most of the courses were short-term, 255 (76%) were less than one year's duration, 25 (7.5%) were between 1 and 2 years' duration, 28 (8.4%) were 2 to 3 years' duration, 13 (3.9%) were 3 to 4 years' duration and 14 (4.2%) were 4 to 5 years' duration. If 3 years and above are taken as the first degree equivalent, 27 trainees travelled for higher education at the first degree level, if 30 months and more are taken as degree equivalent courses, the number is 44. Since, these figures include those rejoining higher education for post graduate studies as well, the number of trainees of 1-2 years duration will include students pursuing post graduate degrees.

A. Higher Educational Attainments

With the lack of higher education facilities in the country, only a small proportion of the population has attained a degree, an advanced training or their equivalents. In 1985, only 136 were recorded as having attained university level education. Of them 108 were males and 28 were females, and 117 were from Male' and 19 from the Atolls (see

Table 5.15). Only 720 were recorded as having attained pre-university level. (MPD, undated2, p.80-89)

Table 5.14: Externally Pursued Training Courses/ Programmes
By Duration (1980-84, 1985-87, 1988, 1989)

Duration (in months)	1980-84	1985-87	1988	1989
Less than 1	107	116	52	74
2-3	279	255	95	101
4-6	132	65	24	23
7-12	185	118	48	57
(sub-total)	(703)	(554)	(219)	(255)
13-18	25	19	12	14
19-24	21	49	10	11
(sub-total)	(46)	(68)	(22)	(25)
26-30	18	15	3	4
31-36	8	35	20	24
(sub-total)	(26)	(50)	(23)	(28)
37-42	5	10	1	5
43-48	12	23	12	8
(sub-total)	(17)	(33)	(13)	(13)
49-54	7	5	1	0
55-60	14	7	5	14
(sub-total)	(21)	(12)	(6)	(14)
More than 60	20	8	5	0
Unspecified	57	20	0	0
Total	890	745	288	335

Source: President's Office

Table 5.15: Educational Attainment Levels
(Population 6 years and above)

	Total	Male	Female
Pre-university Level	720	444	276
Atolls	92	75	17
Male'	628	369	259
University Level	136	108	28
Atolls	19	17	2
Male'	117	91	26

Source: Census 1985, Table P-12, p.80-89

B. Production of Potential Candidates

A significant problem identified for manpower development in recent years was the dearth of trainable persons: the production level of potential candidates for higher education and training was low. Table 5.16 presents the out-turn of various centres that have some capability of producing candidates for higher education and advanced training. Not all of them obtain adequate results in their examinations nor do all the streams in the institutions provide the necessary background for acceptance on higher education or training programmes abroad.

According to data of 1978-1988, the output of A/level graduates between 1981-88 averaged 35 while the highest turn out of O/level candidates was 324 in 1988. The graduates of the English-medium course of Teacher Training are potential candidates for higher education and training. But, the products of Rural Youth Vocational Training Centres, included under the Vocational Training Centre in 1988, cannot be considered for a higher education or training course. Graduates of the Vocational Training Centre can, however, depending on their performance, possess the background to pursue advanced technical training. Elementary and intermediate levels of the London Chamber of Commerce are not normally accepted for high level programmes.

Table 5.16: Out-turn of Potential Candidates for Higher Education or Advanced Training

Year	G.C.E./London Uni.		London Chamber of Commerce Exams				V.T.C.	ITE 2/ Eng. Med.	Hotel School
	O/Level	A/Level	Element.	Interm.	Higher				
1978	121	2	14	9	-	n.a.	-	-	
1979	178	-	11	-	-	n.a.	-	-	
1980	134	-	-	-	-	n.a.	9	-	
1981	144	30	24	-	-	n.a.	11	-	
1982	166	28	36	-	-	n.a.	9	-	
1983	149	33	22	-	-	68	8	-	
1984	178	33	62	-	-	65	18	-	
1985	175	18	100	22	3	156	10	-	
1986	208	59	199	16	2	141	19	-	
1987	248	36	219	4	4	132	17	22	
1988	324	39	143	16	3	172 1/	16	40	

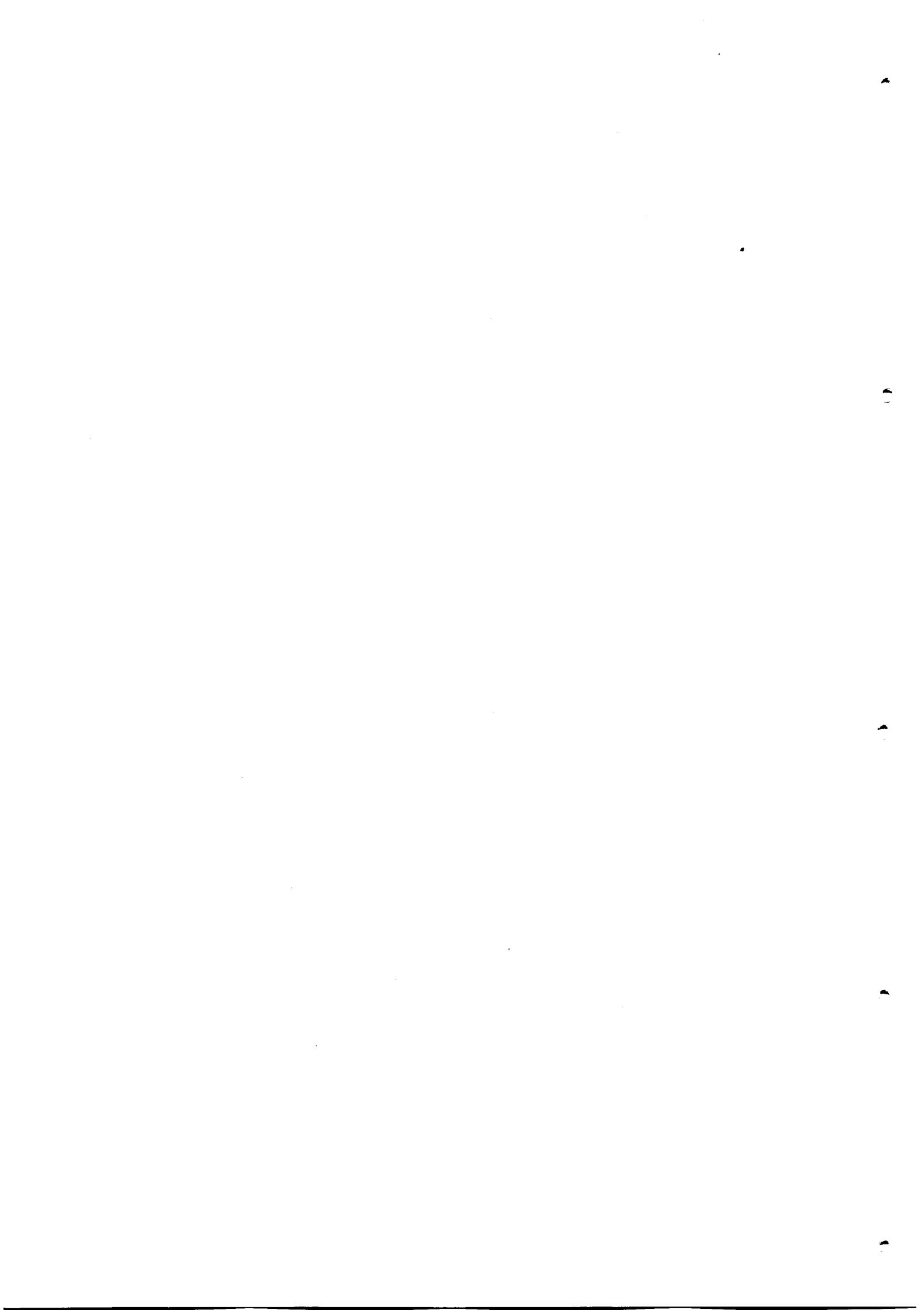
Note: VTC= Vocational Training Centre

n.a.= not available

1/ includes enrollments of 4 Rural Youth Vocational Training Centre

2/ Dhivehi-medium trainees (the main programme of teacher training with an annual turn out between 38 and 56 between 1983 and 1987) of ITE are not included

Source: Ministry of Education,



The dearth of trainable persons, namely, graduates of the secondary and its equivalent levels will, however, improve significantly in the near future. The inflated cohorts resulting from the educational expansion beginning in 1978 and 1979, are on their way through the system. Despite the low quality and high wastage in the schools, considerable numbers will start to ripple out of the system shortly. For example, based on student flow data obtained from some secondary schools in Male', it was possible to make the following projections for Grade 10 for the period 1990 to 1993 (see Table 5.17). It is expected that the enrollment of Grade 10 in 1991 will be approximately 700 which will increase to 1169 in 1992 and to 1153 in 1993.

Table 5.17: Estimated Student Enrollment for Grade 10
in Male' 1990-1993

	1989	1990	1991	1992	1993
Govt. Schools	197	343	352	561	653
Pvt. & Comm. Schools	165	216	349	608	500
Total	362	559	701	1169	1153

Note: 1989 are actual enrollments, MOE (1990a)

Calculations do not include transfers at grade 8 level from Atoll schools

The enrollments of grade 10 normally appear in the final examination and are counted as potential candidates for further training in one form or the other depending on their results. Those who obtain good results may be considered as potential candidates for higher education while those who do not do very well in the examination will be suitable for various forms of technical and vocational training. These figures may even be expected to increase as the quality of teaching, and the efficiency of schools, improve.

C. Transition to Higher Education

Table 5.18 compares the number of potential graduates of the institutions with the number of placements on higher education or training abroad in 1988 to produce a transition ratio (in this case, the transition ratio is defined as the ratio of students entering higher education to the total number of students passing out of the secondary and equivalent level, expressed here in percentages). Compared with the placements on courses over 30 months equivalent (assumed for degree equivalent), the transition ratios for secondary and equivalent institutions is 11.14 per cent. However, if the courses of over one year duration are taken into account, the ratio is 17.47 per cent.

However, one should be cautious about using this ratio for country comparisons of coverage of higher education, without first taking into account the enrollment ratio at secondary level. Depending on the size of the secondary enrollment ratio, the picture may be very misleading. For example, in the secondary age group of approximately 22,000,

Table 5.18: Transition to Higher Education

	1988
Number appeared in O/Level	324
Number appeared in A/Level	39
Number appeared in L.C.C. (higher Level)	16
Number completed English-medium Teacher Training	16
TOTAL NUMBER OF POTENTIAL OUTPUT	395
Number of placements abroad for courses over 30 months duration	44
Number of placements abroad for over 1 year	69
Transition Ratio for degree-equivalent levels (%)	11.14
Transition Ratio for higher education, courses over 1 year (%)	17.47

Source: Tables 5.14 and 5.16 above

only 2,000 (9%) were in secondary education in 1989 (see Tables 5.5 and 5.13 above). The transition is actually made by those who graduate out of the 9 percent passing through the system. This 9 percent is an improved enrollment compared to the enrollment three to five years before.

D. Key Training Centres

The following institutions are significant in the development of the required manpower of the country:

- Institute for Teacher Education (ITE)
- Vocational Training Centre (VTC)
- Rural Youth Vocational Training Centres (RYVTC)
- Allied Health Services Training Centre (AHSTC)
- School of Hotel and Catering Services

1. Institute of Teacher Education (ITE)

Formal teacher training began in 1976 as part of an educational developmental programme of the Ministry of Education. The unit of the Ministry responsible for educational development became the Educational Development Centre (EDC) in 1979. The Institute of Teacher Education (ITE) was created from the teacher training wing of the Educational Development Centre in 1984. It was intended to train teachers to staff the schools of the country, reduce recruitment of expatriate teachers, and ultimately, replace them. The Institute also undertakes other activities directed at the improvement of teaching methods. Organisationally, the Institute is under the Ministry of Education. Physically, the Institute is housed in poor facilities with 5 classrooms and the ancillary facilities such as the library and resource rooms.

The Institute conducts the following courses:

- a 2 year Dhivehi-medium primary teacher training course designed to train teachers for the schools in the Atolls. The course primarily recruits candidates of Grade 7 level and has an intake capacity of 80 per year.

- a 1 year English-medium primary teacher training course for training teachers for English-medium schools in Male'. The course recruits G.C.E. O/Level graduates and has an intake capacity of 25 per year.
- a 1 year Dhivehi-medium course to train Dhivehi, Islam and Environmental Studies teachers for Male' schools, recruits candidates of grade 7 equivalents and has varying intakes.
- in-service courses for trained teachers in Male' and the Atolls to refresh and update their methods and contents.
- in-service courses for untrained teachers.

(ITE, 1989, p.2)

Successful trainees of the pre-service courses are employed by the government. Rarely, special arrangements are agreed upon by the Institute and private schools to train a teacher or two of the latter, in which case, the trainees are employed by those schools. The Institute had a staff strength of 18 instructors in 1988. Table 5.19 presents the number of trainees who enrolled on and completed the two main courses during 1985-89. The number of successful completions ranged between 46 and 68 in the Dhivehi-medium course and between 12 and 21 in the English-medium course.

Table 5.19: Trainees Completing Pre-service Courses of the Institute of Teacher Education 1985-87

		Enrolled on Course	Successful Completion
2-year Dhivehi- medium course	1985	57	46
	1986	56	49
	1987	70	56
	1988	n.a.	65
	1989	n.a.	68
1-year English- medium course	1985	13	12
	1986	21	19
	1987	18	17
	1988	n.a.	21
	1989	n.a.	18

n.a. = not available

Source: Institute for Teacher Education.

2. Vocational Training Centre (VTC)

Created in 1975 for the exclusive training of the technical staff of the power station of Male', the Centre was brought under the jurisdiction of the Ministry of Education in 1982 to be geared towards the wider human resource development needs. In 1987, the Centre offered the following courses:

- Marine engine repair and maintenance
- Welding and sheet metal
- Machining
- Building and construction
- Electrical installation and maintenance
- Electronics
- Refrigeration and air-conditioning

Three types of courses are offered in each of these trade areas. They were:

- a. a 2 year courses leading to a skilled qualification.
- b. a 1 year course leading to a semi-skilled qualification.
- c. Skill Upgrading Courses (short-term courses conducted in response to requests of private and government employers, aimed at improving the skills of their employees).

(VTC, undated, p.15)

In 1987, the Centre was staffed with 27 instructors teaching on 22 courses of maximum enrollments of 10 each (ILO/UNDP, 1988, p.33). Successful trainees find employment in the private sector. The intake of these courses for 1987 are presented in Table 5.20.

Table 5.20: Intake of VTC Courses in 1987

	Skilled	Semi-skilled	Upgrading
- Engine repair	7	6	6
- Welding and sheet metal	7	6	4
- Machining	5	5	2
- Building and construction	8	5	-
- Electrical	6	10	4
- Electronics	11	10	-
- Refrigeration & air-conditioning	10	8	2
Total	54	50	18

Source: ILO/UNDP (1988), p.34

The most salient feature of the Centre, quite clearly, is its high cost, the pupil-teacher ratios, and the equipment. For example, in 1988, the Centre spent Rf.1,670,788.92 out of the government budget alone on an enrollment of 251, producing a unit cost of Rf.6,656.53. The pupil: teacher ratio was 11:1. Apart from the government contribution, international assistance is channelled into the Centre in the form of experts, instructors, equipment and sometimes as stipend of trainees and materials which, if taken into account, will inflate the actual unit cost dramatically. (Based on data personally collected from VTC, includes financial reports)

3. Rural Youth Vocational Training Centres (RYVTCs)

Under the umbrella of VTC, there are 4 Rural Youth Vocational Training Centres in 4 Atolls namely, Haa Dhaalu, Raa, Kaafu and Seenu. The VTC and the 4 RYVTCs together enrolled 156 trainees in 1989 (Enrollment in VTC have fluctuated invariably). The entry level to these Centres is Grade 5, end of primary. They provide training for self-employment and for the needs of the private sectors. The Centres offered the following courses in 1987:

- | | |
|------------|---|
| Haa Dhaalu | - One- year Diesel Engine Repair and Maintenance Course with intake capacity of 12 |
| Raa | - Two-year Skilled Workers' Course in boat building with an intake capacity of 15 |
| Kaafu | - Two-year Skilled Workers' Course in furniture carpentry with an intake capacity of 15
- One-year course in Fibre Crafts with an intake capacity of 12
- One-year Course in Marine Jewellery with an intake capacity of 12 |
| Seenu | - One-year course in Wood Carving with an intake capacity of 15 |

Intake of the 3 batches prior to 1988, in the 4 RYVTCs, is presented in Table 5.21. These figures clearly indicate the small scale of operations and imply heavy overhead costs. Some of these Centres are staffed by expatriates whose costs are also relatively high.

Table 5.21: Intake of Three Batches of the RYVTCs

	1st Batch	2nd Batch	3rd Batch
Marine Jewellery	6	7	13
Fibre Craft	6	9	7
Boat Building	14	-	-
Furniture Carpentry	11	-	-
Engine Repair	13	13	-
Wood Carving	15	13	-
Total	65	42	20

Source: ILO/UNDP (1988), p.35

4. Allied Health Services Training Centre

Created in 1973, under the responsibility of the Ministry of Health and Welfare, the Allied Health Services Training Centre (AHSTC) provides training for the health workers mostly employed by the Government hospital in Male', regional hospitals in the Atolls and for the island level. In 1987, the Centre conducted courses for the following types of training (Table 5.22):

Table 5.22: Courses and Intake Capacity of AHSTC

Course	Duration	Intake Capacity	Edu. Level
1. Community Health Workers	18 months	18	Gr.7
2. Nurse Aides	12 months	18	Gr.7
3. Family Health Workers	6 months	18	Gr.5
4. Foolhuma (TBA)	4 months	8	Lit.
5. Pharmacy Assistants	12 months	12	n.a.
6. Auxiliary Nurse Midwife	6 months	10	O/L
7. First Aiders	2 weeks	20	-
8. Atoll Based Foolhuma Training	2 months	15	Lit.

Foolhumas = Traditional birth attendant

Source: Khanijo (1988)

While Nurse Aides are trained for hospitals, Community Health Workers and Family Health Workers are trained to attend to the primary health care needs of the Atolls. The intake capacities of the courses are between 8 and 20, mostly 18. The actual intake data of the courses conducted in 1987, 1988 and 1989 are presented In Table 5.23.

Table 5.23: Intake and Completion of Courses-1985-87

	Years	Intake	Completed	Dropped Out
1. Nurse Aides	1987	23	18	5
	1988	15	15	-
	1989	9	9	-
2. Family Health Workers	1987	34	34	-
	1988	18	17	1
	1989	34	34	-
3. Foolhumas (TBA) (Traditional Birth Attendant)	1987	19	19	-
	1988	-	-	-
	1989	-	-	-
4. Community Health Workers	1987	9	9	-
	1988	-	-	-
	1989	9	8	1
5. Pharmacy Assistants	1987	7	5	-
	1988	-	-	-
	1989	9	9	-
6. Auxiliary Nurse Midwife	1987	10	10	-
	1988	-	-	-
	1989	-	-	-
7. Community Health Aide	1987	-	-	-
	1988	-	-	-
	1989	9	8	1
8. Atoll Based Foolhuma Training	1987	28	28	-
	1988	28	28	-
	1989	20	19	1
9. First Aiders	1987	57	57	-
	1988	46	46	-
	1989	40	40	-

Source: Allied Health Services Training Centre

According to the Table, courses such as those for Nurse Aides, Family Health Workers and First Aiders have enrolled even more than their intake capacities while courses such as those for Community Health Workers and Pharmacy Assistants were undersubscribed. As these training programmes are measures taken to alleviate manpower shortages in the country, most of those who successfully complete these courses are employed by the government. Foolhumas (traditional birth attendants), however, become self-employed (Information from AHSTC; ILO/UNDP, 1988, p.37).

5. School of Hotel and Catering Services

Established in 1987 under the Ministry of Tourism, the School conducts yearly training in General Hotel Services and Short Intensive Courses. The School takes in O/Level candidates. In the short period of existence, it has projected an image of prospects and attracted both the candidates and the employers. On the one-year full-time course on "General Hotel Services", the school enrolled 22, 40 and 33 trainees in 1987, 1988 and 1989 respectively, of whom 22, 30 and 32 respectively, successfully completed the course. In addition, the School also conducted short courses in 9 other areas of the service. The successful trainees find employment in the hotel industry. (Information from the Hotel School and ILO/UNDP, 1988, p.36)

V. ADMINISTRATIVE ORGANISATION OF EDUCATION

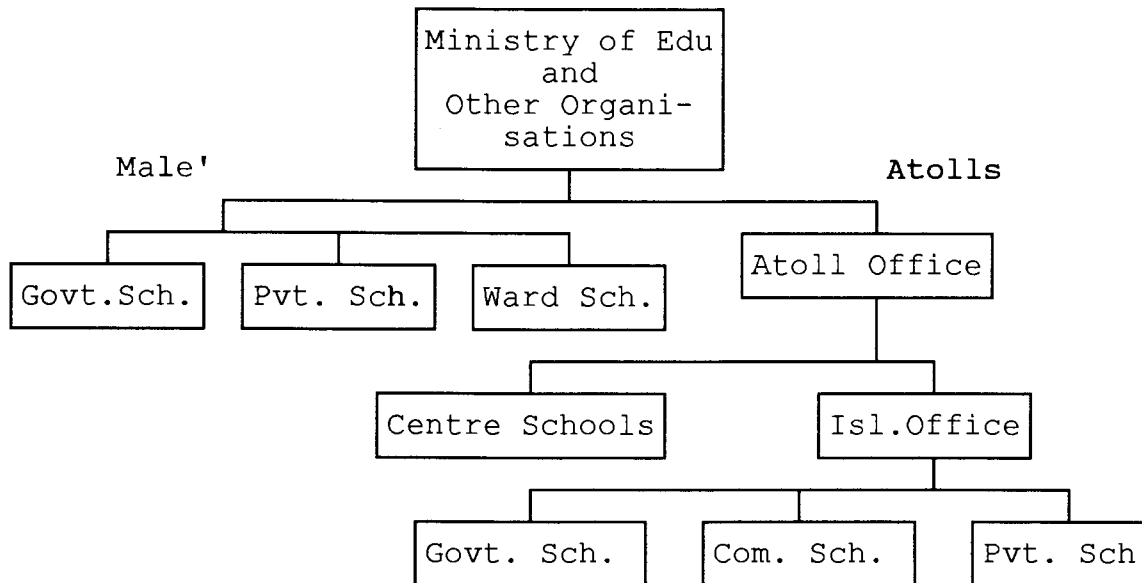
A. The Overall Structure

Instituted by the first constitution in 1932, the Ministry of Education has overall responsibility for education (the current Ministry has its statutory base in Law No. 3/68J). But, over the years, the actual fulfilment of the obligation in the Atolls continued to remain with the local administrations, namely the Atoll Offices and the Island Offices. In Male', the government (the Ministry of Education) engaged directly in the provision of education with and without the involvement of the Ward Administrations.

An unprecedented influence of the government on the administration of schools in the Atolls began by the beginning of 1980s. The involvement conforms to the overall pattern of the general administrative structure described in Chapter IV. Authority and control are concentrated in the central level, Male' while the responsibility for over-seeing and implementation of selected programmes lies with the Atholhu Veriyaa (Head of Administration of the Atoll), as do other responsibilities like health and welfare.

Figure 5.3 represents the broad hierarchy of educational administration in the country. The schools in

Figure 5.3: Broad Hierarchy of Educational Administration (1990)

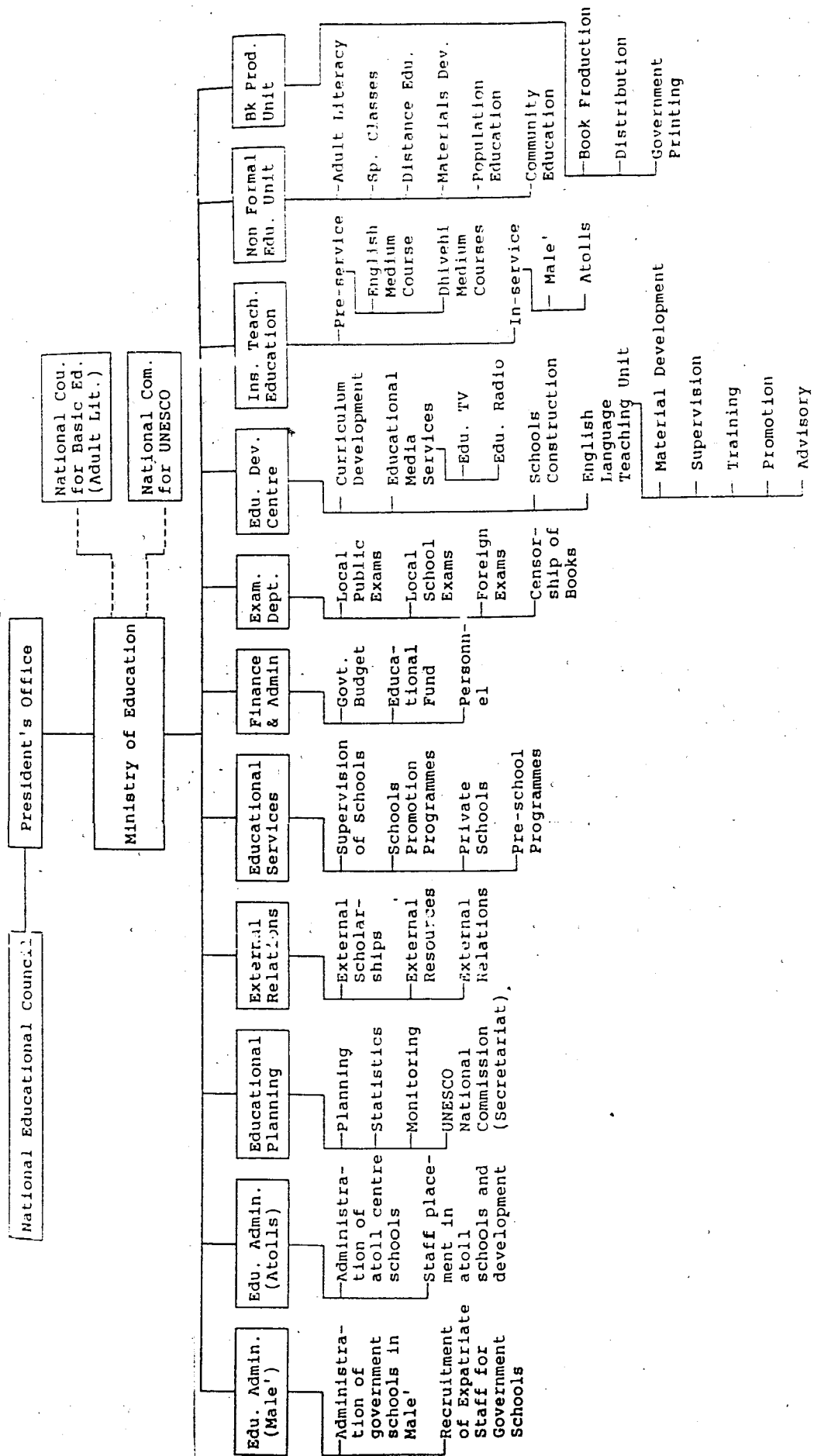


Male' have a shallower hierarchy (fewer levels) compared to the schools in the Atolls. This feature is particularly significant when the role of the central authority in decision-making is significantly great.

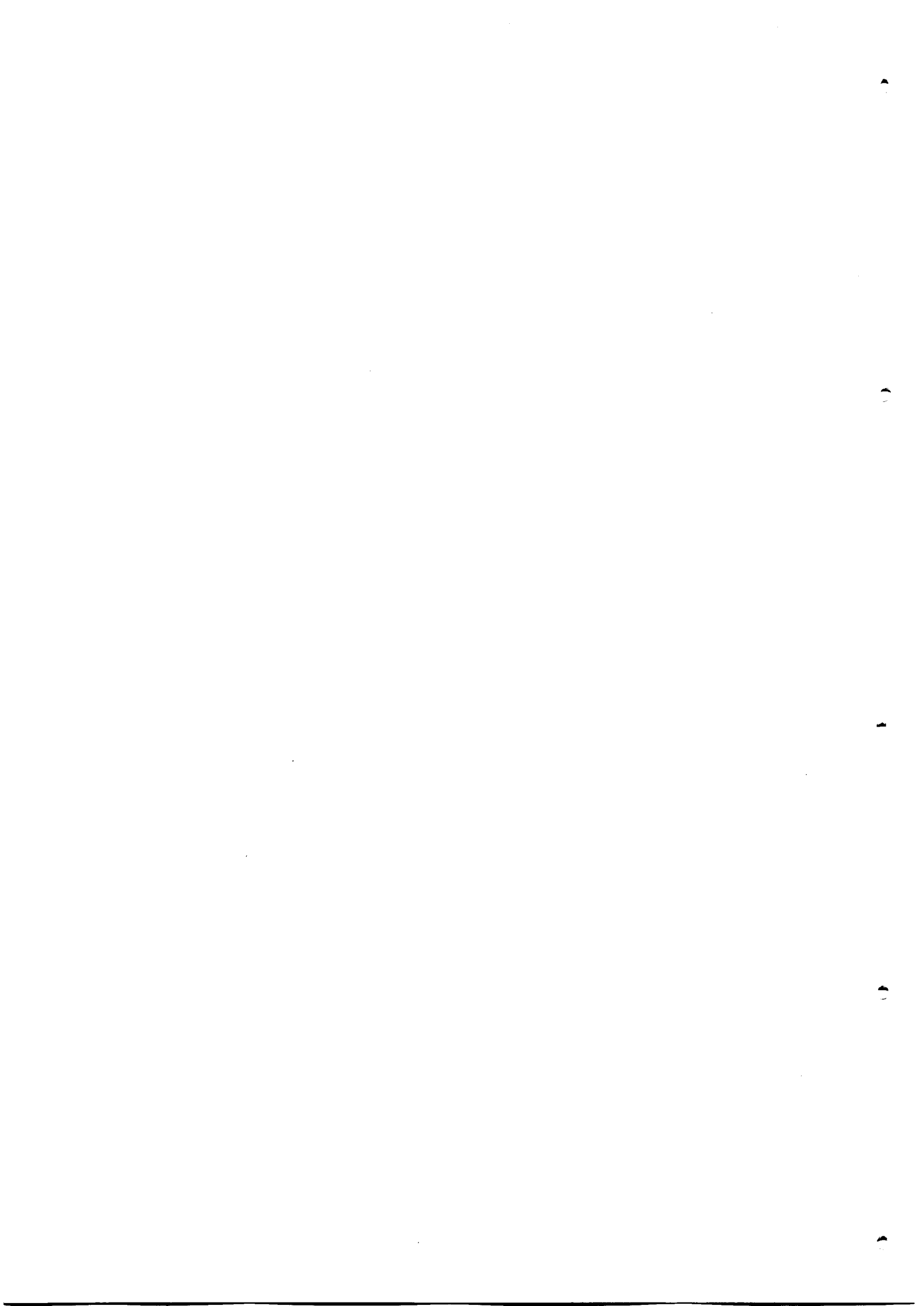
B. The Ministry of Education

The Ministry of Education, accountable to the President's Office, is, since 1988, guided by a National Education Council presided over by the President himself. The Ministry has five separate key organisations which provide the professional and technical support needed by the Ministry in the implementation of its plans and achievement of objectives. (Figure 5.4 represents the Organisation of

Figure 5.4. Organisation chart of the Ministry of Education



Source: Based on Latheef (1982a), Latheef (1982b) and updated information from the Ministry of Education



the Ministry of Education.) The subordinate organisations of the Ministry are:

- the Examinations Department,
- the Educational Development Centre (EDC),
- the Institute of Teacher Education (ITE),
- the Non-formal Education Unit (NFEU), and
- the Book Production Unit

In addition, the Ministry has six other key sections directly executing decisions and coordinating programmes and activities, although sections such as "Planning" provide the technical support to decision-making processes. The sections and the main responsibilities of the Ministry are:

- Administration of Male' Government Schools:- oversees and facilitates the administration of government schools in Male', recruits expatriate staff for those schools and, whilst doing so, recruits the few expatriate staff allowed in government schools in the Atolls.
- Administration of Government Schools in the Atolls:- oversees and facilitates the centre schools in the Atolls provided and managed by government; also takes charge of placement of teachers trained by the Institute of Teacher Education, and recruitment and transfer of government-paid teachers in the Atolls.
- Planning:- In charge of educational planning, collection of data and preparation of educational statistics; monitors educational projects within and outside the plan; and assumes the role of the secretariat of UNESCO National Commission

- External Relations:- coordinates (i) external financing of educational projects (e.g. those of UNICEF, UNDP), (ii) bilaterally and multilaterally funded scholarships (which are themselves external funding of education), and (iii) activities of cultural and multilateral relations and programmes participated in education. e.g. SAARC,
- Educational Services:- supervises private and community schools, conducts programmes to promote the quality of education in schools e.g. inter-school competitions, in-service activities for teachers and supervisors to strengthen supervision (including pre-school teaching), and conducts pre-school programmes in private and ward schools in Male'.
- Administration and Finance:- attends to staffing, financing and administration of the Ministry and coordinates those of other organisations in the sector.

(Source: Latheef , 1982a; and information from MOE)

C. Examinations Department

The Department is responsible for the organisation and conduct of the following examinations:

- (i) school examinations publicly held throughout the country or in Male' such as the Junior School Certificate (JSC) for Grades 7, Secondary School Certificate for Grade 10 level, and Higher Secondary Certificate for A/Level.
- (ii) public examinations on set subjects, and

- (iii) external examinations such as the G.C.E. O/Level and A/Level examinations of the University of London, Cambridge Certificate examinations, examinations of the London Chamber of Commerce, and other external examinations arranged by individuals.

(Information: MOE)

Syllabuses for the local examinations are set by the Department in coordination with the related organisations such as the Educational Development Centre and the schools while those for the overseas examinations are set by examination boards overseas. The syllabuses and examination papers are set and answers are marked by the respective overseas examination boards. Certification for the completion of secondary education is provided through the external examination.

Dependence on external examination boards is a significant feature in the Maldives. In the absence of higher education institutions in the country, the schools are required to ensure that their graduates meet the requirements of higher education institutions overseas. The solution chosen by the Maldivians is to take a widely recognised examination from a reputable examination board. As it solves a key problem, it opens up new ones. Whilst the strategy provides widely recognised certificates, it undermines the power of the Ministry of Education to guide the curriculum and the relevance of content. This question will be discussed further under "School Curricula" below.

D. Educational Development Centre (EDC)

The Educational Development Centre (EDC) was evolved in 1979 out of an educational project introduced in 1976, sponsored jointly by UNDP/ UNESCO/ UNICEF/ Government. The Centre constituted the key force and the implementation agency for the development and expansion of the educational services in the country over the last decade. It was responsible for the development and establishment of the A/Level school (Science Education Centre) in 1979, Institute of Teacher Education (ITE) in 1984, the Non-formal Education Unit (NFEU) in 1988, and the Book Production Unit in 1989. It systematically develops essential services deficient in the management and operations of the education system to an adequate level.

At present, the Centre is responsible for curriculum development for schools (see "School Curricula" below), implements a country-wide programme to improve the physical facilities of schools and produces educational radio and television programmes sponsored jointly with the "Voice of Maldives" and the TV Maldives. It also houses the English Language Teaching Unit responsible for working towards the improvement of English language teaching in schools through the development of teaching and learning materials, conduct of in-service programmes for English Language teachers and provision of advisory services to schools and teachers.

E. Institute for Teacher Education (ITE)

The aspects related to the production capacity of the Institute have been dealt with under "Key Training Centres" above. The training and teacher provision aspects will be discussed under "Teachers and Teacher Training" below.

F. Non-formal Education Unit

The Non-formal Education Unit (NFEU) created out of the Non-formal Education wing of EDC is at present responsible for the following:

- National Literacy programmes and the post-literacy Basic Education programme,
- Special classes conducted in schools for out-of-school youth, which are expected to increase as a result of the poor quality of teaching in the schools in the Atolls.

- the Population Education programme to promote awareness of population growth and its possible consequences, providing an understanding of how to deal with them according to the individual's circumstances.

- Community Education programmes aimed at providing adults with the basic essential skills necessary to maximise participation in island community life.

G. Book Production Unit

Grown out of the Book Production wing of the EDC, the Book Production Unit of the Ministry of Education is charged with the responsibility of printing the teaching/ learning materials developed by the EDC, NFEU and other educational organisations, and making them available. With its capacity to print only a fraction of the materials developed, and the other printing demands made on it, it contracts out printing loads to private printers.

VI. SCHOOL CURRICULA

A. Primary and Middle School Level

The current primary and middle school curriculum, introduced through 1984 to 1990, is composed of seven subjects for grades 1-5 and nine subjects for grades 6-7. The subjects are as follows:

1. Dhivehi (Maldivian Language)	Gr. 1-7
2. Islam	Gr. 1-7
3. Mathematics	Gr. 1-7
4. English Language	Gr. 1-7
5. Environmental Studies	Gr. 1-5
6. Practical Arts	Gr. 1-7
7. Physical Education	Gr. 1-7
8. General Science	Gr. 6-7
9. Social Studies	Gr. 6-7
10. Arabic Language	Gr. 6-7

(Information: EDC)

Except Dhivehi (the Maldivian Language), Islam and Arabic, all the subjects are taught in the respective medium of instruction of the school. Except in Arabic-medium schools, the Arabic Language, in non-Arabic schools, is taught in a very limited manner.

The curriculum was introduced with some national aspirations and goals. It was a novel experience for Maldives to have the introduction of a uniform curriculum and provision of the necessary materials, and the simultaneous training of the teachers. The scale of the operation was unprecedented. The programme was aimed not only at providing a nationally-desired development-oriented curriculum (with increased relevance) but also to alleviate the dearth of suitable local teaching and learning materials. (see Educational Goals under "Educational Policies and Plans" below)

B. Secondary Level

Secondary level general education is available only in a few schools in Male'. They teach in English with the exception of the Institute of Islamic Studies. The English medium schools choose subjects from the University of London Schools Examination Board syllabuses, except Dhivehi and Islam. Upon completion of grades 10 and 12 the students appear for GCE Ordinary and Advanced Level Examinations of the University of London. For Dhivehi and Islam they appear for the Secondary School Certificate and Higher Secondary Certificate examinations at the two levels respectively. These two examinations are offered by the Examinations Department of the Ministry of Education.

The students of the Institute of Islamic Studies follow syllabuses endorsed by Al-Azhar University in Cairo. Upon completion of grade 10, they appear for a secondary school examination set by the Examinations Department based on syllabuses approved by the University's school examination authorities. The Certificate is recognised by many Middle Eastern universities which, in effect, is the prime purpose of the Certificate and one of the chief aims of the Institute.

The two media of secondary education available in the country teach the traditional subjects of the sciences and arts. For example, students of the English-medium schools appeared in the following subjects in the G.C.E. examinations in 1990 and still continues:

Art	O/L	-1/
Biology	O/L	A/L
Fisheries Science	O/L	-
Chemistry	O/L	A/L
Economics	O/L	A/L
English Language	O/L	-
English Literature	O/L	-2/
Geography	O/L	A/L
Graphical Communication	O/L	-
History	O/L	A/L
Mathematics	O/L	A/L
Mathematics with Statistics	-	A/L
Physics	O/L	A/L

1/ Optional; candidates appear irregularly

2/ Stopped in 1988

Source: Ministry of Education

C. External Linkage of Curricula

The linkage of secondary education to examination systems outside the country is largely circumstantial. In the absence of higher education institutions in the country, the system is compelled to satisfy the requirements and recognition of institutions of higher education abroad, to enable Maldivians to pursue higher education and advanced training vital for the development of the country. However, the certification and recognition sought is not without costs. The most important cost being the relinquishing of control over its own curriculum at the secondary level.

Except religious education and the Maldivian Language, which in reality take lower priorities in terms of content, quality of teaching and emphasis (e.g. lowest number of periods, 3 periods each, out of 45 per week in Gr.9) compared to the rest of the curricula, all syllabuses are chosen from the sets of syllabuses provided by foreign examination boards. Although it is the country's own choice, it is a helpless position in the conduct of secondary education. It very seriously undermines the country's intention and ability to apply its own educational philosophy or pursuit of its own educational goals. (see "Educational Policy and Plans" below for educational goals)

The handicap does not stop at the secondary level. In view of the quality of teaching in the schools, three years (Grades 8-10) are allocated to cover the two year syllabuses of O/Level. For innumerable reasons, the three years has never been enough (the medium of instruction being English from pre-school level). As a result, progressively the entire system is geared towards the external syllabuses at the end. The national interest and public demand for the certificates are so great that every possible means and effort are made to improve the results of those examinations. These effort and means do not preclude the sacrifice of education of the primary and middle school levels.

The drive for the certificates creates considerable problems as far as teaching and the quality of education are concerned (Dore, 1976). The certificate drive combined with the external linkage is twice as serious in terms of the relevance and meaningfulness of education. It greatly undermines the true purpose of education. The broader educational objectives laid down for the system diminishes into a mere rhetoric. Education of the thousands who, by design of the system, will never reach a syllabus of the G.C.E. but will drop out at some stage to re-integrate into society, are overwhelmingly subjected to the alien obsession.

D. Innovation to Alleviate External Dependence

Under the circumstances, an exemplary innovative effort was made in the 1980s. To inject an element of closer relevance into the secondary school curriculum, the Educational Development Centre developed a subject called Fisheries Science, which was introduced into the secondary schools beginning in 1983. Arrangements were made with the University of London Schools Examination Board for it to be offered to Maldivian students as an option. Teaching and learning materials were developed and teachers were trained locally. Methods of assessment and marking criteria were provided to the external Board by the Centre. Because of the small number of prospective candidates, heavy overhead costs had to be borne by the Maldivian Government. However, to be attractive to parents and students, and to be recognised abroad, the subject had to appear to be an externally examined subject.

The contents of the subject were drawn mainly from marine biology, fishing technology, economics, management of fishing and methods of fishing. The first batch of students appeared in the O/Level examination in January 1987 to be continued thereafter.

The effort, however, required a substantial input of expatriates and external funding in the initial stages. To that extent, the effort did involve an external dependence

which it was possible to eliminate later. Another observation to make is the heavy fixed financial costs the subject still incurs on the Ministry of Education of the Maldives: a cost to pay for having to be brought from abroad. Unlike the subjects offered by the London University Schools Examination Board in their normal modes, the small number of candidates does not allow the Board the advantage of economies of scale. The burden is obviously passed to the consumer. The constraint of scale recurs again.

VII. TEXTBOOK PRODUCTION

A. Textbook Development and Publishing

The curriculum development work for the formal and non-formal sectors requires follow-up by textbook development and publication. The textbooks and other materials for the formal schools are developed by the Educational Development Centre. This is another area where small numbers and the small pool of skills in the country limit the ability to serve the system efficiently and effectively. A few staff employed in the Centre and a small pool of persons such as teachers, with the necessary background, exclusively engage in the development of teaching and learning materials. Individual and private interest to take up this kind of work for commercial value is absent. This was evident by the absence of response to the announcements made by the Centre to find interested parties. The reason may be lack of confidence and knowledge to organise such an initiative and or lack of capable persons to do it. This limitation causes a narrowing down of the range of options available and the creativity in the input of content and presentation.

Nevertheless (according to information the writer personally collected from EDC), the Centre published a total of 100 titles in 12 subject areas between 1984-88. The materials were mainly pupils' books, teachers' guides, pupils' workbooks and readers. Most of the books were developed for the primary and middle school levels. Textbooks for the secondary level are mainly foreign. Dhivehi, Islam and Fisheries Science are the

three secondary school subjects for which teaching and learning materials are developed locally.

As stated previously, there are three languages used in the system as media of instruction. They are Dhivehi, English and Arabic. There were 242 Dhivehi-medium schools, 15 English-medium schools and 3 Arabic-medium schools in 1989 (MOE, 1990a). Medium of instruction is a complex problem in the Maldives. Apart from the cultural and pedagogical dimensions of the issue, the absence of higher education institutions, the importance of a medium to gain access to bodies of knowledge unavailable in the local language, the problem of teachers and the production and provision of materials complicate the issue greatly. All these aspects have advantages and disadvantages. So far, the issue remains to be studied extensively, and the advantages and disadvantages to be measured and weighed. Shaheem (1975) dealt with some of the pedagogical and cultural dimensions. It is beyond the scope of this study to deal the subject except by pointing out that the effects and implications of a language of instruction are too far-reaching to be ignored in educational development.

The triple media of instruction in the education system multiply the workload of the production and publication of teaching learning materials. At the same time, it splits the clientele for the materials into three sections (though into unequal parts), reducing the size of each potential market for the materials. Sets of materials have to be developed for 242 schools, 15 schools and 3 schools of varying levels. The question of scale and commercial viability arise immediately. For example, according to the Centre, the market for teachers' materials was too small (the number of teachers expected to use a textbook of a given subject of a given level was insufficient to fetch economies of scale in production) that the materials produced between 1984-88 had to be provided heavily subsidised and often free. Similarly, the costs of production of the pupils' materials were also subsidised heavily by the government. The subsidy increased as the level increased. One hundred percent of the development cost of primary levels where the enrollments are

the highest, and 100 per cent of the development cost plus part of the printing costs at the middle school and secondary levels were subsidised over the period. (Based on information from EDC)

Another major problem faced in the materials development is experimentation. The cost of trial and mistakes is the same regardless of size of the country. As Jalan (1982) pointed out, smallness does not allow much room for experimentation and mistakes. While commercial feasibility is in question at the outset, recovery of experimental costs and efforts is an impossible option, and constitutes another part of the subsidy by the government.

B. Textbook Printing

Until the mid-1980s, there was only one printer capable of handling textbook printing. It was a private printer. Two other private printers have emerged since, but a healthy competition to serve the interests of the customer does not exist. This was evident, as confirmed by the Centre, in its dealing with the printers. The Centre was the sole publisher of the textbooks. Since 1989, the Book Production Unit of the Ministry of Education is charged with the responsibility of printing (getting them printed where it could not, on its own) and making them available to the public.

The absence of competitiveness among printers caused serious problems. In the past, despite all the considerations and understanding the printer had shown, and the credit facilities and tax exemptions the government provided to the printer, textbook printing suffered enormously from the problems of dealing with a monopoly. In the absence of any legal framework for monopolies to operate in, both the printer and the clients experienced difficulties. To add to the problem, the nature of the job and the scale of operation were new to the printer. Although the technical capability and equipment of the printer were

adequate, the management (especially in making financial forecasts, projections and analysis of costs and benefits) was too weak to cope with a new experience of this scale. The fears of the printer emerged in the form of pressures for price increases and subsequent default of contract. (Based on information from MOE and EDC)

VIII. TEACHERS AND TEACHER TRAINING

A. Number of Teachers

According to MOE statistics for 1987, there were 1,519 teachers teaching in formal schools. Of these 317 were expatriates and 1,203 were Maldivians. Out of the 317 foreign teachers 307 were employed in Male'. According to salary scales information, an expatriate teacher is about twice as expensive as a trained Maldivian teacher of a comparable quality, and it costs the government more than six times that of a Dhivehi-medium teacher serving in the Atolls. However, expatriates are recruited to fill in vacancies which are impossible to fill locally. (Information: MOE)

Table 5.24 presents the distribution of the teachers by main regions, the Atolls and Male'. In relation to enrollments, the distribution of teachers varied between 81.27 pupils per teacher in Haa Alifu and 26.43 in Male', while the average was 41.74 pupils. Four regions fall below the average. They are, in order, 26.43 for Male', 36.2 for Vaavu, 37.48 for Faafu and 41.39 for Kaafu. With the exception of Male' where different policies apply, the regions falling below the average are those with fewer enrollments, i.e. Vaavu with 362, Faafu with 937 and Kaafu with 1158. These enrollment figures distribute over a number of island schools with very small classes that would organisationally require more teachers than a normal school.

Table 5.24: Number of Teachers by Main Regions
(Atolls and Male'-1987)

Region	Number of Teachers			Enrollment	Pup.: F/T T Ratio
	Total	F/Time	P/Time		
Haa Alifu	74	33	41	2,682	81.27
Haa Dhaalu	68	47	21	2,779	59.13
Shaviyani	40	32	8	2,223	69.47
Noonu	49	40	9	2,011	50.28
Raa	41	37	4	2,073	56.03
Baa	59	48	11	2,175	45.31
Lhaviyani	55	29	26	1,759	60.66
Kaafu	35	28	7	1,159	41.39
Alifu	45	36	9	2,091	58.08
Vaavu	17	10	7	362	36.20
Meemu	39	25	14	937	37.48
Faafu	13	10	3	566	56.60
Dhaalu	18	16	2	824	51.50
Thaa	36	31	5	2,149	69.32
Laamu	26	24	2	1,822	75.92
Gaafu Alifu	21	20	1	1,231	61.55
Gaafu Dhaalu	51	39	12	2,507	64.28
Gnaviyani	25	20	5	1,425	71.25
Seenu	91	68	23	3,847	56.57
Male'	716	645	71	17,047	26.43
Total	1519	1238	281	51,669	41.74

Source: Ministry of Education

At this point, a word of caution must be noted on the interpretation of pupil: teacher ratios in the Maldives. The islands have very small communities (in 1985, 58% of islands had populations below 500) and are scattered. Pupil populations are small and are difficult to organise into the normal class structures. In this situation, what a pupil: teacher ratio can mean in terms of the condition of staffing in the schools of a region, such as the atoll, will be considerably different from what it is in compact or commutable places.

B. Background of Teachers

The training background of the teachers is provided in Table 5.25. Out of the teaching force of 1,519 (1987), 510 (33.6%) were untrained, of whom 483 were in the Atolls. The untrained 27 teachers in Male' could possibly be those teaching Dhivehi and Islam. Some of these teachers, though not trained in a formal institution, are highly experienced and are looked upon as suitably qualified teachers.

According to Table 5.25, 1009 (66.4%) teachers were trained of whom 546 were trained in the Maldives. Most of these teachers (392 or 71.8%) were trained in the Dhivehi-medium course, 101 (18.5%) in the English-medium course and 22 (4.0%) in the Islam and Environmental Studies course of the Institute of Teacher Education (see Table 5.26).



Table 5.25: State of Teaching Staff by Training
(Atolls and Male-1987)

Region	Total No. of Teachers		Trained		Untrained		Ratio of Pup.: Trnd Teachers
	Locally	Foreign	Both	No.	%	Enrollment	
Haa Alifu	74	18	0	56	75.7	2,682	149.0
Haa Dhaalu	68	18	0	47	69.1	2,779	132.3
Shaviyani	40	13	1	24	60.0	2,223	138.9
Noonu	49	21	0	25	51.0	2,011	83.8
Raa	41	20	0	21	51.2	2,073	103.7
Baa	59	19	1	39	66.1	2,175	108.8
Lhaviyani	55	39	0	16	29.1	1,759	45.1
Kaafu	35	8	1	26	74.3	1,159	128.8
Alifu	45	15	0	30	66.7	2,091	139.4
Vaavu	17	3	0	14	82.4	362	120.7
Meemu	39	13	0	26	66.7	937	72.1
Faafu	13	8	0	5	38.5	566	70.8
Dhaalu	18	11	0	7	38.9	824	74.9
Thaa	36	16	1	19	52.8	2,149	126.4
Laamu	26	6	0	11	42.3	1,822	303.7
Gaafu Alifu	21	10	0	11	52.4	1,231	123.1
Gaafu Dhaalu	51	21	1	29	56.9	2,507	114.0
Gnaviyani	25	4	0	7	28.0	1,425	356.3
Seenu	91	32	4	48	52.7	3,847	89.5
Male'	716	251	393	27	3.8	17,047	24.7
Total	1519	546	408	510	33.6	51,669	51.2

Source: Ministry of Education



Table 5.26: Primary Teachers Trained in Maldives
(1977-88)

<u>Year</u>	<u>Total</u>	<u>Dhivehi Medium</u>	<u>English Medium</u>	<u>Islam &ES Teachers</u>
1977	18	18	-	-
1978	18	18	-	-
1979	19	19	-	-
1980	43	34	9	-
1981	50	39	11	-
1982	36	27	9	-
1983	68	52	8	8
1984	54	36	18	-
1985	57	44	10	3
1986	72	49	19	4
1987	80	56	17	7
1988	97	65	16	16
Total	515	392	101	22

ES= Environmental Studies

Source: Institute for Teacher Education (ITE)

The English-medium primary teacher training, and the Islam and Environmental Studies teacher training programme are designed for training teachers for Male' schools while the Dhivehi-medium primary teacher training course trains teachers for schools in the Atolls. The former courses recruit from grades 10 and 7 respectively while the latter recruits from educational backgrounds of grades 7 and 5 or even lower. Hence, percentages of trained teachers in the teaching force must be interpreted with due consideration of these backgrounds of teachers. For example, the numbers and ratios of trained teachers in the Atolls should not be construed as "qualified" teachers in the workforce nor should the percentages of the Atolls be compared with that of Male'. They may be compared among themselves. A substantial part of the teaching force in the Atolls will not have the necessary content background to teach in grade 5 in the primary and a majority in grade 7.

C. Teachers by Provision

Beginning in the late 1970s, a programme was implemented to provide teachers to the schools in the Atolls. Initiated for the provision of teachers to government schools, the programme was later, in the 1980s extended to all the islands. As a result, by 1987, the teaching force of the country has been dominated by teachers employed by the government. The situation has even increased further over the last three years for which data are not available for this study.

Table 5.27 presents the number of teachers by source of provision. Out of the teaching force of 1,519 in 1987, 969 (63.8%) were employed by the government. In the Atolls, the percentage of government-paid teachers varied between 34.1 percent in Seenu to 100 percent in Faafu, Laamu and Gaafu Alifu. In Male', 455 teachers (63.5%) out of 716 were government-employed. The trend is to increase even further as more and more trainees emerge out of the Institute for Teacher Education. Except for the extremely low quality of these teachers and the low salaries paid in the Atolls (less than a sixth of the salary paid to a teacher in Male' which

Table 5.27: Teachers by Provision - (1987)

Region	Total no. Teachers	No. of Teachers Salary Paid by:		
		Govt.	Others	% paid by Govt.
Haa Alifu	74	33	41	44.6
Haa Dhaalu	68	41	27	60.3
Shaviyani	40	28	12	70.0
Noonu	49	35	14	71.4
Raa	41	36	5	87.8
Baa	59	30	29	50.8
Lhaviyani	55	30	25	54.5
Kaafu	35	21	14	60.0
Alifu	45	37	8	82.2
Vaavu	17	11	6	64.7
Meemu	39	21	18	53.8
Faafu	13	13	0	100.0
Dhaalu	18	15	3	83.3
Thaa	32		4	88.9
Laamu	26	26	0	100.0
Gaafu Alifu	21	21	0	100.0
Gaafu Dhaalu	51	37	14	72.5
Gnaviyani	25	16	9	64.0
Seenu	91	31	60	34.1
Male'	716	455	261	63.5
Total	1,519	969	550	63.8

Source: Ministry of Education

itself acts as a disincentive to work in the Atolls), the placement of government-paid teachers in the Atolls, in each and every island, is not only a major contribution to the education of the Atolls, but also a service on a totally unprecedented scale which the present government has rendered for the benefit of the underprivileged.

D. Expatriate Teachers

One of the objectives of the Institute for Teacher Education was the replacement of expatriates by locals, but up to now the gap has not narrowed. The increase of enrollment and the subsequent demand for teachers have always over-taken the few graduates ITE was able to turn out capable of replacing an expatriate, and the import of expatriates has continued. The effect of this phenomenon is dramatic in the Maldives considering the heavy costs they incur on the educational budget. The expenditure also accounts for the main leakage of the GNP (see Chapter IV).

Out of 1,519 teachers in service, 318 were expatriates (Table 5.28) of whom 308 were employed in Male' schools and 10 in the Atolls. Although more recent data are not available for this study, there is a programme in the Ministry of Education to provide the Atoll centre schools

Table 5.28: Number of Expatriate Teachers 1987

<u>Region</u>	<u>Total</u>	<u>Local</u>	<u>Foreign</u>	<u>% Foreign</u>
Haa Alifu	74	74	0	0.0
Haa Dhaalu	68	67	1	1.5
Shaviyani	40	39	1	2.5
Noonu	49	47	2	4.1
Raa	41	40	1	2.4
Baa	59	59	0	0.0
Lhaviyani	55	55	0	0.0
Kaafu	35	34	1	2.9
Alifu	45	45	0	0.0
Vaavu	17	17	0	0.0
Meemu	39	39	0	0.0
Faafu	13	13	0	0.0
Dhaalu	18	18	0	0.0
Thaa	32	36	0	0.0
Laamu	26	25	1	3.8
Gaafu Alifu	21	21	0	0.0
Gaafu Dhaalu	51	51	0	0.0
Gnaviyani	25	25	0	0.0
Seenu	91	88	3	3.3
Male'	716	408	308	43.0
<u>Total</u>	<u>1,519</u>	<u>1,201</u>	<u>318</u>	<u>20.9</u>

Source: Ministry of Education

with a limited number of expatriate teachers to teach the English Language. This is a step taken to improve the quality of teaching in the Atolls.

IX. NON-FORMAL EDUCATION

Limited non-formal educational and training programmes are conducted in sectors such as Agriculture, Fisheries, Atolls Administration and Health. They are arranged on ad-hoc bases and are non-institutionalised. The only training programmes conducted on an institutionalised basis are those conducted by the Allied Health Services Training Centre in the Health sector and the Hotel School in the Tourism sector (discussed above).

The main non-formal education programmes conducted in the education sector at present are the following.

1. National Basic Education Programme/ includes
National Literacy Programme
2. Community Education Programme
3. Special Classes
4. Population Education

A. National Basic Education Programme/Literacy

The National Basic Education Programme consists of a literacy component and a topping-up phase aimed at providing the basic knowledge and skills to be able to retain literacy skills, understand the individual's rights and obligations as a member of society, and increase his/ her participation in the community.

The current literacy programme introduced in 1980, is implemented by the Non-formal Education Unit of the Ministry of Education with the cooperation of the Ministry of Atolls Administration. The progress of the programme is overseen at the national level by a National Council for Basic Education formed in 1981, headed by the President and deputised by the Minister of Education. At the atoll level it is overseen by the Atholhu Veriyaa and Atoll Committee, while in the islands the Kateebes and the Island Committees conduct and supervise the programme.

The rate of adult literacy has risen considerably during this century (Table 5.29). Credit is due to the

Table 5.29: Rate of Adult Literacy

	Percentage
1921	49.0
1931	60.7
1974	63.6
1977	70.5
1982	83.9
1983	86.7
1986	93.3
1990	95.4

Source: Years 1921-1986 NFEU,
1990 MOE (1990b)

traditional schools, and significant contributions were made by two major education programmes in the late 1940s and early 1950s. They were the education system of 1945-53 and the literacy programme called the "Compulsory Education" of 1954-58. The current programme was introduced in 1980. (NFEU, undated; MOE, 1990b)

B. Community Education

The community education programme initiated in 1980, aims to increase awareness in the islands of the developmental needs of the community, and to provide individuals with the basic knowledge and skills to increase their participation in the community, in occupations and in essential aspects of life. Whilst working towards these objectives, the programme also aims to preserve the highly vulnerable traditional occupational skills of the individual islands. Three strategies are implemented: training and awareness workshops, seminars and courses; a monthly newsletter called "Community News"; and a quarterly magazine called "Holhu-ashi". Between 1980 and 1988, courses were conducted in 16 areas of skills, 8 areas in 1988 with a total participation of 557. The areas covered by the magazine and the news letter include the family, education, youth, health, children's and women's interests. (NFEU, undated)

C. Special Classes and Courses

Courses and classes are also conducted by the NFEU to provide "drop-outs" from the formal system with some background to enable them to rejoin education or join the labour market, develop selected non-technical skills found deficient in the public service sector, propagate skills of historic and cultural value, and prepare trainable persons for basic training needs such as primary health care workers and teachers in the Atolls. Enrollments in 1988 were:

1. Condensed Education Programme for drop outs in the Atolls.	242
2. English Language courses for government officials in Male'	40
3. English Language courses for Government officials in the Atolls	20
4. English Language for Atoll Teachers	20
5. Shorthand courses	13

6. Typing courses	73
7. Commercial classes leading to London Chamber of Commerce Examinations	42
8. Thaana typing classes (Thaana is the script of Dhivehi, the Maldivian Language)	80
9. Calligraphy courses in Dhivehi and Arabic	59

(Source: NFEU, undated)

Except for the Condensed Education Programme, all the above classes and courses are conducted in Male'.

D. Population Education

A Population Education Programme, introduced in Maldives in 1984, is aimed at increasing awareness of youth and adults about the growth of population, its implications and the inter-relationships among population size, welfare, the accessible resource base and the environment. In view of the size of population (just over 200,000 in 1990), this may not seem very significant. But when this is related to the resources base of the country (most profoundly the area of land available) and the rate of growth of population the need seems considerable. The annual rate of growth of the population was 3.25 percent between 1977-1985 and 3.52 percent between 1985-1990, the area of cultivable land is small and other resources scanty (see Chapter III).

The strategies of the programme include (i) integration of population information into the formal curricula (ii) incorporation of the content in non-formal courses such as the training of atoll administrators (iii) transmission of information through the media (iv) orientation of teachers. (NFEU, undated)

X. PHYSICAL FACILITIES

Until the beginning of the 1980s, the schools in the Atolls were mostly housed in community halls and private houses (especially the edhuruges and the kiyavaages), the design and quality of which the Ministry of Education and UNICEF classified as unsuitable for the conduct of teaching in formal education (UNICEF, 1979). The situation has improved over the last 10 years. According to data from MOE, by 1989, 145 out of 261 schools were able to either refurbish their buildings or rebuild them. Since, priority is given to one school in an island first, the programmes covered 145 (72%) islands out of 202. The size of most of these schools varies between 3 to 6 classrooms each, although a few may have only 2 classrooms in smaller islands and 8 to 10 classrooms in larger islands. The size of the buildings is determined on the basis of 2 to 3 shifts a day. The design of most of these buildings is considered suitable for primary teaching, provided they remain furnished and equipped.

In Male', the facilities are of a high standard, but have always suffered from coping with the demand. By 1989, adequate facilities were provided for the government primary and secondary schools on the basis of two shifts. The private schools are housed in inadequate, dilapidated accommodation and operate under heavy constraint of physical facilities. All schools operate on multiple shifts.

Detailed data on physical facilities were available for 1987 only. Table 5.30 and Table 5.31 present data concerning the basic physical condition of schools in 1987. On a national average, there was a "good" classroom for every 98 children in school. "Good" here does not mean adequate or suitable rooms. Instead it only means that the room does not require immediate repair. Similarly, there was a laboratory for every 7,328 pupils and a library for every 2,332 pupils. To moderate these statistics to reflect

Table 5.30: Essential Physical Facilities
in Schools - 1987

	Total Pupils/ Number	Unit	Recorded as Good	
			Number	Pupils/Unit
Classrooms	827	62	526	98
Laboratory	7	7328	7	7328
Staff room	35	1466	34	1509
Library	25	2052	22	2332

Enrollment in 1987 was 51,297
Source: MOE (1989)

Table 5.31: Furniture in Schools-1987

	Total	Good Condition	Statistic
Desks	15,197	10,611	4.83 Pupils/good desk
Chairs	24,039	19,946	2.57 Pupils/good chair
Blackboards	802	572	255 classrooms without adequate Blackboard
Cupboards	643	541	286 classrooms without a cupboard

Enrollment of 1987 was 51,297
Source: MOE (1989)

the reality, it must be said that, except in schools in Male', the laboratories and libraries stated in the survey are nearly non-existent and the libraries outside Male' are, indeed, very small. They are normally less than half a dozen book-shelves.

As presented in Table 5.31, there was a desk for every 5 children in school. To turn the statistic around, if the schools were assumed to run on double shifts, 30,075 children in school were without proper desks; if the schools were assumed to run on three shifts, 19,464 children were without a desk. There was a chair for every 3 children, indicating that if all the schools were run on three shifts every child had a chair to sit on, discounting the fact that these schools are dispersed.

XI. EDUCATIONAL FINANCE

A. Share of Government Expenditure

Table 5.32 compares the total, recurrent and capital educational expenditures of the government with the total, recurrent and capital expenditures of the entire government respectively for 1984-89 in current prices. The share of the total educational expenditure has grown from 9.9 percent to 17.6 percent in 1989 while that of the recurrent expenditure has increased from 14.6 percent in 1984 to 19.4 percent in 1989 and capital expenditure from 4.8 in 1984 to 16.1 percent in 1989. A closer observation reveals a significant increase in 1988 (16.7%) and a jump in 1989 (19.4%) in current educational expenditure and a similar jump (to 16.1%) in capital educational expenditure. The former is explained by a dramatic wage increase for teachers in 1988; the latter by construction projects. Apart from that, the share of educational expenditure has maintained a

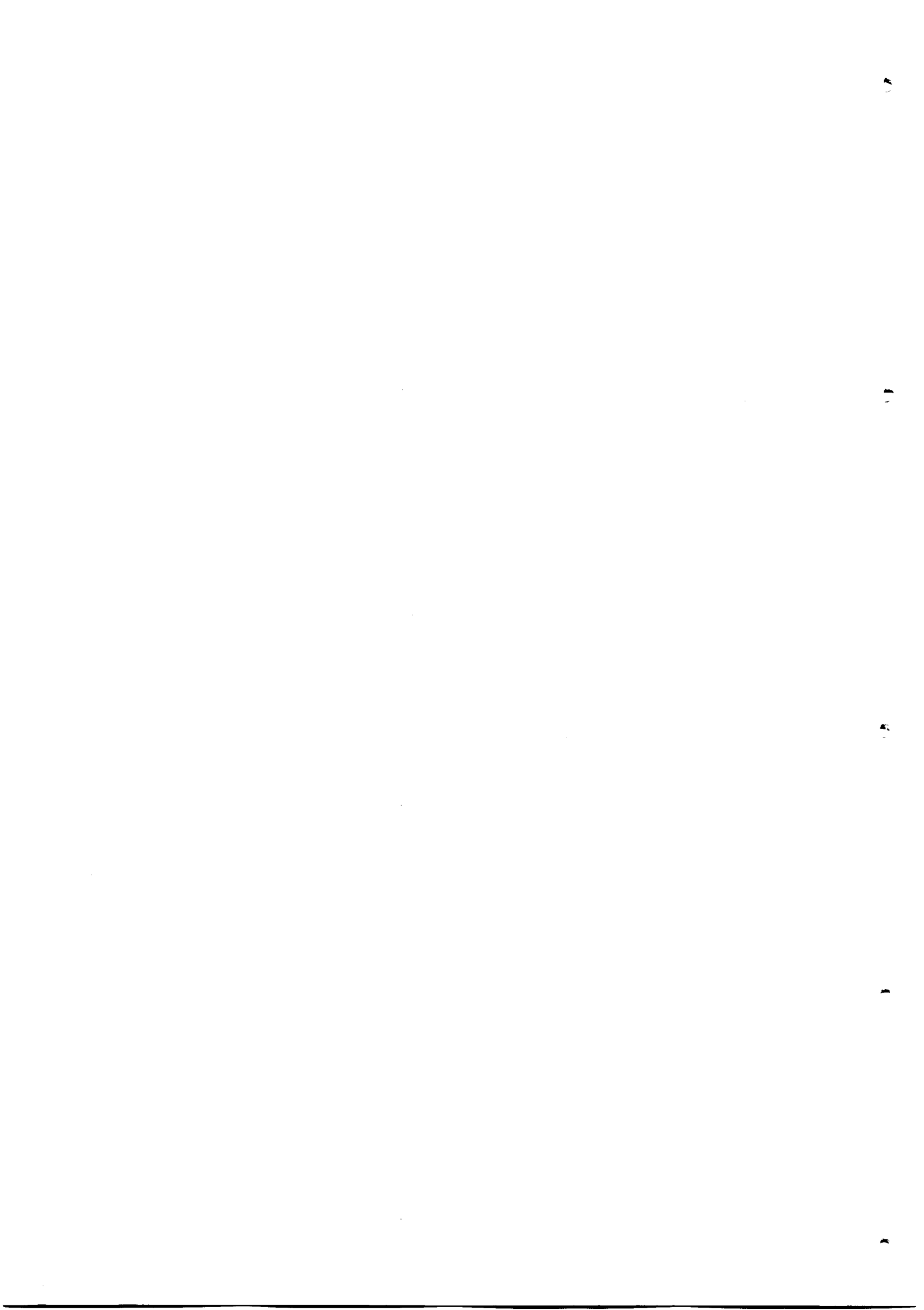
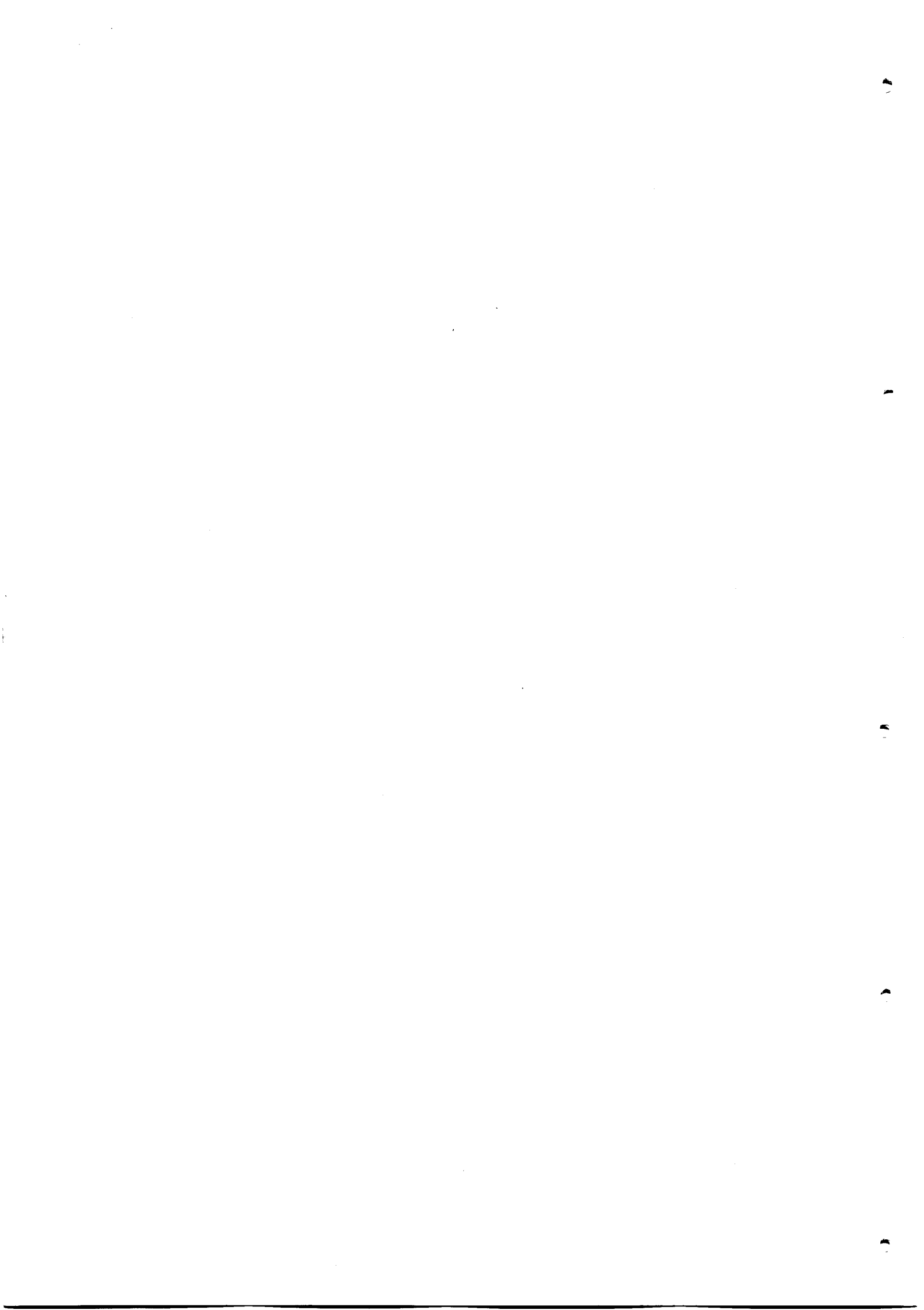


Table 5.32: Total Government Expenditure for Education
1984-1989 (in current prices)

	1984	1985	1986	1987	1988	1989
<u>TOTAL EXPENDITURE</u>						
Total Govt.	198.6	195.4	308.6	343.7	426.8	661.7
Expenditure (mn Rf.)						
Educational	19.6	22.4	23.8	31.0	45.2	116.2
Percentage	9.9	11.5	7.7	9.0	10.6	17.6
<u>CURRENT EXPENDITURE</u>						
Total Govt.	102.9	120.9	138.9	176.8	219.8	285.4
Expenditure (mn. Rf.)						
Educational	15.0	17.5	19.6	25.5	36.6	55.5
As a percentage of						
Govt. total	14.6	14.5	14.1	14.4	16.7	19.4
As a percentage of						
Education total	76.5	78.1	82.4	82.3	81.0	47.8
<u>CAPITAL EXPENDITURE</u>						
Total Govt.	95.7	74.5	169.7	166.9	207.0	376.3
Education	4.6	4.9	4.2	5.5	8.6	60.7
As a percentage of Govt						
total	4.8	6.6	2.5	3.3	4.2	16.1
As a percentage of						
Education total	23.5	21.9	17.6	17.7	19.0	52.2

Source: Statistical Year Book-1989, Tables XI-11, XI-12 (MPE, undated4).



range of 9.0 percent in 1987 to 11.5 percent in 1985 in the total expenditure, a range of 14.1 percent in 1986 to 14.6 percent in 1984 in the recurrent expenditure and a range of 2.5 percent in 1986 to 6.6 percent in 1985.

Considering the distribution of educational expenditure between recurrent and capital, the share of recurrent expenditure increased consistently up to 1988 and dropped to less than a half in 1989 while that of the capital decreased up to 1988 and jumped to 52.2 percent in 1989. But such abrupt changes as shown in 1989 may be considered abnormal.

As the figures available are in current prices, and any figures for inflation are not available, it is difficult to discuss a real increase in educational spending. Considering the general inflation the consumers are exposed in the country, the increases may not be so significant as they may seem.

The government budget, through the Ministry of Education, finances total expenses of government schools in Male' and the Atolls. These schools neither charge fees nor draw from community sources. The Government schools in Male' receive irregular external aid in the form of equipment and books, and significant contributions from other government sources such as the President's Office in the form of equipment, and repair and furnishing of facilities. In the absence of an equitable financial policy, these schools consume the lion's share of the educational budget. (According to the MOE Questionnaire of 1988, the government schools in Male' accounted approximately for 36.5 percent, 16.5 million rufiyaas). The remainder goes to administration, teacher training, curriculum and materials development and support for private and community schools.

Schools in continuous operation for over 10 years receive a government grant at the rate of one rufiya per child per month. Additional grants and support are provided to schools in continuous operation for over 20 and 30 years, as a means to contribute to their

finances and as an incentive for the continuity of schools. Schools in the islands are highly vulnerable to changes in its micro and macro political and economic environment, just as the economic and industrial activities of the country are to internal and external market changes. Schools have evolved and disappeared in the past just like the sand banks of the coral reefs. Available means to sustain them are poor.

The most significant support the government provides to the private and community schools takes the form of teachers. English-medium schools in Male' are provided with expatriate teachers while schools in the Atolls are provided with locally-trained Dhivehi-medium teachers. At least one such teacher was provided to each island, and one or more untrained part-time teachers were financed in each island by the government by 1989. (Based on information from MOE)

B. Sources of School Finances

There were four main sources of educational finance in the country in 1987. They were:

- Government Budget
- Fees
- Island Community Sources
- International Cooperation

In the aggregate, Government is the chief source of finance for the schools in the Maldives. Table 5.33 presents data for school finances in 1987. While 71% of operational cost is covered by the government, a quarter is raised through fees and the rest from other sources such as community contributions and donations. The disbursements on Male' schools are so large compared to those of the Atolls that national distribution is basically determined by the spending on schools in Male'. The government schools in

Male' are totally financed by the government and private schools mainly depend on fees (ranging between Rf.15.00 and Rf.60.00 per month in 1989). (MOE, 1989; and information from MOE)

Schools in Male' with approximately 33 percent (16,975/51,297 in 1987) of the total enrollment of the country accounted for 82.12 percent of the total school finance of the country. Similarly, out of the direct

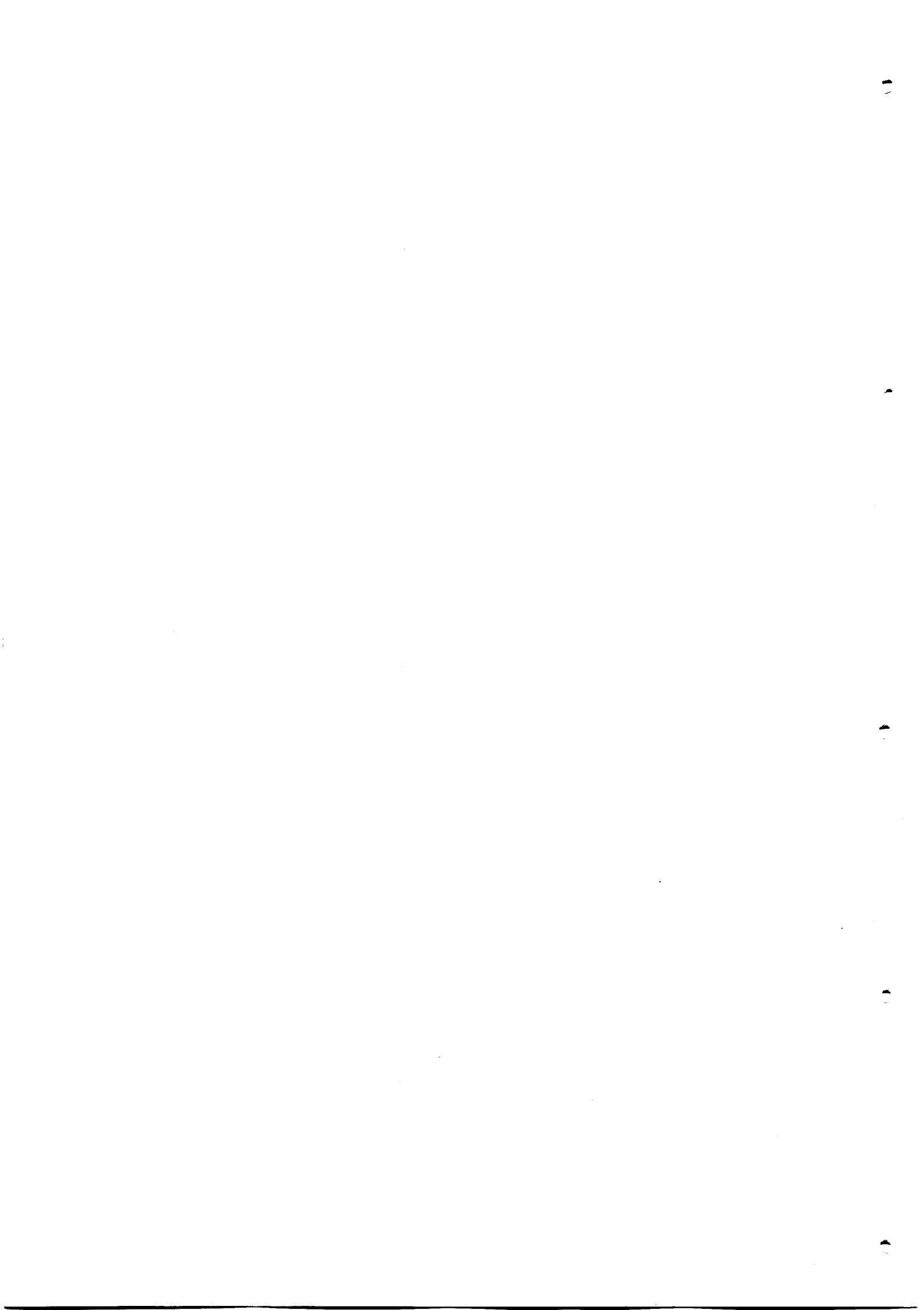


Table 5.33: Main sources of Finance in Schools
in Male' and the Atolls - 1987

	Total ('000)	Fees ('000)	%	Government ('000)	%	Other ('000)	%
Haa Alifu	209.24	11.09	5.30	187.06	89.40	11.10	5.30
Haa Dhaalu	220.40	15.72	7.13	175.60	79.67	29.08	13.19
Shaviyani	142.65	4.51	3.16	122.16	85.64	15.98	11.20
Noonu	168.07	27.63	16.44	144.11	67.89	26.34	15.67
Raa	195.40	7.68	3.93	182.28	93.28	5.44	2.78
Baa	138.52	42.76	30.87	78.65	56.78	17.10	12.34
Lhaviyani	174.19	0.00	0.00	164.72	94.56	9.47	5.44
Kaafu	68.35	21.86	32.98	28.76	42.08	17.73	25.94
Alifu	75.02	7.03	9.36	57.91	77.19	10.08	13.44
Vaavu	16.54	0.00	0.00	11.49	69.47	5.05	30.53
Meemu	59.83	6.17	10.31	43.04	71.92	10.63	17.77
Faafu	28.04	0.00	0.00	26.54	94.65	1.50	5.35
Dhaalu	27.26	1.77	6.50	20.98	76.99	4.49	16.47
Thaa	59.43	0.00	0.00	49.70	83.63	9.73	16.37
Laamu	36.79	0.00	0.00	35.85	97.44	0.94	2.56
Gaafu Alifu	24.94	0.00	0.00	24.47	98.12	0.47	1.88
Gaafu Dhaalu	85.71	1.68	1.96	79.89	93.20	4.15	4.84
Gnaviyani	13.65	0.00	0.00	11.90	87.18	1.75	12.82
Seenu	350.79	273.75	78.04	71.79	20.47	5.25	1.50
Male'	9,624.01	2,440.34	25.36	6,864.43	71.33	319.23	3.32
Total	11,718.84	2,861.97	24.42	8,351.33	71.26	505.54	4.31

Source: MOE (1989)



spending of the government on schools, 82.20% is spent on the schools in Male'. Although not revealed by the statistics here, a good share of the balance is spent on 40 government schools in the Atolls. (MOE, 1989)

The government contribution to the recurrent expenses of the private and the community-owned schools mostly takes the form of teachers. Teachers being a substantial part in any school budget, this contribution of the government provided in the form of a teacher or two in the island schools, and more generously in ward schools in Male' reflected a relatively significant contribution to the school budgets.

Island schools are financed by government grants, government aid in kind (teachers), fees, and funds raised through community works, contributions and other fund-raising activities. Those schools charging fees charged between Rf.5.00 and Rf.15.00 per month. Fees and community sources have never been sufficient or reliable as a source of finance in the Atolls. A dependable source or a means of finance for the island schools will remain the main challenge for the future educational development of the country. With the awareness of the unfair distribution of government finances and the dependent attitude of Maleans on government finances, community effort and contributions are increasingly and inevitably undermined in the Atolls.

C. External Sources

As a "Least Developed Country", Maldives has been a recipient of international and bilateral assistance. Table 5.34 presents "Foreign Aid to the Maldives 1984-88". The country received foreign aid to a value between US\$ 11.9 million to US\$ 18 million a year between 1984 and 1988, mostly as grants. (UNDP, 1989)

Table 5.34: Foreign Aid 1984-88

Year	Total 1/ (\$ mn.)	Grants		Loans	
		(\$ mn.)	%	(\$ mn.)	%
1984	11.9	8.7	73.1	3.2	26.9
1985	15.4	10.9	70.8	4.5	29.2
1986	17.9	12.5	69.8	5.4	30.2
1987	14.1	10.0	70.9	4.1	29.1
1988	18.1	10.7	59.1	7.4	40.9

1/ Excludes grants for direct expenditure by donors such as scholarships
Source: UNDP (1989)

The education sector is a key recipient of foreign aid. In 1988, there were 13 on-going programmes in the sector, supported by foreign aid of a project total of more than US\$ 3.096 million. (Table 5.35) Of this value, US\$ 794,000 were delivered that year. The main donors were UNESCO Funds-in-trust contributed by Federal Republic of Germany and Saudi Arabia, and bilateral donors. Most of the assistance was provided for capital and developmental purposes. The other major contributions were the provision of teachers by Egypt

Table 5.35: Foreign Aid to Education 1988
(amount in US\$ million)

Activity/Nature of Assistance	Total	Delivered	Donor
1. Advisor and training	n.a.	7	Australia
2. Curriculum development, educator training and extension of opportunities	800	0	Australia
3. Upgrading primary schools	17	17	Canada
4. Teachers to govt. schools	n.a.	100	Egypt
5. Provision of high school equipment	132	0	IDB
6. Provision of books	n.a.	7	U.K.
7. Design of school	n.a.	0	UNDP
8. Construct and equip ITE (Institute of Teach. Edu.)	475	49	UNESCO/ AGFUND
9. Construct EDC Building	450	90	UNESCO/ S. Arabia
10. Assist student intake of ITE	722	438	UNESCO/FRG
11. Training and equipment	152	0	UNESCO/FRG
12. n.a.	119	80	UNICEF
13. Construction, stipend & training, monitoring etc.	29	6	UNICEF/ Swiss

n.a. = not available
Source: UNDP (1989)

and stipends for teacher trainees by the Federal Republic of Germany. Although, Japan is not reflected in the list for some reason, she has become the chief donor or is among the main donors of grant aid to the Maldives, not least to the education sector. (UNDP, 1989)

XII. EDUCATIONAL POLICIES AND PLANS

A. Background of Current Educational Policies

Until 1978, policy documents were very rare in the Maldives. The main document in which to look for a written policy was the annual Presidential Address to the Parliament. These were not published until 1979, so, it is difficult to review educational policies prior to 1978 properly. However, the strategies and programmes implemented over the years speak for themselves.

Two major periods of significant educational policy may be identified over the last fifty years. They were 1945-53 and 1958-1978. The first period, as outlined at the beginning of the Chapter, was dominated by joint endeavours, of the community and the government, to expand the education system and broaden opportunities throughout the country. The system aimed to provide for the immediate needs of manpower to implement the reforms and the development programmes rushed by the government throughout the archipelago during the post-War period (MOE, 1985, p.12-13).

The strategies of the second period, 1958-78, were quite the reverse in the way they were implemented. In 1958, ward schools in Male' were abolished, community involvement was halted, exclusive focus of the government was directed at three government schools in Male' (with implicit heedlessness to education in the Atolls), and English-medium education was introduced in pursuit of a perceived quality. The policy

was part of a comprehensive plan to centralise the economy of the country through concentration of trade and all developmental programmes exclusively in the capital. This created the widening regional disparities not only in the provision of education but also in all spheres, resulting in, among others, an unprecedented internal migration into the capital. However, the strategy did make a timely and a significant contribution: the production of the immediately required manpower to prepare the country for opening up into the wider world.

B. Current Policies

Current policies are, again, another major deviation from the policies they replaced. By the end of the 1970s, the growing disparities between Male' and the Atolls, and the unavoidable consequences were beginning to bite. The new government was swept into power, in 1978, with an undeclared but clearly implicit manifesto for redressing the flaws in the system. For the first time, a new vocabulary comprising concepts such as "social justice", "equity" and "disparities" entered into the administrative and political language of the country (Presidential Address 1979, p.14 and subsequent Addresses). The problem was also underscored simultaneously by studies conducted by international organisations and bilateral aid agencies, e.g. World Bank (1980b) and UNESCO (1982b), JAICA (1980).

Apart from the policies for social equity and the reduction of disparities, several other policies for broader social and economic development and cultural enhancement (such as the strengthening of national integrity and the preservation of the cultural heritage) were pledged every year (Presidential Addresses 1979-88). These policies were implemented through several programmes over the last decade. The policies directly contributed to expansion of the education system; the establishment of government schools in the Atolls aimed to reduce regional disparity through increased access, increase

of relevance of education in schools to the social, cultural and economic needs of the society, expressed commitments to universalisation of primary education by 1995, and emphasised manpower training and adult literacy. (MOE, 1985).

Current policies are best reflected through the national educational goals set by the Ministry of Education in the early 1980s. The goals were:

- a. To develop capable individuals with useful occupational skills, knowledge and attitudes for national development with a sense of dignity of labour, and for preserving the nation's environmental resources.
- b. To promote social justice and equity by ensuring universal primary education and equal educational opportunity for all citizens.
- c. To develop within an educational system based on the principles of Islam, an awareness among all citizens that, as members of the nation, they are also part of the Muslim Ummah.
- d. To promote in individuals a spirit of independence and self-reliance such that they may seek to enhance the quality of life by seeking ways and means of improving their own health, nutrition and well-being.
- e. To strengthen national consciousness, and to preserve the nation's cultural heritage by promoting desirable cultural values, traditions and the national language.
- f. To provide facilities for life-long education for all citizens so that each individual becomes a self-learner and continues to apply his intellectual capacity, technical skills and learn to cope with new technologies and discoveries and develop an appreciation and understanding of changes now occurring in the social and economic life in Maldives.
- g. To develop a sympathetic appreciation of the diversity and interdependence of peoples in the national and international communities.

(MOE, 1985, p.8)

C. Plans

Planning has been practised since the Second World War, e.g. the Three Year Plan of 1950-53 (MPD, undated1, p.iii). But the systematic approach to planning, where programmes are designed and implemented by coordinated efforts aimed at explicit national objectives, is of recent origin. Most appropriately such efforts began with the policy changes in 1978 and the immediate establishment of a National Planning Agency. A first effort to draw up an educational plan began in 1981.

The current educational programmes are governed by the broad national development objectives and the national educational goals. The National Development Plan 1988-90 states the following development objectives:

- to improve the living standards of the population;
- to balance the economic and social progress between Male' and the Atolls;
- to attain greater self-reliance for future growth;
- to increase the gross domestic product as well as national product;
- to increase foreign exchange earnings;
- to increase the level of incomes specially in the Atolls;
- to provide better and balanced health and educational facilities throughout the country;
- to emphasise human resource development as the basis for all development activities;
- to give more emphasis to atoll development;
- to accelerate the decentralisation process;
- to relieve Male' of its congestion;
- to accelerate the process of import substitution especially in food and agricultural products;
- to preserve and properly manage the environment.

(MPD, undated3, p.3-4)

Of the above objectives, the first three were carried forward from the National Development Plan 1985-87 and they stand as long-term objectives (MPD, undated3, p.3). The Educational and Human Resource Development Plan 1985-1995, on its part, states the following objectives:

- Provide Universal Primary Education (UPE)
- Make education more relevant to the local environment
- Train the manpower necessary for national development
(MOE, 1985, p.8)

The "Education" section of the National Development Plan 1988-90 adds a fourth objective constituting a revision or refinement of the existing Educational Plans. The objective is:

- Improve quality in education
(MPD, undated3, p.115,)

These four broad objectives are subdivided into specific objectives on which programmes and activities outlined above in this Chapter are jointly or individually focussed. The specific objectives were as follows:

1. Universal Primary Education

- To develop a unified national primary education combined and harmonised with literacy and adult education.
- To develop infrastructural support for education, curriculum development, teacher training programmes, textbook and material. Production, physical upgrading of institutions, and radio/TV programmes.
- To give attention to special groups such as gifted or handicapped children.
- To enlarge the capacity and upgrade the quality and relevance of private and community-run schools.
- To formulate a financial policy which enhances a more equitable distribution of opportunities at the primary level of education.

- To increase the capacity for pre-service and in-service training for teachers and for other professional staff.
- Mobilise the existing resources and to train teachers (supported by radio programmes, distance teaching, and innovative management techniques), to reduce the urgent need for teachers and administrators.
- Male' ward schools will be further encouraged to continue their pre-school sessions and also to strengthen their supplementary role in general education.
- Community run schools in the atolls will be physically upgraded and encouraged to continue their participation as in the past.

(MPD, undated3, p.116-117)

2. Education Made More Relevant to Local Environment

- To integrate into the curriculum, Islam, Maldivian culture/traditions and environmental education.
- To introduce and integrate the concept of "Education and Work" into the structure, time-table and curriculum of the formal and non-formal system.
- To develop practical and work-oriented knowledge and skills through programmes in grades 6 and 7.

(MPD, undated3, p.117)

3. Training the Manpower

Necessary for National Development

- To develop Atoll Education Centres with emphasis on teacher in-service training, educational management support and supervision, and community services, taking into account the aspirations and potentials of the population and the skills required for productive work.
- To develop vocational and technical education, particularly the middle level manpower needs for the country.
- To develop Rural Youth Vocational Training Programmes as an integral part of the Atoll Education Centre.

- To expand and diversify secondary education with focus on the manpower needs of the country.
- To relate adult education programmes (including functional literacy if necessary) to the working environment.
- To establish career development programmes and vocational and educational guidance and counselling so that those in schools, as well as leavers, may be assisted to continue their education and training to select a career.
- To increase the capacity of pre-service training of teachers and other professional staff.
- To establish and strengthen the Non-formal Educational Programmes.
- To maximise the utilisation of overseas education and training.

(MPD, undated3, p.118)

D. Programmes

The programmes currently implemented have been outlined under the respective sections above, in this chapter. Very few new programmes are proposed. The following is a list of the programmes (initially proposed for 1985-1987, most of which still continue through 1988-1990 and some even after) implemented for the achievement of the above objectives:

1. Construction of primary schools in Male' and the Atolls.
2. Extension of existing secondary schools in Male' and construction of one secondary school in Seenu Atoll.
3. Establish middle school education in the centre schools in the Atolls.
4. Primary and middle school teacher training in English-medium and Dhivehi-medium.
5. Curriculum development and revision for the primary and the middle schools, and for selected subjects in secondary education.

6. Continue the programmes of the Vocational Training Centre and add new trades to the Rural Youth Vocational Training.
7. Continue the current Islamic education programmes.
8. Continue the current non-formal education programmes.
9. Strengthen the media education programmes and develop distance education programmes.
10. Continue the current manpower training programmes abroad to develop manpower needed by education sector.
11. Implement (by the Ministry of Planning and Environment) the overall manpower development programme funded by external loan and grant schemes to train the higher level manpower need by the priority areas of development, by placing suitable Maldivians in higher education and training institutions abroad .

(Summarised from MOE, 1985; MPD, undated3)

XIII. SUMMARY

The current education system of the Maldives has antecedents now called the traditional schools which, over the centuries, adopted gradeless (and sometimes multigrade), mixed-ability and mixed-age forms of class organisation in teaching. Small rolls and limited human and other resources govern the pattern to a large extent.

The current school system comprises four tiers, 5+2+3+2 years. The enrollment pyramid has a broad base of over 100 percent gross enrollment and a very narrow peak, revealing high drop-outs, wastages and low transition through the system. The consequent low level of educational attainment of the population was also revealed by the Census of 1985.

Three languages of instruction are used in the system. A large majority of schools (all in the Atolls and a few in the capital) use Dhivehi, 15 schools (the key schools in Male') use English, while three important schools use Arabic.

There are no higher education institutions in the country. Maldives relies upon sending students abroad for the higher education and training necessary for development. There are five key training centres in the country, namely, the Vocational Training Centre (VTC), the Institute for Teacher Education (ITE), the Allied Health Services Training Centre (AHSTC), the Rural Youth Vocational Training Centres (RYVTC) and the School of Hotel and Catering Services (Hotel School). These centres, like other institutions of the country, have small intakes.

The country adopts a three level system of administration, the central, the atoll and the island levels. The administrative system has a clear bias towards the centre, the capital. A serious disparity exists between the capital and the rest of the country.

Curricula are tied to external examination boards, namely, to London University and Al-Azhar University in Cairo. The main reason is the country's dependence on external institutions of higher education for their training needs. The linkage, however, handicaps the effective implementation of relevant education programmes. The teaching staff are generally from very low educational backgrounds and a large share of the qualified staff are expatriates.

Non-formal education programmes are conducted for adult literacy, community education, skills development, and raising the educational level of the drop-outs. The intake of the streams is small.

There was a "good" classroom for every 98 pupils in the system in 1987. The facilities are utilized on two to three shift bases. The government spent between 14.1 and

14.6 percent of its recurrent budget on education between 1984-87. The figure jumped to 17.6 percent in 1989 due to an increase of teacher salaries in 1988. The schools in the Atolls are run on very meagre financial resources compared to the schools in the capital. Government, fees and community contributions are the chief sources of educational financing in the schools. The government accounted for 71.26 percent of the expenditure in schools in the country in 1987, 82 percent of which was spent in schools in Male', on less than 33 percent of the enrollment. A quarter of the school finance is raised through fees and the other quarter from community and other sources.

The major programmes planned in the sector are aimed at achieving universal primary education by 1995, increasing the relevance of education, training the required manpower, and improving the quality of education.

CHAPTER SIX: ANALYSIS AND DISCUSSION OF THE APPLICATION OF KEY PRINCIPLES OF EDUCATIONAL PLANNING

I. INTRODUCTION

This chapter comprises three main sections. They are the analyses and discussions of the principles of the "manpower requirements approach", the "microplanning/ school-mapping approach" and the "social demand approach". In relation to the context of the Maldives, the analyses and the discussions will attempt to assess how the underlying principles of the approaches might apply in planning in the country. These will be attempted as follows:

- (i) Analysis of selected parameters related to the "manpower requirements approach" with a view to assessing how the coefficient-based principles might apply in the Maldives. ("Parameter", here, means a factor or a limitation that will affect the way in which a principle of educational planning can or should be applied.)

- (ii) Analysis and discussion of parameters of dispersion, location and size of islands, population and schools with a view to assessing how the "microplanning/ school mapping approach" might apply in the Maldives. ("Parameter", here, means the same as above)

- (iii) Analysis and discussion of the factors of the "social demand approach" in relation to the prevailing and the emerging circumstances of the Maldives, with a view to assessing how the approach could apply in the Maldives.

As stated in Chapter One, the analysis will not be able to exhaust all parameters associated with each and every single principle of every approach of educational planning. Instead the analysis and discussions will select parameters related to the three approaches paying special attention to their distinctive nature in the context.

The "rate-of-return approach" reviewed in Chapter Two as one of the main approaches, will not be dealt with below. The main reason is that the study has to set limitations on its scope. The decision not to consider the approach here is also based on the view that the approach is basically applicable to post-obligatory and higher levels of education and training in which the choice of various options of education can play an important part. With the narrow and limited education system in the Maldives, the approach as a basic strategy for planning the system has not been considered significant at present. This, however, does not mean that the methods employed in the "rate-of-return approach" could not be useful in other educational decisions in the country. In fact, the scarcity of resources combined with the disadvantage of the lack of economies of scale demand the application of cost-benefit principles and selection of the optimum choices even more than elsewhere.

II. MANPOWER REQUIREMENTS APPROACH

A. Selection of Parameters and Setting the Limits

Fundamentally, the "manpower requirements approach" to educational planning is a strategy that attempts to assess the manpower needs of economic and social development of a country and draws up plans to meet them. It is in this perspective that the following analysis and discussion will deal with the "manpower requirements approach" in the context of the Maldives.

The "manpower requirements" approach involves the estimation of the required addition to the labour force, during the planned period, of personnel with various occupational qualifications, deciding for each category the number of personnel to produce, their levels and branches of education, the required enrolments for those branches and levels, and the provision of teachers, educational plant and equipment to produce the trained personnel (Parnes, 1964, p.55).

By definition, the approach comprises two main parts. They are the estimation of the requirements, and the planning of the supply. The following analysis will address itself mainly to the applicability of the conventional methods of estimating requirements and the capacity to supply the high levels and skilled categories of manpower. In principle, the approach is applicable to all levels of education and training. However, due to the fact that the need for general educational levels, in the Maldives is mainly determined by other factors such as politically motivated commitments (for primary and middle school level) and emerging social demand with growing prosperity and development of the education system (for secondary level), on the supply side this analysis will be limited to the capacity to provide skills, specialised and advanced training, and post-secondary general education.

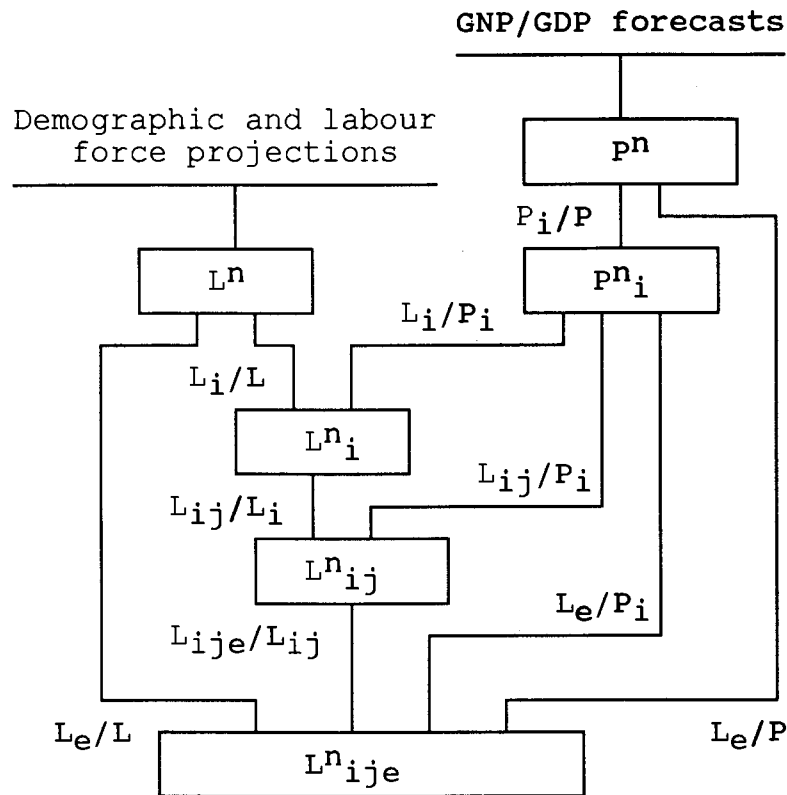
Manpower planning was, by and large, the main approach applied to educational planning during the 1960s (UNESCO, 1968) and still continues to be the dominant one (Psacharopoulos and Woodhall, 1985). Although a number of methods of estimation are possible in the approach, with varying degrees of advantages and disadvantages (see Chapter Two), the most widely adopted method involves the techniques used in the GNP (or the GDP) method also called the Mediterranean Regional Project model developed by Parnes (1962). Youdi and Hinchliffe estimated that about 90 of the exercises employed these techniques with slight variations (Youdi and Hinchliffe, 1985, p.16). Other methods of manpower forecasting include the "employers' survey method", "international comparison method" and "labour-ratio method" (see Chapter Two).

The methods, whichever approach they follow, basically depend on some key coefficient. These coefficients constitute ratios such as:

- (a) the ratio of labour to the output (by the individual sector or the total) called the labour-output ratio for individual occupational categories or individual educational categories (types or levels of education); also the inverse of this ratio, namely, the ratio of output to labour (output per worker),
- (b) the ratio of the sectoral workforce to the total employed population, also called the employment structure,
- (c) the ratio of the individual occupations to the sectoral workforce or to the total of the employed population, also called the occupational structure,
- (d) the ratio of individual educational categories to the total employed population, also called the labour density ratio.

The ratios and the associated parameters, and their relationships in the respective methodological procedures described in the literature (see Chapter Two) may be diagrammatically summarised as Figure 6.1.

Figure 6.1: A Graphic Illustration of the Relationships of Parameters and Coefficients in the Basic Methodologies of Manpower Forecasting



where:

P = Output or GDP or GNP

L = Labour force

i = Economic Sector

n = Target year or plan-period

o = Base year

j = Occupational category

e = Level or type of education/training

The Figure is based on Ahamad and Blaug (1973); Hinchliffe (1985); Psacharopoulos and Woodhall (1985); Youdi and Hinchliffe (1985); Williams (1985); Hough (1987).

The ratios, and the parameters on which the ratios are based, become factors in the planning process depending on the particular method of forecasting selected. For example, the GNP or the GDP method depends on (i) the sectoral output (P_i) often obtained by projection of the total and breakdown by the structure (P_i/P), (ii) the coefficient of sectoral labour-output (L_i/P_i) (iii) the sectoral occupational distribution (L_{ij}/L_i), and (iv) the educational structure of the individual occupations (L_{ej}/L_j). Similarly, as another example, the incremental labour-output ratio method, like that used by Sir Solly Zuckerman in the UK (Hough, 1987, p.40), relies on the coefficient of output per unit worker (e.g. P_i/L_i or P_i/L_{ij} or P_i/L_{ie} or P/L_e) to convert output into types of labour, while other direct methods employ labour-output ratios of individual educational categories for either individual sectors (L_e/P_i) or the whole GDP (L_e/P). The international comparison method may also choose similar relationships of labour and the output or the coefficient-based characteristics of the labour force of another country at a given time. Still simpler methods such as the density-ratio method make projections based on the ratio of educational categories in the labour force. (Ahamad and Blaug, 1973; Hinchliffe, 1985; Psacharopoulos and Woodhall, 1985; Youdi and Hinchliffe, 1985; Williams, 1985; Hough, 1987)

The above catalogue of possible coefficients illustrates the theoretical breadth of the approach which, clearly, is too broad to be exhausted by a study of this size and nature. However, they all have very similar assumptions underlying them, and inevitably similar weaknesses (discussed in Chapter Two). At least one assumption that is common to all, whichever procedure is chosen, is that the ratios employed are functions of time; that they will remain constant over the period considered. Or at the least, it is assumed that the variations will remain within an "acceptable" margin of error ("acceptability" will be discussed later). This is true whether the method adopts direct techniques (such as the time-series extrapolations that use growth rates or regression coefficients for their projections) or indirect approaches (where selected parameters such as the GDP and the labour force are projected first and are then broken down into occupational and, or educational categories through the application of coefficients shown above).

Other assumptions upon which the methods are based, include: that output (GDP) is predictable with reasonable accuracy, and that there are consistent links between occupation and qualification, and education and output. These assumptions are either taken-for-granted (not considered in the mathematical procedures of the computation) or are explicit in the very procedure itself in most of the methods (see Figure 6.1 above and Chapter Two).

Considering the scope of this study and the limitations of data as stated in Chapter One, the following analysis will limit itself to presentation and discussion of selected characteristics of the output, the labour force and the supply of manpower. These parameters and the associated ratios cover a cross-sectional common ground in most of the models. Hence, it is assumed that analysis of these parameters will be a considerable test of the applicability of the major principles of the manpower approach. In synthesis of the discussions of the analyses of the various aspects of these parameters, an assessment will be made for possible "prediction errors" should the related coefficients be applied to estimate future requirements. Thus, specifically, the parameters selected for the following analyses in respect of the Maldives will be as follows:

- (a) the structure of the Gross Domestic Product (GDP),
- (b) the employment structure,
- (c) key characteristics of the workforce:
 - occupational structure,
 - distribution by regions and sex,
- (d) educational characteristics of the workforce.
- (e) the capability to supply skilled, specialised and advanced manpower.

B. Structure of the Gross Domestic Product

As illustrated in Figure 6.1, most of the methods of manpower forecasts depend on the predictability of output (GDP or GNP). Although prediction of future output is part of general economic planning, it forms the premise for the derivation of the future workforce of the sectors, occupational categories or educational categories either directly through labour-productivity ratios, or indirectly through step-by-step translation.

Literature on small dispersed island states shows (Chapter Three) that small economies like that of the Maldives are highly vulnerable to both internal and external changes. Such countries depend on a limited number of key industries (one or two) and few items of export the condition of which leads not only to a high degree of vulnerability but also to consequential fluctuations in the sectoral distribution of the GDP. To the extent that output is a key factor (often the basic factor) in the manpower forecasting methods, its predictability remains crucial in the process. Thus, the growth trends of the output and the fluctuations in the sectoral shares of the GDP of the Maldives have been chosen to illustrate how much a reliable role the output-related coefficients can play in manpower planning in the Maldives.

1. Growth of GDP

The annual rate of change or growth is a common mathematical factor applied to project the GDP. Indeed, there are other considerations in GDP forecasts, which are mainly concerned with broader macroeconomic issues. They are not within the scope of this study. However, the question as to how consistent is the trend of annual change or growth which forms the basis for the projection of the future GDP, is considered relevant here. The rate of growth of the GDP is also helpful in this context to understand the relative growth trends of various sectors. In addition, a reliable consistent trend of a sector, with due consideration to other factors such as

technological transformation, also normally indicates (not necessarily to the same degree) the change in employment in the sector.

Tables 6.1 and 6.2 present the annual rates of change and the variation of the rates respectively for the GDP between 1982 and 1987. According to Table 6.1, the rates of change have fluctuated considerably from year to year between 1982 and 1987. Even at the aggregated level of the total GDP, the annual rates of change (growth) has varied between 8.59% from 1985 to 1986 and 20.47% from 1983 to 1984. The trend shows a slowing down in later years. The variation in the sectors is greater. For example, a sector like "transport" has varied between -31.4% in 1982-83 to 142.95% in 1985-86. Even key sectors of the economy like "fisheries" have fluctuated between 1.15% in 1985-86 and 25.74% in 1984-85. Such variations in the individual sectors are critical in estimating future manpower when the concept of manpower planning is largely based on the principle that the characteristics of the base year reflect (or closely reflect) those of the target year or plan period.

Table 6.1: Annual Rates of Growth of GDP
of the Maldives 1982-1987 (in %)

Sector\Period	82-83	83-84	84-85	85-86	86-87
Agriculture	1.15	4.20	-3.88	9.43	2.50
Fisheries	5.64	11.49	25.74	1.15	7.78
Mining	7.89	6.10	6.10	6.17	6.00
Construction	2.93	18.73	19.90	7.79	10.00
Manufacturing	14.59	7.84	4.25	7.70	10.00
Distribution	40.34	26.32	10.81	6.57	11.50
Transport	-31.40	8.28	14.36	142.95	10.00
Tourism	15.70	24.01	35.35	2.79	9.40
Real Estate	7.79	19.69	24.29	8.91	9.00
Services	70.50	147.47	-10.07	-12.16	13.40
Govt Admin	69.47	13.67	7.23	21.15	9.00
GDP	15.20	20.47	13.80	8.59	8.86

Source: Ministry of Planning and Development
(MPD, undated3)

Table 6.2: Annual Rates of Growth of GDP
and Variability of the Rate (in %)

	<u>Rate of Growth p.a.</u>	<u>Deviation from</u>
	<u>1982-87(%)</u>	<u>Rate 82-87(%)¹</u>
Agriculture	2.59	4.32
Fisheries	10.05	8.39
Mining	6.45	0.72
Construction	11.68	6.51
Manufacturing	8.82	3.40
Distribution	18.47	12.56
Transport	17.82	60.41
Tourism	16.91	11.38
Real Estate	13.74	6.75
Services	30.46	61.72
Govt. Admin	22.22	23.26
GDP	13.30	4.41

¹ Deviation = standard deviation from the mean which is the rate

Source: Ministry of Planning and Development (MPD, undated³)

Table 6.2 presents the variation of the growth rates between 1982-83 and 1986-87 (see last column). Except "mining", which is a very small sector in the GDP (see Chapter IV), the rates have varied greatly. The standard deviation from the mean (in this case the growth rate) ranges between 3.40 percentage points in "manufacturing" and 61.72 percentage points in "services".

2. Structural Change of GDP

Table 6.3 presents the structure of the GDP from 1982 to 1987 and the variation in the yearly structure expressed by the standard deviation from the mean of the structures (last column). Four sectors continue to dominate the GDP over this period. They are "tourism", "fisheries", "agriculture" and "distribution". "Tourism" and "distribution" have been growing in their shares of the GDP while "fisheries" more or less maintained its place and "agriculture" registered a decreasing trend. The yearly variation in the structure of GDP has not been so significant as those of the annual rates of growth. The highest variation in the structure is observed for "agricultural" with a deviation of 2.57 percentage points.

The variation in the structure is important in manpower planning particularly in methods that apply GDP structure (P_i/P coefficient) to obtain the future sectoral output for

Table 6.3: Structure of the Gross Domestic Product
1982-1987 (in percentages)

	1982	1983	1984	1985	1986	1987	STD
Agriculture	18.04	15.84	13.70	11.57	11.66	10.98	2.57
Fisheries	18.99	17.41	16.12	17.81	16.59	16.42	0.98
Mining	2.54	2.38	2.09	1.95	1.91	1.86	0.25
Construction	8.79	7.86	7.74	8.16	8.10	8.18	0.33
Manufacturing	6.84	6.80	6.09	5.58	5.53	5.59	0.56
Distribution	13.02	15.86	16.63	16.19	15.89	16.27	1.20
Transport	4.30	2.56	2.30	2.31	5.17	5.23	1.29
Tourism	14.74	14.81	15.25	18.13	17.16	17.25	1.34
Real Estate	4.27	4.00	3.97	4.34	4.35	4.35	0.16
Services	2.64	3.90	8.01	6.33	5.12	5.34	1.70
Govt. Admin.	5.84	8.59	8.11	7.64	8.52	8.53	0.97
GDP	100.01	100.01	100.01	100.01	100.00	100.00	0.00

Source: Ministry of Planning and Development (MPD, undated3)

the purpose of the ensuing calculation of labour-out ratio, labour-density ratios, etc. (see Figure 6.1)

C. Labour Force

1. Size and Participation

The labour force constitutes a key parameter in manpower forecasting. In some methods it forms the premise of forecasts while in other methods its characteristics such as sectoral distribution, occupational distribution and educational distribution form the bases for further projections and computations to derive the future manpower requirements. Thus, analysis of various characteristics of the labour force constitutes an important part of the study. The following analysis is aimed at assessing the extent of its characteristics and change over time with a view to assessing its usefulness in the manpower forecasts in the Maldives. Labour force is used here to mean the economically active population (people who are able to work; that includes the employed and unemployed population of the economically active group). Later, in this chapter "workforce", and not "labour force", will be used but always in conjunction with a sector or a category of occupation, to refer to the "employed population" of the referred sector or occupation.

Table 6.4 presents the labour force for 1977 and 1985 and the participation rates (the ratio of the labour force to the working age population). The most striking feature is that the economically active population or the labour force has declined from 42.1 percent of the population in 1977 to 28.56 percent in 1985, as it did in terms of participation rate, from 77.31 percent to 52.10 percent respectively. The decline is reflected in both males and females, and in Male' as well as the Atolls. The most significant is clearly in females of the Atolls (from 72 percent to 26 percent in participation rates) which was partially explained, by the Ministry of Planning, as the result of the discounting of marginally employed women in

Table 6.4: Labour Force 1977, 1985
(15 years and above) ¹

	<u>1977</u>			<u>1985</u>		
	<u>TOTAL</u>	<u>MALE'</u>	<u>ATOLLS</u>	<u>TOTAL</u>	<u>MALE'</u>	<u>ATOLLS</u>
<u>POPULATION</u>						
Total	142832	29522	113310	180088	45874	134214
Male	75224	16635	58589	93482	25897	67585
Female	67608	12887	54721	86606	19977	66629
<u>WORKING AGE POPULATION</u>						
Total	78351	18021	60330	98728	28678	70050
Male	42139	10551	31588	51855	17129	34726
Female	36212	7470	28742	46873	11549	35324
<u>LABOUR FORCE</u>						
Total	60576	10828	49748	51433	14888	36545
Male	38012	8965	29047	40277	12770	27507
Female	22564	1863	20701	11156	2118	9038
<u>UNEMPLOYED</u>						
Total	3492	1658	1834	772	323	449
Male	2429	1274	1155	547	292	255
Female	1063	384	679	225	31	194
<u>PARTICIPATION RATE (in %)²</u>						
Total	77.31	60.09	82.46	52.10	51.91	52.17
Male	90.21	84.97	91.96	77.67	74.55	79.21
Female	62.31	24.94	72.02	23.80	18.34	25.59
<u>LABOUR FORCE AS A % OF POPULATION</u>						
Total	42.41	36.68	43.90	28.56	32.45	27.23
Male	50.53	53.89	49.58	43.09	49.31	40.70
Female	33.37	14.46	37.83	12.88	10.60	13.56
<u>UNEMPLOYED AS % OF LABOUR FORCE</u>						
Total	5.76	15.31	3.69	1.50	2.17	1.23
Male	6.39	14.21	3.98	1.36	2.29	0.93
Female	4.71	20.61	3.28	2.02	1.46	2.15

Note:¹ 1977 census enumerated labour force for 5 years and above while that of 1985 for 12 years and above, but this table has been prepared for 15 years and above for both years to enable comparison

² Labour force/Working age population

Source: Census 1977, Tables 4, 23, 24 and Census 1985, Tables P-3 and P-16

fish processing in the atolls as economically active, in the census counts of 1985 (MPD, undated³). Possibly under the same reduction effect, the unemployed also decreased from 5.76 percent of the labour force in 1977 to 1.50 percent in 1985.

2. Size of Sectoral Workforce and Structure

Employment structure is an important coefficient in some methods of manpower forecasts. Employment structure is the distribution of the employed population by the industrial sectors of the economy. What role does employment structure play in manpower planning? Where it is possible to establish trends in the share of the individual sectoral workforce, it may be possible to predict the likely distribution of the future workforce (or of the target year or the planned period) of the sectors by projecting them individually. However, in the methods stated above (see Figure 6.1), the information is applied to produce the distribution among the sectors of a projected workforce (workforce is used here to refer to the employed population). The sectoral workforce may also be obtained by applying the ratio of sectoral workforce to output of the base year to the output of the target year (in the incremental labour-output method). Once the workforce of the individual sector is obtained it is broken down into various occupations with the help of occupational structures, or by using labour-output methods.

(a) Size of the Workforces by Sectors

Before analysing the proper occupational structures, it may be useful to examine the actual size of the sectoral workforces in absolute figures as well. The purpose of such an

examination would be to recognise the actual sizes of the absolute figures that the ratios and structures represent. That helps, among other things, to understand the statistical vulnerability of projections to errors.

Table 6.5 presents the employed population by the main sectors of the economy. The largest sector, namely "fishing", was about 12,000 strong in 1985 (dropped from 27,000 in 1977) while the smallest sector, namely "financing, insurance and business" was just over 400 in 1985 (even less than 100 in the Atolls where three-quarters of the population live). It is also noteworthy that the "community, social and personal services" which includes "tourism" and the "government" sectors, registered a dramatic increase from 5,234 in 1977 to 10,431 in 1985, despite the difference of working age considered in the two censuses and the shrinkage in the labour force experienced from 1977 to 1985.

Table 6.5: Employed Population by Industries

Sectors	<u>TOTAL</u>		<u>MALE'</u>		<u>ATOLLS</u>	
	1977	1985	1977	1985	1977	1985
Agriculture & Forestry	6347	3009	94	89	6253	2920
Fishing	27173	12434	561	889	26612	11545
Quarrying	379	643	248	224	131	419
Manufacturing	13851	11559	1194	1824	12657	9735
Electricity, & Gas & water	209	504	173	294	36	210
Construction	1506	2563	937	721	569	1842
Trade	1695	5434	1064	2369	631	3065
Transport, storage & communication	3301	3327	1694	1677	1607	1650
Financing, insurance & business	195	418	192	321	3	97
Community, social & personal ser.	5234	10431	3079	5862	2155	4569
Unstated	369	1107	190	424	179	683
TOTAL	60259	51429	9426	14694	50833	36735

Workforce 1977 is 5 years and above while that of 1985 is 12 years and above.
See Appendix C for a further breakdown into the regions

Source: Censuses 1977 and 1985

Given the dispersion of the country in reality, the employed population even further subdivides into smaller denominations in the industries of the regions. Should an industry be relocated or expanded in a region, like the extension of the tourism zone in Alifu, currently underway, the structure will transform drastically. As explained above (in Chapter Four), the small size and the physical and communicational divide among the regions and individual islands do not permit smooth mobility of labour from one island to the other (even Male', the only exception. Male' has literally over-stretched job creation and accommodation of incumbents to its physical limits.

It is indeed a dilemma and to an extent ironic that while plans to be effective require analysis and consideration as close to the micro level as possible and reflection on the reality (Windham, 1975), the methods of forecasting demand aggregation of figures for the projections to be accurate. Experience seems to show that disaggregated projections do not produce very useful forecasts. (Youdi and Hinchliffe, 1985, p.252). This point is made here merely to illustrate the possible problems of direct application of models appropriate for large systems involving large numbers to a micro system that involves small numbers.

Table 6.6 illustrates the size of the workforce in the industrial sectors in the regions. Sectors such as "electricity, gas and water" and "financing, insurance and business" employ mostly single digit numbers. Considering the fact that (except for two regions) all regions comprise a number of individual islands with considerable detachment from one another and that each of these sectors subdivides into minor sectors, the feature of the workforce clearly illustrates the care required in projection and interpretation of the projection.

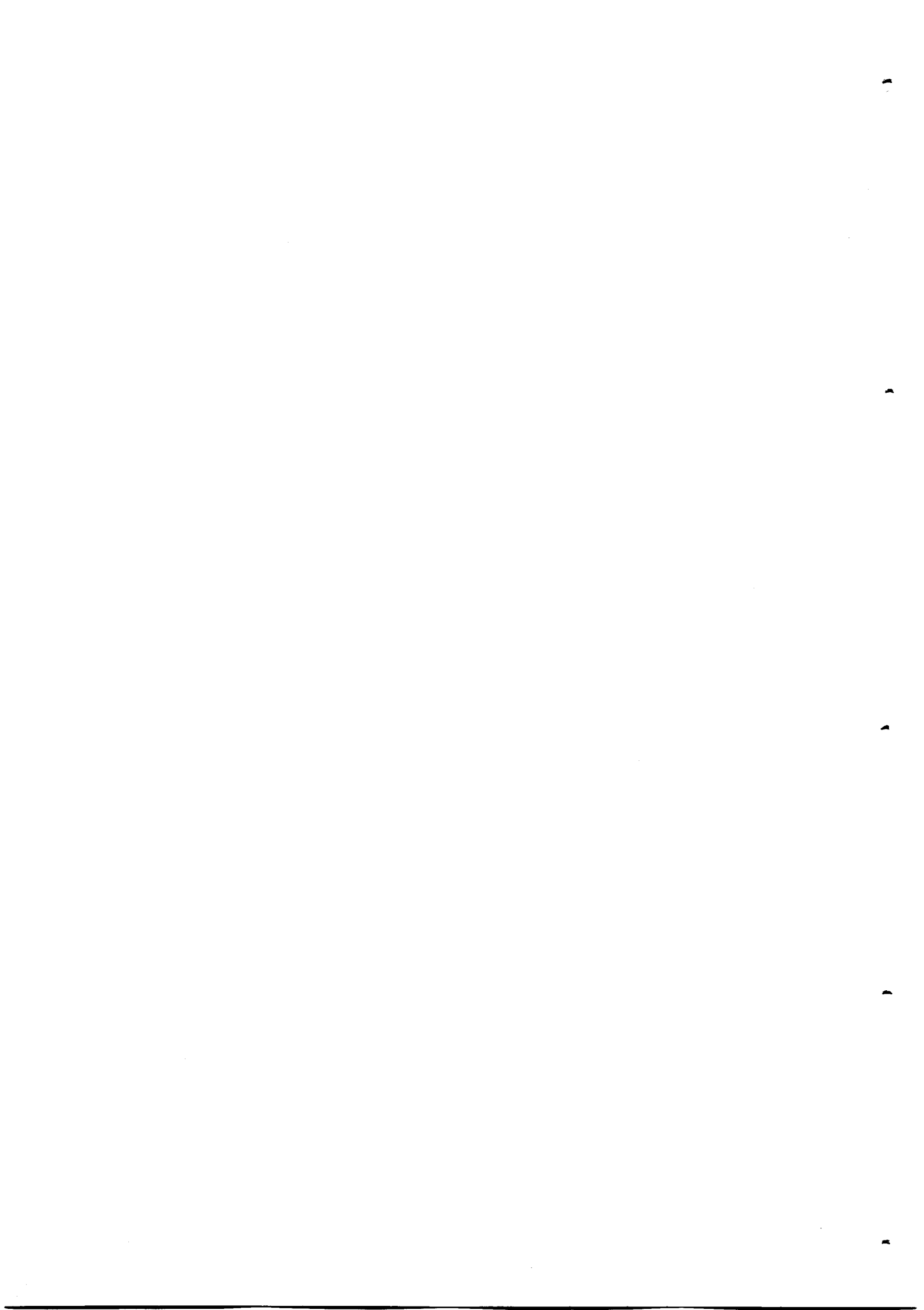
Table 6.6: Size Of Workforce In Industries in the Regions - 1985

	Agr&For	Fish'n	Quarry	Manuf.	Ele.	Const.	Trade	Trans	Fin.	Serv	Total
HA	268	909	26	536	6	103	66	75	2	233	2305
HD	138	574	15	837	5	149	124	151	2	313	2350
SH	172	821	2	883	1	77	75	42	0	183	2291
NU	73	456	20	728	8	131	55	36	5	202	1740
RA	83	1150	5	678	5	94	46	53	2	241	2382
BA	89	936	21	516	3	58	49	48	0	194	1916
LH	30	615	49	431	14	87	60	128	14	182	1628
KA	62	741	97	418	65	326	1878	377	25	672	4807
AL	262	822	54	525	16	112	232	108	6	306	2476
VA	3	204	2	71	4	7	38	37	0	81	450
ME	23	397	3	229	2	25	19	27	0	108	867
FA	18	136	11	175	0	15	8	21	0	61	527
DH	39	458	0	313	2	36	9	44	3	99	1023
TH	90	785	46	327	6	55	31	90	4	169	1614
LA	282	688	9	283	7	122	45	44	6	293	1794
GA	77	792	7	375	8	61	54	121	1	185	1688
GD	634	636	16	623	14	106	66	75	1	199	2400
GN	415	120	18	159	6	103	40	45	3	107	1028
SE	162	305	18	1628	38	175	170	128	23	741	3449
MA	89	889	224	1824	294	721	2369	1677	321	5862	14694
TOTAL	3009	12434	643	11559	504	2563	5434	3327	418	10431	51429
ATOLLS	2920	11545	419	9735	210	1842	3065	1650	97	4569	36735

ATOLL=TOTAL-MA(MALE')

See Appendix D for the structure

Source: Census 1985 (MPD, undated2)



(b) Employment Structure

Table 6.7 presents the employment structure of the economy for the country, Male' and the Atolls for 1977 and 1985. Although "fishing" is the dominant sector, it has dropped from 45% to 24% of the total while "community, social and personal services" increased from 8.69% to 20.28%. Possibly, there is a drift of labour from the primary rural sectors such as "agriculture" and "fishing" to the growth sectors like "tourism". It will be useful to study this aspect and fine-tune statistical factors in making future projections.

Table 6.7: Employment Structure 1977, 1985
(in percentages)

Sectors	<u>TOTAL</u>		<u>MALE'</u>		<u>ATOLLS</u>	
	1977	1985	1977	1985	1977	1985
Agriculture & Forestry	10.53	5.85	1.00	0.61	12.30	7.95
Fishing	45.09	24.18	5.95	6.05	52.35	31.43
Quarrying	0.63	1.25	2.63	1.52	0.26	1.14
Manufacturing	22.99	22.48	12.67	12.41	24.90	26.50
Electricity, Gas & water	0.35	0.98	1.84	2.00	0.07	0.57
Construction	2.50	4.98	9.94	4.91	1.12	5.01
Trade	2.81	10.57	11.29	16.12	1.24	8.34
Transport, storage & communication	5.48	6.47	17.97	11.41	3.16	4.49
Financing, insurance & business	0.32	0.81	2.04	2.18	0.01	0.26
Community, social & personal serv.	8.69	20.28	32.66	39.89	4.24	12.44
Unstated	0.61	2.15	2.02	2.89	0.35	1.86
TOTAL	100.00	100.00	100.01	99.99	100.00	99.99

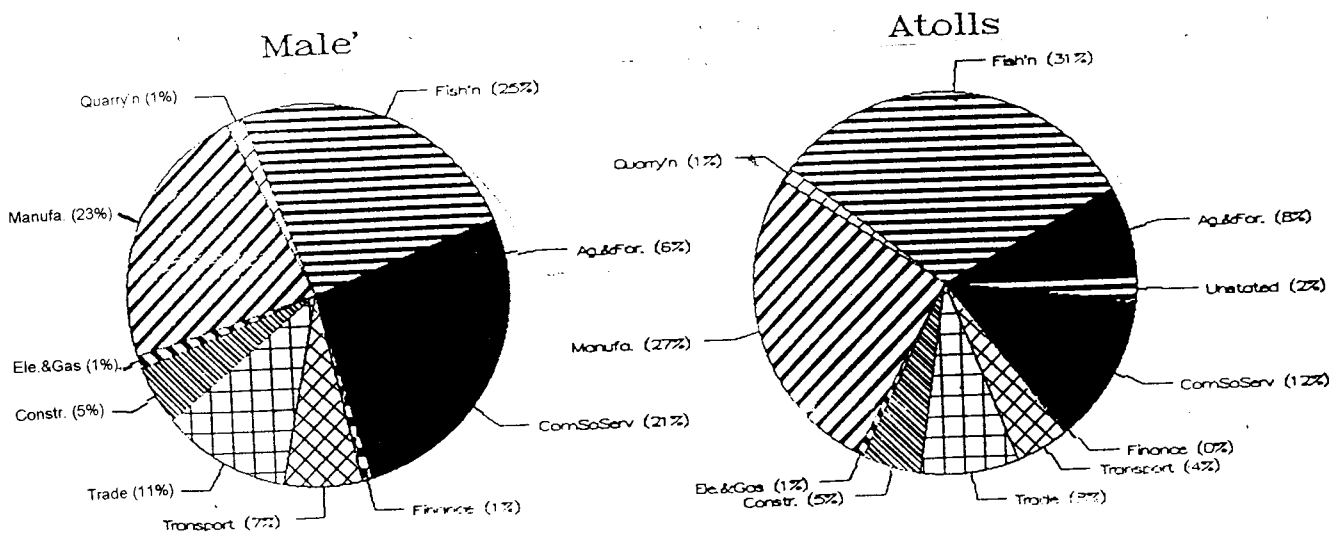
Source: Censuses 1977, 1985

It will also be important to note that Male' and the Atolls display very different structures. The economy, to an extent, divides between Male' and the Atolls, exhibiting somewhat a dual economy. Such a feature could even demand making separate manpower forecasts for the two constituent economies which again means a further disaggregation and shrinkage of figures involved, thereby increasing vulnerability to error.

(c) A Structural Divide Between Male' and the Atolls

Figure 6.2 illustrates a comparison of the employment structures of Male' and the Atolls. The four most important

Figure 6.2: Employment Structure of the Male' and the Atolls, 1985



Source: Census, 1985 (MPD, undated2)

sectors in Male' were "community, social and personal services", "trade", "manufacturing" and "transport, storage and communication", while in the Atolls they were "fisheries", "manufacturing", "community, social and personal services" and "agriculture". (see Appendix E for a breakdown of the distribution) Whilst differences exist between the two main regions, the implications for the future manpower will depend on how they breakup into the various occupations, and the required types and levels of education and training.

(d) Structural Change Over Time

The other aspect of the structure, perhaps the most relevant as far as the methods normally employed in manpower forecasting exercises are concerned (as in Figure 6.1), is the change over time. The accuracy of future estimates depends on the behaviour of the structure over time. In this respect, sectoral trends are a factor. Table 6.8 presents the change in structure over the 8 years. The change in some sectors has been quite dramatic. "Agriculture" and "fisheries" dropped in their share of employment by 4.68 and 20.91 percentage points in the total workforce respectively while "trade" and "services" increased their share of employment significantly 7.76 and 11.59 percentage points in the total respectively.

Table 6.8: Change in Employment Structure
in Total Workforce, and Workforces of
Male' and Atolls (1977-1985)

<u>Sectors</u>	<u>TOTAL</u>	<u>MALE'</u>	<u>ATOLL</u>
Agriculture & Forestry	-4.68	-0.39	-4.35
Fishing	-20.91	0.10	-20.92
Quarrying	0.62	-1.11	0.88
Manufacturing	-0.51	-0.26	1.60
Electricity, Gas & water	0.63	0.16	0.50
Construction	2.48	-5.03	3.89
Trade	7.76	4.83	7.10
Transport, storage & communication	0.99	-6.56	1.33
Financing, insurance & business	0.49	0.14	0.25
Community, social & personal serv.	11.59	7.23	8.20
<u>Unstated</u>	<u>1.54</u>	<u>0.87</u>	<u>1.51</u>

Source: Censuses 1977 and 1985

In principle, such changes are affected by policies and plans for future development. For example, the increased emphasis in plans to expand tourism will continue to increase the share of the "community, social and personal services" sector (and other related sectors) while plans to improve production in "fisheries" will probably stabilise its share, and the absence of major plans in "agriculture" will allow its share to fall in the foreseeable mid-term. (MPD, undated3 - see also Chapter IV)

3. Occupational Structure

Occupational structure is the percentage distribution of the employed population by occupation in a given workforce. In other words, the ratios of employed populations of individual occupational groups in a given sector (L_{ij}) to the total workforce of the sector (L_i) normally expressed as percentages. ($100 \times L_{ij}/L_i$ - see Figure 6.1 for representation of the symbols and the relationships) In the time-series extrapolation method of forecasts, the occupational structure of the base year (with any necessary adjustments to accommodate foreseeable changes) is used to determine the distribution of occupations in the future workforce. This method assumes that the structure of the base year reflects the future structure to a reliable degree [that $L_{ij}/L_i=f(t)$] provided that the information available is correct. This method was extensively applied by French planners (Youdi and Hinchliffe, 1985, p.14).

The future occupational numbers thus obtained tell what kind of workforce can be expected in the future. Some planning exercises even stop at this point (e.g. U.S.A.). However, to take the exercise up to the levels and types of education and training required, the numbers are translated by using educational structures. As explained above, there are also other procedures that can provide future educational categories. (see Figure 6.1)

Table 6.9 presents the occupational structure of the workforce for 1977 and 1985. In 1977, the workforce was mainly "agricultural, fisheries and rural workers" and "production worker" (54.74% and 28.07% respectively).

Table 6.9: Occupational Structure 1977, 1985

	Workforce		Structure(%)		Change
	1977	1985	1977	1985	%Points
<u>COUNTRY TOTAL</u>	57371	51428	100.00	99.99	-0.01
Professional & Technical	977	4738	1.70	9.21	7.51
Administrative & Executive	175	1464	0.31	2.85	2.54
Clerical & related	1298	3304	2.26	6.42	4.16
Sales workers	1587	2371	2.77	4.61	1.84
Service workers	5380	3514	9.38	6.83	-2.55
Agricultural, fishing..	31403	15131	54.74	29.42	-25.32
Production workers	16103	19220	28.07	37.37	9.30
Unstated	448	1686	0.78	3.28	2.50
<u>MALE' TOTAL</u>	9266	14694	100.00	100.00	0.00
Professional & Technical	474	1953	5.12	13.29	8.17
Administrative & Executive	130	723	1.40	4.92	3.52
Clerical & related	1106	2252	11.94	15.33	3.39
Sales workers	959	1469	10.35	10.00	-0.35
Service workers	2474	1641	26.70	11.17	-15.53
Agricultural, fishing...	532	976	5.74	6.64	0.90
Production workers	3295	4924	35.56	33.51	-2.05
Unstated	296	756	3.19	5.14	1.95
<u>ATOLLS TOTAL</u>	48105	36734	100.00	100.00	0.00
Professional & Technical	503	2785	1.05	7.58	6.53
Administrative & Executive	45	741	0.09	2.02	1.93
Clerical & related	192	1052	0.40	2.86	2.46
Sales workers	628	902	1.31	2.46	1.15
Service workers	2906	1873	6.04	5.10	-0.94
Agricultural, fishing..	30871	14155	64.17	38.53	-25.64
Production workers	12808	14296	26.63	38.92	12.29
Unstated	152	930	0.32	2.53	2.21

Note: Workforce for 15 years and above for both years

Sources: Censuses 1977, 1985

Over the 8 years, the structure has changed quite dramatically. While the share of those engaged in "fisheries, agricultural and rural workers" fell drastically, there has been a significant increase in the share of "professional and technical", "administrative and executive", "clerical and related", and "production workers". The heavy drop in the share of "fisheries and agricultural workers" is partially the result of a drift of workers from fisheries to other sectors like tourism (MPE, 1988). The increase in "production" is caused by the establishment of garment factories in Seenu and Kaafu (see under Atolls in Table 6.9) while those of the "professional and technical", and "administrative and executive" may be explained by the expansion of the economy in the services sectors both in "tourism" and the "government" sub-sectors. Whilst these explanations of the changes are also useful, it is the changes themselves that make calculations difficult and unreliable. The slightest change (sometimes single events) in these small categories, unless very minute, make a very significant impact on the structure.

(a) Occupation-Industry Matrix

The Occupation-industry matrix cross-classifies various occupational categories by various industrial sectors. These are then expressed as ratios which are applied to obtain future occupational categories of the various sectors. Such a matrix could be helpful by indicating the following:

i. In what proportions the employed population in the sectors are distributed among the main occupations (e.g. in 1977 and in 1985), presumably giving an idea of how they may be distributed in future;

ii. Which sectors employ proportionately more of the educationally and technologically critical categories such as "professional and technical", "administrative and executive", etc.

iii. How much change has occurred over the period in the occupational structure of the individual sectors, which facilitates adjustment of the factor to conform to the trend.

Table 6.10 presents the distribution of the main occupational categories (occupational structure) in the individual industrial sectors and the change of these ratios over the eight years, from 1977 to 1985. The highest proportion of "professionals and technical" workers were engaged in "transport, storage and communication", and "financing, insurance and business", followed by "gas, electricity and water", and "social, community and personal services". Incidentally, the transport sector also shows a dramatic increase (1332%) of the professional and technical workforce from 1977 to 1985 which was caused most significantly by one single event, the opening of the international airport in 1981 (MPE, 1988), demonstrating again how structures are drastically changed by single events. Such occurrences, indeed, pose enormous difficulties in making coefficient-based projections.

Table 6.10: Occupational Structure of the Individual Industrial Sectors
(1977 and 1985 - in Percentages)

Ind/Occu	Year	Prof.	Admin.	Cler.	Sales	Serv.	Agr&F	Prod.	Unstated	Total
Ag.&For.	1977	0.11	0.35	0.00	0.00	0.25	98.33	0.96	0.00	100.00
	1985	1.33	0.00	0.07	0.23	0.10	96.78	1.40	0.10	100.01
Fish'n	%chge	1109.09	-100.00			-60.00	-1.58	45.83		
	1977	0.05	0.31	0.00	0.02	0.32	98.93	0.36	0.01	100.00
Quarry'n	1985	0.30	1.46	0.06	0.13	0.16	96.61	0.47	0.81	100.00
	%chge	500.00	370.97		550.00	-50.00	-2.35	30.56	8000.00	
Manufa.	1977	1.40	0.47	0.47	0.31	0.31	0.62	95.80	0.62	100.00
	%chge								!!!	
Elc.&Gas	1977	0.13	0.14	0.00	0.19	0.25	0.17	99.13	0.00	100.01
	1985	0.72	0.23	0.65	0.07	0.39	0.19	90.56	7.19	100.00
Constr.	%chge	453.85	64.29		-63.16	56.00	11.76	-8.65	!!!	
	1977	37.32	13.40	0.00	0.00	8.61	0.48	39.23	0.96	100.00
Trade	1985	10.91	0.60	1.19	0.00	0.20	1.59	5.16	80.36	100.01
	%chge	-70.77	-95.52			-97.68	231.25	-86.85	8270.83	
Transport	1977	0.53	1.27	0.00	0.00	2.55	0.27	95.28	0.11	100.01
	1985	0.39	0.04	0.31	0.16	0.16	0.20	96.06	2.69	100.01
Finance	%chge	-26.42	-96.85			-93.73	-25.93	0.82	2345.45	
	1977	0.05	10.21	0.00	79.63	2.70	0.05	6.88	0.48	100.00
ComSoServ	1985	2.13	1.99	4.95	42.07	27.31	0.40	20.43	0.72	100.00
	%chge	4160.00	-80.51		-47.17	911.48	700.00	196.95	50.00	
Unstated	1977	2.82	8.54	0.00	0.24	73.67	0.18	13.12	1.42	99.99
	1985	40.37	4.09	10.43	0.21	3.13	2.55	38.38	0.84	100.00
Totals of Occup.	%chge	1331.56	-52.11		-12.50	-95.75	1316.67	192.53	-40.85	
	1977	40.19	19.38	30.86	1.67	0.00	0.48	4.31	3.11	100.00
Unstated	1985	14.52	15.30	0.00	1.15	55.20	0.19	11.94	1.70	100.00
	%chge	17.81	8.69	23.20	0.25	17.52	0.47	29.40	1.76	99.10
Totals of Occup.	1977	22.66	-43.20	0.00	-78.26	-68.26	147.37	146.23	3.53	100.01
	1985	0.27	6.78	1.45	0.00	2.98	0.00	6.78	83.20	99.99
Unstated	%chge	90.51	0.72		0.72	0.63	0.81	4.34	0.81	
	1977	1.63	2.45	0.00	2.66	9.27	55.04	28.18	0.76	99.99
Totals of Occup.	1985	9.21	2.85	6.42	4.61	6.83	29.42	37.37	3.28	99.99
	%chge	465.03	16.33		73.31	-26.32	-46.55	32.61	331.58	

See Appendix F for the actual numbers of the structure
Source: Censuses 1977, 1985

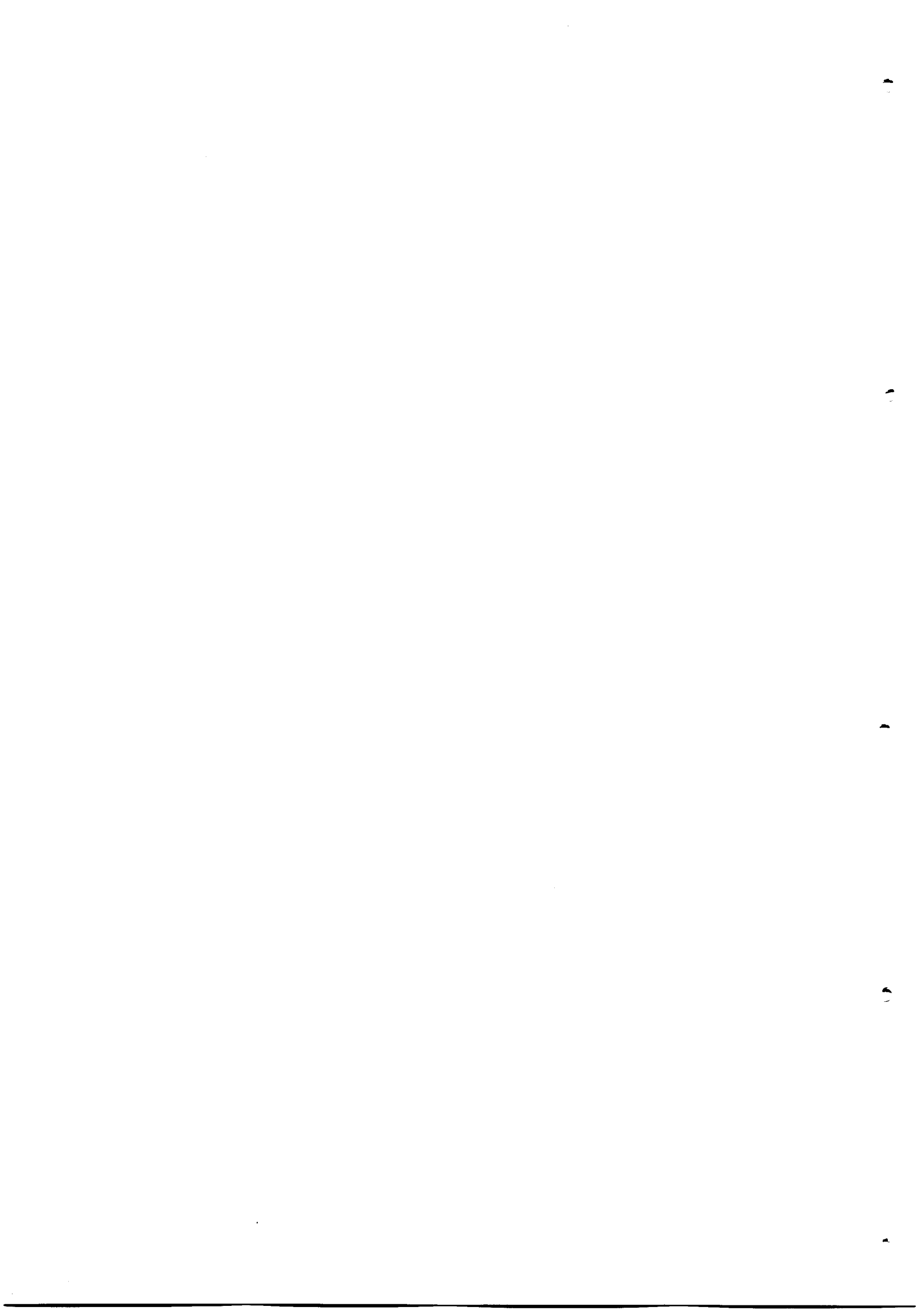


Table 6.11: Employed Population Cross-classified by Industry and Occupation - 1977, 1985

Ind\Occu	Year	Prof	Adm.	Cler.	Sales	Serv.	Agr&F.	Prod.
Ag.&For.	1977	7	22		0	16	6241	61
	1985	40	0	2	7	3	2912	42
Fish'n	1977	14	84		6	87	26881	99
	1985	37	182	7	16	20	12013	58
Quarry'n	1977							
	1985	9	3	3	2	2	4	616
Manufa.	1977	18	20		26	34	23	13730
	1985	83	27	75	8	45	22	10468
Ele.&Gas	1977	78	28		0	18	1	82
	1985	55	3	6	0	1	8	26
Constr.	1977	10	24		0	48	5	1796
	1985	10	1	8	4	4	5	2462
Trade	1977	1	193		1505	51	1	130
	1985	116	108	269	2286	1484	22	1110
Transport	1977	93	282		8	2432	6	433
	1985	1343	136	347	7	104	85	1277
Finance	1977							
	1985	168	81	129	7	0	2	18
ComSoServ	1977	760	801		60	2889	10	625
	1985	1875	915	2442	26	1844	49	3095
Unstated	1977	1	25		0	11	0	25
	1985	1002	8	16	8	7	9	48
TOTALS of Occup.	1977	982	1479	0	1605	5586	33168	16981
	1985	4738	1464	3304	2371	3514	15131	19220

Occupation not stated have been excluded

Source: Censuses 1977, 1985

Table 6.11 presents the actual numbers in the occupational categories in the individual sectors. In 1985, four sectors employed professional and technical workforces over 100 (of which two had over 1000). Some were as low as 9 and 10 ("quarrying" and "construction"). It must also be noted that, out of the total of 4738 professional and technical persons employed in 1985, 1002 (21%) did not state their industrial sector. This is a considerable size of the workforce not to be classified into any sector, statistically hazardous for forecasts.

(b) Occupations by Sex

Traditionally, women played an important role in production in the Maldives. That was when "fishing" and "agriculture" dominated the GDP and, particularly, when traditional methods were the main form of fish processing. Women still contribute significantly in the traditional sectors. Table 6.12 presents the ratio of women in the workforce in 1977 and 1985. According to the Table, women's participation fell not only in the total workforce from 37.95% in 1977 to 21.61% in 1985 but also in all occupational groups except in "administrative and executive" group. Interestingly, in this particular group, it had increased quite significantly (from 3.43% to 9.63%), though it still remains a low ratio compared to men who occupy 90.37% of the places. Although the increase in this

**Table 6.12: Sex Ratios of the Employed Population
in the Main Occupations 1977 and 1985**

Occupations	1977			1985		
	Male	Female	Fe%	Male	Female	Fe%
COUNTRY	37391	22868	37.95	40313	11116	21.61
Prof.&Tech.	674	308	31.36	3789	949	20.03
Admin & Exec.	169	6	3.43	1323	141	9.63
Clerical & rel	977	327	25.08	2484	820	24.82
Sales	1394	211	13.15	2098	273	11.51
Services	4647	939	16.81	3132	382	10.87
Agri.	23202	9966	30.05	13646	1485	9.81
Production	5932	11049	65.07	12245	6975	36.29
Unstated	396	62	13.54	1596	91	5.40

Source: Censuses 1977, 1985

category is a promising indication, the results on the whole are alarming, and indeed, will need considerable attention in future planning. Women's share is under a quarter in all categories except "production", which is significantly a result of women expatriate workers in the garment industry. In view of the relative parity in education between boys and girls, this phenomenon may be expected to change over time.

How does this aspect relate to planning? The shares of sexes are not direct factors in the mathematical procedures of any of the methods of forecast described above. But before making investments in training with scarce resources, one could pose questions as to whether the distribution of sexes is to remain or to change. If it is to change, in which sectors will it change and to what degree? If it is not to change, why not? These questions may be particularly relevant when social goals for increasing women's participation in the labour force form part of the overall planning.

(c) Occupational Distribution by Regions

Another important dimension of the occupational distribution is their distribution by regions. Just as maximisation of women's participation in the GDP processes is a social objective, "balancing the economic and social progress between Male' and the Atolls" is a national priority objective, even a higher priority (MPD, undated³, p.3). For that reason, among others, it may be useful to examine the occupational distribution among the regions (the main ones, namely the Atolls and Male).

Table 6.13 presents data for Male' and Atolls for 1977 and 1985. (see detailed data for individual regions for 1985 in Appendix G) According to Table 6.13, in both the years the share of the workforce in categories other than "agricultural, fisheries and animal husbandry workers" and "production workers" in Male' was well above its share in the

total workforce. However, there is an increase in the share of the Atolls in categories like "administrative and

Table 6.13: Occupational Distribution of the
Employed Population in Male' and Atolls
(1977 & 1985)

	Total	Male'	Atolls	Male %	Atoll %
1977					
TOTAL	60259	9426	50833	15.64	84.36
Prof.& Tech.	982	477	505	48.57	51.43
Admin. & Exec.	175	130	45	74.29	25.71
Clerical & re.	1304	1108	196	84.97	15.03
Sales workers	1605	970	635	60.44	39.56
Service workers	5586	2563	3023	45.88	54.12
Agricultural..	33168	542	32626	1.63	98.37
Production	16981	3339	13642	19.66	80.34
Unstated	458	297	161	64.85	35.15
1985					
TOTAL	51428	14694	36734	28.57	71.43
Prof.&Tech.	4738	1953	2785	41.22	58.78
Admin & Exec.	1464	723	741	49.39	50.61
Clerical & rel	3304	2252	1052	68.16	31.84
Sales	2371	1469	902	61.96	38.04
Services	3514	1641	1873	46.70	53.30
Agri.	15131	976	14155	6.45	93.55
Production	19220	4924	14296	25.62	74.38
Unstated	1686	756	930	44.84	55.16

Source: Censuses 1977, 1985

executive" and "clerical and related" which was due to the expansion of local administrations over the period.

Policies and, above all, the compelling physical circumstances (the limited size of Male', for example) will pressurise for dispersion and extension of investments into the Atolls. This can create a trend of change in the future occupational structure in the regions which, in turn, will imply new policies in education and training in the respective regions. For example, the expansion of the tourism zone into Alifu (AL), currently being undertaken, is expected to add to the "services" workforce about 1200 jobs in the near

future (MPD, undated³, p.71) of which a substantial part will constitute the "community, social and personal services" categories and some "professional and technical", and "clerical". The expansion will also boost a number of other affiliated industries in the region such as transport, trade, and manufacturing, etc. leading to an increase of workers in categories like services, production, sales, etc.

How does the above relate to manpower planning? In principle, the feature reflects the employment categories of the regions (taking Appendix G into account) which when translated into educational categories will suggest the educational and training requirements. An aggregated projection in this manner will reflect a very different picture indeed. But on the other hand, the smaller figures will not permit a statistically reliable projection either. Nonetheless, the phenomenon of the dual economy system established over the last few decades between Male' and the Atolls and the consequent divergence of employment categories between the two may project very contrasting educational needs. For example, the future employment requirements may not demand a very highly skilled and educationally trained work force in certain regions. If educational provisions are strictly guided by this principle and regionalised, it will ultimately lead to an alarming educational disparities.

The existing educational disparity which may be further projected into the future may be further illustrated and analysed by comparing the actual levels of the main occupational categories (by employed population per 100 of the population) for Male' and the Atolls over time (see Table 6.14). This is, indeed, a side feature of the process of forecasts, but nevertheless, indicates the trend of change in the skill levels of the workforce. According to the Table, the proportion of persons employed in "professional and technical" occupations increased significantly from 1977 to 1985 (1.62 to 4.26 per 100 of the population in Male' and 0.45 to 2.14 per 100 of the population in the Atolls). So have other categories like "administrative and executive". But there is a significant drop in "service workers" in Male' (from 8.68 to 3.58 per 100), and "agricultural, animal

husbandry and rural workers" in the Atolls (28.79 to 10.89). This drop is significantly registered in the total of the same occupation too. In view

**Table 6.14: Employed Populations in Occupations
Per 100 Persons in the Total Populations,
Atolls and Male', 1977 and 1985**

	1977			1985		
	Total	Male'	Atolls	Total	Male'	Atolls
TOTAL	42.19	31.93	44.86	29.24	32.03	28.26
Prof. & Tech.	0.69	1.62	0.45	2.69	4.26	2.14
Adm. & Exec.	0.12	0.44	0.04	0.83	1.58	0.57
Clerical & Rel.	0.91	3.75	0.17	1.88	4.91	0.81
Sales workers	1.12	3.29	0.56	1.35	3.20	0.69
Service workers	3.91	8.68	2.67	2.00	3.58	1.44
Agri. Fishing, etc	23.22	1.84	28.79	8.60	2.13	10.89
Production	11.89	11.31	12.04	10.93	10.73	11.00
Unstated	0.32	1.01	0.14	0.96	1.65	0.72

Source: Census Reports 1977, 1985

of the need to employ proportionately more people in smaller operations, the comparison between Male' and the Atolls should, in principle, produce higher proportions for the Atolls than for Male'.

4. Age of the Employed Population

In principle, the estimation of manpower requirements takes into account the addition to, as well as the attrition of, a given labour force during the plan period or by the target year. In consideration of this factor, age of the current or base year workforce (employed population) may be an important element. Tables 6.15 presents workforces of 1977 and 1985 by age. According to the Table, 51 percent of the workforce in 1977 and 56 percent in 1985 were between 15

Table 6.15: Workforce by Age, 1977 and 1985

Age	1977			1985		
	W'kforce	%	Cum %	W'kforce	%	Cum %
15-19 yrs	9282	16.26	16.26	7663	15.13	15.13
20-24 yrs	8519	14.92	31.18	9246	18.25	33.38
26-29 yrs	5755	10.08	41.26	6916	13.65	47.03
30-34 yrs	5612	9.83	51.09	4787	9.45	56.48
35-39 yrs	6803	11.92	63.01	3962	7.82	64.30
40-44 yrs	6355	11.13	74.14	3820	7.54	71.84
45-49 yrs	5126	8.98	83.12	4538	8.96	80.80
50-54 yrs	3721	6.52	89.64	3642	7.19	87.99
55-59 yrs	2392	4.19	93.83	2488	4.91	92.90
60-64 yrs	1806	3.16	96.99	1960	3.87	96.77
65+ yrs	1713	3.00	99.99	1639	3.24	100.01
Total	57084	99.99	---	50661	100.01	---

"Age not stated" is not included

Source: Censuses 1977, 1985

and 35 years of age while nearly one-third was under 25 years of age.

It would also be useful to examine the age of the workforce in the individual occupational categories to see if the workforce of any category is particularly young or old. Table 6.16 presents the mean age of the workforce by the main occupations. The mean age of the total workforce was about 35 years in both 1977 and 1985 without much variation in the main occupations in either year. Therefore, at the aggregate level of main occupations, there is no dramatic difference in the mean age. These factors are relevant and useful in conjunction with retirement ages and rules, and with figures of attrition by categories of the workforce.

Table 6.16: Mean Age of Workforce by Occupations
1977, 1985

	1977	1985
Total	35.5	35.3
Professional & technical	39.3	34.1
Administrative & Exec.	29.6	37.6(31.4) ^{1/}
Clerical & related	^{2/}	28.6
Sales	37.0	37.2
Services	34.1	31.5
Agricultural,..	35.8	38.0
Production	35.7	35.0
Unstated	25.1	33.1

^{1/}Within parenthesis is including "Clerical.."

^{2/}not available, included in "Administrative.."

Note: Workforce is for 15 years and above

Source: Censuses 1977, 1985

5. Expatriates in the Workforce

As was stated in Chapter IV, the country depends considerably on expatriate manpower. Consequent to the introduction of a modern education system and the economic expansion in the modern sectors, the requirements for educated and skilled labour have exceeded the pool of skills available in the last three decades. The expatriates were mainly educated and skilled workers like teachers, accountants, engineers and technicians.

There were approximately 2,500 expatriate workers in the Maldives in 1985 (MPD, undated³, p.11-12), 4.5% of the labour force aged 15 years and above, of whom two-thirds had higher education. Assuming that most of the two-thirds would belong to the "professional and technical" categories (4,738 in 1985), the expatriates account approximately for 35 percent of the total professional and technical workforce. The total expatriate workforce was expected by the Ministry of Planning and Development to increase to 7,000 by 1990 which is 280% (22.87% p.a.). The Census of 1990 enumerated

5,641 expatriates in the country (MPE, 1990). Except for children joining parents, they have very few other reasons to come to the Maldives.

The expatriate recruitments have recently expanded into semi-skilled and unskilled occupations as well. Recruitment of foreign labour into occupations like catering, housemaids and manual labour have taken place at unprecedented levels. They have been recruited on real wages three to four times that normally offered to a comparable local worker. This, however, does not necessarily mean that a real shortage of unskilled labour exists in the country as a whole. Indeed, unskilled labour is available in islands other than those where jobs are available. Thus, the shortage is in a way an apparent shortage.

How does the existence of expatriates in the workforce relate to manpower planning? Just as attrition is a factor in manpower planning, the expatriate workforce is, in principle, a segment to be replaced by manpower development, not only because it drains scarce resources out of the country (there is a considerable leakage of GDP due to expatriate employment - see Chapter Four) but also because it constitutes many lost opportunities for a number of Maldivians. Therefore, it is necessary to make proper estimation of the expatriate workforce, monitor its trend and plan to replace them as early as possible.

6. Educational Levels

The final stage of the process of the manpower forecasts is the estimation of the required labour force in terms of educational types and, or categories. This is reached by four approaches as shown in Figure 6.1. In the most widely applied method of forecasts, i.e. the GDP method, the occupations obtained by the previous steps are translated into various educational levels and types with the help of an educational-occupational matrix (the ratios of the levels or types of educated and/or trained labour in the occupational

categories of the sector). This was presented above in symbolic form as L_{ije}/L_{ij} . Other methods include the direct labour-output ratio methods and the density method.

The translation of occupations to educational levels and categories is a major question in manpower forecasts. As discussed in Chapter II above, the translation is based on a weak assumption that there is a rigid relationship between occupations and educational qualifications. However, experience has not shown a consistent relationship to support such an assumption. Market economies with least control over the forces of the labour market have, in principle, the least to argue for in this kind of principles. In fact, countries such as the United States, never attempted to translate occupations into educational structures. The future estimates were considered sufficient signals for policies. Other countries like France have begun to abandon such attempts (Youdi and Hinchliffe, 1985, p.250). This assumption that there is a rigid relationship between occupation and education (that used to be taken for granted in the "first generation" experts of economics of education) is now widely considered as the "weakest link" in the manpower requirements approach to educational planning (Psacharopoulos and Woodhall, 1985, p.84).

Indeed, the weakness is true to the extent that particular levels and categories of manpower requirement can be accurately derived from a given set of occupational categories. But, the fact that particular kinds of education and training (knowledge, skills and attitude) are necessary or helpful to achieve particular levels of results (development, production, output) is widely accepted, and despite mounting criticisms on the manpower requirements approach, and repeated evaluation of the methods, the approach has not been recommended to be scrapped. Instead, what has been recommended is the refinement of the techniques and the improvement of systems of information (Youdi and Hinchliffe, 1985, p.259).

Therefore, depending on the availability of data, it makes sense to examine the position of education and training in the existing workforce and/or the population so that it will, at least, give a broad idea of the distribution of the existing stock of skills. Data on educational levels in the main occupational categories (not by sector separately) are available for 1977, but the census report of 1985 failed to produce the same. Data on educational levels of the population in general, however, are available for the two years.

Table 6.17 classifies the employed population in the main occupational categories by educational levels for 1977 and their structures. Only 1% of the "administrative and executive" and 2.5% of the "professional and technical" were of university level, 2.6% and 2.7% of the two categories respectively had pre-university level education. In the absence of more recent data, the structures of 1977 (the same is not available for the individual sectors) may be used to derive the future educational levels but after adjustments to accommodate the increasing trend of educational levels of the population. The educational structures of occupational categories do change as the general educational level of the population changes. This change is presented in Table 6.18.

Table 6.18 presents the educational structure of the population aged 15 and above for 1977 and 1985. The structure has changed significantly from 1977 to 1985. The

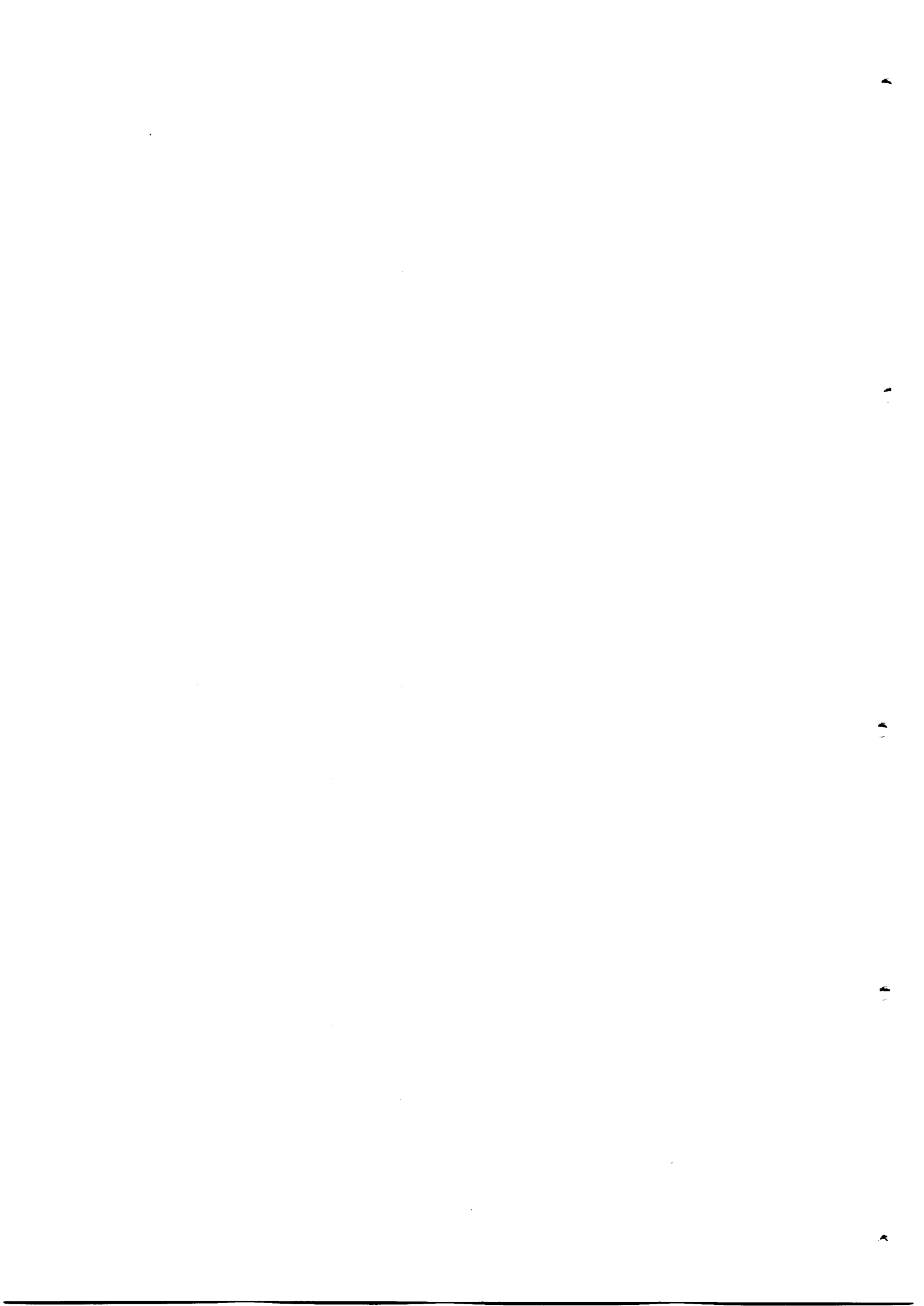


Table 6.17. Employed Populations in Occupations Cross-classified by Levels of Education 1977

	All Levels	No. Stand'd	Prim-ary	Mid. School	Sec-ondary	Pre- Univ.	Univer-sity	Unst-ated
<u>Employed Population</u>								
Prof. & Tech.	982	366	172	207	183	26	25	3
Admin. & Exec.	1479	252	332	522	314	39	15	5
Clerical & rel.	1605	1088	363	78	64	4	3	5
Sales	5586	3765	1190	444	139	23	3	22
Services	33168	26819	6208	115	22	0	1	3
Agriculture	16981	13610	3210	104	42	2	0	13
Production	458	308	65	52	29	3	0	1
Unstated								
Total	60259	46208	11540	1522	793	97	47	52
<u>Distribution by Educational Levels (in %)</u>								
Prof. & Tech.	100.02	37.27	17.52	21.08	18.64	2.65	2.55	0.31
Admin. & Exec.	100.00	17.04	22.45	35.29	21.23	2.64	1.01	0.34
Clerical & rel.	0.00							
Sales	100.01	67.79	22.62	4.86	3.99	0.25	0.19	0.31
Services	99.99	67.40	21.30	7.95	2.49	0.41	0.05	0.39
Agriculture	100.01	80.86	18.72	0.35	0.07	0.00	0.00	0.01
Production	100.00	80.15	18.90	0.61	0.25	0.01	0.00	0.08
Unstated	100.00	67.25	14.19	11.35	6.33	0.66	0.00	0.22
Total	100.01	76.68	19.15	2.53	1.32	0.16	0.08	0.09

Note:1. "Clerical and related" was not classified into as separate category in 1977 Census

2. Cross classification of Educational level by Occupations are not available for 1985 or later periods.

Source: Census 1977

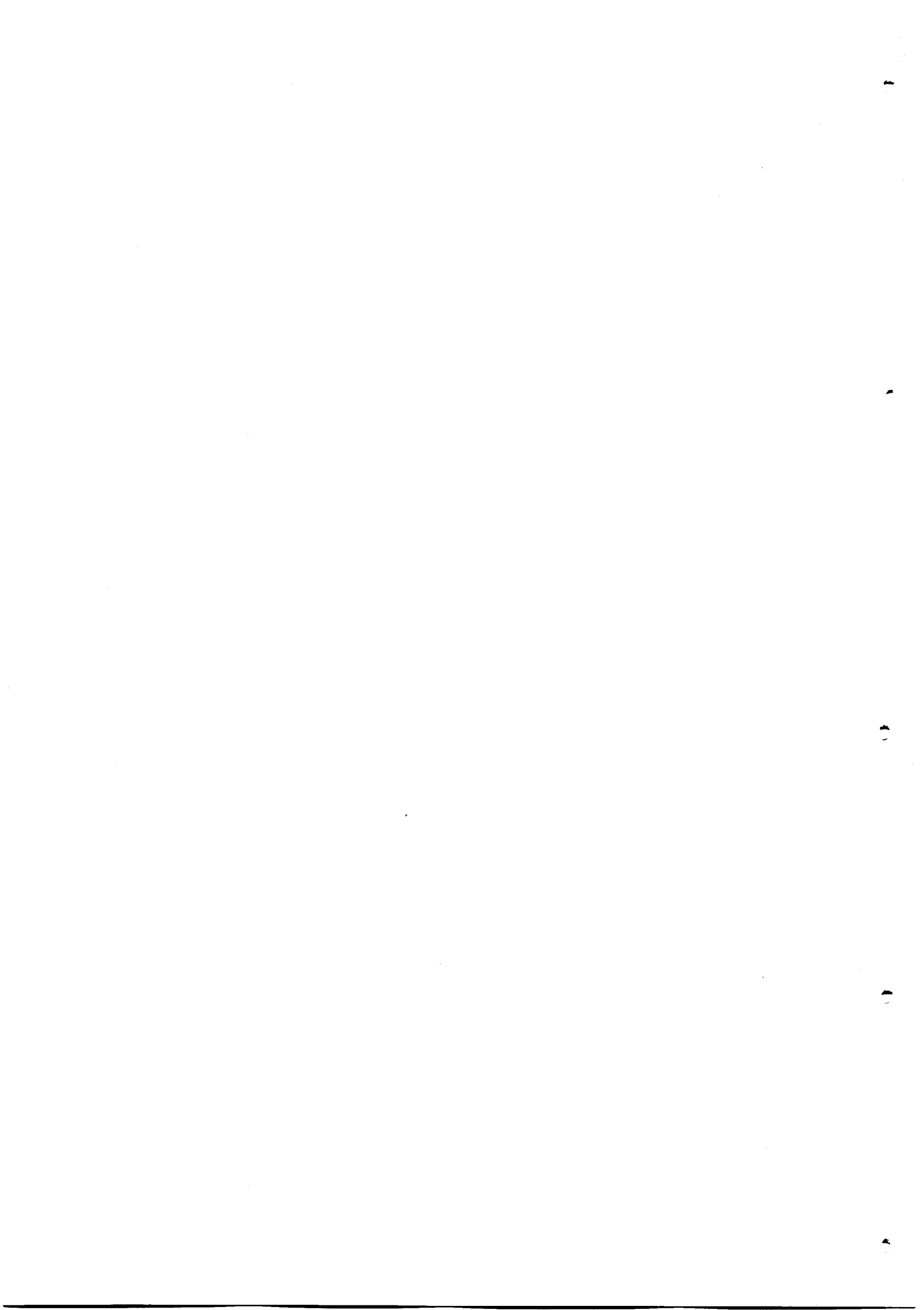


Table 6.18: Population 15 and Above by Educational (1977, 1985)

	1977	1985	1985 _{1/}	% 77	% 85	% 85 _{1/}
Total	78351	90189	90189	100.01	100.00	100.01
No standard	59355	24443	52874	75.76	27.10	58.63
Primary	15459	31376	31376	19.73	34.79	34.79
Middle Schl	1940	3189	3189	2.48	3.54	3.54
Secondary	1231	1895	1895	1.57	2.10	2.10
Pre-University	139	719	719	0.18	0.80	0.80
University	55	136	136	0.07	0.15	0.15
Informal & Vocat.	<u>2/</u>	28431			31.52	
Not stated	172			0.22		

1/ "Informal & Vocational" added to "No standard" to enable comparison with the structure of 1977

2/ was not counted separately in 1977 census

Source: Censuses 1977, 1985

overall level of education has gradually increased. For example, the percentage of university level increased from 0.07 to 0.15 (doubled) and pre-university from 0.18 to 0.8 over the eight years. This is clearly due to the increasing improvement in the educational and training provision in-country as well as those sought abroad. According to plans (MOE, 1985 and MPD, undated³), this trend of change is expected to continue and even increase over time.

The rate of change in the level of education of the population has been calculated and presented in Table 6.19. The Table reveals that, in terms of the rates of change, the increase in pre-university level is the greatest followed by the increase in the university level. Particularly with existing low rates of unemployment in the country, these are important features that need to be taken into account in using the occupation-education structural matrix to determine the future manpower requirements. Should data for

Table 6.19: Change of Educational Levels in the
Population of 15 Years and Above,
From 1977 to 1985

	1977	1985	Change as a %	Annual Rate of Change	Diff. of Rate to Total
Total 78351	90189	15.11	0.017		
No standard, Informal & Vocational <u>1/</u>	59355	52874	-58.82	-0.014	-0.013
Primary	15459	31376	102.96	0.093	0.076
Middle Schl	1940	3189	64.38	0.064	0.047
Secondary	1231	1895	53.94	0.055	0.038
Pre-University	139	719	417.27	0.228	0.211
University	55	136	147.27	0.120	0.103

1/ "Informal & Vocational" 1985 added since it was not counted separately in 1977.

Source: Censuses 1977, 1985

the occupation-education matrix of 1985 be available, the impact of the increase in the general level of education on occupations could have been possible to measure, which then could have been taken into account in moderating coefficients to reflect the future occupation-education structure. Obviously, more recent data will be needed for more accurate forecasts.

D. Capacity to Supply Manpower

In the "manpower requirements approach", the process does not end with the estimation of future requirements. It continues to estimate the supply followed, theoretically, by a comparison of the two and making suggestions to reconcile them. But, this stage is, again, becoming redundant considering the unavoidable discrepancies found to be inherent in the estimations on both sides of the exercise (Youdi and Hinchliffe,

1985). Instead, the estimates are becoming mere guides to policies and decisions of investment.

The supply of manpower depends on a number of factors, including the following:

- a. Population: growth, age and distribution,
- b. Labour force and its participation
- c. Social demand for education and training
- d. Education and training capacity of the country

The future population (projected on the basis of normal demographic models), its size and distribution form the basis of future school-age population and working-age population. The population and distribution was outlined in Chapter Four. The two outstanding features in the Maldives are a continuing high rate of growth with a young population of 50% under the age of 20 years in 1985, and the dispersion in small numbers in scattered small islands.

As discussed above, analysis of the labour force, its participation by sex, age and educational levels, and the distribution by regions, as in the case of the Maldives, are also key determinants of the future supply and availability of labour.

To the extent that social demand for education and training constitutes what the individuals of the workforce choose to acquire in terms of kind and level of education and training, it is a crucial parameter of supply of manpower as well. However, the estimation of the social demand for education and the planning of provision also constitute an approach to educational planning by itself. The approach will be discussed later in this chapter.

The general capacity for education and training of the Maldives was outlined and discussed in Chapter Five. The main features were high rate of literacy (93% in 1986), a

broad base of primary education (over 100% gross enrolment in 1987), a very narrow apex of secondary education, absence of proper higher education within the country (depends on external institutions for its training needs) and limited capability for post-junior school and post-secondary occupational training. Although the education and training capacity of the country has been dealt with in Chapter Five, it has been deemed useful to specifically examine the capability to supply specialised training more closely.

1. Local Capacity to Supply Skilled Manpower

One method of forecasting supply would be to project the trend of levels of educated labour force or the population with the help of the rate of change presented in Table 6.19 above, projecting past trends (with adjustment as and when necessary). But considering the small country that the Maldives is, one could also choose to visit the centres of training and education, discuss with them their future plans and use first-hand information to produce forecasts, provided one is given the opportunity to avail of the information.

As the basic feature of a small country, Maldives has a very limited capacity to provide education above junior school level and specialised training in various fields. As a result, it depends heavily on external training. Table 6.20, with the stated limitation of data, presents the capacity of the main specialised training facilities in the country. To compensate for the lack of data from two training centres (Mauhadh and Islaahiyya), an assumption has been made that the capacity of those two centres is

Table 6.20: Output of the Specialised Training Facilities
(in Trainee-courses)

	1985	1986	1987
Institute for Teacher Education ITE)	61	72	78
Vocational Training Centre	78 <u>1/</u>	78 <u>1/</u>	78
Rural Youth Vocational Training	51	39	20
Allied Health Services Training	70	82	157
Hotel School			22
Islaahiyya (Rehabilitation Centre)	78 <u>2/</u>	78 <u>2/</u>	78 <u>2/</u>
Institute of Islamic Studies	61 <u>3/</u>	72 <u>3/</u>	78 <u>3/</u>
TOTAL	399	421	511

1/ Estimated as equal to that of 1987

2/ Assumed comparable to that of VTC

3/ Assumed comparable to that of ITE

Source: ILO/UNDP (1988)

comparable to two other centres (Institute of Teacher Education and Vocational Training Centre respectively) that undertake training on a similar basis. With the researcher's familiarity with the centres it is clear to him that the assumption will not be an under-estimation.

The annual output of trained persons numbers in scores. One centre had an out-turn over 100, which was due to a large number of short-term (2-4 month) training courses for traditional birth attendants. No plans are known to exist to expand any of these facilities in the near future. It would be advantageous in forecasts to consider individual plans of the related centres. In total the centres produced about 500 trained new entrants into the workforce in 1987.

When the trainee opportunities are expressed in terms of trainee-months (man-months) (see Table 6.21), it reveals

**Table 6.21: Output of the Specialised Training Facilities
(in Trainee-months)**

	1985	1986	1987
Institute for Teacher Education	1070	1210	1340
Vocational Training Centre	975 ^{1/}	975 ^{1/}	975
Rural Youth Vocational Training	540	390	200
Allied Health Services Training	579	310	647
Hotel School	-	-	220
Islaahiyya (Rehabilitation Centre)	540 ^{2/}	975 ^{2/}	975 ^{2/}
Institute of Islamic Studies	1070 ^{3/}	1210 ^{3/}	1340 ^{3/}
TOTAL	3694	3120	5697

^{1/} Estimated as equal to that of 1987

^{2/} Assumed comparable to that of VTC

^{3/} Assumed comparable to that of ITE

Source: ILO/UNDP (1988)

that the Institute of Teacher Education contributes the highest in the totals ranging from 1070 trainee-months in 1985 to 1340 in 1987. The total output was about 5,700 trainee-months in 1987.

2. Including External Training

Table 6.22 presents the number of in-country and external trainee-courses and the total training length for 1985, 1986 and 1987. The trainee-courses longer than 3 months are presented separately. The first observation is the relatively large share of external trainee placements ranging from 30.48 percent in 1987 to 33.39 percent in 1986. Closer observation reveals that the share is generated largely by very short-term (3 months and less) placements. Considering the trainee-courses longer than 3 months (trainings shorter than three months are considered by the government as in-service or on-the-job training), the share dropped to 14.16 percent in 1986 and 18.45 percent in 1985. Similarly, in terms of trainee-lengths of courses longer than 3 months, the share ranged between 15.06 percent of the total in 1986 to 25.48 percent in 1985. The local share of trainee-courses longer than 3 months ranged from 81.55 percent in 1985 to 85.84 percent in 1986, and the trainee-lengths ranged between 75.11 percent in 1987 to 84.94 percent in 1986.

Table 6.22: Total Number of Trainee-Courses and
Total Trainee-Lengths

	1985	%	1986	%	1987	%
<u>EXTERNAL</u>						
Total trainee-courses	200	33.39	187	30.76	224	30.48
Total three-months	1962.2	27.36	1077.8	17.53	2067.9	26.63
Tr-course>3mn	88	18.45	64	14.16	95	18.23
Tr-length>3mn	1779.3	25.48	889.8	15.06	1859.5	24.89
<u>IN-COUNTRY</u>						
Total Trainee-crse	399	66.61	421	69.24	511	69.52
Total trainee-months	5209	72.64	5069.5	82.47	5696.5	73.37
Tr-course>3mn	389	81.55	388	85.84	426	81.77
Tr-length>3mn	5204	74.52	5020	84.94	5612.5	75.11
<u>TOTAL</u>						
Total No of Courses	599	100.00	608	100.00	735	100.00
Total Length	7171.2	100.00	6147.3	100.00	7764.4	100.00
Course>3mn	477	100.00	452	100.00	521	100.00
Length>3mn	6983.3	100.00	5909.8	100.00	7472	100.00

Note: Length in training months (man-months)

Source: Scholarship Board, Maldives, ILO/UNDP (1988)

It will be possible to apply the principle of projection by annual rates of change to the existing data to obtain the future availability of trainee-opportunities. Table 6.23 presents the rate of change for external and in-country successful training placements. Either the total of the trainee-courses or the trainee-lengths may be projected by the use of the rates of change and then be broken down into the various distributions such as external and local, or those longer than 3 months and the total. Or, the components may be projected individually. Indeed, this is a method that adheres strictly to principle. Alternatively, one could also estimate the possible offers pledged from overseas or what the government agencies expect to be

Table 6.23: Rates of Change 1985 to 1989

	1985	1986	1987	1988	1989
<u>EXTERNAL</u>					
Total trainee-courses	200	187	224	257	271
Rate of change		-0.07	0.2	0.15	0.05
Tr-courses >3months	88	64	95	111	103
Rate of change		-0.27	0.48	0.17	-0.07
Total Tr-months	1962.20	1077.80	2067.90	2450.00	2222.30
		-0.45	0.92	0.18	-0.09
Tr-mths >3months	1779.30	889.80	1859.50	2229.70	1986.50
Rate of change		-0.5	1.09	0.2	-0.11
<u>IN-COUNTRY</u>					
Total Trainee-courses	399	421	511		
Rate of change		0.06	0.21		
Tr-courses >3mths	389	388	426		
Rate of change		0	0.1		
Total Trainee-months	5209	5069.5	5696.5		
Rate of change		-0.03	0.12		
Trainee-months>3mths	5204	5020	5612		
Rate of change		-0.04	0.12		
<u>PERIODIC RATES OF ANNUAL CHANGE</u>			<u>In-country</u>	<u>External</u>	
-----			1985-1987	1985-89	
Total trainee-courses			0.13	0.06	
Trainee-courses >3 months			0.05	0.03	
Total trainee-months			0.05	0.03	
Trainee-months of those >3 months			0.04	0.02	

Source: Scholarship Board, Maldives; Ministry of Education

available and count the number of internal places that will be available in the future. How much either method will be accurate can only be tested upon a post-mortem assessment of such an exercise, perhaps some years later. Both depend on the reliability of information.

Table 6.24: Distribution of the Number of Courses
by Main Occupations 1985, 1987, 1989

	1985		1987		1989	
	Total	>3mths	Total	>3mths	Total	>3mths
Total	200	88	224	95	271	103
Prof.& Tech.	43	35	56	47	79	46
%	21.50	39.77	25.00	49.47	29.15	44.66
Admin. & Exec.	15	7	11	6	14	8
%	7.50	7.95	4.91	6.32	5.17	7.77
Cleri. & rel.	110	30	134	31	128	37
%	55.00	34.09	59.82	32.63	47.23	35.92
Sales	1	0	0	0	10	1
%	0.50	0.00	0.00	0.00	3.69	0.97
Services	21	10	20	9	29	8
%	10.50	11.36	8.93	9.47	10.70	7.77
Agr., animal husb.	8	6	3	2	3	1
%	4.00	6.82	1.34	2.11	1.11	0.97
Produc	2	0	0	0	7	1
%	1.00	0.00	0.00	0.00	2.58	0.97
GenSec					1	1
%	0.00	0.00	0.00	0.00	0.37	0.97

Source: Scholarship Board, Maldives

Table 6.24 presents the distribution of successful external trainee-courses into the main occupational categories for 1985, 1987 and 1989. The main purpose of such a breakdown in an exercise of forecasts is to obtain occupational distribution, to give an idea of the supply of skills in the occupational categories. Considering the trainee-placements longer than 3 months, the data reveals that a share of "professional and technical" group is higher than other categories, 39.77%, 49.47% and 44.66% in 1985, 1987 and 1989 respectively. It might also be recalled that the local trainings were also mainly "professional and technical" categories. This is indeed an encouraging signal when the workforce is considerably under-qualified professionally and technically (which was evident by the general level of education of the population as well as that of the labour force in the above analysis). Similarly, the analysis in terms of external trainee-months

also reveals 54.96% in 1985, 51.37% in 1987 and 49.8% in 1989 in the "professional and technical" categories (see Table 6.25).

Table 6.25: Total Training Length by Main Occupations
(1985, 1987, 1989)

	1985		1987		1989	
	Total	>3mths	Total	>3mths	Total	>3mths
Total	1962.20	1779.30	2067.90	1859.50	2222.30	1986.50
Prof. & Tech	992.60	977.90	972.70	955.30	1033.30	989.20
%	50.59	54.96	47.04	51.37	46.50	49.80
Admin & Exec	408.30	394.40	211.80	201.30	206.30	197.80
%	20.81	22.17	10.24	10.83	9.28	9.96
Cler. & rel.	410.80	276.90	656.50	487.40	564.60	429.00
%	20.94	15.56	31.75	26.21	25.41	21.60
Sales	1.40	0.00			14.80	10.80
%	0.07	0.00	0.00	0.00	0.67	0.54
Services	107.00	92.50	211.30	200.40	196.90	169.60
%	5.45	5.20	10.22	10.78	8.86	8.54
Agr. & Fishing	40.50	37.60	15.60	15.10	3.60	3.20
%	2.06	2.11	0.75	0.81	0.16	0.16
Production	1.60	0.00			25.90	10.00
%	0.08	0.00	0.00	0.00	1.17	0.50
Gen. Secondary					176.90	176.90
%	0.00	0.00	0.00	0.00	7.96	8.91

Source: Scholarship Board, Maldives

Similarly, the successful trainee-placements may be classified by the industries as well (Table 6.26). The most striking feature is the remarkable share of the "services" sector. The sector shared between 70.65% in 1987 and 83.48% in 1985 in trainee-months. To recall the local trainings, they were mainly for service sectors as well (e.g.

Table 6.26: Successful External Trainings by Industries
1985, 1987, 1989

	1985		1987		1989	
	Tr-Crse	Tr-mns	Tr-Crse	Tr-mns	Tr-Crse	Tr-mns
Total	88	1779.3	95	1859.5	103	1986.5
% share	100.01	99.99	100.01	100.02	100.00	100.00
Agric.	4	20.6	2	21	0	0
% share	4.55	1.16	2.11	1.13	0.00	0.00
Fishing	5	59.4	6	155.2	4	20.2
% share	5.68	3.34	6.32	8.35	3.88	1.02
Quarrying	-	-	-	-	-	-
Manufacturing	-	-	-	-	-	-
Elec.	3	21.6	0	0	2	95.4
% share	3.41	1.21	0.00	0.00	1.94	4.80
Constr.	3	16.1	4	62.4	3	91.6
% share	3.41	0.90	4.21	3.36	2.91	4.61
Trade	4	24.8	7	137.9	7	82.6
% share	4.55	1.39	7.37	7.42	6.80	4.16
Finance	3	59.7	1	11.7	3	56.9
% share	3.41	3.36	1.05	0.63	2.91	2.86
Trans.Com	9	91.7	8	157.6	8	90.4
% share	10.23	5.15	8.42	8.48	7.77	4.55
Services	57	1485.4	67	1313.7	76	1549.4
% share	64.77	83.48	70.53	70.65	73.79	78.00

Tr-Crse= Total number of trainee-courses

Tr-mns= Total length in number of trainee-months

Source: Scholarship Board, Maldives

teachers, religious leaders, judges, health workers, hotel workers). To recall the analyses of the GDP sectors above, "services" was a significant growth sector. But, how much the distribution may be made to conform to the trend of the economy and the development requirements is a matter for policies and administration.

E. Measurement of Probable Prediction Error

Ideally, the most appropriate test for applicability of a particular method of manpower forecasting would be to conduct a longitudinal study of an actual exercise but, in the Maldives, a proper manpower planning exercise was, for the first time, conducted only in 1988. As the main data collection work for this study was conducted during 1988 and 1989, it is not known to the writer whether the plan was endorsed by the authorities and agencies and, if it was, whether the proposed recommendations were fully implemented. It was too early for the current study to have considered an evaluation of the exercise here. In the absence of such an opportunity, the above analysis has focussed on the assessment of the degree of variation of the factors normally used for coefficients in manpower forecasts, using data mainly from the most recent two censuses, namely 1977 and 1985 for which reports have been published.

The foregoing analysis has examined the selected aspects of the parameters in their own contexts showing how they occur (especially in size) and how they have changed over time. In the following section, it is intended to measure the degree of possible error if the ratios were to be applied in forecasts (the ratios of 1982 for the GDP and 1977 for the other parameters). Three key parameters are selected for this purpose. They are the structure of the GDP, the employment structure and the occupational structure. For the employment structure and the occupational structure, the two years of censuses (namely 1977 and 1985, from which data are considered in this study) have been assumed as the base and the target years respectively. For the structure of the GDP, 1982 and 1987 have been assumed for base and target years respectively (the closest comparable period to 1977-85 for which reliable GDP data are available).

To measure the error, a method commonly used in studies of forecasts such as manpower forecasts and enrolment forecasts has been applied here (see Ahamad and

Blaug, 1973; Abdeen, 1983; Youdi and Hinchliffe, 1985). The error (in this case the probable error if calculations were based on them) of individual factors is measured by the "percentage of the error of prediction". In this case it would be the "probable percentage error". This may be mathematically defined as follows:

$$e_j = [(P_j - A_j) / A_j] 100$$

where:

e = Probable percentage error of prediction

P = Predicted manpower (workforce)

A = Actual manpower/ workforce

j = An individual component (forecast) e.g. a GDP sector, a sectoral workforce, an occupational category

(Source: Psacharopoulos, 1973b, p.88)

For example, if the predicted number (P_j) of a particular forecast was 104 while the actual number (A_j) was 100, then, the "percentage prediction error" (e_j) is $[(104 - 100)/100]100$ which is 4%.

In the second stage of measurement an averaged-out measure of the error for a group of constituent categories is calculated; e.g. for the structure of the GDP, employment structure and the occupational distribution. This calculation is based on the "root-mean-square" of the "probable prediction error" (Psacharopoulos, 1973b, p.92) which is also called the "internal error" of projection (Abdeen, 1983, p.132). This may be mathematically defined as:

$$E_i = \sqrt{1/n (\sum_{j=1}^n e_j^2)}$$

where:

E = Probable "root-mean-square error of prediction" or "Internal Error"

e = Probable percentage error of prediction

j = A group of sub-categories (forecasts), e.g. GDP structure, employment structure, occupational structure.

n = the number of constituent sub-categories or forecasts involved
(Source: Psacharopoulos, 1973b, p.93)

1. Probable Error of GDP Breakdown

Based on the above two models and the foregoing analyses, the "probable percentage error" in the breakdown of the GDP by applying P_i/P coefficient may be calculated for the individual sectors of the GDP and the "probable root-mean-square error" of predicted sectors as a whole from the data of 1982 to the GDP of 1987. These are presented in Table 6.27. In the Table, the probable breakdown of the GDP is compared with the actual GDP to measure the percentage difference. The Table shows that even if the total GDP were possible to be predicted with 100 percent accuracy, the breakdown of the individual sectors would still have shown an error to the range of 1.93% to 64.33%.

Table 6.27: Probable Error in the Sectoral Breakdown of a Projected GDP (P_i/P)

Sectors (i)	GDP 1982 (P_i/P)	GDP STR 82 (P_i/P)	Probable Breakdown 1987 (\hat{P}_i/P)	GDP 1987 (P_i/P)	Probable Percent. Error (e)
Agriculture	68.563	18.04	128.024	77.909	64.33
Fisheries	72.184	18.99	134.766	116.543	15.64
Mining	9.652	2.54	18.026	13.193	36.63
Construction	33.421	8.79	62.38	58.066	7.43
Manufacturing	25.984	6.84	48.541	39.655	22.41
Distribution	49.479	13.02	92.399	115.487	-19.99
Transport	16.346	4.3	30.516	37.106	-17.76
Tourism	56.049	14.74	104.605	122.402	-14.54
Real Estate	16.233	4.27	30.303	30.899	-1.93
Services	10.017	2.64	18.735	37.861	-50.52
Govt. Admin.	22.197	5.84	41.445	60.547	-31.55
TOTAL	380.125	100.01	709.74	709.668	---

Possible "Root-mean-square Error" (E) = 31.28

P= GDP, \hat{P} =Probable sectoral output, i=Sector, n=Target year
Source: Ministry of Planning and Environment (MPD, undated3)

With regard to "acceptability" of prediction errors, a number of writers have chosen a range of $\pm 10\%$ as "accurate" or "acceptable" (Greenawalt and Mitchell, 1966; Shaw, 1980; Abdeen, 1983). On that basis only two sectors namely, "construction" and "real estate" fall within the "acceptable" range. Similarly, the "root-mean-square" of error (31.28%) of probable prediction also rates far above the range.

2. Probable Error of Employment Structure

Table 6.28 presents the probable breakdown of the employment structure for 1985 by applying L_i/L coefficient assuming that the total labour force was possible to

Table 6.28: Probable Error in the Sectoral Breakdown of a Projected Workforce (L_i/L)

Industrial Sectors (i) (L_i^0/L^0)	Workforce 1977 (L_i^0/L^0)	Emp. Str (%) (L_i^n/L^n)	Probable 1985 (e)	Actual 1985	Probable Error
Agriculture	6347	10.53	5415	3009	79.96
Fishing	27173	45.09	23189	12434	86.50
Quarrying	379	0.63	324	643	-49.61
Manufacturing	13851	22.99	11824	11559	2.29
Electricity & Gas	209	0.35	180	504	-64.29
Construction	1506	2.50	1286	2563	-49.82
Trade	1695	2.81	1445	5434	-73.41
Transport	3301	5.48	2818	3327	-15.3
Finance	195	0.32	165	418	-60.53
Community, social Personal serv.	5234	8.69	4469	10431	-57.16
Unstated	369	0.61	314	1107	-71.64
TOTAL	60259	100.00	51429	51429	---

Possible "Root-mean-square Error" (E) = 60.79

L=Employed population, \hat{L} =Probable Employed population, i=sector, 0=Base year, n=Target year

Source: MPD (undated2)

forecast with 100 percent accuracy. According to the Table the "percentage error" varied between 2.29% and 79.96% in the individual employment sectors. Except "manufacturing" all sectors show a percentage error well over 10 percent while the "root-mean-square" of the error is 60.79.

3. Probable Error of Occupational Structure

Table 6.29 presents the probable percentage error in prediction of the occupational structure by applying the L_j/L coefficients from data of 1977 to the workforce (employed population) of 1985. Even when the actual

Table 6.29: Probable Error in Derivation of the Occupational Structure (L_j/L)

Occupational Categories (J) (L^0_j)	Emp. Pop 1977 (L^0_j/L^0)	Occup. Struct. (\hat{L}_j)	Probable 1985 (L^n_j)	Emp. Pop 1985 (e)	Probable Perct. Error
COUNTRY TOTAL	57371	100	51433	51428	
Prof. & Tech.	977	1.7	874	4738	-81.55
Admin. & Exec.	175	0.31	159	1464	-89.14
Clerical & re.	1298	2.26	1162	3304	-64.83
Sales workers	1587	2.77	1425	2371	-39.90
Service workers	5380	9.38	4824	3514	37.28
Agricultural..	31403	54.74	28152	15131	86.06
Production workers	16103	28.07	14436	19220	-24.89
Unstated	448	0.78	401	1686	-76.22

Possible "Root-mean-square Error" (E) = 66.72

=====

j=Occupational categories, L=Employed population, 0=Base year, n=Target year

Source: MPD (undated2)

workforce of 1985 is used to breakdown, the predictions have varied from the actual 24.89 percent to 89.14 percent. None of the sectors fell within $\pm 10\%$ range while the "root-mean-square" error was 66.72%.

Considering the occupational distribution of individual sectors in the same manner by applying L_{ij}/L_i coefficient, (see Table 6.30), the probable percentage prediction error varied between 1.61% and 450% in the sector of "agriculture and forestry" with a "root-mean-square" of percentage error of 192.65%; only the category of "agricultural and animal husbandry workers" falling within the $\pm 10\%$ margin. In the "fisheries" sector, the range was 2.4% to 100% with the "root-mean-square" of 76.8% and only "agricultural and

Table 6.30: Probable Error in the Derivation of the Occupational Distribution of Selected Industries (L_{ij}/L_i)

Occupational Category (j) (L^0_{ij})	Emp. pop 1977 (L^0_{ij}/L^0_i)	Emp. pop Str(%) (L^n_{ij})	Emp. pop 1985 (L^n_{ij})	Probable 1985 (e)	Probable Perc. Error
<u>Agriculture & Forest.</u>					
Professional & exec.	7	0.11	40	3	-92.5
Admin. & cler	22	0.35	2	11	450
Sales	0	0.00	7	0	-100
Serv.	16	0.25	3	8	166.67
Agricul.	6241	98.33	2912	2959	1.61
Prod.	61	0.96	42	29	-30.95
Unstated	0	0.00	3	0	-100
Totals	6347	100.00	3009	3010	
ROOT-MEAN-SQUARE ERROR (E)=192.65					
<u>FISHING</u>					
Prof.	14	0.05	37	6	-83.78
Admin.	84	0.31	189	39	-79.37
Sales	6	0.02	16	2	-87.5
Serv.	87	0.32	20	40	100
Agricul.	26881	98.93	12013	12301	2.4
Prod.	99	0.36	58	45	-22.41
Unstated	2	0.01	101	1	-99.01
Totals	27173	100.00	12434	12434	
ROOT-MEAN-SQUARE ERROR (E)=76.8					

MANUFACTURING

Prof.	18	0.13	83	15	-81.93
Admin.	20	0.14	102	16	-84.31
Sales	26	0.19	8	22	175
Serv.	34	0.25	45	29	-35.56
Agricul.	23	0.17	22	20	-9.09
Prod.	13730	99.13	10468	11458	9.46
Unstated	0	0.00	831	0	-100
Totals	13851	100.01	11559	11560	

ROOT-MEAN-SQUARE ERROR (E)=89.35

COMMUNITY, SOCIAL AND PERSONAL SERVICES

Prof.	760	14.52	1875	1529	-18.45
Admin.	801	15.30	3357	1611	-52.01
Sales	60	1.15	26	121	365.38
Serv.	2889	55.20	1844	5811	215.13
Agricul.	10	0.19	49	20	-59.18
Prod.	625	11.94	3095	1257	-59.39
Unstated	89	1.70	185	179	-3.24
Totals	5234	100.00	10528	10528	

ROOT-MEAN-SQUARE ERROR (E)=164.69

L=Employed population, i=Industrial sector, j=Occupational category, 0=Base year, n=Target year,

Source: MPD (undated2)

animal husbandry workers" falling within $\pm 10\%$ range. In the "manufacturing" sector the range was 9.09% to 175% with a "root-mean-square" of 89.35% with only "agricultural and animal husbandry workers" falling within the 10% range. In the sector of "community, social and personal services" the range was 18.45% to 365.38% with a "root-mean-square" of 164.69% with none of the categories falling within the $\pm 10\%$ range.

F. Summation of the Analysis Related to
the "Manpower Requirements Approach"

The analysis of data of 1977 and 1985 for the key functions of "manpower requirements approach", reveals that there is little or no consistency in the underlying ratios between 1977 and 1985 which could be relied upon to predict the future manpower requirements. Measurement of probable errors also revealed that the probable predictions for 1985 by applying the standard ratios (used as coefficients in normal manpower

forecasts) based on 1977 data would have been wide of the mark and beyond the usually assumed "acceptability" or "accuracy" range. This demonstrates the extreme weakness of the underlying assumptions of the manpower approach in the context of the small dispersed situation of the Maldives.

Changes small in terms of numbers had great impact on the ratios they represented. For example, effects of single events like the opening of a modest international airport (the employment it creates) on the employment structure was drastic. The same would apply if one were to close. Similarly, a breakdown of the workforce into various features (occupational categories, educational levels, regions like Atoll and Male') also revealed distinctive individual characteristics, though numbers are small, and clear divergences in them which, on an aggregated level, can be very confusing.

The analysis did not provide sufficient evidence to support the use of conventional coefficient-based methods of manpower forecasts in the small islands state of the Maldives. This fact, however, does not diminish the need for some attempt at the estimation of future manpower requirements. The resources of the country and the local training capability are very limited while the external dependence for both training and manpower is high and costly. The country could hardly afford to gamble on the manpower requirements and supply. Therefore, what it requires is extreme caution in designing a methodology for use in manpower planning in the Maldives, together with a system to feed reliable accurate and first-hand information, and the application of correctly moderated ratios. Secondly, forecasts would need to be accompanied by statements of the margin of probable estimation errors, the extent of their reliability and the limits of their use. A number of methods may be applied and tested; a choice of which may be made after comparison of possible prediction errors and use over time.

III. MICROPLANNING/ SCHOOL-MAPPING

A. Scope and Limits

Microplanning and school-mapping basically entail designing strategies and techniques aimed at distributing educational services equitably and effectively at the local level, focussed on local needs, aspirations and capabilities (see Chapter Two). The procedures involve identification of educational regions, diagnosing their educational condition individually and following through the exercise of the educational planning process for and in the region. (see Figure 2.2 for the relationships between the levels in such an exercise)

The fundamental principle underlying the techniques of microplanning methods (which basically constitute the school-mapping) is "planning the distribution" of schools and other educational provision. (Caillods, 1985, p.4436). With this principle underlying the approach, the methods of planning involved are most appropriately applied to the compulsory levels of education, and those levels that are targeted to be universalised. (see Chapter Two)

Based on this principle, the following analysis and discussion will limit itself to the question of application of the approach to the levels of education targeted for universalisation in the Maldives: basically, the primary level. The middle school level also forms somewhat an integral part, together with the primary, of an essential education that the development programme implicitly aims to provide for the citizens. The education system in the Atolls mostly comprises these levels. (see Chapter Five)

By definition, microplanning incorporates planning at organisational levels that are below the central level. In the case of the Maldives, it may comprise three levels. They

are the school level, the island level and the regional or the atoll level. Indeed, it is self-evident that exhaustive analysis of any of these levels will by itself be a study on its own. A study of this nature and size cannot engage in a thorough analysis of all the parameters of planning at the three levels. Thus, with a perspective of an overriding advantage the approach has in planning of the basic level, the following analysis and discussion will limit itself to factors that will answer the question as to how far the principles of microplanning methods apply in the Maldives.

The analysis will concentrate on parameters associated with size and dispersion of the islands and key educational factors such as the schools, enrolment, teachers and levels of education. To enable a judgement on the extent of the need for the application of microplanning methods (as opposed to centralist aggregated approaches to provide education over the archipelago), the analysis and discussion will deal with the following questions:

1. How small are the schools and the islands, and to what levels are education provided in those schools and islands?
2. How dispersed are the schools and the islands?
3. What sizes are the islands and the communities to be catered for?

B. Size and Related Features

As far as size is concerned the Maldives is "small" and the islands, the communities and the schools are "small". But how small? Indeed, smallness is an ambiguous and a relative concept (see Chapter III for the discussion of size). At the level of the state researchers found it difficult to establish a statistically significant relationship between poverty or underdevelopment and size of the state in general terms for a number of

reasons including conceptual difficulties (e.g. see Jalan, ed., 1982). However, at the level of individual sectors and institutions, smallness was found to be a distinct disadvantage in production and provision of goods and services. The lack of economies of scale was found to be at the heart of the difficulties and thus a manifest handicap in development (see Chapter III). This is all the more relevant to education.

As outlined in Chapter IV, the islands of the Maldives range from small sand banks to a maximum of about 4 square miles. This makes the physical size and space of the islands very small indeed. Similarly, the physical growth of island cities is also limited by their physical size. Expansion to cope with urbanisation and facilitate economies of scale and other advantages of agglomerate operations, as it did in the case of the continental cities, is naturally out of the question. Thus, physical size of the islands has been considered small by any standard. Hence, the analyses here will focus on the size of islands by population (total and the school age), school size and school characteristics such as number of schools, size of enrolment, the teaching force and the highest level taught as key parameters of size.

1. Islands by Size of Total Population

The population of the Maldives was 176,000 (180,000 including industrial sites) in 1985, a projected 193,000 in 1988 and 220,000 in 1990. These populations are scattered over 202 administrative islands breaking up into very small communities indeed. According to the projected population for 1988, half of the islands (101 islands) had populations less than 500 in total, of which 3 islands had less than 100 (see Table 6.31). Thirty islands had populations over 1000, of which the exceptional Male', the main capital had 55,000 (about a quarter of the entire country). The 25th percentile of the islands had a population of 317 while the 75th percentile had a population of 783 in total.

**Table 6.31: Frequency Distribution of Islands by Size
of Population 1985, 1988**

Class Interval of Population	No. of Islands		Cum. No. of Islands 1988	Cumulative % 1988	
	1985	1988		% 1988	% 1988
<= 100	2	3	3	1.49	1.49
101- 200	18	15	18	7.43	8.91
201- 300	29	27	45	13.37	22.28
301- 400	39	33	78	16.34	38.61
401- 500	30	23	101	11.39	50.00
501- 600	19	24	125	11.88	61.88
601- 700	12	19	144	9.41	71.29
701- 800	11	9	153	4.46	75.74
801- 900	6	9	162	4.46	80.20
901- 1,000	11	10	172	4.95	85.15
1001- 2,000	17	21	193	10.40	95.54
2001- 3,000	3	4	197	1.98	97.52
3001- 4,000	2	2	199	0.99	98.51
4001- 5,000	1	0	199	0.00	98.51
5001-10,000	1	2	201	0.99	99.50
>10,000	1	1	202	0.50	100.00

Source: MPD (undated2)

2. Islands by Size of School-age Population

Similarly, considering the population age 6 to 15 years, which is the normal school age in the Maldives, more than half the islands (58%) have school age populations of

**Table 6.32: Frequency Distribution of Islands by Size of
Population Age 6-15 Years - 1988, 1990**

Population 6-15 years	No. of Islands		Islands 1988	Cum. No. of Cumulative	
	----- 1988 ¹	1990 ²		Percent. % 1988	Percent. % 1988
<= 50	16	13	16	7.92	7.92
51- 100	46	36	62	22.77	30.69
101- 150	54	47	116	26.73	57.43
151- 200	28	35	144	13.86	71.29
201- 250	17	21	161	8.42	79.70
251- 300	15	13	176	7.43	87.13
302- 350	4	11	180	1.98	89.11
351- 400	4	5	184	1.98	91.09
401- 450	4	6	188	1.98	93.07
451- 500	1	1	189	0.50	93.56
501- 550	4	4	193	1.98	95.54
551- 600	2	2	195	0.99	96.53
601- 650	0	0	195	0.00	96.53
651- 700	0	1	195	0.00	96.53
701- 750	1	0	196	0.50	97.03
751- 800	0	0	196	0.00	97.03
801- 850	1	1	197	0.50	97.52
851- 900	0	1	197	0.00	97.52
901- 950	1	0	198	0.50	98.02
951-1000	0	0	198	0.00	98.02
1001-2000	3	3	201	1.49	99.50
2001-3000	0	1	201	0.00	99.50
>3000	1	1	202	0.50	100.00

Source: ¹ Projection from data of Censuses 1977 and 1985
² Census 1990 (preliminary results) (MPE, 1990)

less than 150 while the 25th percentile was 88 children and the 75th percentile was 222 children. (see Table 6.32)

3. Islands by the Number of Schools

Upon analysis of the School Questionnaire of the Ministry of Education for 1988 (out of a total of 253 schools reported as in operation that year 250 returned the Questionnaire, and the writer was given the opportunity to analyse them), it is found that 175 islands (90.97%) had only single schools (see Table 6.33) 5.7 percent had 2

schools, only a few exceptions had schools numbering 6, 7, 8 and 20 schools (the last is the main capital Male').

**Table 6.33: Frequency of Islands by
Number of Schools (1988)**

<u>Number of Schools</u>	<u>Number of Islands</u>	<u>Valid %¹</u>	<u>Cumul. Percent.</u>
1	175	90.67	90.67
2	11	5.70	96.37
3	3	1.55	97.92
4	0	0.00	97.92
5	0	0.00	97.92
6	1	0.52	98.44
7	1	0.52	98.96
8	1	0.52	99.48
20 (Male')	1	0.52	100.00
Missing	9		
Total	202	100.00	

¹ Percentage excluding the "missing" responses.
Source: Annual Questionnaire of 1988, MOE

4. Islands by Size of Other School Features

Table 6.34 presents islands by size of school enrolment. Eighty-three percent of the islands had school enrolments of less than 151, 86 percent of the islands had between 0 and 5 full-time teachers in them (see Table 6.35) while only 0.55 percent had education available up to grade 12 (A/Level), 8.74 percent up to grade 7 level while most of the islands hardly covered the primary level (see Table 6.36). Despite continued efforts for a very long period of

Table 6.34: Frequency of Islands by Size
of Enrolment of Grade 1-12 (1988)

<u>Size of School Enrolment</u>	<u>Number of Islands</u>	<u>Valid %</u>	<u>Cumulative Percent.</u>
0 (Pre-school level only)	12	6.56	6.56
1- 50	63	34.43	40.99
51- 100	50	27.32	68.31
101- 150	27	14.75	83.06
151- 200	11	6.01	89.07
201- 250	5	2.73	91.80
251- 300	4	2.19	93.99
301- 350	0	0.00	93.99
351- 400	5	2.73	96.72
401- 450	1	0.55	97.27
451- 500	1	0.55	97.82
501-1000	1	0.55	98.37
1001-2000	2	1.09	99.46
11476 (Male')	1	0.55	100.01
Missing	19		
Total	202	100.01	

Enrolment includes Special Classes but not Pre-school

Source: Annual Questionnaire of 1988, MOE

Table 6.35: Frequency of Islands by the Number of Full-time Teachers Employed (1988)

<u>Number of Teachers</u>	<u>Number of Islands</u>	<u>Valid %</u>	<u>Cumulative Percent.</u>
0	24	12.18	12.18
1- 5	146	74.11	86.29
6- 10	18	9.14	95.43
11- 15	3	1.52	96.95
16- 20	3	1.52	98.47
21- 25	1	0.51	98.98
26- 30	0	0.00	98.98
31- 35	0	0.00	98.98
36- 40	0	0.00	98.98
41- 45	1	0.51	99.49
46- 50	0	0.00	99.49
51-100	0	0.00	99.49
101-150	0	0.00	99.49
151-200	0	0.00	99.49
729 (Male')	1	0.51	100.00
Missing	5		
	202	100.00	

Source: Annual Questionnaire of 1988, MOE

Table 6.36: Frequency of Islands by Highest Level Taught in Schools (1988)

<u>Highest Grade Taught</u>	<u>Number of Islands</u>	<u>Valid %</u>	<u>Cumulative Percent.</u>
0 (Pre-school only)	12	6.56	100.00
1	13	7.10	93.44
2	25	13.66	86.34
3	37	20.22	72.68
4	45	24.59	52.46
5	25	13.66	27.87
6	9	4.92	14.21
7	16	8.74	9.29
8	0	0.00	0.55
9	0	0.00	0.55
10	0	0.00	0.55
11	0	0.00	0.55
12	1	0.55	0.55
Missing	19		
	202	100.00	

Source: Annual Questionnaire of 1988, MOE

time (over 10 years), a systematic formal curriculum had not been properly implemented in these islands for a number of reasons (discussed in Chapter V). The system has been consistently interrupted by the lack of continuity in the availability of teachers and other resources.

5. Size of Schools

Considering the fragmentation of the country, it will be of very little use to make projections for the future in aggregated figures, for the schools in the islands are small and unique, and need individual attention to their problems. National norms and standards have had little effect whether in assessment of needs or planning provision. Table 6.37 presents frequency of schools in the country by size of enrolment. More than half, 58 percent, of the schools had enrolments of less than 100 (excluding pre-school-age children) while only 5.83 percent of the schools had enrolments of over 500.

Table 6.37: Frequency Distribution of Schools
By Size of Enrolment - 1988

<u>Enrolment</u>	<u>Number of Schools</u>		<u>%</u>	<u>Valid %</u>	<u>Cumula- tive %</u>
Pre-schools	9				
1 - 25	29	29	12.03	13.00	13.00
26 - 50	31	31	12.86	13.90	26.90
51 - 75	32	32	13.28	14.35	41.25
76 - 100	37	37	15.35	16.59	57.84
101 - 125	29	29	12.03	13.00	70.84
126 - 150	15	15	6.22	6.73	77.57
151 - 175	4	4	1.66	1.79	79.36
176 - 200	7	7	2.90	3.14	82.50
201 - 300	19	19	7.88	8.52	91.02
301 - 400	3	3	1.24	1.35	92.37
401 - 500	4	4	1.66	1.79	94.16
501 - 1000	8	8	3.32	3.59	97.75
1001 - 2000	4	4	1.66	1.79	99.54
2001 - 3000	1	1	0.41	0.45	99.99
MISSING	18	18	7.47		
Total	250	241	99.97	99.99	
Valid Total		223			

Note: Actual no. of schools in 1988 was 253

Source: MOE Questionnaire to Island Offices

It can never be over-emphasised how much these small sizes demand closer attention and individual arrangements for the achievement of educational quality and successful educational plans. The staffing norms, classroom organisation and provision, financing standards, and not least of all, the teaching methods themselves would need special consideration.

To illustrate the effects of size on demands made for provision of teachers, classrooms and financing, for example, data on the smallest 25 and the largest 25 schools in terms of enrolment of 1988, have been selected for analysis. The source of data is the schools and was collected through the Ministry of Education Questionnaire of 1988. Table 6.38 presents the frequency of the 50 schools by pupil: teacher ratios of full-time teachers, and pupil: classroom ratios for permanent classrooms available.

Despite the despicable quality of education offered in the smaller schools (clear from the information in the Questionnaire provided by the schools), the small schools were manned by a relatively larger proportion of teachers; all less than 30 pupils per full-time teacher of which 68% were less than 20 pupils per full-time teacher, as opposed to the larger schools of which 48% exhibited a ratio of over 50 pupils per teacher (52% less than 50). Similarly, for the ratio of pupils to permanent classrooms 88% of the smaller schools had ratios of 30 pupils and less while none in the larger group had a ratio of less than 30 pupils per classroom and 46% had ratios of over 60 pupils. (see Table 6.38)

**Table 6.38: Pupils:Teacher and Pupils: Classroom Ratios
for the Smallest Twenty-five and the Largest
Twenty-five Schools, 1988**

Pupils	Pupils Per Teacher				Pupils Per Classroom			
	Lowest 25		Highest 25		Lowest 25		Highest 25	
	No. of Sch.	Cum. % ¹	No. of Sch.	Cum. % ¹	No. of Sch.	Cum. % ¹	No. of Sch.	Cum. % ¹
1- 10	7	28	1	4	10	40	0	0
11- 20	10	68	2	12	11	84	0	0
21- 30	2	76	4	28	1	88	0	0
31- 40	0	-	6	52	0	-	2	8
41- 50	0	-	4	68	0	-	5	28
51- 60	0	-	1	72	0	-	7	56
61- 70	0	-	3	84	0	-	2	64
71- 80	0	-	0	84	0	-	3	76
81- 90	0	-	1	88	0	-	1	80
91-100	0	-	2	96	0	-	4	96
>100	0	-	1	100	0	-	1	100
No. Teacher & No Class	6	100	0	100	3	100	0	100
Total	25		25		25		25	

¹ Cumulative percentage excluding schools with no full-time teacher and no permanent classroom

Source: Schools (Questionnaire 1988, MOE)

School financing, according to complaints and pleas continuously received by the Ministry of Education, and the writer's personal experience, is among the most deplorable area of inadequacy in the small schools. As outlined in Chapter Five (also other references like Unesco, 1982; Latheef, 1988), the small schools suffer from a complete absence of most essential equipment, stationery, books, and replacements and maintenance.

According to the data (presented in Table 6.39) 52% of the smaller schools displayed ratios lower than Rf.200 per annum and some very small ratios indeed. The larger

Table 6.39: Per Pupil Expenditure for the Smallest
Twenty-five and the Largest Twenty-five
Schools, 1988

Expenditure Per Pupil (Rf. p.a.)	Lowest25			Highest25		
	No.of Sch.	Valid %	Cum. %	No.of Sch	Valid %	Cum. %
1- 25	2	9.52	9.52	0	0	0
26- 50	2	9.52	19.04	0	0	0
51- 75	1	4.76	23.80	0	0	0
76- 100	3	14.29	38.09	2	8.33	8.33
101- 200	3	14.29	52.38	3	12.50	20.83
201- 300	0	0	52.38	9	37.50	58.33
301- 400	3	14.29	66.67	2	8.33	66.66
401- 500	0	0	66.67	2	8.33	74.99
501- 600	0	0	66.67	0	0	74.99
601- 700	2	9.52	76.19	1	4.17	79.16
701- 800	0	0	76.19	0	0	79.16
801- 900	1	4.76	80.95	1	4.17	83.33
901-1000	1	4.76	85.71	0	0	83.33
>1000	3	14.29	100.00	4	16.67	100
Missing	4	-	-	1	-	-
	100			100		

Source: Schools (MOE Questionnaire, 1988)

schools, on the other hand, began at a higher level, but were levelled by smaller schools at Rf.400 per annum. In principle, one would expect the smaller schools to reflect higher ratios from the beginning. Teachers constituting the lion's share of school expenditures, the small schools had shown generally higher ratios of teachers. But, these schools have failed to reflect it in their expenditures. This is not necessarily because the smaller ones can operate on smaller ratios. Closer analysis of income and expenditures (how they received and spent) provides evidence to prove that it is the varying impoverished state of financing in these schools that leads to such low expenditure ratios and the consequent low quality teachers, lack of equipment, poor facilities and low quality service. These illustrate that even the establishment of such ratios does not always suffice to reflect the reality of these schools.

C. Dispersion as a Parameter

The associated problems of smallness were found to be more acute and complicated when the small size was combined with fragmentation, which is the case of the Maldives. The physical oceanic dispersion is particularly a crucial factor in management when access to the individual islands and mobility among islands or the regions are restrained by lack of efficient transport and communication (see Chapter IV). The distances (scatter and accessibility) are a key factor in microplanning and school mapping. Thus, the following parameters have been selected for analysis of dispersion. They have been chosen within the limits and perspectives explained below.

1. Distance to the Nearest Inhabited Island

The distance of each and every individual inhabited island to the nearest neighbour (inhabited island) has been chosen to give an assessment of accessibility to facilities outside its own community, including schools and any educational resource centre such as that of the idea of "cluster schools". The measure, however, only indicates the physical distance from the immediate neighbour and not necessarily a general dispersion within an atoll. This measure does not show whether a sub-group of islands in an atoll is or is not located far or near from the rest of the group. It must also be noted that the measures of distance do not necessarily indicate the degree of communication and, or dependence between individual islands, or to any relations between them in terms of trade or flow of services. The fact of the matter is that except for a negligibly rare exception, neither do children go to other islands (except Male') to study nor do the adults go to work to other islands after, or without, education. (An exception to this is Gan, in the relatively compact Seenu Atoll. Gan is an industrial island, classified as uninhabited, with some factories, staff quarters, hotel accommodation and associated facilities, resided only by temporary expatriate employees and watchmen. Local workers commute daily from other islands of

the atoll.) Hence, to that extent the distances to the neighbouring islands have not played any significant role in development or educational planning so far.

Upon examination of the distance of individual administrative islands to the nearest inhabited island, it is found that 48 islands (out of 202) lie less than one mile from their neighbours (see Table 6.40), cumulative number of 170 islands (84%) lie at distances of less than 5 miles, while 22 islands (11%) lie between 5 and 10 miles and only 10 islands are at a distance between 10 and 25 miles from their neighbour. The 25th percentile is 1.25 miles and the 75th percentile is 4.5 miles (calculated separately).

Table 6.40: Frequency Distribution of Islands by their Distance to the Nearest Island

Distance to the Nearest Island	Number of Islands	Cumulative Frequency	%	Cumulative %
<1 mile	48	48	23.76	23.76
<= 2 but > 1 mile(s)	36	84	17.82	41.58
<= 3 but > 2 miles	40	124	19.80	61.39
<= 4 but > 3 miles	25	149	12.38	73.76
<= 5 but > 4 miles	21	170	10.40	84.16
<= 6 but > 5 miles	8	178	3.96	88.12
<= 7 but > 6 miles	2	180	0.99	89.11
<= 8 but > 7 miles	1	181	0.50	89.60
<= 9 but > 8 miles	6	187	2.97	92.57
<=10 but > 9 miles	5	192	2.48	95.05
<=15 but >10 miles	8	200	3.96	99.01
<=20 but >15 miles	1	201	0.50	99.50
<=25 but >20 miles	1	202	0.50	100.00

2. Distance to the Atoll Capital

Theoretically each island is administratively a satellite of the capital island of the atoll in which it is located. In matters of law and order, implementation of development projects, collection of statistics and record keeping, the atoll capitals are an important

tier in the administrative organisation. In matters of education, the atoll capital is increasing its role. However, the dependence of individual islands on the atoll capitals for any social, economic or financial service is still minimal. It is with this limitation that the distance of the islands to their atoll capitals must be understood as a factor in planning. (see Chapter Four for the administrative organisation)

When the distances of individual administrative islands from their atoll capitals are measured, it is found that 47 islands (23%) lie at a distance between 10 to 15 miles, and 26 islands (12.86%) lie between 15 and 20 miles, and 26 (12.87%) lie less than one mile from the atoll capital (see Table 6.41). The 25th percentile is 6 miles and the 75th percentile is 16 miles (calculated separately).

Table 6.41: Frequency Distribution of Islands by their Distance to their Atoll Capitals

<u>Distance to the Atoll Capital</u>	<u>Number of Islands</u>	<u>Cumulative No. of Islands</u>	<u>%</u>	<u>Cumulative%</u>
<= 1 mile	26	26	12.87	12.87
<= 2 but > 1 mile(s)	3	29	1.49	14.36
<= 3 but > 2 miles	8	37	3.96	18.32
<= 4 but > 3 miles	14	51	6.93	25.25
<= 5 but > 4 miles	14	65	6.93	32.18
<= 6 but > 5 miles	7	72	3.47	35.64
<= 7 but > 6 miles	10	82	4.95	40.59
<= 8 but > 7 miles	9	91	4.46	45.05
<= 9 but > 8 miles	6	97	2.97	48.02
<=10 but > 9 miles	10	107	4.95	52.97
<=15 but >10 miles	47	154	23.27	76.24
<=20 but >15 miles	26	180	12.87	89.11
<=25 but >20 miles	14	194	6.93	96.04
<=30 but >25 miles	4	198	1.98	98.02
<=35 but >30 miles	3	201	1.49	99.50
<=40 but >35 miles	1	202	0.50	100.00

3. Distance to the Main Capital, Male'

The main capital Male' is the main centre of services, source of authority, and finance and capital. It is there that most of the products are sold and bought, educational and other services unavailable in one's own island are sought, people look for paid employment, settle most administrative matters, and all important decisions are made. As far as the planning and provision of any service or investment over the archipelago is concerned, Male' is the most important location to which communication and distance become a vital and an indispensable factor.

Table 6.42 presents the frequency distribution of individual islands by their distance to Male'. According to

Table 6.42: Frequency Distribution of Islands by their Distance to the Main Capital, Male'

Distance to Male'	Number of Islands	Cumulative No. of Islands	%	Cumulative%
0 mile (Male')	1	1	0.50	0.50
<= 10 miles	1	2	0.50	0.99
<= 20 but > 10 miles	5	7	2.48	3.47
<= 30 but > 20 miles	1	8	0.50	3.96
<= 40 but > 30 miles	6	14	2.97	6.93
<= 50 but > 40 miles	13	27	6.44	13.37
<= 60 but > 50 miles	9	36	4.46	17.82
<= 70 but > 60 miles	11	47	5.45	23.27
<= 80 but > 70 miles	17	64	8.42	31.68
<= 90 but > 80 miles	11	75	5.45	37.13
<=100 but > 90 miles	16	91	7.92	45.05
<=125 but >100 miles	29	120	14.36	59.41
<=150 but >125 miles	26	146	12.87	72.28
<=175 but >150 miles	22	168	10.89	83.17
<=200 but >175 miles	7	175	3.47	86.63
<=225 but >200 miles	8	183	3.96	90.59
<=250 but >225 miles	12	195	5.94	96.53
<=275 but >250 miles	1	196	0.50	97.03
<=300 but >275 miles	6	202	2.97	100.00

the Table, 29 islands (14.36%) lie between 100 and 125 miles from Male', an accumulated number of 132 islands (66%, two-thirds) lie between 60 and 175 miles from the capital and 26 islands lie beyond 200 miles, a total of 84 islands (41.58%) between 100 and 200 miles. The 25th percentile is 72 miles and the 75th percentile is 155 miles (calculated separately).

4. Transport to Male'

The degree to which the physical distance from one city, town or island to another is a factor in planning and implementation is dependent on the efficiency of transport and communication between or among them. To that effect, transport and communication are indicators of dispersion or isolation in an archipelago country. In matters of development and administration, insignificantly low level of transport or communication exist between or among individual islands. The transport that is most important to administration and development activities is that between Male' and the individual islands. Even this transport is irregular, unreliable and very basic (meaning ordinary mechanised boats with poor handling). The air transport available to the southern most atoll, Seenu, has yet to be integrated into the life of the people and be part of the systems of services (at the time of this study). Thus, data for the transport between the individual island and Male' (as a measure of dispersion in matters of educational planning and effective implementation) has been collected for the ordinary transport between Male' and the individual islands (that includes Seenu Atoll as well).

Data was collected from Male' Municipality. During the time of the study directives of the government were in force for every boat arriving from the Atolls into Male' inner harbour to report to Male' Municipality (some violations are known to occur). Table 6.43 presents data for frequency of boats arriving from 166 islands. According to

this data, 43 percent (79 islands) did not have transport to Male' on average once a month or less, 24 percent (44 islands) had some form of transport at least once a month. An unusual one island had transport commuting 21-30 times a month.

**Table 6.43: Frequency Distribution of Islands by
Average Number of Monthly Trips Made
to the Main Capital, Male'-1988**

No. of Trips Per Month	Number of Islands	%	Valid %	Cum. %
<= 1	79	39.30	42.93	42.93
<= 2 but >1	44	21.89	23.91	66.84
<= 3 but >2	26	12.94	14.13	80.97
<= 4 but >3	12	5.97	6.52	87.49
<= 5 but >4	9	4.48	4.89	92.38
<= 6 but >5	5	2.49	2.72	95.10
<= 7 but >6	4	1.99	2.17	97.27
<= 8 but >7	1	0.50	0.54	97.81
<= 9 but >8	1	0.50	0.54	98.35
<=10 but >9	2	1.00	1.09	99.44
<=15 but >10	0	0.00	0.00	99.44
<=20 but >15	0	0.00	0.00	99.44
<=30 but >20	1	0.50	0.54	99.98
Missing	17	8.46	-	-
Total	201	100.00	100.00	-

Source: Male' Municipality

D. Summation of the Analysis Related To

"Microplanning/ School-mapping Approach"

The fundamental factors that demand the application of the methods of microplanning and school-mapping are the peculiarity of problems experienced at the local levels, their dispersion, and the associated problems in management. The foregoing analysis has demonstrated the small size of the schools, islands and population, their

dispersion and the existence of peculiar problems. This study of the related factors suffices to indicate that microplanning strategies are likely to be advantageous over more centralist, aggregated, approaches.

Indeed, there are other relevant dimensions of the "microplanning and school-mapping approach" to educational planning. They would include the exploration of the degree to which associated functions of management such as organisation and administration of schools, coordination, delegation of authority, setting standards for teacher deployment, financing, other provisions and maintenance may be set for particular levels and areas.

IV. SOCIAL DEMAND APPROACH

The "social demand" approach is based on the individual or the private demand for education. It entails the assessment of the aggregate popular or the individual demand for education at a given time (for the planned period) at a given place and under the prevailing cultural, political and economic circumstances (Coombs, 1970, p.37-38).

A. Factors of Social Demand

How much education is demanded by the individual is dependent on a number of factors, cost being an important one. The demand for education depends on how much the individual can afford to pay (or forego) for education. Thus, the demand for education increases as the country prospers and people can afford to pay more for the education of their children and themselves. This not only allows the individuals to pursue higher and higher education but also enables them to choose their own fields of interest for education.

Whilst the individuals' aspirations escalate, the educational levels demanded by the employers for various jobs may also rise, especially in a situation where the workforce is under-qualified, as in the Maldives at the present point in time. It is the writer's view that the possible effects of the phenomenon will have to be taken into account while coefficients are applied to translate occupational structures into educational requirements in manpower forecasts (see above).

The individual or private demand also depends on a number of other factors, such as the expected private benefit (pecuniary, as well as non-pecuniary such as social status) from education, cultural factors like the disinclination in some cultures to send girls to school beyond a particular level or age, (for examples, see Psacharopoulos and Woodhall, 1985, p.112-114) and the aspirations of individuals to achieve certain aims in life. These factors vary from one society to the other.

Apart from the private individual demand, the aggregate demand for education may also be augmented by certain stances a country adopts such as the adherence to certain social aims and norms. These stances are normally the result of pressures of internal politics (such as those for reduction of disparities among races, classes, sexes etc.) ambition to achieve political aims (such as raising the general level of education by target periods or years), ideological commitments, collective motivation of international communities (such as UN or UNESCO declarations to provide a minimum standards as a basic human right), etc. Indeed, the factors affect differently at different levels of education and in different countries. The axiom adopted by Robbins in his Report on Higher Education to the Parliamentary Committee in 1963 is an example of social demand approach in education (Committee on Higher Education, 1963b).

B. How do the Factors Apply in the Maldives?

So far there has been no study to try to estimate the costs of education to the individual or the parent in the Maldives. Under the circumstances, the social demand for education is best reflected by the private and social pressure to acquire various levels and types of education. Such pressures are based on the individual's choice and ability to acquire it. There is no compulsory education law in the Maldives. Indeed, the social pressure for education varies greatly for the various levels of education and in various parts of the country.

1. Primary and Middle Level

At the primary level, which does not require an entry standard, the demand is indicated by the overwhelming enrolments throughout the archipelago. Although the financial ability of the parents in the Atolls is generally low, data suggest that, in general, there is an insatiable desire by parents at the basic level. It is also a social objective made explicit by the Government in the educational plans (MOE, 1985) to provide primary education for all and achieve 100 net enrolment by 1995.

It may also be assumed that the immediate post-primary level, the middle school education, will follow automatically as the cohort flows out of primary. Assuming that the primary and middle school levels are a basic level that the society and the individuals aim to achieve in every individual island (aims of the new curriculum of 1984; EDC, 1984 explain the importance of the level), the social demand for these two levels may be estimated by simple projection of population, rates of intake and flow rates of the education system.

2. Higher Education and Skills Training

Considering the fact that there are no proper higher education institutions in the country and what the country could afford, provision for higher education has to be limited to the fulfilment of the essential manpower needs for economic and social development (as stipulated by the Directive 53/73 of the Office of the Prime Minister). Apart from that, an opportunity of higher education (abroad) will constitute an unusual luxury. Similarly, provisions in the few skills and specialised training centres will have to gear themselves strictly towards the fulfilment of manpower needs.

Thus, planning the provision of education and training (that falls within the category of skills training, specialised training, and advanced and higher education) may most appropriately be expected to conform to the manpower requirement estimates.

3. Secondary School Education

As demonstrated by the foregoing analyses, the levels of education necessary for universalisation were found to be appropriately suited to the "microplanning and school-mapping" methods. Higher education and, skills and specialised training must essentially comply with the manpower requirements. That leaves the level of secondary school education floating, a level that is not particularly oriented towards any specific occupations, relatively expensive for a country such as the Maldives, but beginning to be increasingly demanded by the individual.

As the school system over the archipelago advances, the demand for secondary education will automatically evolve and increase. By the natural process of development as a result of increased prosperity of the individual as well as of society, the rise in individual aspirations will force an inevitable increase in the demand for formal secondary

school education. It is to become an important issue in education in the short term. The estimation of the future demand at this level and making plans in advance to cope with it will indubitably be an advantage.

As outlined in Chapter Five, secondary school education is available only in Male'. The number of students studying at this level was found to be very small. The following were the enrolments by the main levels:

<u>Level</u>	<u>Enrolment</u>
Pre-school	7209
Primary	25263
Middle school	4374
Secondary	1334
<u>Special classes¹</u>	<u>5331</u>

¹ Level is primary and middle school level
Source: Schools (MOE Questionnaire, 1988)

In the context of the Maldives, the estimation of future demand at this level will be a very difficult exercise. Apart from the usual pressure generated by the out-turn of the middle school level, the demand will depend on a number of external factors. These include the ability of parents to send their children to a place where secondary school places are available (Male') and parity of the quality of education in the middle level schools in various locations of the country.

The demand by children of the Atolls will be different from that of the children of Male'. As the government is committed to provide every Malean child with a place in a government school providing free education, the demand for secondary education by Maleans may be estimated by tracing the Malean students in Male' schools and analysing the cohort based on flow rates (or by just applying the transition rates for Maleans).

As for the Atollis, it depends on various factors, including, most profoundly, the financial ability of the parents to send and keep their child in Male' (as the children from the Atolls in general will have to join the fee-paying private schools - see Chapter V). To an extent factors like age and sex also play a role, as parents do consider them crucial, depending on a host guardian being available in Male'. Younger children and girls are believed to require more reliable guardians. In most cases these children coming to Male' to study are also expected to contribute to the domestic work of the host home; age of the child becomes a relevant factor. The proportions in which these factors combine are a matter for an in-depth study, but, nevertheless, they are relevant factors in determining the future social demand for secondary education.

Data of the Atolls' students studying in Male, available from the Ministry of Education, did not specify the levels of education they are enrolled in. For example, the key schools in Male' (listed in Table 6.44), teaching at secondary level (some starting from preschool level, some from primary, some part-primary and some exclusively secondary) enrolled the given percentages of Atolls' student in 1989, 1988, 1986.

Table 6.44: Proportion of Atolls' Students in Male' Schools, 1986, 1988, 1989

	(in percentages)		
	Dec.1989	Jan. 1988	Dec.1986
Ameeniyya	17.3	12.9	n.a.
Majeediyya	16.0	17.7	n.a.
Ma'hadhul Dhiraasaathul Islaamiyya	85.0	n.a.	n.a.
Madhrasathul Ahmadhiyya	38.5	37.1	n.a.
Male' English School	82.9	75.2	n.a.
English Preparatory and Secondary	63.8	45.3	n.a.
Science Education Centre	22.8	22.6	n.a.
TOTAL (including other schools)	41.7	34.7	39.9

Source: Ministry of Education

Direct projection of the demand for secondary education by Atolls' student with this data may not give very accurate forecasts, but the data clearly demonstrates the existence of such a demand which requires closer study and more accurate assessment.

**C. Summation of the Analysis of the
Factors of "Social Demand Approach**

Within the limitations of this study and data available, the foregoing analysis make it possible to draw the following conclusions:

i. That there is a growing social demand for secondary education in the Maldives. Given the geographic dispersion of the country and the limitation of resources (all forms) to provide for the demand in the original locations of the students, the need for assessing this demand and making provision for, where and how it will be possible, will be inevitable. This is further discussed in Chapter Seven.

ii. In addition to the normal factors of social demand for education, such as the transition, quality of education, costs and perceived benefits, there are distinctive factors (like those associated with the children of the Atolls) that affect social demand at this level which need closer study and assessment.

V. SUMMARY

Three approaches of educational planning were considered in the above study. They were, in order, the "manpower requirements approach", the "microplanning/ school-mapping approach" and the "social demand approach".

The analysis of parameters related to manpower planning, with a view to assessing how the coefficient-based principles of the "manpower requirements approach" apply in the context of the Maldives, it was found that the ratios normally used in the forecasting methods did not directly serve as reliable coefficients for projection purposes. The variations over time in crucial factors, such as those related to the GDP and the labour force, were generally found to be very high and inconsistent. The probable error, should the ratios be treated as coefficients in forecasts, was found in most cases to be beyond the "acceptable" range ($\pm 10\%$). For example, the probable "percentage error" of the GDP structure varied between 1.93% and 64.33% with a "root-mean-square" of "percentage error" of 31.28 while those of the employment structure showed a variation between 2.29% and 79.96% and a "root-mean-square" of 60.79. Similar results were shown by the occupational structure. However, the need for the estimation of future manpower requirements of economic and social development, and to reconcile them with the limited capability to supply manpower, is all the greater particularly in the context of scarce resources and weak economic base of the country.

In consideration of how the "microplanning/ school-mapping" principles might apply in the context of the Maldives, it was found that the small size of islands, schools and populations, their dispersion over oceanic distances and the irregular nature of problems demanded a micro level analysis of problems and finding individual solutions. The 200 (202 administrative) inhabited islands were scattered over 90,000 square kilometres of ocean, over half of them had less than 500 in total population in 1988 and 58% had less than 150 children of 6 to 15 years of age. Most of them (90.97%, 175

islands) had single schools (mostly with 1 to 5 teachers) in them, less than 10% of the schools taught higher than grade 7 level and 57.8% of the schools had enrolments of 100 or less. The small schools showed clear signs of the disadvantages of the lack of economies of scale, and poor standards.

The problems of smallness are aggravated by "fragmentation", in this case caused by the physical dispersion of children population and resources and also distances from centres of authority (Male' and the Atoll capitals), thereby inhibiting effective implementation of plans. Under such conditions, microplanning/ school-mapping methods have an over-riding advantage in planning the levels aspired for universalisation, namely, primary and the middle school level.

As far as the "social demand approach" is concerned, the principle is found useful for the level of secondary school education in the Maldives. The traditional factors of social demand such as transition from the lower levels, costs (direct as well as indirect) and benefits (pecuniary and non-pecuniary) of education, growing prosperity of the individual and society, and political and socio-cultural factors, are important. The most peculiar and quite profound factor that may be expected to affect the social demand for this level of education in the near future in the Maldives will be the flow of students from islands where secondary education is not available to islands where it will be available (Male'), which in turn depends on a number of other factors such as affordability by parents, child's age and sex, and the comparative quality of education in schools in various parts of the country.

Finally, it may be concluded that, as Coombs (1970) suggests, not any one single approach is fully adequate to meet the diverse needs and conditions of the entire system. Instead, a "comprehensive model" or methodology based on the merits of all the approaches may be advantageous. The Maldives needs to estimate the future manpower requirements for economic and social development, and to programme its manpower

supply capacity as closely to these needs as possible. What method, exactly, will be appropriate to do that is, at this stage, difficult to conclude. Perhaps, a methodology may have to be designed to suit the circumstances. Such a methodology might take into account both the macro level considerations of the economy and the individual firm level capabilities and aspirations, exploiting any advantages of smallness where possible. (Conclusions and suggestions are further discussed in Chapter Seven.)

The country also needs to adopt an effective strategy to make the aspired universalisation targets a reality in the scattered situation. The expressed social aims, like reduction of inequality and regional disparity at the least, demand more vigorous attention at the island and atoll levels. In that respect, individualised attention and solutions to problems by a microplanning approach may be appropriate. Similarly, the emerging demand for secondary education requires estimation and careful planning. The level is a limited and a relatively expensive stage of the system, but, nevertheless, a stage to be increasingly demanded by individuals in the near future. These prompt the need to apply the social demand principle at that level. (see Chapter Seven for further discussion.)



CHAPTER SEVEN: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This study aimed at assessing how far the key principles of educational planning (namely, the "manpower requirements approach", the "microplanning/ school-mapping approach" and the "social demand approach") apply in the context of small dispersed island states and, in particular, the Maldives. The study reviewed the literature on "educational planning" and "the definition, problems and features of small dispersed island states", analysed "the social, cultural and economic background" and "the education system" of the Maldives, and assessed how far selected principles of the conventional educational planning methods apply in the context.

The specific objectives of the study were the following. To:

1. Review the concept and the basic approaches of educational planning, and discuss the main criticisms and controversies.
2. Discuss the definition, and review the main developmental problems and features, of small dispersed island states.
3. Examine the main geographical, social, economic, political and cultural features of the Maldives the characteristics of which have a bearing on the developmental and educational activities of the country.
4. Analyse the current education system.
5. Demonstrate how far the principles of educational planning apply to the small dispersed island state of the Maldives.

I. SUMMARY

A. Educational Planning

Objective: Review the concept and the basic approaches of educational planning and discuss the main criticisms and controversies of it.

Educational planning is a large concept. But its current form, with extensive use of mathematical models, and relation to national development, is an evolution of the 20th century, most widely experienced since the Second World War. The various methods and techniques were initially developed and applied mainly in the developed countries. Later, the methods have been widely replicated in developing countries but, most importantly, educational planning and its principles have been widely applied in "large" countries.

The review and discussion of the concept and experience of educational planning revealed that:

1. Educational planning is a broad concept that entails the design, testing and implementation of strategies for the development of a very complex process, namely, "education", each stage of which is heavily dependent on a multitude of social, economic, cultural and political factors that are themselves interdependent and are, at the same time, interacting continuously with one another, and with the process itself.

2. The process of educational planning is a continuous one that requires the systematic application and the coordination of social science research methods, and the principles and techniques of education, management, policy development, economics, finance, etc. It also requires the maximum participation of the public, the specialists (educationists, economists, etc.),

the administrators, and the policy-makers, in identified stages, and with well-defined aims to provide education more and more effectively and efficiently in responding to the needs of the individual and of the society.

3. Many of the weaknesses of the past experiences of educational planning could be attributed to the failure to keep a balance between qualitative and quantitative methods and the failure to adopt macroplanning and microplanning techniques. The literature suggests that:

- a. Qualitative planning also needs the employment of quantitative methods and techniques.
- b. Quantitative planning also needs to take into account the qualitative aspects of education, without which the effort could become meaningless.
- c. Wider participation is necessary for effective planning and implementation.
- d. A micro level focus on problems is essential if plans are to address the problems and needs of the local people.
- e. No single approach of educational planning is fully adequate to deal with the diverse needs and aspirations of the entire education system. Hence, the merits of all the approaches are necessary to maximise success in educational planning in its broad meaning.

B. Features of Small Island Developing States

Objective: Discuss the definition, and review the main developmental problems and features, of small dispersed island states.

The parameters that are often intuitively associated with the definition of the "state", such as: territory, political status, economic capability, military strength, size of population, are not absolute and discrete. It was found that there is no prescriptive benchmark in any of these parameters to act as a criterion for "a state".

However, smallness of the state is often associated with problems in development. Indeed, many problems that the small island states face in development are common to developing countries in general but the impact is greater, and solutions more difficult to find, in the smaller states due to the lack of economies of scale in production and other features related to size. Although it was found to be difficult to establish a systematic statistical relationship between size of the state and economic development, genuine disadvantages and handicaps were found to exist at the level of firms and institutions.

The problems of smallness are further aggravated by fragmentation of the country; oceanic dispersion in the case of the island states. By virtue of the smallness and scatter, these states specifically face, among others, the following problems in development:

- (a) Problems arising from the lack of economies of scale in most forms of production of goods and services,
- (b) Problems of logistics and costs of transportation,
- (c) Vulnerability in: security, political and economic stability, and cultural identity,

- (d) A narrow range and a small pool of local skills available to meet the needs of development; worsened by having to compete with the outside world to retain the few they have and to recruit replacement expatriates,
- (e) Balance-of-payments problems, and external trade characterised by a narrow range of exports and a wide range of imports,
- (f) Dependence on one or a few large companies which control vital resources and production of goods and services,
- (g) Limited access to capital markets; the formulae or criteria used by some international financial institutions are unfavourable to the small states, and the institutions lack confidence that these states will be able to administer such investments,
- (h) Proneness to natural disasters, and
- (i) Lack of important institutions such as higher education institutions, financial services and advanced medical centres.

Most of the problems also exist in the education sector. To what degree and in what forms they affect education are still to be explored further by research: this study constitutes an attempt in that direction. As many of the problems and features of these small dispersed island states are different from those of their "larger" counterparts, the solutions and approaches to the problems will also require careful assessment of ready-made solutions and formulae, especially those developed in, and for, the "larger" counterparts.

C. Features of The Maldives

Objective: Examine the main geographical, social, economic, political and cultural features of the Maldives the characteristics of which have a bearing on the developmental and educational activities of the country.

The salient geographical, demographic, social and cultural, political and administrative, and economic features of the Maldives may be summarised as follows:

1. The country comprises 1190 very small islands, of which 200 are inhabited. The 26 geographic atolls to which they all belong are administratively divided into 19 "administrative atolls" and the main capital, Male', making a total of 20 main regions. Two of the islands where communities live apart are divided into two "administrative islands" each, making a total of 202 administrative islands. The islands are scattered over an ocean area of 90,000 square kilometres.

2. The society and the state are what the Commonwealth Consultative Group (Commonwealth Secretariat, 1985) might call a socially, culturally and politically "strong" entity (distinguishing "strong" from "powerful"), but at present increasingly vulnerable on all such frontiers. Factors that contributed to the socio-cultural state include two millenia of civilised history, lengthy periods of healthy relations and contact with other cultures, societies and political systems, wide use of its own language and script as the chief medium of correspondence and communication, and indigenous social and political organisations.

3. The broad hierarchy of administration in the government sector comprises the central Male' level, the atoll level and the individual island level. In practice, however, power is highly concentrated in Male'.

4. It has a weak and vulnerable economy. The GDP of 1987 was 710 million rufiyaas (in 1985 prices) (US\$=7.40 rufiyaa in 1990). "Tourism" and "fisheries" constituted the main sectors

of the economy, and contributed 17 percent and 16 percent of it, respectively. The country depends heavily on external trade, with a narrow range of exports and a wide range of imports. For example, 2 items of export, namely, fish and garments accounted for 97 per cent (63% and 34% respectively) of visible exports between 1984 and 1986. In 1987, it imported goods to the value of 212 percent of the value of visible exports. Imports comprised 43.5 per cent consumer goods, 24 percent capital and intermediate goods, 11 per cent petroleum products and 21.5 per cent project imports.

5. The transport between most individual islands and the main capital, and among individual islands is irregular and totally undependable. Travel to Male' is more reliable than to other islands. An inter-atoll air service operates between the capital and the southernmost. Transport remains a serious handicap in social and economic development. The absence of a systematic transport system implies, among other things, heavy overhead costs, increased risks and other problems of distance from markets and service centres.

D. The Education System

Objective: Analyse the current education system.

The analysis of the education system of the Maldives may be summarised as follows:

1. The current education system of the Maldives has a centuries-old antecedent now called "the traditional schools". Due to small rolls and limited human and other resources, over the centuries, these schools have adopted non-graded, mixed-ability and mixed-age classes in teaching.

2. The current school system comprising four tiers, 5+2+3+2 years, has a broad-based enrolment pyramid with over 100 per cent gross enrolment (25,263) in the primary in 1988 (i.e. 58.06% of the total school enrolment) and a very narrow peak at the secondary level (1,334, 3.07% of the total enrolment), high drop-outs, wastages and low transition through the system. Lack of human and other resources, combined with fragmentation, accounts for many of these problems. The consequential low levels of educational attainment of the population were revealed by the Census, 1985.

3. As is typical of small island states, there are no proper higher education institutions in the country. The Maldives relies on sending students abroad for higher education and advanced training. There are five key training centres in the country, namely, the Vocational Training Centre (VTC), the Institute for Teacher Education (ITE), the Allied Health Services Training Centre (AHSTC), the Rural Youth Vocational Training Centres (RYVTC) and the School of Hotel and Catering Services (Hotel School). These, like other institutions in the country, have very small rolls.

4. In the absence of higher education institutions, the country depends on elsewhere for all its higher education and advanced training needs, not only for the placements but also for most of the sponsorships. In 1989, 333 students travelled abroad for courses of different durations. Forty-four students were placed on courses of 2 1/2 years or more (of whom, 27 travelled on courses of 3 years or more).

5. The administrative organisation of education adopts a three-level system (the central, the atoll and the island levels), with very little authority delegated to the lower levels. Major decisions and control are concentrated in Male'.

6. The external dependence for higher education and training required the linking of secondary school curricula to external examination boards. The drive for these examinations is so great that the effects of this linkage are forced down through the system even to the primary

level, relinquishing control of its own curricula. This has undermined effective implementation of useful and relevant national education programmes.

7. The teaching staff are generally from very low educational backgrounds and a large share of the qualified staff are expatriates. Twenty-one percent of the total teaching force were expatriates in 1987, 97 percent of whom were employed in schools in the capital. This, among other reasons, has created an external dependence and wide regional disparities.

8. The government spent between 14.1 and 14.6 percent of its recurrent budget on education between 1984-87. The share increased to 17.6 percent in 1989 due to an increase in teacher salaries in 1988. However, the distribution of this resource is grossly uneven. In 1987, 82 percent of the government spending on schools was concentrated in schools in Male' with less than 33 percent of the enrolment. The schools in the Atolls are run on very meagre financial resources compared to the schools in the capital. The absence of a rational financial policy constitutes a major handicap in the effective implementation of the government's own policies and programmes.

E. Application of Principles

Objective: Demonstrate how far the principles of educational planning apply to the small dispersed island state of the Maldives.

Three key approaches of educational planning were considered in the analysis of application in the Maldives. They were, in order: the "manpower requirements approach", the "microplanning/ school-mapping approach" and the "social demand approach". The analysis and discussions may be summarised as follows:

1. The "manpower requirements approach"

The analysis was focussed on the size and change over time in structure of the GDP, employment structure, occupational structures, occupational categories and the supply capability, with a view to assessing how the coefficient-based principles apply in the projection (or breakdown of projections) using ratios of a given base year.

GDP structures were analysed for 1982 and 1987, employment variables for 1977 and 1985, and supply capacity of manpower for selected years between 1985 and 1989. Whilst projection of the GDP is a prime factor in manpower forecasts, it was found that the annual rates of growth of the GDP and the individual sectors fluctuated greatly in the Maldives between 1982 and 1987.

Similar fluctuations also occur in employment structures and occupational structures. For example, the share of the employed population in "fishing" dropped from 45% in 1977 to 24% in 1985 while the share of "community, social and personal services" increased from 8.69% in 1977 to 20.28% in 1985; and the share of the employed population in the "professional and technical category" varied between 1.7% in 1977 to 9.21% in 1985 while the share of "agricultural, animal husbandry workers" dropped from 54.74% in 1977 to 29.42% in 1985. These fluctuations are partly caused by economic instability or vulnerability (as literature on small island states recognised) and partly caused by the small size of the workforces of the categories and the sectors where a single event or a small numerical change causes drastic structural differences.

The probable prediction error margins, should the coefficients of a base year be used to predict the future structure, were estimated by measuring the probable "percentage prediction error" for the individual sectors or categories and the "root-mean-square error" for the aggregate or a group of sectors or categories. Based on the data available, 1982 and 1987 were assumed as the base and target years respectively for the GDP, and 1977 and 1985 as the base and target

years for the employment structures and the occupational structures. Errors were shown as follows:

	Range of Percentage Prediction Error (sector/category)	Root-mean- square error (total sector)
GDP structure	1.93 to 64.33	31.28
Employment structure	2.29 to 86.50	60.79
Occupational structure	24.89 to 89.14	66.72
- Agriculture	1.61 to 166.67	192.65
- Fishing	2.40 to 99.01	76.80
- Manufacturing	9.09 to 100.00	89.35
- Community,+ serv.	3.24 to 365.38	164.69

Source: Tables 6.27-6.30 above

Considering an "acceptable" error range of $\pm 10\%$ (an error bench-mark widely used in similar studies), it was found that in almost all cases the errors were far greater than 10 percent. In other words, projections made by applying the respective ratio will be in error by a margin far wider than reliable for normal uses.

2. The "microplanning/ school-mapping approach"

The principles of the "microplanning/ school-mapping approach" were considered against the backdrop of the basic features of the Maldives. These factors demand closer focus on, and micro-level analysis of, problems and individual solutions.

Of the 200 (202 administrative) inhabited islands scattered over 90,000 square kilometres of ocean, 58% had fewer than 150 children of 6 to 15 years of age (the school-age) in 1988. Most of them (90.97%, 175 islands) had single schools (mostly with between 1 and 5 teachers), less than 10 percent of the schools taught above grade 7 level and 57.8% of the schools had

enrolments of 100 or less. The small schools showed clear signs of the disadvantages caused by the lack of economies of scale, and poor standards. These factors combined with the physical structure of the country suggest that microplanning/ school-mapping methods will be advantageous in planning the primary and the middle school education.

3. The "social demand approach"

The normal factors of social demand (such as the transition from lower levels, the costs (direct as well as indirect) and benefits (pecuniary and non-pecuniary) of education, growing prosperity of the individual and the society, and the political and socio-cultural factors (in the current situation) are expected to boost an unprecedented social demand for secondary school education in the near future. The growing demand emerges in the unique form that the geographic, demographic, resources and dispersion factors of the country have forged. The size of catchment area and resources do not permit the establishment of secondary schools in every island. In view of the need to estimate that demand and plan for it, the social demand principle has a useful role to play at the secondary education level in the Maldives.

II. CONCLUSIONS

The analysis of the key parameters of the main manpower forecasting methods demonstrated that the conventional coefficient-based principle of forecasts cannot directly apply in the Maldives. Evaluations of manpower forecasts that applied similar methods in larger countries have found enough problems to suggest considerable caution (Ahamad and Blaug, 1973; Youdi and Hinchliffe, 1985). While such studies suggest that disaggregated forecasts (such as those made for individual occupational categories) do not produce reliable estimates, this study has demonstrated that small figures (combined with the vulnerability associated with the weak economies of small states) are unreliable for the projection of future manpower

requirements. This conclusion may also be valid in a number of other areas (such as enrolment projection, teacher requirements estimation, school requirements estimation, etc. in the Maldives) so long as their trends of change over time are not stable and the size of figures involved is small. Thus, one should be generally cautious in the use of coefficients in projections, especially if they are based on ratios of the base year.

However, it must be recognised that the lack of adequate training and higher education facilities in the country (and the dearth of skilled categories of manpower and the costly external dependence for training and labour), continues to uphold the need for some kind of estimation of future manpower requirements, and the reconciliation of the limited capability to supply them with needs. Devising such a method will be an area for further research and innovation. Such a method should consider any advantages it could take of the smallness. Instead of applying ratio-based base-year coefficients, it could survey individual sectoral needs, and the requirements of the employers'. This should, of course, be done with maximum guidance from macroeconomic planners and, to the best possible extent, with expert advice on the relevant world economies.

In view of the aims to provide certain basic levels of education universally (in this case the primary and the middle school levels) and the problems of smallness and dispersion, the approach that will focus on the lower levels of organisation (such as the individual islands) has advantages in planning. The approach (namely, the "microplanning approach") considers the problems and interests at the very site of their origin, in an unaveraged and unaggregated form. This conclusion, again, emanates from, among other things, the position that aggregated national level or atoll level analysis and projections based on ratios (such as teacher: pupil ratios, unit costs, pupils per classroom, pupils per school, etc.) will be meaningless. It is in this perspective that the principle of microplanning is particularly relevant in planning in the small fragmented Maldives.

In small states, such as the Maldives, where resource constraint is acute, there are bound to be levels that the individuals and the society will aspire for and the individuals will demand as and when the country prospers, as basic educational provision improves and as the school system

develops. Though desired, the provision of these levels or types in every island or on a universal basis, may not always be completely affordable by the state or even feasible on every island. However, there is a national interest and absolute necessity to sustain such levels and types of education in the total system. Under the circumstances, it is essential that such social demand be appropriately estimated and catered for, It is in that capacity and to that extent that the principle of social demand will be applicable in educational planning in the Maldives.

III. RECOMMENDATIONS

In the light of the past experiences of educational planning in other countries and how the principles apply in the context of the Maldives, it is possible to make the following suggestions:

A. Adopt a Composite Comprehensive Approach

The past experiences of educational planning suggest that none of the approaches is completely adequate to provide for the broad spectrum of social, cultural, political and economic aims of an education system; nor were they adequate to deal with the challenges of quality of education and the realities of the local levels. It is in that perspective that Coombs (1970) and UNESCO (1970), for example, recognised the need for a comprehensive approach to planning. With the outcome of this study, it is the writer's view that a similar line of thought is essential here. On that basis a composite comprehensive approach is suggested for the planning of the total education system of the Maldives. The approach has to be "composite" because not one single principle, and hence not one single method, it is suggested, could to be applied to the entire system. And it has to be "comprehensive" because the total exercise together will have to provide for all the national educational goals and aspirations.

In such an approach the total education system of the Maldives may be divided into three well-coordinated segments, namely: the primary and the middle school levels, the secondary level, and higher education and specialised training. It was quite clear in this study that the three segments are governed by different emphases of national objectives and aspirations, and that they all differ greatly in the means and methods of delivery. They also share common elements. For example, they all ultimately produce some kind of manpower for the labour force, and they are all expected to inculcate certain moral and ethical values in their products. For these reasons, a well-coordinated combined approach is proposed here for the planning of the total education system. The application of the various principles of the approach are further elaborated below:

1. Microplanning principles for primary and middle level

Microplanning principles may be applied to the primary and middle school levels, with the aim of universalisation and improving the relevance and quality of education, with increased effective participation and involvement of the locals and local administrations (in all the stages of planning and implementation). Such an exercise will be successful only if accompanied by a necessary reform of the existing administrative structure of education, a conducive financial policy and public awareness of the objectives and benefits of such a reform. It is the writer's view that, for effective implementation, the time demands such a reform to cope with the increasing management needs.

2. "Social demand" principles for the secondary level

There is a new trend emerging for an increased demand for secondary education which is only natural and necessary. What is required, under the circumstances, is planning. A first and an indispensable step is to assess the prospective demand as accurately as possible, followed by the necessary preparations for it. The demand may be assessed by analysis of the internal flow of the

system and estimation of transition from one level to the other and from one place to the other, and estimating the ability and interest to send children to secondary school in the same island and elsewhere (for e.g. the trend of atoll children going to Male' for secondary education). These calculations, again, must be done in the most disaggregated level and form. The exercise should also include the assessment of the existing and the prospective capacity to cope with such a situation

This is not to suggest that the government has to commit itself to full provision to meet all the demands: the capability of the government of the Maldives does not allow that. However, the Ministry of Education needs to be aware of prospective developments, their size and the possible consequences of various alternative courses that the developments might take, either guided or unguided. The Ministry might also want to introduce and foster a system that will cope smoothly. The pressure will, by Maldivian standards, be considerable and could have many serious consequences. Therefore, advance preparations will be necessary, and the arrangements must be socially acceptable and the government's role in it must respect its own expressed policies and objectives (such as equality of opportunities and reduction of regional disparities).

3. Manpower estimation principles for higher education and specialised and skills training

The manpower requirements question may most emphatically be considered at the level of higher education, and specialised and advanced training. This is, however, not a suggestion to ignore other levels and skip any scenario of possible unemployment problems (e.g. of secondary school leavers, should such prospect escape the minds of the planners and policy-makers).

In view of the problems of direct application of coefficient-based methods in the estimation of future manpower requirements in the Maldives, it is suggested that an appropriate method be designed and tested for manpower requirements estimation. It will not be possible for

anyone to suggest any definite fool-proof method straight away. Methods will have to be innovated. Given the smallness of the country and the findings of the study, it is the writer's view that well-coordinated employers' and sectoral surveys may be an option in the absence of a better choice.

However, the "employers' survey method" has inherent problems (see Chapter II). The most fundamental one is the employers' ignorance or inaccurate judgment of future macroeconomic and technological changes. In view of the smallness and the stage of development of the country, the limits of such "an ignorance" could be curbed considerably. Changes from outside the country will, unfortunately, apply to manpower situations whichever method is chosen. It is in this perspective that a "well-coordinated" effort by all relevant parties (which is the best advantage a small country should take) is suggested for the estimation of future manpower requirements. Such an exercise should avail of the best available expert assistance and information of the macroeconomic situation, policies and perspectives, and the maximum possible global economic foresight. A preliminary step to this kind of survey-type method would be concrete sectoral plans and employers' estimates prepared with guidance, assistance and information from central planning authorities.

4. The Rate-of-return principles in decisions and selections of alternatives

Although the rate-of-return principles were not considered in the analysis related to the application of principles, it is the writer's view that the cost-benefit principle, which underlies the approach, could be a useful tool in educational decisions in the Maldives both in planning and administration. In working towards educational goals, the choice of cost-effective and efficient strategies are paramount under the circumstances of the Maldives. In particular, at the level of the relatively very expensive higher education and skills training stages, such tools can play useful roles.

5. Qualitative planning for all levels

It is the view of the writer that the qualitative aspects and considerations discussed in Chapter Two are not optional strategies in educational planning. Instead, they need to be an integral part of planning and implementation in education. For example, considerations provided in the model presented in Figure 2.3 in Chapter Two (similar models may be developed, if necessary, to suit a particular context) may be very useful in the planning process throughout the system.

B. Some Important Considerations in Planning

In view of the past experiences of educational planning and the findings of this study, the following suggestions are made for consideration in educational planning in the Maldives:

1. Testing and Selection of Alternatives

Theoretically, planning is a rational scientific examination of alternatives and making wise choices from among them (Mc Gareth, 1979). As the costs of education both for the individual and the society are high, and the social, economic and cultural implications are far-reaching, it is important that the alternatives designed in the planning process are, to the best possible extent, compared by cost and benefits and how they achieve their own objectives, support or undermine others and, where possible, to try them before they are widely implemented. Indeed, there is a dilemma in education, particularly on the qualitative side, that the process of education is long-term, on the one hand, while the societal changes and the needs the process has to cope with and cater for, are short-term and swift, on the other.

2. Continuous and Terminal Evaluative Assessment

Continuous assessment of the planned activities while in operation and the terminal assessment need to be integral in the planning process to find out how the goals are being achieved. Such evaluations need to be followed-up by corrective measures, re-directions and pursuance of alternative strategies if necessary, and further reform wherever possible.

3. Liaison With the Reformers and the Practitioners

Efficient two-way communication between the planners, and the qualitative reformers (such as the curriculum developers, teacher trainers) and educational practitioners (such as teachers) are essential, and needs to be continuous, free and equal, for they are all dependent on one another. It will be useful to establish firm organisational arrangements within the system to permit and encourage such collaboration.

4. Coordination with Overall Social and Economic Developments

For successful planning and implementation, it is felt necessary to maintain a close coordination with social and economic development planning and the related sectors. The various sectors must complement and supplement one another. The educational plan would need truly to be an integral part of the overall socio-economic developmental plan and harmonise with the projectable future developments of the social and economic frontiers. This is, indeed, not an easy task. However, in a small place like the Maldives, the smallness may be an advantage in this respect. Changes to the existing systems and structures or introduction of new structures and strategies in the private or the public sectors can be closely coordinated with other related sectors, including education.

Also to facilitate easy and efficient coordination and harmony, it will be useful to publicise the aims, policies and plans of the various sectors as widely as possible so that such changes occur with a self-instituted coordination and that the practices become automatically supportive and not subversive to the ideals of the plans.

5. Use of A Research and Information Base

A planning process entails choice from options and the making of a number of other sequential or individual decisions at various stages. It is no longer sufficient to base such decisions on the intuition or conventional wisdom of particular individuals. Decisions must be made on the basis of relevant knowledge, information and rational judgment. For this reason, it is suggested that a strong research and information base is developed and maintained to feed to the planners and the decision-makers continuously throughout the processes. (This is true with other sectors as well.) The research and information needed for educational planning should be broad enough to include areas like training needs, employment opportunities and public investments, (if possible, even on significant private investments) that would have implications for the labour market.

6. A Long-range View and a Medium-/ Short-term Focus

Education is a long-term process. A traditional output of the system may be expected in a period of ten to twenty years, and educational plans need to project the longest possible scenario of the future. This is, indeed, the hardest challenge and the most delicate task in planning, but, nevertheless, an essential one. It also constitutes the part in planning that most people fail to understand. The chances of getting it wrong are high. The technological, economic and social changes are fast and major. Predictions are not easy. Yet, ironically, it is the job of every planner to struggle with the ill-fated process.

Thus, due to the long-term nature of education, it becomes necessary to project the best possible scenario of the economic and social setting and an idea of the directions for at least ten years. Such projection cannot, obviously, be unalterable; it must be broad-based and flexible. More specific detailed plans will be necessary and proper for medium-term (four- or five-years) and still more detailed plans for the short-term (one or two years). The short-term plans may be revised annually or biennially. This three-stage planning combined with continuous revision, or, as they are sometimes called "rotation plans" (Berstecher and Guruge, 1977) can be an appropriate framework for the Maldives.

7. Political Commitment

Failures of educational plans elsewhere, but relevant to the Maldives, were also caused by, among other things, the half-hearted attitude of the politicians, the administrators and other responsible persons in the implementation stages. It is necessary that a consistent political commitment be ensured throughout the process if the plan or the reform is to succeed. Commitment of the various participants would need to be firm and flow continuously to the activities, sites and the institutions.

8. Wider Participation

As Westly (1974) suggested, the planners' role may be shifted from that of 'the adviser to the king' to that of a an activator and resource person of the people who are not only planning individually all the time but also making decisions that will affect collective plans considerably. This reason, among others, demands wider participation of the public in the planning process. For example, France, at the time when the Planning Commissariat was set up, adopted the

principle that all those who would have to apply the plan (or at least their representatives) participate in the preparation stage. (Poignant, 1967,).

For effective and successful implementation of a plan, it is necessary to involve a wider participation in the planning process from the beginning to the end. Participation may be invited and encouraged from all levels and sectors, which not only encourages commitment of the participants to the achievement of the plan objectives but also allows the ideals and aspirations of the plan to diffuse into the respective levels and the sectors, horizontally and vertically, before the it starts rolling.

9. Public Opinion and Public Support

From the review of the literature (and the writer's personal experience in the implementation of plans and reform) it is clear that the support of the public at large (keeping in mind that they are, in the case of the Maldives, under direct or indirect influence of a dominant stratum of the society) contributes significantly to the successful achievement of plans. Conversely, a public curse on a plan, no matter how well designed, will be doomed to fail. It is suggested, therefore, that a preliminary assessment of public opinion on the future developments and their vision, their perspective of major issues are important and critical. This is even more necessary in a society which does not have an in-built system of formally gauging public opinion.

This communication with the public has to be a two-way process. In matters of expert judgement, opinion and knowledge, the public must be made aware of the pros and cons of the issue, and how and to what extent the expert input will have to be taken into account in related decisions. Similarly, it will also be useful to give the public continuous feedback on the developments of "their" plans later, in order to sustain public support.

This kind of public involvement in the planning process will not only bring the plan's version of the future closer to the expectations of the public but also ensure continuous public support (the writer would prefer the word "blessings") in the implementation of the plans, and upholding the spirit of the plan. Possibly, the public might find it also easier to understand any failures of the plans, and thereby minimise room for self-interested subversive elements to corrupt the minds of the public with disinformation.

10. Clarifying Policies

Some failures of planning, that are relevant to the Maldives, were also attributed to the lack of attention paid to the clarification of policies and priorities by the planners and others engaged in various stages of educational planning and the implementation process, including those in other related sectors. In order to help the planners to work out strategies towards the achievement of the desired objectives (and minimise diversions and subversions within the sector and in other sectors), it is suggested that briefing and debriefing mechanisms (such as regular meetings or through other effective communication media) be established to ensure that policies and priorities are adequately communicated down to, and understood by, the planners and the practitioners.

11. Balanced Private Participation

To be able to fulfil the broadening and the increasing educational needs of the country, it is suggested that a balanced and healthy partnership between the private and the community sector, and the government sector be established. Such a partnership should be based on the true spirit of a joint-effort to achieve common goals, one fully recognising the existence, service and the indispensability of the other. While the government's resources, particularly in relation to the recent expansion of needs, are inadequate to meet the demand, it should, as a first step, recognise

its equitable responsibility for the education of the Maldivian child, whichever sector the child may happen to be in. The balance of how much the private sector should be monitored and supported must underlie the interest of the government and the protection of the public interest. It must also be noted that the kind of tax systems that exist in other countries do not exist in the Maldives.

As outlined in Chapter Five (repeatedly pointed out in several other studies such as UNESCO, 1982a), the existing system of education in the Maldives is a bottom-up system compared to many other countries. The children of the privileged and financially most able classes are provided with free and the highest possible quality education in the country with commitment of every possible resource to those schools. The children of the underprivileged and financially not so able classes have to attend fee-paying schools (some schools charge very high fees by Maldivian standards) in the private and the community sectors where the schools suffer from a serious lack of facilities, equipment and staff.

This most unusual system is not only shameful but also out-dated. While this suggestion is made, the writer is fully aware of the limitations of resources and capability of the government, and also the undue scandalous political pressure on the government by an influential few to protect their self-interest. However, the suggestion is made here to give its fair place in such a list of recommendations. But, as mentioned earlier, a time is approaching fast that will draw public attention to this issue under explosive pressure.

12. A Resource Policy

The absence of a rational financial policy constitutes a serious threat to the successful and complete implementation of plans. This is also a point raised in several other studies of the education sector of the Maldives (UNESCO, 1982b). Indeed, a financial policy is necessary adjoining any planning exercise to make it a success. In the absence of a revenue system

comparable to most other countries, the writer would prefer to propose the formulation of a resource policy in the education sector.

Such a policy would take into account the availability of resources in various forms and extent in the government, the private and the community sectors, and with the individuals. This would include (as suggested below for further research) financial resources (including affordability by individuals), human resources (including teaching and non-teaching educational expertise), materials and equipment (including laboratories, public and private workshops and facilities such as carpenters, garages, printers, etc.). The policy will aim to improve the utilisation of the existing resources to maximise results in working towards stated educational and national objectives of development.

C. Suggestions For Further Research

1. Evaluation of the Manpower Plan

It would be useful to evaluate the manpower plan prepared in 1988. The exercise should, among others, aim at studying:

- (a) how far the method chosen was appropriate,
- (b) which factors were responsible for any discrepancies,
- (c) how the smallness of size of populations, workforce, sectors and occupational categories was a factor in the forecasts, and
- (d) the effects of the vulnerability of the economy.

2. Tracer Study

Tracer studies may be conducted of students of higher education and, specialised and skills training programmes undertaken externally or in the Maldives. If necessary, the studies could be divided up into smaller studies for manageability, and randomised samples where applicable. Their aim would be to study:

- (a) how many serve in the occupation or related occupations that they were trained for.
- (b) the extent of attrition from the system and the occupational category that they were trained for, and the cause.
- (c) the proportion of their work (of those in employment) that is related to the knowledge and skills they attained during, and as a result of, their study and training.
- (d) how much of their work is due to the multiple-role phenomenon (added to their job as a result of small size of incumbencies, or the limited pool of skilled manpower).
- (e) the cost of the training or study.
- (f) the cost-effectiveness of options available for similar training in-country and abroad.
- (g) the private and social return from selected training options.

3. Social Demand Study

A study to assess the rising social demand for secondary school education in order to:

- (a) estimate the size and location of the demand.
- (b) take stock of what options are currently available to meet it and where.
- (c) identify the exact aspirations that underlie the demand and how many of them are concerned with education (whether they are really possible to be achieved through education or are illusions as has happened in other countries).
- (d) find out what can be done to cope with the demand, keeping in mind the role of the private and community sectors.

4. Assessment of Available Resources

For the purpose of the formulation of a resource policy suggested above, it is proposed that an assessment be made of the human, fiscal and material resources available for education and their utilization in various parts of the country and in the various sectors namely, the public (including the government and the community) and private for the various levels and types of education and training. Specifically, such a study will be expected to:

- (a) assess the amount, type and quality of human, fiscal and material resources available and the potential of any further resources that can be tapped for education in various parts of the country, and how it may be possible.

- (b) measure the utilization and efficiency of utilization of existing resources in the perspective of the small size and dispersion of the country.
- (c) analyse the distribution of and the disparity in allocation of existing resources, and inconsistency of these with the explicit educational and national development policies and priorities.
- (d) design a strategy to improve the resource distribution and efficiency of the education and training system with a view to enhance the national objectives.

In conclusion, it is reiterated that there is nothing more important for the development enthusiasts of the Maldives to recognise than the distinct realities of the country; most significantly, the "smallness" (of population, land and other resources) and "fragmentation" (by oceanic dispersion). These, among others, not only have influenced the economic, cultural, social and political past of the country but also govern the present and continue to shape the future. They form the premise and the context of most of the developmental problems (making them very different from those of other countries) and, inevitably, demand distinct approaches to solution of problems, and fulfilment of needs and aspirations. Once the problem, the need or the aspiration is viewed in their proper perspective, solutions become easier to find, from within or without, to adopt or to adapt, no matter how formidable.

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Gross Domestic Product - 1982-1987 (Revised)
(in million rufiyaas at 1985 prices)

Sector	1982	1983	1984	1985	1986	1987
Agriculture	68.563	69.349	72.259	69.457	76.008	77.909
Fisheries	72.184	76.256	85.019	106.901	108.126	116.543
Coral and sand mining	9.652	10.414	11.049	11.723	12.446	13.193
Construction	33.421	34.401	40.844	48.973	52.787	58.066
Manufacturing <u>1/</u>	25.984	29.776	32.109	33.473	36.050	39.655
Distribution	49.479	69.440	87.714	97.192	103.576	115.487
Transport <u>2/</u>	16.346	11.214	12.142	13.885	33.733	37.106
Tourism	56.049	64.851	80.424	108.852	111.885	122.402
Real estate <u>3/</u>	16.233	17.498	20.943	26.030	28.348	30.899
Service <u>4/</u>	10.017	17.079	42.265	38.008	33.387	37.861
Government administration	22.197	37.617	42.759	45.850	55.548	60.547
Gross Domestic Product (GDP)	347.433	415.467	527.527	600.344	651.894	709.668

1/ Including electricity

2/ Including international shipping operations

3/ Excluding imputed rental of owner occupied dwellings

4/ Mainly banking

Source: MPD (undated3) Table 3.1 p.16.

PROGRAMMES AND PROJECTS OF FISHERIES 1988-90Anchored Surface Floating

- install floating rafts at selected points within the territory of Maldives to enable fishermen to derive maximum benefits from fishing; total cost: US\$ 18,790, duration: 4 years (1984-88).

Fish Smoking Project

- train women folk to determine cultural adaptability and suitability for involvement in utilizing the new technology: total cost: US\$ 37,480, duration: 3 years (1987-90).

Small-scale Fisherfolk communities in the Bay of Bengal

- provide extension support for betterment of fishing communities and the development of small scale fishing technology and brackish water culture; domestic cost: US\$ 11,000, duration: 5 years (1988-1993).

Establishment of Marine Research Station

- asses the feasibility of establishing a marine research station in Male' atoll and to build the required infrastructure based on the results of the feasibility study; total cost: US \$ 799,600; duration: 3 years (August 1988-end of 1990).

Stock Assessment of Tuna

- provide information on the status of tuna stocks in Maldivian waters in order to provide the basis for exploitation, development and investment planning; total cost: US \$ 16,700; duration: 3 years (1988-1990).

Collection and Identification of Economically Important Fish Species

- collect sufficient information on economically important species of fish to form the basis for an exploitation plan of these resources; total cost: US \$ 73,000; duration: 4 years (1986-1990).

Coral Reef Taxonomy

- build a national reference collection of coral reef specimens,
- provide training in coral reef taxonomy, and
- document the coral reef organisms of the Maldives;

Total cost: US \$ 22,300; duration: 5 years (1986-1990).

Training in Hook Making

- conduct a training courses in hook making in a islands and will train 80 to 120 blacksmiths under this program; total project cost: US \$ 16,500; duration: 1 year (1988).

Assistance to Increase Fish Production

- increase fish production and monitoring by installation of improved fish aggregating devices (FADS); total cost: US\$ 84,500; duration: 4 years (1984-1988).

Effects of Degradation of the Environment on Local Reef Fisheries

- assess the effects of degradation of the environment on local reef fisheries and prepare management plans to mitigate these effects; cost: US\$ 187,340; duration: 3 years (1986-89).

Seasonal Variation of Bait Fishery in Pole and Line Fishing

- provide information and better knowledge of Maldivian live bait fishery to improve utilization of this resource; cost: US\$ 124,800; duration: 4 years (Nov. 1986-1989).

Exploratory Tuna Fishing Survey

- provide information regarding the availability of on-the-surface and deep-swimming tunas and of the technical feasibility of their exploitation by small and medium size crafts in the 25-100 mile range of the EEZ; cost: US\$ 106,700; duration: 18 months (1987-1989).

Reef Fish Research and Resources Survey

- develop the exploitation of the under-utilized reef fish resources of the country; cost: US\$ 222,300; duration: 2 year (1987-89).

Assistance to Development of Traditional Fisheries

- modernize the traditional fishing fleet through motorization of the vessels; cost: US\$ 2.880,000; duration: 3 years (1986-89)

Provision for 100 Fishing Vessels

- using the Alifushi boat yard and local manpower, construct 100 fishing vessels at the rate of 20 per year; cost: US\$ 1,473,000; duration: 5 years (1988-93).

Identification of Possible Fisheries Export Produce in the Maldives

- identify possible fisheries products for export and markets for such exports; cost: US\$ 50,000; duration: 9 months (1988).

Southern Fish Processing Complex

- can tuna either in oil or brine for export markets; cost: US\$ 7,467,000; duration: 4 years (1987-1991).

Hulhimendhoo Slipway Project

- construct a slipway to provide dry dock and repair facilities at Hulhimendhoo; cost: US\$ 4,815,000; duration: 3 years (1988-1990).

Second Fisheries Project

- improve the catching capability of the country's fisheries sector and provide the necessary infrastructure; cost: US\$ 16,081,00; duration: 7 years (1983-1990).

Additional Fishing Boats Construction Project (an extension of MFWEP)

- construct additional 20 mechanised dhonis to complement the existing fleet of catcher boats in the south; cost: US\$ 483,300; duration: 2 years (1987-89).

Marine Surveillance

- train the monitoring, control and surveillance staff of the Ministry of Fisheries and the Coast Guard Unit of the Ministry of Defence and National Security; cost: US\$ 639,260; duration: 3 years (1988-90).

Reef Fish Research and Resource Survey (Ph II)

- develop and expand reef fish fishery by efficient utilisation of reef fish resources and supplementing the country's export and domestic earnings, while catering to local consumption demands and creating opportunities for increasing the income of small scale fisherfolk; cost: US\$ 366,000; duration: 2 years (1989-1990).

Source: MPD (undated3)

APPENDIX C

Distribution Of Employed Population In Industries By Regions 1985

	Agr.&F	Fish'n	Quarry	Manuf.	Ele.	Const.	Trade	Trans	Fin.	Serv	Total
HA	8.91	7.31	4.04	4.64	1.19	4.02	1.21	2.25	0.48	2.23	4.48
HD	4.59	4.62	2.33	7.24	0.99	5.81	2.28	4.54	0.48	3.00	4.57
SH	5.72	6.60	0.31	7.64	0.20	3.00	1.38	1.26	0.00	1.75	4.45
NU	2.43	3.67	3.11	6.30	1.59	5.11	1.01	1.08	1.20	1.94	3.38
RA	2.76	9.25	0.78	5.87	0.99	3.67	0.85	1.59	0.48	2.31	4.63
BA	2.96	7.53	3.27	4.46	0.60	2.26	0.90	1.44	0.00	1.86	3.73
LH	1.00	4.95	7.62	3.73	2.78	3.39	1.10	3.85	3.35	1.74	3.17
KA	2.06	5.96	15.09	3.62	12.90	12.72	34.56	11.33	5.98	6.44	9.35
AL	8.71	6.61	8.40	4.54	3.17	4.37	4.27	3.25	1.44	2.93	4.81
VA	0.10	1.64	0.31	0.61	0.79	0.27	0.70	1.11	0.00	0.78	0.87
ME	0.76	3.19	0.47	1.98	0.40	0.98	0.35	0.81	0.00	1.04	1.69
FA	0.60	1.09	1.71	1.51	0.00	0.59	0.15	0.63	0.00	0.58	1.02
DH	1.30	3.68	0.00	2.71	0.40	1.40	0.17	1.32	0.72	0.95	1.99
TH	2.99	6.31	7.15	2.83	1.19	2.15	0.57	2.71	0.96	1.62	3.14
LA	9.37	5.53	1.40	2.45	1.39	4.76	0.83	1.32	1.44	2.81	3.49
GA	2.56	6.37	1.09	3.24	1.59	2.38	0.99	3.64	0.24	1.77	3.28
GD	21.07	5.12	2.49	5.39	2.78	4.14	1.21	2.25	0.24	1.91	4.67
GN	13.79	0.97	2.80	1.38	1.19	4.02	0.74	1.35	0.72	1.03	2.00
SE	5.38	2.45	2.80	14.08	7.54	6.83	3.13	3.85	5.50	7.10	6.71
MA	2.96	7.15	34.84	15.78	58.33	28.13	43.60	50.41	76.79	56.20	28.57
Total	100.02	100.00	100.01	100.00	100.01	100.00	100.00	99.99	100.02	99.99	100.00
Atolls	97.06	92.85	65.17	84.22	41.68	71.87	56.40	49.58	23.23	43.79	71.43

Atoll=Total-MA(Male')

Source: MPD (undated2)



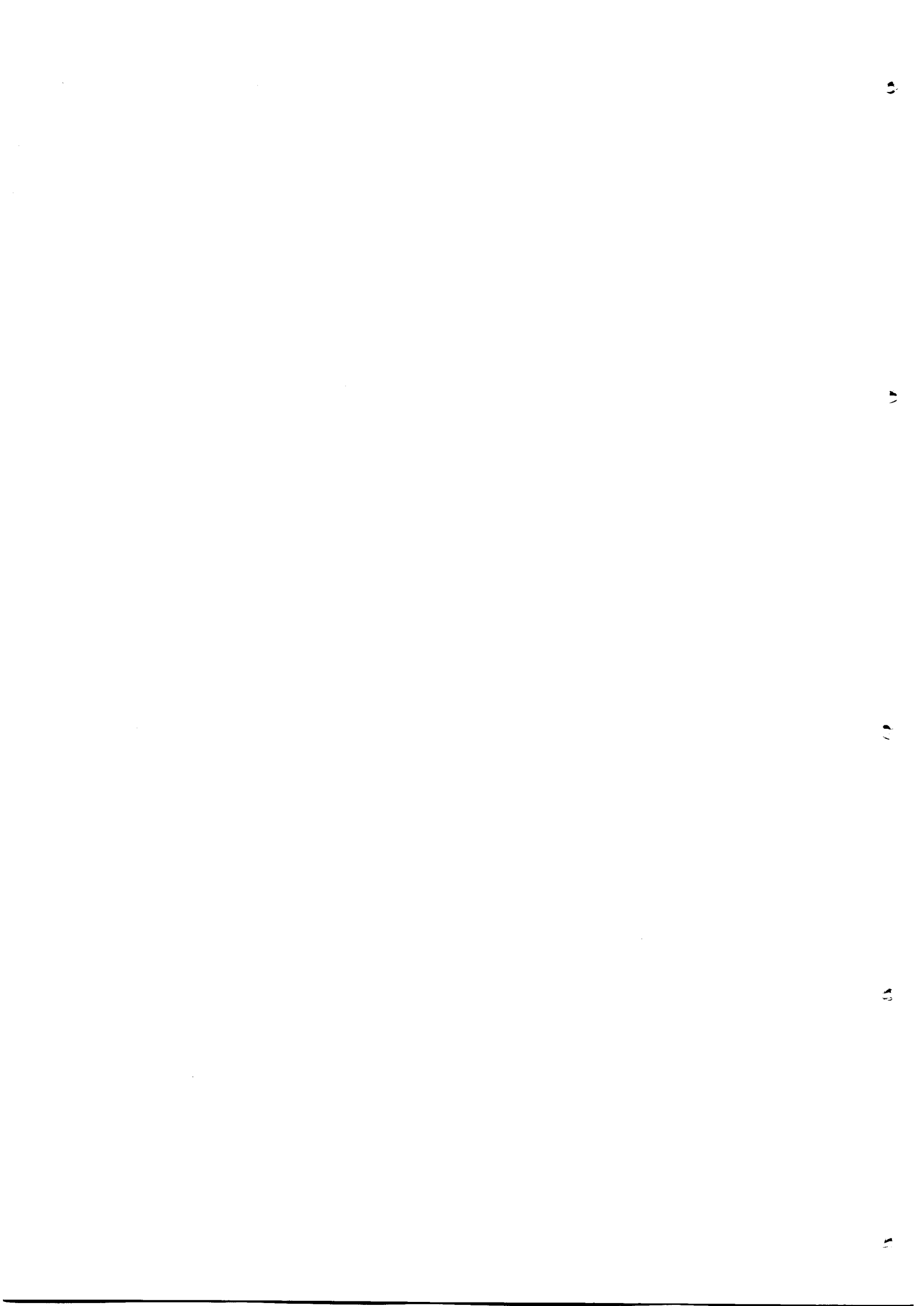
APPENDIX D

Employment Structure By Regions 1985

	Agr.&F	Fish'n	Quarry	Manuf.	Ele.	Const.	Trade	Trans	Fin.	Serv	Unstated
HA	11.63	39.44	1.13	23.25	0.26	4.47	2.86	3.25	0.09	10.11	3.51
HD	5.87	24.43	0.64	35.62	0.21	6.34	5.28	6.43	0.09	13.32	1.79
SH	7.51	35.84	0.09	38.54	0.04	3.36	3.27	1.83	0.00	7.99	1.53
NU	4.20	26.21	1.15	41.84	0.46	7.53	3.16	2.07	0.29	11.61	1.49
RA	3.48	48.28	0.21	28.46	0.21	3.95	1.93	2.23	0.08	10.12	1.05
BA	4.65	48.85	1.10	26.93	0.16	3.03	2.56	2.51	0.00	10.13	0.10
LH	1.84	37.78	3.01	26.47	0.86	5.34	3.69	7.86	0.86	11.18	1.11
KA	1.29	15.42	2.02	8.70	1.35	6.78	39.07	7.84	0.52	13.98	3.04
AL	10.58	33.20	2.18	21.20	0.65	4.52	9.37	4.36	0.24	12.36	1.33
VA	0.67	45.33	0.44	15.78	0.89	1.56	8.44	8.22	0.00	18.00	0.67
ME	2.65	45.79	0.35	26.41	0.23	2.88	2.19	3.11	0.00	12.46	3.92
FA	3.42	25.81	2.09	33.21	0.00	2.85	1.52	3.98	0.00	11.57	15.56
DH	3.81	44.77	0.00	30.60	0.20	3.52	0.88	4.30	0.29	9.68	1.96
TH	5.58	48.64	2.85	20.26	0.37	3.41	1.92	5.58	0.25	10.47	0.68
LA	15.72	38.35	0.50	15.77	0.39	6.80	2.51	2.45	0.33	16.33	0.84
GA	4.56	46.92	0.41	22.22	0.47	3.61	3.20	7.17	0.06	10.96	0.41
GD	26.42	26.50	0.67	25.96	0.58	4.42	2.75	3.13	0.04	8.29	1.25
GN	40.37	11.67	1.75	15.47	0.58	10.02	3.89	4.38	0.29	10.41	1.17
SE	4.70	8.84	0.52	47.20	1.10	5.07	4.93	3.71	0.67	21.48	1.77
MA	0.61	6.05	1.52	12.41	2.00	4.91	16.12	11.41	2.18	39.89	2.89
TOTAL	5.85	24.18	1.25	22.48	0.98	4.98	10.57	6.47	0.81	20.28	2.15
ATOLLS	7.95	31.43	1.14	26.50	0.57	5.01	8.34	4.49	0.26	12.44	1.86

ATOLL=TOTAL-MA(MALE')

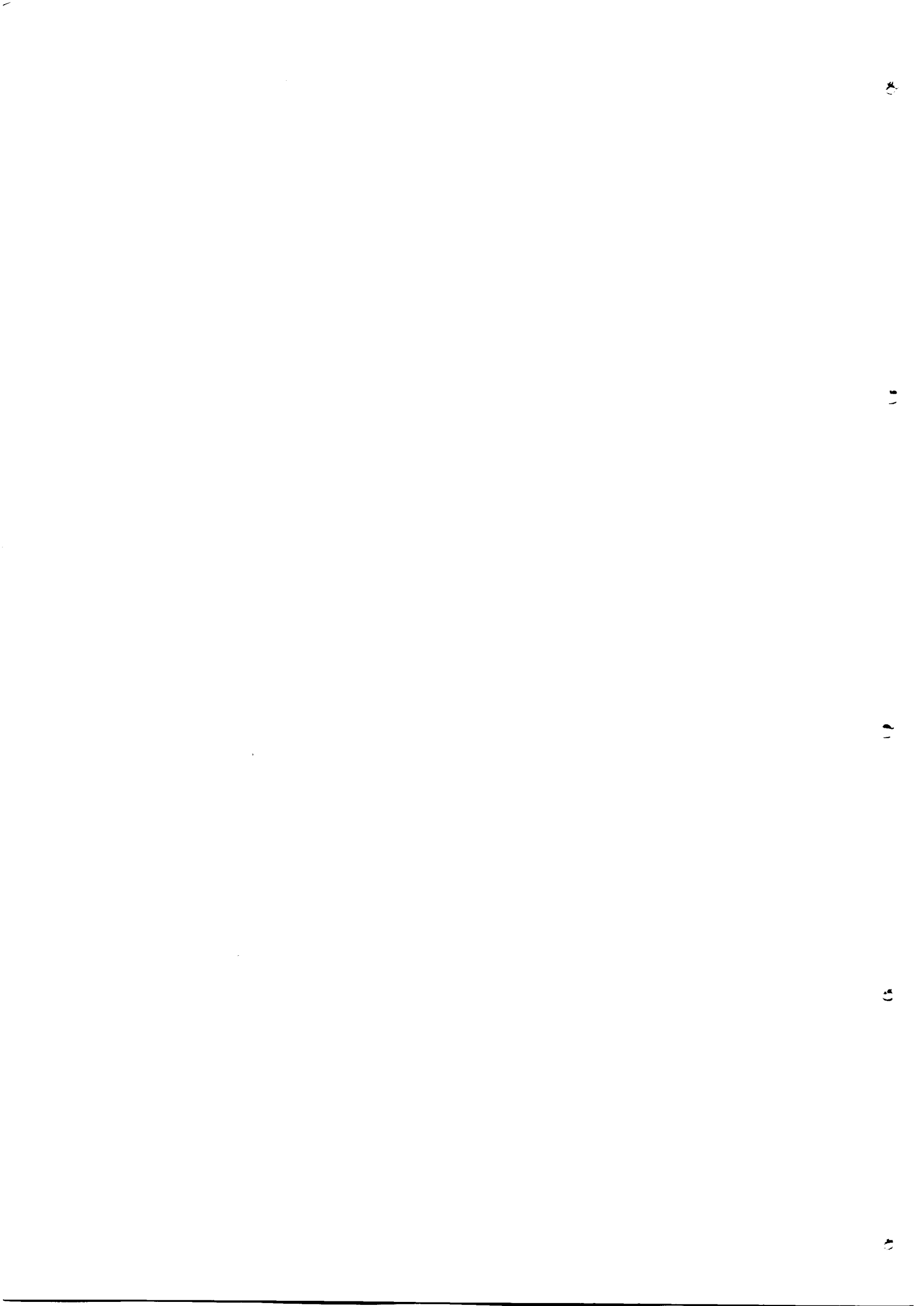
Source: MPD (undated2)



EMPLOYED POPULATION BY INDUSTRIES 1977 AND 1985 FOR MALE' AND ATOLLS

Sectors	<u>COUNTRY TOTAL</u>				<u>MALE'</u>				<u>ATOLLS</u>			
	Po'77	%'77	%'85	Po'85	Po'77	%'77	%'85	Po'85	Po'77	%'77	%'85	Po'85
Agriculture & Forestry	6347	10.53	5.85	3009	94	1.00	0.61	89	6253	12.30	7.95	2920
Fishing	27173	45.09	24.18	12434	561	5.95	6.05	889	26612	52.35	31.43	11545
Quarrying	379	0.63	1.25	643	248	2.63	1.52	224	131	0.26	1.14	419
Manufacturing	13851	22.99	22.48	11559	1194	12.67	12.41	1824	12657	24.90	26.50	9735
Electricity, Gas & water	209	0.35	0.98	504	173	1.84	2.00	294	36	0.07	0.57	210
Construction	1506	2.50	4.98	2563	937	9.94	4.91	721	569	1.12	5.01	1842
Trade	1695	2.81	10.57	5434	1064	11.29	16.12	2369	631	1.24	8.34	3065
Transport, storage & communication	3301	5.48	6.47	3327	1694	17.97	11.41	1677	1607	3.16	4.49	1650
Finance	195	0.32	0.81	418	192	2.04	2.18	321	3	0.01	0.26	97
Community, Social & Personal Ser.	5234	8.69	20.28	10431	3079	32.66	39.89	5862	2155	4.24	12.44	4569
Unstated	369	0.61	2.15	1107	190	2.02	2.89	424	179	0.35	1.86	683
TOTAL	60259	100.00	100.00	51429	9426	100.01	99.99	14694	50833	100.00	99.99	36735

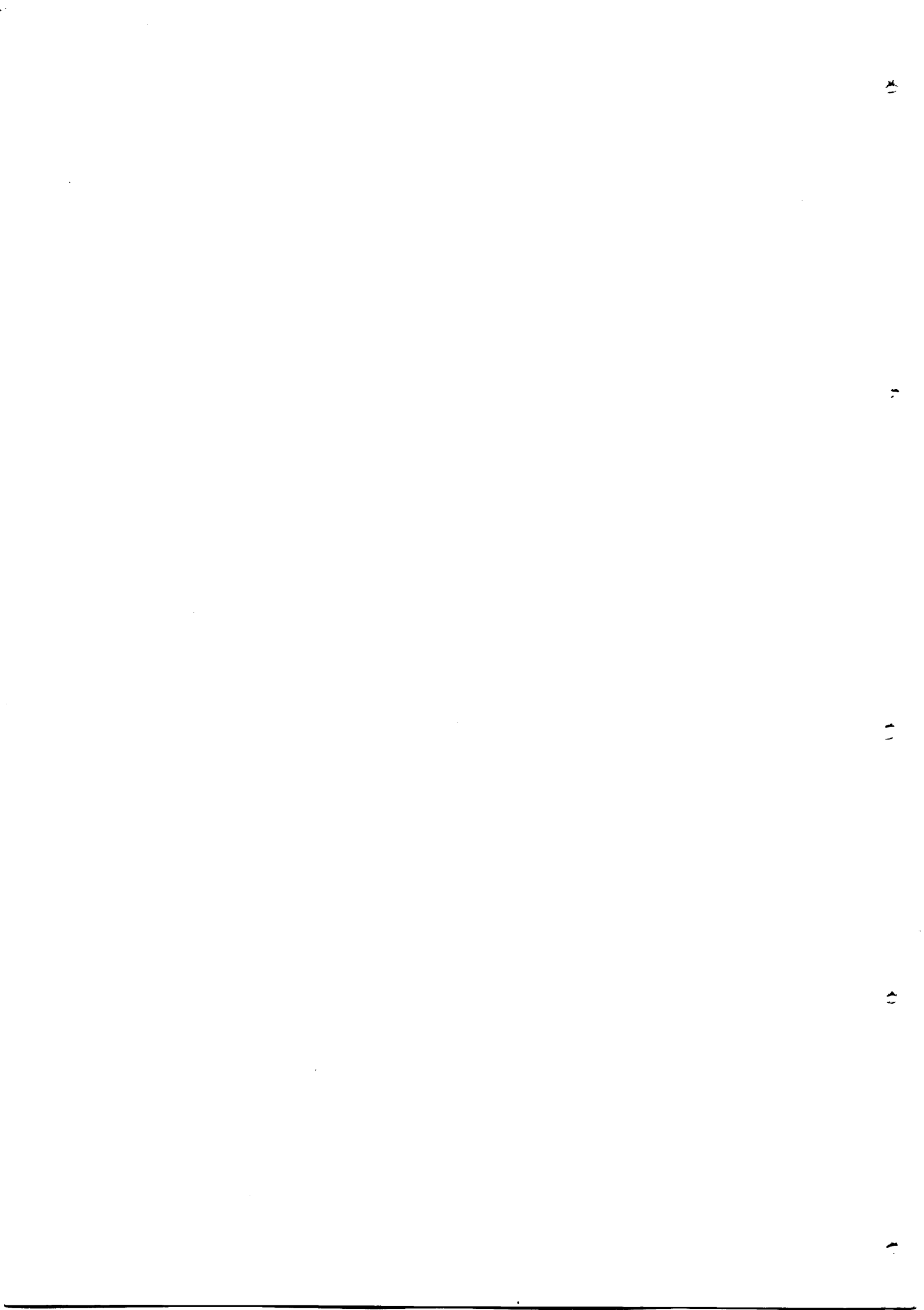
Source: NPA (1981), MPD (undated2)



APPENDIX F
Employed Population in Main Occupations Cross-classified
by Main Industry - 1977 and 1985

Ind/Occ.	Year	Prof	Admin	Cler	Sales	Serv	Agr	Prod	Unstd	Total
Agriculture & Forestry	1977	7	22		0	16	6241	61	0	6347
	1985	40	0	2	7	3	2912	42	3	3009
Fishing	1977	14	84		6	87	26881	99	2	27173
	1985	37	182	7	16	20	12013	58	101	12434
Quarrying	1977									
	1985	9	3	3	2	2	4	616	4	643
Manufacturing	1977	18	20		26	34	23	13730	0	13851
	1985	83	27	75	8	45	22	10468	831	11559
Electric, Gas & Water	1977	78	28		0	18	1	82	2	209
	1985	55	3	6	0	1	8	26	405	504
Construction	1977	10	24		0	48	5	1796	2	1885
	1985	10	1	8	4	4	5	2462	69	2563
Wholesale & Retail Trade	1977	1	193		1505	51	1	130	9	1890
	1985	116	108	269	2286	1484	22	1110	39	5434
Transport, storage, etc.	1977	93	282		8	2432	6	433	47	3301
	1985	1343	136	347	7	104	85	1277	28	3327
Finance, ins. & business	1977									
	1985	168	81	129	7	0	2	18	13	418
Community Soc. & Pers'l	1977	760	801		60	2889	10	625	89	5234
	1985	1875	915	2442	26	1844	49	3095	185	10528
Unstated	1977	1	25		0	11	0	25	307	369
	1985	1002	8	16	8	7	9	48	9	1107
TOTALS of Occupations	1977	982	1479	0	1605	5586	33168	16981	458	60259
	1985	4738	1464	3304	2371	3514	15131	19220	1687	51429

Source: NPA (1981), MPD (undated2)



**Employed Population in the Main Occupational
Categories by Regions, 1985**

<u>Region</u>	<u>Prof</u>	<u>Admin</u>	<u>Cler</u>	<u>Sales</u>	<u>Serv</u>	<u>Agr</u>	<u>Prod</u>	<u>Total</u>
HA	190	79	45	56	23	1145	729	2305
HD	267	50	53	113	46	684	1094	2349
SH	126	31	42	47	8	991	1030	2291
NU	100	41	45	40	24	524	926	1740
RA	135	43	50	35	25	1230	812	2382
BA	151	32	46	30	19	994	606	1916
LH	150	41	73	35	62	580	627	1628
KA	305	136	218	179	1153	802	1879	4807
AL	123	34	78	29	165	1072	925	2476
VA	30	15	18	9	27	207	136	450
ME	80	11	51	8	3	418	282	867
FA	109	7	24	8	1	147	228	527
DH	83	23	21	8	14	445	288	1023
TH	134	26	42	28	13	862	481	1614
LA	101	39	39	36	15	951	581	1794
GA	146	30	43	54	9	857	507	1688
GD	156	37	29	54	17	1257	792	2400
GN	98	17	15	37	11	530	283	1028
SE	301	49	120	96	238	459	2090	3449
MA	1953	723	2252	1469	1641	976	4924	14694
Total	4738	1464	3304	2371	3514	15131	19220	51428
Atolls	2785	741	1052	902	1873	14155	14296	36734

Source: MPD (undated2)

