

PLANNING AND PROVISION OF SCHOOL ACCOMMODATION  
VIEWED AGAINST THE BACKGROUND OF THE FUNCTION  
OF THE CONTEMPORARY SCHOOL WITH SPECIAL  
REFERENCE TO THE FUTURE NEEDS OF THE INDIAN  
COMMUNITY IN SOUTH AFRICA.

by

GANESH KITOONY NAIR

(B.A., B.Sc., B.Ed., M.Ed., N.T.S.D.)

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*I declare that PLANNING AND PROVISION OF SCHOOL ACCOMMODATION VIEWED AGAINST THE BACKGROUND OF THE FUNCTION OF THE CONTEMPORARY SCHOOL WITH SPECIAL REFERENCE TO THE FUTURE NEEDS OF THE INDIAN COMMUNITY IN SOUTH AFRICA is my own work and that all the sources I have used or quoted have been indicated and acknowledged by means of complete references; and the opinions expressed or conclusions arrived at are those of the writer and are not to be regarded as a reflection of the views of the above-mentioned persons or organisations.*

SUMMARY

The inadequacy of school accommodation for Indians has been one of the major problems confronting the DIA since 1966. This study on the planning and provision of school accommodation is in two parts; the first is a comparative study of the problem involving certain overseas countries and the different race groups in this country, a demographic study of Indians and a historical study of their accommodation problem. The second part deals with the analytical and constructive aspects of this study in areas such as school accommodation in the pedagogical context, an analytical study of pupil projections, planning by the DIA and recommendations for the future needs of the Indian community. Attention is given to such areas as mathematical models for pupil projections, design and lay-out of schools; capital expenditure, norms for physical planning, standard accommodation particulars for schools, schools as community centres, State-aided schools, a plan to overcome the platoon school system, nursery and special schools, closure of smaller schools and an education bureau for continuous scientific research.

Praiseworthy progress has been made by the DIA in the provision of school accommodation both in quality and quantity. However, the platoon school system still obtains, and there are certain limitations in the planning of schools. The Indian community played a significant role in the upliftment of its education by providing the much-needed State-aided schools when there was a serious shortage of accommodation in the 1950's. The DIA has

accepted full responsibility for Indian education, and the State-aided schools are tending to diminish in number.

The Indian schools have been modelled on Western cultural norms, but these schools transmit a particular culture which includes Oriental norms in the study of Indian languages, art, music, handicraft, housecraft and right living. These schools have been designed to meet the demands of differentiated education in terms of the common-core syllabuses of the JMB. Both *determining factors* such as demographic, physical, biotic and cultural factors and *ground motives* such as religious forces, the close correlation between culture and education and the unfolding of a Western culture among the Indians who are deeply conscious of their Oriental cultural heritage have influenced the local realisation of schools.

On account of rapid technological advances in this country, the demand for accommodation in Indian education has increased significantly in the last decade. In 1978 the annual high school growth rate was 9,65% in Natal and 5,19% in the Transvaal. This trend is expected to continue over the next five years because the holding power of schools will be boosted through implementation of compulsory education up to age 15, extension of the practical course up to standard 10, greater diversification in the school curriculum and differentiation in subject content. The demand for accommodation is expected to exceed 262 000 pupils by 1985, and to be greatest for the secondary phase. In the light of a revised staff-ration and recommendations made, an increased monetary allocation for capital expenditure is essential to revise the present five-year School Building Programme and to review priorities.

LIST OF ABBREVIATIONS/TERMINOLOGY

&	and
CSIR	Council for Scientific and Industrial Research
Dept.	Department
DIA	Department of Indian Affairs
DPRD	Department of Plural Relations and Development
edit.	edited by
et.al	and others
GNP	Gross National Product
govt.	government
HMSO	Her Majesty's Stationery Office
HSRC (RCN)	Human Sciences Research Council (Raad vir Geesteswetenskaplike Navorsing)
NBRI	National Building Research Institute
NED	Natal Education Department
NITS	Natal Indian Teachers' Society
no.	number
OFS	Orange Free State
p. ; pp.	page ; pages
PWD	Department of Public Works
RSA	Republic of South Africa
SAIC	South African Indian Council
**TASA	Teachers' Association of South Africa
TED	Transvaal Education Department
**UNESCO	United Nations Educational, Scientific and Cultural Organisation

\*\*When referring to TASA and UNESCO the article is not used because they have become part of a recognised nomenclature.

UNISA	University of South Africa
USA	United States of America
vol.	volume
*Asiatic group	is used to mean the Indian race group in the main as contained in official reports.
*Bantu	is used to mean the Black race group in the RSA as contained in Acts and reports.
*Dept. of Bantu Education	is used to mean Dept. of Plural Relations and Development as contained in Acts and regulations.

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## PART ONE

### HISTORICAL, COMPARATIVE AND DEMOGRAPHIC

#### BACKGROUND STUDY

#### CHAPTER ONE

##### INTRODUCTORY CHAPTER

###### 1.1 AIM OF INVESTIGATION

South Africa's policy of multinational development has reached an advanced stage of implementation. Within this framework the education programme for Indians in this country must progress as far as human material and physical resources will allow.<sup>(1)</sup> After several unsuccessful attempts were made by the Government to repatriate them, Indians were accepted as a permanent part of the population of the RSA in 1961. The main object of the present Government of this country has always been the self-development and progress of the Indian community, in conformity with the pattern of separate development.<sup>(2,3)</sup>

Education is the very essence underlying progress, and undoubtedly education is playing and will continue to play a major role in the progress of the Indian community in all spheres. Although the foundations of the educational system for Indians were laid as far back as the turn of the century, it was in the last quarter century that the greatest progress was noted,

particularly/

particularly since the nationalization of Indian education in terms of the Indians Education Act, 1965 (Act No. 61 of 1965), which provided, inter alia, for the transfer of the control of education for Indians from provincial and other education departments to the DIA.<sup>(4)</sup>

As far back as 1927, at the time of the Cape Town Agreement between India and South Africa, it was generally accepted that one of the primary impediments to the progress of primary, secondary and tertiary education was the lack of educational facilities.<sup>(5)</sup> At the time of transfer of education to the DIA and, even, today, though to a lesser degree, the shortage of adequate school accommodation is a basic problem in Indian education. This shortage of school accommodation has become the subject of many current representations by education and local affairs committees and the SAIC itself.<sup>(6,7)</sup> Further, the successful implementation of differentiated education has been influenced by the availability of specialist rooms and other facilities, the supply of adequately qualified teachers for all the subjects, the pupil loading of teaching units and the need for economical teaching units in certain areas. It is in the light of this inadequacy in Indian education that the following aims are pursued in this study:

- (a) to review existing norms for school accommodation for Indians based on information concerning physical planning in certain overseas countries and the RSA, recent research and

the requirements for Indian school education in respect of types and levels of schools needed (i.e. scientific description);

- (b) to compare past and present provision of school accommodation for Indian pupils in the RSA with the above-mentioned norms/standards (i.e. scientific evaluation and appraisal);
- (c) to evaluate the physical planning of Indian schools in the RSA with special reference to design, lay-out and provision of specialist rooms in school buildings; and
- (d) to make recommendations for future educational planning in Indian schools, taking into consideration the pedagogical context, the types of schools, the physical planning of amenities, the future demand for school accommodation, projection techniques and the future needs of schooling in certain problem areas such as monetary allocation for capital expenditure, pupil furniture, replacement of unsatisfactory buildings especially at State-aided schools, the desirability of discontinuing small schools, provision of nursery schools and special schools, the use of the school as a community centre and a plan to eliminate the platoon school system.

## 1.2 METHOD OF INVESTIGATION

In any kind of educational planning both the historical antecedents and the present trends in education must be known. In this respect the writer examines briefly the past and present trends in the provision of school accommodation for Indians in the RSA within the context of national and international practices.\* In the formulation of policy relating to forward planning of school accommodation, the methods of futures research<sup>(8)</sup> a new field of study as described by Lätti and others, the research into school buildings by the NBRI and the CSIR, a review of the norms applied by the DIA and the changing patterns of Indian education arising from legislations and changes in policy have been applied in determining the future needs of the Indian community in the physical planning of schools and the demand for school accommodation as set out in this study. The researcher has also used various statistical methods in predicting the demand for school accommodation, including graphical methods, matrices and mathematical models. Several calculations were made using mathematical formulae, to determine, for example, the compound growth rates of school populations over a period of time. Broad scientific as well as empirical and statistical methods were employed in this study. Further, an evaluation of school accommodation and the planning of physical amenities for Whites, Coloureds and Blacks in the

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\* As an Education Planner in the Physical Planning Section of the Division of Education, DIA, the writer was in the fortunate position to be given permission for access to original sources of reference, both published and unpublished, for this study, and he was granted the opportunity through a British Council award of gaining first-hand information and perspectives in the planning and provision of school accommodation in Great Britain, France and India.

RSA was undertaken after a study of the questionnaires that were sent to the respective heads of the various education departments as well as their annual reports.

#### 1.2.1 Selection of the problem

The successful implementation of differentiated education, the extension of the practical course to standard 10, the extension of compulsory education to the age of 15, the elimination of the platoon school system, the replacement of unsatisfactory school buildings, especially at State-aided schools, and the need to implement a more liberal staff-ration in order to improve the quality of education in accordance with philosophical aims and methodological aspirations are all, to a great extent, dependent on the adequacy of school accommodation. When the take-over of Indian education by the State was first proposed, a significant percentage of the Indian community, including many educationists, expressed serious reservations on the advantages of such a take-over. Even, today, TASA\*, the representative of all South African Indian teachers, advocates a national system of education for all the population groups in the RSA.<sup>(9)</sup> There has been more than a decade of nationalised Indian education under the control of the DIA. It is timeous to evaluate the progress made by the DIA in one of its major challenges

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\* TASA was formerly known as SAITA or South African Indian Teachers' Association.

in the last decade, that is, accelerating the provision of adequate school accommodation as viewed against the background of the contemporary school. Such an assessment has been made in Part Two of this thesis. Serious consideration is also given to the needs of the Indian community in the physical planning of schools and the provision of school accommodation, especially for the next decade. This takes into account the areas of demand for school accommodation, design and lay-out of school buildings, provision of additional specialist amenities, the need for the greater use of the school as a community centre, the take-over of State-aided schools, the need to do away with small schools, provision of nursery and special schools and the need for an education bureau in order to conduct research into school accommodation. The assumption is made that Indian schools under the control of the DIA will accommodate Indian children only in the foreseeable future. The prevailing situation and the needs of Indian education clearly indicate the area of research.

#### 1.2.2 Source Materials

Both primary and secondary sources were used. In this investigation, the writer confined himself largely to the use of primary sources, both published and unpublished, and correspondence with the heads of the various education departments in this country on matters pertaining to school accommodation. Much of the information was also

obtained/

obtained from the files and records of the Division of Education, DIA, but the writer withheld information from this source, which was considered to be confidential. As an historical phenomenon of the very recent past, the nationalization of Indian education in this country is the subject of few secondary sources. This is also true in the case of records of the early history of Indian education. Much of the material on early history was obtained from reports, journals of the NITS and TASA, publications concerning Indian education issued by the Department of Information, especially "Fiat Lux", Government and Provincial Gazettes and "Hansard". Frequent references have been made to circulars and circular minutes issued by the Division of Education, DIA, especially on matters concerning policy and policy changes. The writer has made extensive use of the annual reports of , in particular, the DIA, and those of other education departments in the RSA as well. The relevant reports of the HSRC, the NBRI and the CSIR were consulted when recommendations were made in regard to the future needs of the Indian community. Use was made also of the official (published and unpublished) reports of certain overseas countries, mainly Great Britain, India, France and the Federal Republic of Germany. The sources consulted will appear at the end of this thesis under Sources Material, in alphabetical order. The Sources Material is divided into four sections, namely, books (published and unpublished), papers and periodical articles in the first

section/

section; reports of official bodies (sometimes under the name of the researcher) in the second section; acts, regulations, circulars and circular minutes in the third section, and information from files and correspondences in the fourth section. The items are arranged alphabetically according to the author's surname. Where more than one work of an author has been consulted, the works are arranged chronologically according to date of publication. Where possible, the author, the title of publication, the publishers, the place of publication and the date of publication are given in each case.

### 1.2.3 References and Footnotes

The references are given at the end of each chapter for the sake of convenience and because of the extent of the source material used. The Harvard system of references and the ordinary page by page footnotes were rejected due to the difficulty and extent of naming of authors in the type of source material used. The system of numerical references was selected, as is often found in the case of articles and monographs. Hence, references to sources of material are indicated by numbers within braces on the different pages, for example: (1), (2,3). These numbers follow in sequence, and each chapter commences with (1). At the end of each chapter, these numerical references bear the name of the author(s) followed by title of publication and the

page(s). A complete list of references including the name of the publisher, the place of publication and the year of publication is given under *Source Materials* at the end of this thesis. Where reference is made to an article in a magazine or journal, the title of the article is given within inverted commas followed by the name of the magazine or journal, the volume and number of issue, the month and year of publication and the relevant pages. Where reference is made to the same source in a chapter in sequence, the word *Ibid* is used followed by the page(s) of reference. If the reference to the same source does not follow in sequence, the name of the author or institution is followed by the words *op. cit.* and page(s) of reference. Where explanatory foot-notes are necessary, for example, when there is need to explain a word, a phrase or terminology, use will be made of asterisks. (10)

#### 1.2.4 Assessment of sources and projection techniques

Both external criticism and internal criticism, vital to scientific-historical research, were applied where there was need for such verification. The information obtained from the records and files of the Division of Education, DIA, is from primary sources, and it is considered to be authentic.

Forecasts are based on the quality of alternatives available,

use/

use of experts and a control of limitations of past experiences as, for example, in the method of trend extrapolation discussed in Chapter VII. In projections the future pupil enrolments are based on certain assumptions. Thus, it should be observed that the figures for the next 22 years, that is, up to the year 2000, are based on projections, and these figures are not forecasts or predictions. The approach followed is to apply mathematically the most recent trends to demographic data, and to extrapolate the trends into the future. Where trends are changing, assumptions deemed most reasonable are made by the writer, with due regard to experience and practical knowledge in the Education Planning Section of the DIA. It is axiomatic that there is no universal agreement on what are the most reasonable assumptions, but the methods and data are indicated clearly so that the readers who wish to make other assumptions will be able to derive their own projections.

#### 1.2.5 Delimitation and contents of research

##### 1.2.5.1 Delimitation of research

###### (a) The people

This research concerns itself primarily with the physical planning of schools and the provision of school accommodation for people of Indian origin domiciled in

the/

the RSA. The Indians constitute the smallest of the four race groups in this country. Statistics drawn from the May 1970 population census indicate that there were 620 436 Indians in the RSA, representing 2,89% of the total population in the country. Of these Indians, it was found that 82,98% were settled in Natal; 12,98% in the Transvaal; 3,49% in the Cape and 0,55% in the Black Homelands.<sup>(11)</sup> By 1974 the estimated Indian population in this country was 670 000.<sup>(12)</sup>

(b) The place

The geographical limitation of this study is the RSA. From the above-mentioned paragraph, it is evident that this study will be confined more specifically to Natal and the Transvaal, and to a lesser extent the Cape Province.

(c) The period

The main concern of this investigation is to assess the adequacy of school accommodation at the present time (1978), and to consider the needs of the Indian community mainly for the next 10 years in regard to the physical planning of

schools/

schools and the provision of school accommodation in the pedagogical context. To place the problem investigated in perspective, the adequacy of school accommodation prior to transfer of control of education to the DIA is discussed briefly. The changing pattern of Indian education and the massive school building programme that was implemented since transfer of control of education to the DIA are discussed in greater detail in order to gain perspectives into the future needs of the Indian community.

#### 1.2.5.2 Contents of research

Within the limits set, this research may be considered in two parts. The first part has four chapters, and it deals with: i) general principles of this research, ii) the factual position in the physical planning of schools and the provision of school accommodation in certain overseas countries and for the different race groups in the RSA, and iii) a demographical background study of the Indian people in this country. In this regard Chapter I will be devoted to (in addition to aims, motivation, source materials and projection techniques) a review of previous

researches/

researches on school accommodation in Indian education in the RSA.

Chapter II, although the study is geographically limited to the RSA, will take into consideration general trends and adequacy of the provision of school accommodation in some overseas countries. In this regard the more well-known Western countries have been considered together with India from where the original Indians with their Oriental culture emigrated to settle in the RSA, a country where the Whites were responsible for the upliftment of Western culture. A study of this nature will not be complete if a comparative look is not taken at what is being done in the provision of school accommodation for other racial groups in the RSA, namely, the Whites, the Coloureds and the Blacks. Thus, in this chapter, the writer examines very briefly the provision of school accommodation at different levels in certain overseas countries and for the other race groups in the RSA, and makes general conclusions which will be a guide when an evaluation of the problem itself is made in subsequent chapters.

In Chapter III an evaluation is made of the provision of school accommodation before and

after/

after the transfer of control of education for Indians to the DIA, Division of Education, up to the present time. In this chapter consideration is also given to the influence of the changing pattern of Indian education on the demand for school accommodation, arising out of legislations in the 1960s. Thus, in this chapter, the writer considers the geographical limitation (*the place*) of this study. That is, this study is confined to Natal, the Transvaal and, to a lesser extent, the Cape Province. The period under consideration, the third aspect of the delimitation, traces the provision of accommodation for Indians from about 1872 to 1965 briefly, from 1966 to 1978 in greater depth and the future demand for school accommodation, especially for the next ten years from 1978. Thus the period from 1872 to 1978 is discussed in this chapter, and general conclusions are made.

Taking into consideration the first pillar of the delimitation, which concerns *the people*, a closer look will have to be taken at the Indians. In Chapter IV the writer compares the vital statistics, for Indians with the other race groups in the RSA. Further, the factors influencing population projections and the role of the Indians as a

socio-cultural, political, economic and pressure group are discussed in this chapter. Attention is also given to the distribution of Indian pupils according to the different provinces in the RSA, especially in the last five years. The second part of this research deals with the analytical and constructive aspects in the areas of future physical planning of schools and the provision of school accommodation viewed against the background of the function of the contemporary school. The latter part consists of five chapters which deal with an analytical study of projections, considerations, conclusions and recommendations for the future needs of the Indian community, pertaining to school accommodation based on the norms discussed in Part I and Chapter VI of Part II.

In Chapter V the writer discusses school accommodation in the pedagogical context. It is essential to know both the universal features and the local features of the school as an educational institution within the education system, the natural and cultural factors determining the local realisation of schools and the implications of school accommodation with regard to aims, methods, curriculum, media, aids, facilities, organisation

and/

and administration. It is against this background of the function of the contemporary school that the writer views the planning and provision of school accommodation, taking into consideration the various norms as discussed in Chapters III and VI.

In Chapter VI, consideration are given to the provision of school accommodation by the State in terms of the present policy of the DIA and the future needs of the Indian community. In this chapter the writer discusses the norms for physical planning of Indian schools, the design, the lay-out and accommodation particulars for the planning of future schools, the levels and types of schools, the role of State-aided schools and the need for such schools to be taken over by the State, the school building programme, the shortages in school accommodation as indicated by the existence of platoon classes, the changing demand for school accommodation in certain areas on account of the Group Areas Act, the effects of differentiated education on school accommodation, compulsory education and its influence on school accommodation, the pupil loading on classrooms and specialist rooms and the need for a more liberal staff-ration

when determining the future demand for school accommodation.

In Chapter VII the various projection techniques are reviewed. In order to determine the future demand for school accommodation, projections are an essential part of this study. Population growth rates and pupil projections based on Indian population patterns are evaluated so that the norms for the planning of schools may be reviewed and a method for projecting pupil populations can be formulated. The writer formulates a method for projecting pupil enrolments for the different standards\* after examining projections from demographic studies, graphical representations and by the factor method. The writer discusses his method of approach with a view that other researchers will be able to improve on his method of projecting pupil populations. This study is vital in order to ascertain the future demand for school accommodation for Indians in the RSA.

In Chapter VIII the writer makes recommendations in the planning and provision of school accommodation

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\* by standards in Indian education is meant cl.(i), cl.(ii) and standards 1 to 10 and also understood to be from Form 1 to Form X11.

taking into account the future needs of the Indian community, the present norms and current policy of the DIA and pupil projections. Proposals have been made in the areas of increased monetary allocation for capital expenditure, the design and lay-out of schools, the need to review accommodation particulars for the different types of schools, the use of schools as community centres, the desirability of the State taking over State-aided schools, the need to close the smaller schools, the necessity for the State to provide nursery and special schools, the need to review classroom furniture, a plan to eliminate the platoon school system and the desirability for an education bureau in order to conduct research into the future needs for school accommodation for Indians in the RSA.

In the concluding Chapter IX, the writer arrives at general conclusions and summarises the recommendations stemming from this study.

### 1.3 REVIEW OF PREVIOUS RESEARCHES ON THIS SUBJECT

The writer is not aware of any previous research done on the physical planning of schools and the provision of school accommodation, especially for Indians in the RSA. Moreover, researchers have made reference to the problem of school accommodation in their respective studies but no in-depth study of this area was undertaken previously.

The following unpublished researches were reviewed before the writer attempted an in-depth study of his own project (Full details of university, year of submission of thesis, etc. are given at the end of the volume under *Source Materials*, and the reference number for each thesis is given at the end of each title):

- COOPPAN, S. : *The education of the Indian in Natal, 1860-1947; (1.22);*
- DILLA, S. : *The Nationalisation of Indian Education in the Transvaal (1.29);*
- KANNEMEYER, H.D. : *A Critical Survey of Indian Education in Natal, 1860-1937 (1.53);*
- KUPPUSAMI, C. : *Indian education in Natal, 1860-1946 (1.64);*
- MAHABIR, B. : *Indian education in South Africa after nationalisation - a metapedagogical perspective (1.70);*
- MAHARAJ, S.R. : *Secondary education for Indians in Natal (1.71);*
- NAIDOO, K.P. : *Post-primary education for Indians in Natal, 1927-1952 (1.85);*
- NAIR, G.K. : *A study of forecasting procedures and the use of methods of futures research in determining the demand for and supply of teachers in Indian schools in South Africa, 1975-2000 (1.88);*
- RAMPHAL, C. : *A study of Three Current Problems of Indian Education (1.107); and*
- SANGARAN, L.F. : *A historical evaluation of Indian education in the Transvaal (1.118).*

REFERENCES TO CHAPTER ONE

N.B. The relevant reference number, where full publication details can be found, will appear after each original reference. This method of reference applies also to all subsequent chapters, and the details are to be found under *Sources Material*.

- (1) VAN RENSBURG, C. : *Stepping into the Future* (1.137), pp. 7-10.
- (2) REPUBLIC OF SOUTH AFRICA : *House of Assembly Debates (Hansard)* (2.34).
- (3) RAJAB, A.M. : 'Education for the Future', *Fiat Lux* (1.108), pp. 46-47.
- (4) PRINSLOO, H.A. : 'Education and Progress', *Fiat Lux* (1.106), pp. 2-3.
- (5) RAJAB, A.M. : *op.cit.*, p. 46.
- (6) DEPT. OF INFORMATION : 'South African Indian Council', *Fiat Lux* (2.17), p. 8.
- (7) NAIR, G.K. : 'School Accommodation', *Fiat Lux* (1.89), p. 29.
- (8) LÄTTI, V.I. : *A Survey of Methods of Futures Research* (1.66), p. 2.
- (9) BEKKER, J.H. : "'n Onderzoek na die praktiese moontlikhede van insakeling van Indiëronderwys by die bestaande Nasionale Onderwysbeleid, soos uitgedruk in Wet Nr. 39 van 1967" (1.11), p. 8.
- (10) BEHR, A.L. : *Methods and Techniques in Educational and Psychological Research* (1.8), pp. 10-13.
- (11) DEPT. OF STATISTICS : *Bulletin of Statistics* (2.20), p. 2.
- (12) DEPT. OF INFORMATION : *op. cit.*, p. 8.

## CHAPTER TWO

### A REVIEW OF TRENDS IN THE PROVISION OF SCHOOL ACCOMMODATION IN CERTAIN OVERSEAS COUNTRIES AND FOR THE DIFFERENT RACE GROUPS IN THE RSA

#### 2.1 A BRIEF SURVEY OF TRENDS IN THE PROVISION OF SCHOOL ACCOMMODATION IN CERTAIN OVERSEAS COUNTRIES

##### 2.1.1 Introduction

The writer has chosen Great Britain whose educational system has been the model for much of Indian education in the RSA and three other Western countries in order to obtain an overview of school accommodation. India was chosen because the first Indian settlers came to the RSA from that country, and with them they brought their culture, transmitted from one of the oldest known world civilizations. (1) Every country has its own approach to education systems, each with its own particular characteristics. The organisation of the various national school systems is the product of a long historical process. It reflects both the social and economic structures within those countries, and the cultural and educational concepts which are traditionally accepted. It is, therefore, evident that within this framework it is not easy to compare school accommodation for the various countries. One may consider factors such as

financial/

financial expenditure based on pupil enrolments and pupil-teacher ratios, enrolment rates beyond the age for compulsory education and even the percentage of graduates per age group in order to evaluate the adequacy of school accommodation in overseas countries, without drawing any conclusive observations from the comparative study.<sup>(2)</sup>

Various criteria could be used simultaneously to analyse the state of development of national school systems within their existing national structures. Criteria may be quantitative - for example, statistics on school populations and numbers of schools; or qualitative - for example, statistics on pupil-teacher ratios. The extent of educational expenditure in a given country as a percentage of its total budget would appear to be a useful yardstick for measuring the effort made to ensure both the intellectual development and vocational training of the population. Capital expenditure is indicative of the progress on qualitative education - for example, the provision of school accommodation and the resulting pupil-teacher ratios.<sup>(3)</sup>

#### 2.1.2 Great Britain

In Great Britain, local education authorities and voluntary bodies are responsible, under the general supervision of the central departments, for providing the schools and other buildings needed for public education in their areas. The central departments determine the maximum size of the

authorities/

authorities' individual programmes in the light of national priorities, and offer guidance by means of school building bulletins and in other ways. In British schools English is the medium of instruction although many immigrant pupils are struggling to reach the standard required. (4,5)

In the period 1945 to 1976 an extensive school building programme has been carried out. This building programme included the completion of 16 300 new schools, as well as additions to, alterations and remodelling of existing State schools to provide for over 9 million new pupils in this period. Grants of up to 85% of the approved cost for the building of new voluntary aided schools and for alterations and for external repairs to existing aided schools are normally available from the Department of Education and Science. The school building programme has provided for new ideas and methods in design and construction. Further, industrialized building techniques have been widely adopted, and teaching spaces are being used more flexibly, particularly in primary schools in order to meet the needs of new teaching methods. (6)

The British Government has allocated resources for the improvement of educational facilities in "priority areas" (educationally deprived areas) under several schemes, including the Urban Programme launched in 1968 to provide Government aid for local authority expenditure in areas of

special/

special social needs, the Educational Priority Area Project sponsored jointly by the Department of Education and Science and the Social Science Research Council, and the Community Development Project sponsored by the Home Office. Additional funds have been allocated for school building in these areas and for initiating community schools and pre-school experiments. <sup>(7)</sup> Education is compulsory for children between the ages of 5 and 16. In 1976 there were nearly 12 million pupils and students in full-time attendance at some 38 000 schools and institutions of further and higher education in Great Britain. Over 95% of school children attend education establishments that are publicly maintained or assisted. In the 1975 - 76 financial year the estimated total public expenditure on education, including school meals, milk, local libraries and museums, amounted to over £6 350 million, which was 12,4% of all public expenditure. <sup>(8)</sup> Although England was in the forefront in nursery school education, by 1963, it was found that only one child out of every hundred children of nursery school age could be accommodated in local authority nursery schools, which had a total enrolment of 180 000 children under the age of 5. According to the Plowden Report there were, in 1965, some 3,8 million children for whom no nursery school facilities could be provided. <sup>(9)</sup> However, a ten-year programme for England and Wales, commencing in 1972, accounted for a substantial increase in expenditure in five sectors, including a new programme of nursery education.

A similar programme, which began in Scotland, was scaled down in 1975 on account of economic conditions and revised, lower estimates of future school populations.<sup>(10)</sup>

In 1976 a small proportion of the school population was in attendance in private schools: 435 000 in England and Wales, and 18 000 in Scotland. In addition, about 131 000 children in England and Wales, and about 20 000 in Scotland were attending grant-aided schools. The Education Act of 1976 was designed to hasten progress towards a fully comprehensive system of secondary education including the phasing out of the direct-grant system.<sup>(11)</sup> Strong ground motives such as religious forces influenced the local realisation of schools. Prior to this Act, both Protestant and Catholic Churches had commenced construction of schools in England before the State initiated its policy of grants. Thus the Churches had acquired historical and legal rights of control of their denominational schools. However, it was the non-denominational schools, which came into existence much later, that were generally larger and more modern in design.<sup>(12)</sup> Primary education in England begins at 5 years, and continues until 11 or 12 years. This education is offered in two stages, namely, the infant stage (from 5 to 7 years) and the junior stage (from 7 plus to 11 plus). Often both these stages are provided for in separate buildings. In primary schools, pupils work in groups and

formal instruction to the entire class group is restricted to a minimum. <sup>(13)</sup>

Facilities for informal education and play activities for children aged 2 to 5 years are provided free in public sector nursery schools, and in nursery classes in public-sector primary schools. Compulsory education in infant schools or departments begins at 5 for children in England and Wales. About 70% of the maintained secondary school population in England and Wales attend some 3 000 comprehensive schools which admit pupils without reference to ability or aptitude, and provide a wide range of secondary education for all or most of the children of a district. The full secondary school age range is from 11 to 18 years; this comprises the middle school (whose pupils move on to senior comprehensive schools at 12 or 13, and leave at 16 or 18) as well as a sixth-form college for pupils over 16. In 1976 there were also some 740 grammar schools which admitted pupils on a selective basis at the age of 11. <sup>(14)</sup>

The Scottish school system <sup>(15)</sup> includes three main kinds of schools, namely,

- (i) public schools which are conducted by education authorities and supported by public finance. These schools are generally non-denominational and co-educational;

(ii)/

- (ii) grant-aided schools which are run by voluntary managers and receive grants direct from the Scottish Education Department for maintenance expenditure; and
- (iii) independent or private schools which are entirely self-supporting. These schools must be registered with the Scottish Education Department and provide adequate and suitable standards of education and accommodation.

In Scotland the pupil-teacher ratios have been improving steadily; by 1972, the ratio was 26,7 : 1 for nursery and primary schools; 15,6 : 1 in secondary schools and 11,3 : 1 in special schools.<sup>(16)</sup> However, in 1974, there was a tendency for a large number of schools to work-to-rule on account of overcrowding in classrooms as a result of a shortage of teachers.<sup>(17)</sup>

In Northern Ireland there are both grammar schools and secondary (intermediate) schools, the latter being the equivalent of the secondary modern schools in England and Wales.<sup>(18)</sup>

Special education is provided for children with physical or mental disability or problems of maladjustment in either ordinary schools or special schools (including hospital schools). In 1976 there were 1 800 special schools in

Great Britain, as well as boarding houses for handicapped children attending ordinary schools. Further, the schools project a Christian and national character in education. <sup>(19)</sup>

### 2.1.3 United States of America

The structure of general secondary education in the USA is to a large extent the outcome of extending the single-school organization to the secondary level. In the USA the high school is the normal extension of elementary school studies. Most pupils from the elementary schools enter high schools without writing a formal examination and, in principle, advance annually with the rest of their class. <sup>(20)</sup>

The provision and maintenance of schools and their administration are largely delegated by the states to the local units. The administrative unit that is most generally characteristic of the United States is the district. The characteristic features of American administration and the American school system have been developed in the cities which enjoy a considerable degree of autonomy in education, subject to minimum requirements prescribed by state laws and state boards of education. City school systems are supported by local taxes and state grants. <sup>(21)</sup> There are four types of *nursery schools* in the USA, namely, private nursery schools established by individuals for personal gains; co-operative nursery schools established and maintained by parents;

State-aided nursery schools established in the poorer urban areas to assist working mothers; and experimental nursery schools attached to ordinary State schools, colleges of education or universities. Although conditions vary in the different states, it is estimated that only a small percentage of American children aged 4 years and under attend nursery schools. Of the five-year-olds, more than fifty per cent are in nursery schools. (22)

It is estimated that over 90% of the children of school-going-age attend the *elementary public schools* in the USA. Each state has its own educational system and, in the majority of states, compulsory schooling begins at 6 years of age. In some states a child receives 8 years of primary school education followed by 4 years of secondary education; in other states primary school education and secondary school education are of 6 years duration each. The emphasis in instruction is on topics rather than on subjects, with group learning and co-operative effort being emphasized. An Elementary and Secondary Education Act was adopted by Congress in 1965 with the object of providing financial assistance to local public school agencies so that better educational facilities could be offered to children of low-income families, and to provide supplementary education services, not included in the regular school programme, such as performing-arts centres, science-teaching museums, mathematics-learning centres, closed-circuit television, and so on. (23)

The total pupil enrolment in regular *elementary and secondary day schools* - that is, from kindergarten to grade 12 - increased by 7,6% from 47,7 million in 1964 to 51,3 million in 1970. In 1974 this enrolment decreased to 49,8 million, and it is anticipated that the decreasing trend, based largely on lower birth-rates, will continue. It is expected that the total pupil enrolment in 1984 will be approximately 44,8 million. (These figures exclude pupils enrolled in schools for exceptional children and Federal schools for Indians). (24)

In the USA, in the period 1964 to 1974, there was a decrease of 4% in school population for the age group 5 - 13 years but increases of 19% and 40% respectively for the age groups 14 - 17 years and 18 - 21 years. The trends in school populations show that the total numbers for the various age groups are expected to decrease by an estimated 10% by 1984, especially in the age group 5 - 17 years. (25)

*Capital expenditure* on regular public elementary and secondary schools, including the expenditure of the State and local school building authorities was 37,0 billion U.S. dollars for the 5 year period 1965-66 to 1969-70, and 28,1 billion U.S. dollars for the next 5 year period 1970-71 to 1974-75. In keeping with future trends in

demand/

demand for school accommodation, this capital expenditure is expected to be about 20,0 billion U.S. dollars for the 5 year period 1980/81 to 1984/85. Not all of the capital outlay represents construction of school buildings. For example, in the 1971/72 financial year, it was found that 16% of the capital outlay was for equipment and 84% for land and buildings. Although school populations are expected to show a downward trend, school buildings will continue to be constructed for reasons such as replacements, migration of population and reduction of crowded and unsatisfactory classrooms. (26)

In the USA the total expenditure on education showed an increasing tendency in the period 1955-56 to 1963-64. In the 1955-56 financial year, total expenditure on education represented 4,23% of the Gross National Product (GNP) and capital expenditure was 0,86% of the GNP. By the 1963-64 financial year, total expenditure on education increased to 5,80% of the GNP and capital expenditure to 0,91% of the GNP. (27) Comparative figures for capital expenditure on school and university buildings show that, in 1962 for example, the USA spent 0,90% of GNP, Great Britain 0,64% and France 0,73% where pupil enrolment was most rapid amongst the Western countries between 1952 and 1962. (28)

The USA philosophy of life, inextricably interwoven with her

educational system, reflects the condition of American growth and tends towards pragmatism and relativism. In the USA the children of Roman Catholics, as a rule, attend private schools. The percentage of pupils in private schools is higher in the USA than in Great Britain. (29)

#### 2.1.4 Federal Republic of Germany

The expenditure on education and science by the Federal Republic of Germany trebled in the period 1970 to 1973, and this tempo is expected to increase. In 1973 the Federation spent 3 380 million DM and, in 1974, 3 850 million DM on education. (30)

The first stage of education is the 'kindergarten', a German institution adopted by many other countries, which admits children from 3 to 6 years of age. In 1971 there were altogether 17 493 kindergartens with accommodation for 1 160 736 children in the Federal Republic of Germany. Thus, in that year, only one child out of a possible three children could gain admission to a kindergarten. However, the country is committed to a building programme which will enable all eligible children to be admitted to a kindergarten. (31)

The organization of education throughout the Federal Republic of Germany favours the common primary school (*the Grundschule*) but each *Land* is permitted to control and direct such schools

as it thinks fit. Religious instruction forms part of the curriculum in State schools, and private schools are required to have a State licence, which is granted if:

- (a) the curriculum conforms to the basic minimum required in State schools,
- (b) the academic staff is competent and qualified according to State standards, and
- (c) the financial position of parents is not made a criterion for entry to such schools. <sup>(32)</sup>

As early as 1920, this country was able to enforce compulsory school attendance for all children from 6 to 15 years of age. The child's first four years are spent at the junior or basic school, the Grundschule. The child then proceeds to a continuation or secondary school, namely, the grammar school (Gymnasium), the intermediate school (Realschule) or the senior school (Hauptschule). <sup>(33)</sup> In the present post-war period, this country was farsighted enough to introduce into the reformed school system sufficient elasticity to allow children who have been misdirected into the wrong school, or who develop late, to change their direction of study. <sup>(34)</sup>

The structure of vocational and technical education in this

country permits the predominance of part-time education (Berufsschulen) with practical training-in-service. The Berufsschulen admits apprentices of both sexes up to the age of eighteen. The purpose is to extend general knowledge and to supplement theoretical and practical training in the work situation. Since this type of education comes within the compulsory age range, enrolment is high: in 1963-64 the enrolment was 1 699 000. There are five fields of study - agricultural, domestic, business, industrial and mining. (35)

The number of secondary schools has been increased considerably in recent years. In 1955 there were 1 597 grammar schools with 878 016 pupils and, by 1971, these schools had risen in number to 2 191, with 1 430 862 pupils. Further, the number of intermediate schools has increased even more rapidly than grammar schools. In 1955 there were 817 intermediate schools with 438 203 pupils, and the number of such schools increased to 2 166 with 896 873 pupils in 1971, representing an increase of 104,67% in pupil enrolment in 16 years. (36)

In the Federal Republic of Germany the so-called country school reform programme has proved particularly useful. The objective is to eliminate the small village schools, often with only one or two classes. This move has resulted in centralizing school accommodation in such areas. Such

central schools can now offer at least one class for every age group. <sup>(37)</sup>

It was planned to provide teacher education based on various pupil age levels, instead of training teachers for the various forms at schools. The pupil-teacher ratio varied considerably in 1971 for the different areas in this country. For example, in junior and senior schools, the average number of pupils per teacher in 1971 was 30,9 in Bavaria; 15,1 in Berlin; 24,7 in Hamburg; 34,4 in North Rhine - Westphalia and 30,0 in Federal territory. In intermediate schools the ratios were 24,5 for Lower Saxony; 23,7 for Saarland; 17,2 for Berlin and 20,5 for Hamburg. In grammar schools the ratios were 12,9 for Berlin; 18,1 for Bavaria; 15,4 for Hesse; 20,0 for Saarland and 17,9 for Federal territory. <sup>(38)</sup>

#### 2.1.5 France

Unlike the American pragmatist approach or the Russian Marxist approach, France wishes to preserve the high quality of its education based on the humanist tradition. <sup>(39)</sup>

French education is generally public and non-sectarian.

The French school system is presently undergoing considerable change in re-organization. <sup>(40)</sup>

Within the framework of the highly centralized system of

education in France, the primary school plays an important role in educating young children in practical knowledge. Primary education includes both nursery and infant school. Private schools are accepted where standards equal those of State schools. (41)

As far as *pre-school education* and *primary education* are concerned, school attendance in France is compulsory from the age of 6 to 16 years, though families can obtain exemption from this legal requirement. Public kindergartens admit children from 2 years of age, depending on the availability of accommodation. The demand for such placement has been increasing steadily, proportional to the increase in the number of women going out to work. In the period 1970 - 71, there were 1 890 000 children attending kindergartens, and this number increased to 1 970 000 in the period 1971 - 72. In the latter period 1971 - 72, the distribution of children in kindergarten according to age groups was 100% of children 5 to 6 years of age, 86% of children 4 to 5 years of age, 61% of children 3 to 4 years of age and only 18% of children 2 to 3 years of age. (42)

Primary education is free and the first level of elementary education lasts 5 years. In principle, schools admit children

from 6 to 11 years of age. In the period 1960 - 1969 more than 8 200 primary schools were put into service although most of the recent openings of schools stem from movement of the population. The number of pupils in primary schools in 1972 was 4 120 000, which was nearly the same as in 1971, and this is indicative of a stabilisation in the growth of primary school population.<sup>(43)</sup>

The growth in secondary education, which is free in public establishments, has been increasing steadily. For the provision of secondary education in France, there were 238 *lycées* and 659 *colleges* in 1960, of which 365 were *colléges modernes*.<sup>(44)</sup> In 1971 there were 3 440 000 secondary school pupils, and this secondary school population increased by 5,81% to 3 640 000 in 1972. During the first level of secondary education, which takes 4 years, pupils' school records are scrutinised by a departmental commission.<sup>(45)</sup>

Besides normal education, there exists special education for handicapped and retarded children. In 1971 it was estimated there were nearly one million such children.<sup>(46)</sup>

Nearly 11 million children and young people were enrolled in September 1971 in the public educational establishments, and an additional 2 million attended private schools. This school

population of 13 million represents 1 in 4 of the total French population. This increase in school population, which resulted in additional demands for school buildings and teachers, is partly owing to the increase in population. Prior to the Second World War the annual number of births averaged 620 000, but from 1946 onwards the number of births increased to 800 000 annually. This demographic wave reached primary education in 1951, secondary education in 1957 and higher education from 1964 onwards. In the latter two categories, another important factor also influenced the demographic trends. An increasingly large number of families wanted to have favoured pursuit of studies by their children for a longer period, for economic reasons. Employment as office workers, technicians and executives awaited those with improved qualifications. (47)

For a long time there were separate schools for boys and girls in public education, with the exception of kindergartens and universities. Today there is a trend to increase the number of co-educational schools. However, certain schools for higher education are still reserved for boys, and others for girls. (48)

For the financial expenditure of schools, the French system does not present the strict centralization seen in administration. In the field of secondary, technical and

higher/

higher education, the State is responsible for most of the expenditure, and only a small percentage of funds is derived from local or private sources or fees. In primary schools, the local authorities contribute the amount of 30% or more. The *communes* and *municipalities* are responsible for the cost of erecting or purchasing school buildings, purchasing of sites, and furnishing of school equipment and materials of instruction.<sup>(49)</sup> Expenditure on education rose by 270% between 1952 and 1962 in France. Capital expenditure in the same period rose by 128% in public education while the increase in pupil enrolment was 60%.<sup>(50)</sup> Further, the budget of the Ministry of Education rose from 149 billion old francs in 1950 to 2 975 billion old francs in 1971.<sup>(51)</sup>

#### 2.1.6 India

One of the major aims of education in India is the diffusion, through all classes of people, of the improved arts, science and philosophy and literature of Europe. Further, as a result of British influence, it was neither the aim nor the desire to substitute the English language by adopting the national languages. In fact the various communities protested against the introduction of vernacular languages as the medium of instruction. Further, like the Soviet Union, India is confronted with a number of religious communities such as

Hindus (in the majority), Muslims and Christians. (52,53)

Ground motives such as religious forces and acculturation influenced the local realisation of schools.

In India it is a major objective of educational policy to take the primary school as close to the home of the child as possible, even if this implies the establishment of smaller and costlier institutions. In the case of secondary schools, however, distance is not a significant consideration, and the emphasis shifts to the establishment of larger institutions which are more economical and efficient. (54)

*Pre-primary education* for children of 3 to 6 years, particularly for those living in urban areas, was made the responsibility of specially trained women teachers. In the post-war educational programme in India, provision was made for free and compulsory *basic education* for 8 years for all children - that is, for children aged 6 to 11 years in junior basic or primary schools, and for children aged 11 to 14 years in senior basic or middle schools. High school education of 6 years for pupils between the ages of 11 to 17 prepares the pupil not only for university admission but also for entry into occupation and professions. (55)

As in most developing countries, the age grouping of the

initial cohort of beginners in primary school education in India is heterogeneous, but this characteristic of age distribution is being reduced gradually over the years. Not only have the parents been inadequately motivated to enrol children of school-going age early, but the States in India have also made no conscious or sustained effort to create a homogeneous cohort in pupil enrolments. The number of pupils out of school is phenomenal already at class I level. To the Ministry of Education in India this must be a great challenge, and one can observe the significant progress made in enrolling class I pupils in the correct age group : 10,1% of the estimated total in 1911 - 12 to 40,3% in 1961 - 62<sup>(56)</sup>

The drop-out rate of pupils in India, a developing country, is very high. For example, for every 100 pupils in class I, there were only 3 pupils in class VIII in 1911 - 12. This ratio improved significantly by 1965 - 66 when, for every 100 pupils in class I, there were 15 pupils in class VIII. There were 18 843 000 children in class I alone, but only 2 900 000 children progressed to class VIII in the year 1965 - 66. Thus there was a very much greater demand for accommodation in the lower classes in the period 1911-1966. The high failure rate and wastage in class I shows a significant fall in enrolment from class I to class II; for example, in 1911-12 there were only 39 class II pupils for every 100 class I pupils. It was

found that 85% of class IV pupils in 1964-65 progressed to class V in 1965-66, where class IV is the end of the lower primary stage. (57)

In 1952 the Government of India appointed a Secondary Education Commission to examine the existing system of *secondary education*. This Commission found that, inter alia, the school curriculum was too narrow, and the increase in the size of the class units had considerably reduced personal contact between teachers and pupils. This commission recommended that the maximum enrolment per class should be 40 pupils, and that the norm for floor space per pupil should be not less than 10 ft<sup>2</sup> (0,93 m<sup>2</sup>). The courses offered in secondary schools varied to meet the different aptitudes of pupils, and to enable the majority of pupils to fit into some vocation after completing their school career. This new move resulted in the establishment of a large number of "multipurpose" high schools providing for, inter alia, agriculture and allied activities. (58)

In the lower secondary classes (classes VIII to X) pupil enrolment increased from 1 508 000 in 1950-51 to 6 127 000 in 1965-66, representing an increase of 306,3%. This implies an average annual increase of 10% or a doubling period of 7 years. It is anticipated that, by 1986, the enrolment for

junior secondary classes will be about 24 368 000. The growth rate for senior secondary classes (classes XI-XII) was even higher, the pupil enrolment increasing from 282 000 in 1950-51 to 1 398 000 in 1965-66, representing an increase of 395,7%. This implies an average annual growth rate of 11,3%. The estimated senior secondary school enrolment for 1985-86 is 6 873 000. The large increase in secondary pupil enrolment is being attributed to such factors as establishment of more high schools especially in rural areas where the drop-out rate is greatest, and the improvement in the general economic condition of the people. Further, the growth rate was higher for girls than for boys in the period 1950-51 to 1965-66, and this trend is expected to continue until 1985-86. (59)

Curriculum development in India took into consideration not only the cognitive aspects of knowledge but also its application - that is, the mental, moral and spiritual development of the children. The objective of primary education curriculum is to develop an innovative curriculum which can meet the needs of the children who are likely to remain in school for a few years only. (60)

In planning the expansion of facilities in primary and secondary education, one of the major problems confronting the education

planners is the planning and location of schools. Proper location has avoided waste and duplication, and the size of the school is related intimately to cost and efficiency. Institutions of vocational education are invariably located in close proximity to the industries concerned. (61)

In 1965-66 about one-third of all primary schools had an enrolment of less than 40 pupils, and about two-thirds had an enrolment of less than 100 pupils. Only about a quarter of the schools had enrolments of 140 pupils and more, where a different teacher could be placed in charge of each class. One of the main reasons for such large numbers of small schools is that rural communities have not readily accepted mixed schools. As for secondary schools, there is a large number of small secondary schools which cannot be raised to adequate levels of efficiency without much cost and difficulty. In this respect the Secondary Education Commission of 1952 recommended that secondary schools should be in excess of 360 pupils in order to make such schools viable, that secondary schools should serve a radius of 8 to 11 kilometres, and transport and hostel facilities be provided where required. In 1965-66 as many as 26,6% of secondary schools had enrolments of less than 100 pupils. (62)

The phenomenal expansion of primary and secondary education in recent years has resulted in overcrowding in schools,

especially/

especially in urban areas, where land is at a premium for expansion. The class size grows to abnormal proportions, and classes of 60 to 65 pupils are not uncommon even in secondary classes. Creative thinking in such overcrowded classrooms is impossible. In 1965-66 it was found that 14,3% of the teachers in the lower primary schools were in charge of classes of 70 pupils and over, while 50,5% of the teaching units exceeded 40 pupils. However, there were also teaching units of two, three and sometimes even 5 combined classes under the care of one teacher. In secondary schools, too, the teaching units often exceeded 40 pupils. In 1965-66 the percentage of teachers handling classes in excess of 40 pupils was 29% in class VI; 24,7% in class VII; 43,6% in class VIII; 55,6% in class IX; 49,7% in class X; 44,9% in class XI and 61,9% in class XII. This fact that teachers will have to contend with large teaching units appears to be unavoidable in the foreseeable future. (63)

In 1965-66 it was found that the provision of school buildings in India was very unsatisfactory. Only about 30% of the primary schools and 50% of the secondary schools were housed in satisfactory buildings. Coupled with this shortage in accommodation is the rapidly growing school population and the significant improvement in the holding power of schools. Grant-in-aid and loans for school buildings were freely offered by the Government. Acute shortage of traditional building materials resulted in the PWD providing "temporary buildings".

In order to overcome the problem further, the communities in the rural areas were supplied the frameworks of the school buildings by the State, on the understanding that the rest of the buildings would have to be provided through community effort. School sites are cheap and easily available in rural areas but, in urban areas, land is invariably expensive and inadequate in extent. (64) Thus overcrowding of classrooms is not conducive to learning in the pedagogical context. In order to accelerate the provision of school buildings, the construction of schools in rural areas is generally entrusted to local communities or *village panchayats* and, in urban areas, to municipalities and corporations concerned. Further, smaller villages in India are grouped so as to make the economic provision of primary schools possible. (65)

The *school complex* in India generally comprises a high school, about 3 or 4 higher primary schools and 10 to 20 lower primary schools. The main objectives in establishing such a school complex are to break the isolation of schools and help them to function in small co-operative groups, and to make possible delegation of authority from the Department to the District Educational Officers. Such complexes are used, *inter alia*, for the introduction of better methods of evaluation, and for making optimum use of facilities and equipment which cannot be otherwise provided for each unit. (66)

It is envisaged that the planning of future primary schools will be on the basis that the lower primary school is available within a distance of about 1,6 km (1 mile) from the home of every child, and a higher primary school within 1,6 km to 4,8 km (1 to 3 miles). The constitutional directive of providing free and compulsory education for every child up to the age of 14 years is of high priority in India. Consequently, the educational planning in India is being geared to bring about greater homogeneity in initial enrolments in primary schools, to improve the quality of primary school education, and to reduce the drop-out rate and stagnation of pupils in schools. (67)

#### 2.1.7 Conclusions

In the above-mentioned Western countries the same determining factors and same ground motives as discussed in the following Chapter Five hold good for both society and its educational system. Strong religious forces and the close correlation between education and culture influence the local realisation of schools. In any country, school buildings, the standards of education and the adequacy of school accommodation are dependent on the social and economic structures within the country. In 1962 the comparative figures for capital expenditure on school and university buildings was highest in the USA with 0,90% of GNP; Great Britain 0,64%

and/

and France 0,73%. The Western countries have increased the capital expenditure to carry out an extensive school building programme (including nursery schools) in the last decade. The present trends show that the teaching spaces have been made more flexible and so designed to provide for new ideas in methodology. Further, the school building programmes were able to match the upsurge in school populations in these countries, especially in the post-war years. The State is responsible for free and compulsory school education, generally up to the age of 16. While the policy for education is generally nationalised in each country, the administration and control of education is decentralized in the USA, Great Britain and India but centralized in France and the Federal Republic of Germany. While the role of private schools is diminishing in value in most countries, it is observed that in the USA the opposite trend is true. Further, while secondary school education is an extension of elementary and primary school education, the different levels of education are provided in separate schools. Primary schools, are built which are economically viable, with pupil enrolments of 100 to 400 pupils. In most countries, primary schools are built to serve children close to their homes. However, secondary school pupils are transported if it is not economical to build secondary schools in their own areas.

In the Federal Republic of Germany the present trend is to

do away with small schools but, in India, smaller schools are encouraged especially to serve the rural areas. While in the Western countries class grouping is more homogeneous, in a developing country like India the heterogeneous character is changing gradually and the holding power of schools is improving. It was also found that schools in the former countries have provided for extensive school curriculum with the availability of specialist rooms but, in India, the curriculum is somewhat narrow on account of unsatisfactory buildings, lack of funds and inadequate supply of suitably qualified teachers. In the Western countries the secondary schools are generally comprehensive high schools while, in India, the trend is towards multi-purpose high schools which cater for agriculture and allied activities as well. The curriculum of schools in these overseas countries provides for mental, moral and spiritual development of children. The schools are bearers of cultural heritage in these countries where traditional music, art and drama are encouraged. For example, the philosophy of education in the USA is pragmatic and, in France, the tendency is towards humanism. The drop-out rate of pupils in schools in Western countries is low, thus increasing the holding power of these schools; in India, however, the drop-out rate is phenomenal by Western standards. In the former countries the schools are generally co-educational but, in India, separate schools

for boys and girls are provided especially at secondary school level because of cultural norms. However, the present trend is to move towards co-education in newly built schools.

Despite the fact that the USA and Great Britain are multi-racial countries, it is of interest that the schools in these countries use English as the medium of instruction and the system of education is Christian and national in character. In India, the Hindu philosophy of life is very much evident in the school curriculum but there is also marked evidence of Christianity on account of the British influence over a long period of time. Further, in India, both English and the local vernacular language are used as media of instruction in the various States. In the Federal Republic of Germany and France, the medium of instruction in schools is German and French respectively, although foreign languages are taught as subjects as well.

## 2.2 A BRIEF SURVEY OF PRESENT TRENDS IN THE PROVISION OF ADEQUATE SCHOOL ACCOMMODATION FOR THE OTHER RACE GROUPS IN THE REPUBLIC OF SOUTH AFRICA

### 2.2.1 Introduction

South Africa's policy of multi-national development has now reached an advanced stage of implementation. School accommodation for Whites at the pre-tertiary level is

largely/

largely the responsibility of the four provincial education departments; for Coloureds it is the responsibility of the Administration of Coloured Affairs; for Blacks outside the Homelands it is the responsibility of the DPRD, and for Indians it is the responsibility of the DIA. As particular attention will be paid to Indian education in this study, the writer discusses the provision of school accommodation for Whites, Coloureds and Blacks only in this sub-section. It is also to be noted that the emphasis is on *trends*. All levels and types of schooling will not be dealt with but attention will be given to pre-school education, primary school education, secondary school education, the provision of specialist rooms, the pupil loading on classrooms, the adequacy of school accommodation, the holding power of schools and capital expenditure for school buildings in particular.

## 2.2.2 School Accommodation for Whites in the RSA

### 2.2.2.1 Introduction

While the supreme executive authority for White education in the RSA is vested in the Minister of National Education, there are four provincial education departments, namely, the TED, the OFS Education Department, the NED and the Cape Education Department, each of which is concerned with pre-primary, primary

and/

and secondary education, the education of mentally retarded children and, for the present, the training of teachers especially for primary schools. A director is the head of each of the provincial education departments, and he is responsible to the provincial administrator concerned. <sup>(68)</sup>

Education for White children is free. It is compulsory by law for White children to attend school from January of the year in which they turn seven years of age until December of the year in which they become sixteen. <sup>(69)</sup> The National Education Policy Act, 1967 (Act No. 39 of 1967) laid the foundation for a national system of education for White children in this country. This Act provides, inter alia, for a Christian and national character in education, free and compulsory education, and differentiated education. Both official languages are offered in White schools, and the medium of instruction is Afrikaans or English or both. <sup>(70)</sup> Generally, the country is well served with primary schools for White children. In an area where there is no secondary school, transport is provided by the education department concerned between home and school if public transport service is not suitable. Where transporting of pupils is unpracticable, hostel

accommodation/

accommodation is found for pupils concerned. (71)  
While the education policy for the different provinces is basically the same, the adequacy of school accommodation, school curriculum and streaming of pupils do differ. Thus pupil enrolments and school accommodation for each of the four provinces in the RSA are discussed separately.

#### 2.2.2.2 Transvaal Education Department

Organised education in the Transvaal dates from 1876 when the first Superintendent of Education was appointed. In 1902 there were 178 schools with a total pupil enrolment of 16 265. By 1924 the demand for school accommodation had increased: 132 521 pupils were enrolled in 1 232 schools. After 1950 there was a great upsurge in the demand for formal education in this country. (72,73)

In the Transvaal there are three categories of schools, namely, public schools, aided private schools and non-aided private schools. These schools are English medium, Afrikaans medium and dual medium, the last named being established mainly in the rural areas. In 1972 there were 901 public schools of which 136 had total pupil enrolments of under 100

each, and 56 schools had enrolments of a thousand pupils or more. <sup>(74)</sup> In the same year there were 270 725 primary school pupils and 155 779 secondary school pupils. Of these pupils 72 270, or 16,9% of the total, were conveyed to schools by transport in 1 046 services. In 1972 the pupil-teacher ratio for pupils in primary schools was 25,9 : 1, and in high schools 20,6 : 1. <sup>(75)</sup>

In the Transvaal there has been a doubling in the number of pupils in standard 10<sup>\*</sup> in the nine year period between 1954 and 1963, and this sharp increase in number is attributed to the policy of differentiation that was already being implemented. <sup>(76)</sup>

On account of compulsory education the holding power of primary schools is over 90% at least up to standard 4. The ratio of pupil enrolment in each standard to the enrolment of pupils in standard 1 has been over 80% for all standards from standard 2 to standard 8 for the period 1970-1972. A significant drop in enrolment is experienced in standards 9 and 10, and this is attributed to pupils falling outside the maximum limit of 16 years for compulsory education.

It is also of interest that both remedial classes

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\* Std. 10 is equivalent to Form 12, cl.(i) is equivalent to Form 1, std. 1 is equivalent to Form 3, etc.

and adjustment classes represent about 11 to 12% of std. 1 pupils. In 1969, the percentage enrolment in stds. 2 to 4 exceeded 100% on account of failure rates. As at 8 August 1975 there were 40 pre-primary schools, 661 primary schools, 227 secondary schools and 28 special schools under the control of the TED.

The pre-primary schools are generally dual medium, and the first such provincial schools were established in 1973. There are also many registered private pre-primary schools. Pre-primary education in the Transvaal is neither compulsory nor free, and it may commence at any stage after the child has reached the age of 3 years and may continue until he reaches the compulsory school-going age.<sup>(78)</sup>

According to the Director of Education in the Transvaal<sup>(79)</sup>, the average pupil loading of classrooms in primary and secondary schools, combined, was 32 in 1976. There was no evidence of overloading of classrooms. Platoon classes or double sessions are non-existent in this department. In 1976 there were 662 primary schools and 226 secondary schools. The average total enrolment for a primary school was 449, and the pupil-teacher

ratio/

ratio for primary schools was 28,1 : 1. In the case of secondary schools, the average total pupil enrolment was 725, and the pupil-teacher ratio was 18,4 : 1. The Director also states that 100% of pupils of school-going age (6 to 15 years) were at school because of compulsory education.

In the planning for additional or new schools in an urban area, there must be a demand for accommodation for about 300 pupils. The following specialist rooms are planned as minimum requirements in primary schools: libraries, laboratories, and centres for basic techniques. In the case of secondary schools, the following specialist rooms are built as minimum requirements in order to meet the demands of differentiated education : libraries, laboratories, workshops, music rooms, gymnasiums, centres for industrial arts and centres for home economics. According to the Director of Education, all the primary and secondary schools had specialist rooms in 1976, although a number of the then existing specialist rooms did not comply with the latest standards. <sup>(80)</sup>

On account of the size of the province and widespread settlement of the White population, boarding schools constitute an essential and integral part of the

education system. In 1976 there were no fewer than 47 primary and secondary boarding schools in the Transvaal. (81)

#### 2.2.2.3 The Cape Education Department

The policy of bringing the child to the school influenced the number of schools in the Cape Province. Between 1934 and 1950 the number of schools decreased from 2 340 to 1 300 on account of the small inefficient farm - schools being closed down and large, well planned primary schools being established at central points in the rural areas. (82)

For this purpose the department provides either an efficient transport system or hostels where necessary. (83)

In 1974 the White primary school population in the Cape represented 60,40% of the total school population. Thus the demand for school accommodation was in the ratio of 3 : 2 for primary school pupils in relation to high school pupils. (84)

In 1965 the total number of secondary school pupils (standards 6 to 10) was 7 334, and in 10 years this total increased to 11 305, representing an increase of 54,15%. Further, while the total number of pupils in standard 10 represented 41% of the

total/

total in standard 6 in 1965, this ratio improved to 57% of the total in standard 6 in 1974. Thus the holding power of secondary schools improved appreciably. As at 30 September 1974, there were 253 secondary schools, 1 art secondary school, 6 agricultural secondary schools, 8 special secondary schools, 642 primary schools, 9 special schools, 3 farm schools and 5 pre-primary schools. (85)

In 1976 there were 632 primary schools and 287 secondary schools. The total pupil enrolment was 131 150 pupils in primary schools, and 108 603 pupils in secondary schools. In the same year the average loading of classrooms in primary schools was 35 and, in secondary/high schools, 30 pupils. Classrooms are seldom overloaded. In general, the Department of Education does not favour overloading of classrooms and, when classrooms are needed urgently, prefabricated classrooms are provided. There are no platoon or double sessions, and, by 1976, on account of compulsory education, no pupil of school-going age (6 to 15 years) was out of school. (86)

In order to meet the needs, interest and aptitudes of pupils in the differentiated system of education, this Department provides the following specialist rooms in primary schools: kindergarten-rooms,

art-rooms/

art-rooms, special classrooms for mentally handicapped pupils, needlework-rooms, science rooms, music rooms and libraries. In the case of high schools, this Department provides the following specialist rooms: geography rooms, history rooms, typing rooms, shorthand rooms, art rooms, industrial arts centres, science rooms, domestic science centres and music rooms. By 1976 about 80% of all schools under the control of this Department were brought up to standard with the establishment of the above-mentioned specialist rooms. The Department also has to contend with the problem of restrictions on capital expenditure in the light of the present economic climate in the RSA. Therefore, only the most urgent schemes are being undertaken and, where it has become necessary to provide accommodation urgently, the use of prefabricated classrooms is being resorted to. In 1976 the Department had 300 services on the Capital Estimates; that is, new schools, additions to and/or modernisation of existing schools. However, it is estimated that it will be many years before these services are completed. (87)

The capital expenditure on school buildings, including the provision of hostel accommodation, increased from

R11 681 262 in 1968/69 financial year to R22 924 784 in 1970/71 financial year, and to R23 567 078 in 1973/74 financial year.

The per capita expenditure for this Department just about doubled itself in six years. In 1968/69 the nett cost per pupil was R255,47 and in 1973/74 this cost increased to R503,96. <sup>(88)</sup>

#### 2.2.2.4 The Natal Education Department

In Natal, education was compulsory for White children between the ages of 7 and 14 years since 1909. The upper age limit was raised to 16 years (or standard 8) in 1963. It is for this reason that the holding power of schools in Natal has been high up to standard 8, and the numbers tended to drop significantly thereafter. For example, it was found that for every 100 pupils who were in standard 6 in 1959, there were 93,9 standard 7 pupils in 1960, 73,9 standard 8 pupils in 1961, 47,8 standard 9 pupils in 1962 and 38,3 standard 10 pupils in 1963. <sup>(89)</sup>

In 1974 there were 64 098 primary school pupils (class (i) up to standard 5), representing 61,89% of the total, and 39 473 secondary school pupils.

In the same year there were 167 primary schools, 90 secondary schools, 38 infant schools and 50 nursery schools.<sup>(90)</sup> The drop-out rate of secondary pupils outside the age limit of compulsory education is high. For example, in 1970, 81% of the 1968 standard 6 pupil enrolment was in std. 8 but only 66% of that total was in standard 9 in 1971. Further, of every 100 pupils in standard 6 in 1970, an average of 60,85 pupils reached standard 10 in 1974. Thus the holding power of secondary schools increased tremendously in 1974 as compared with the corresponding figure of 38,3 standard 10 pupils in 1963.<sup>(91)</sup>

In terms of Provincial Notice No. 320 of 1971, the regulations governing nursery schools provided for, inter alia, the payment of improved maintenance grants based on pupil enrolments *and* qualified teachers. Thus the higher grant for better qualified teachers provides an incentive for nursery school teachers to improve their qualifications. In 1971 there were 39 nursery schools, and by 1974 this number increased to 50.<sup>(92)</sup>

#### 2.2.2.5 Orange Free State Education Department

In 1895 this Department was responsible for the

first "law" in this country, making it compulsory for all White children aged 14 to 16 years to write an Exemption examination. Later the Hertzog Education Law of 1908 extended the lower limit for compulsory education, and made it from 7 to 16 years. <sup>(93)</sup>

During the period 1959-1963, it was found that for every 100 pupils who entered standard 6 in 1959, there was a ratio of 42,1 pupils in standard 10 in 1963. In the same period this drop-out rate was better than the corresponding figures for Transvaal with 37,6 and Natal with 38,3. <sup>(94)</sup>

In 1875 the pupil enrolment was 576 pupils in Orange Free State, but the demand for school accommodation increased to 5 800 pupils in 1895. There was a decrease in primary school enrolment from 1937 to 1945 during the war years, but following the discovery of gold and the opening up of important goldfields in Orange Free State during the nineteen forties, the school population increased sharply. <sup>(95)</sup> By 1975 there were 69 763 pupils accommodated in 223 schools; of these pupils 42 348 or 60,70% of the total were primary school pupils (sub-std. A to std. 5). Of these 223 schools, 49 had total pupil enrolments of under 50 and 2 schools had pupil enrolments in excess of 1 000. <sup>(96)</sup>

The following Table 2.1 shows the holding power of pupils in secondary classes in Orange Free State, where education is compulsory.<sup>(97)</sup>

TABLE 2.1:OFS-RATIO OF PUPIL ENROLMENT IN EACH SECONDARY STANDARD TO THE ENROLMENT IN STD. 6 TAKEN AS 100 (1971-1975)

Year	Std. 6	Std. 7	Std. 8	Std. 9	Std. 10
1971	100,0	94,2	80,9	62,9	47,6
1972	100,0	91,5	80,9	65,0	46,7
1973	100,0	96,4	81,0	69,7	53,1
1974	100,0	93,7	85,8	68,2	55,0
1975	100,0	96,7	85,3	73,1	54,7

The holding power of std. 10 pupils was 42,1% of the total number of standard 6 pupils in 1963, and the corresponding figures were 47,6% in 1971 and 54,7% in 1975.

In 1975 there were 46 registered nursery schools with a total enrolment of 2 608 pupils.<sup>(98)</sup> In 1976 the average loading of classrooms in primary schools was 30 pupils in the urban areas and about 25 pupils in the rural areas. In the case of secondary schools in 1976, the average classroom loading was

30 pupils in urban areas and about 20 pupils in the rural areas. Generally, there was no overloading of classrooms although there were instances where up to 45 pupils were accommodated in one classroom. Further, there were no platoon or double sessions in White schools in Orange Free State. (99)

There is a good control in the drop-out rate of pupils especially in primary schools on account of compulsory education. According to this Department there were no pupils between the ages of 6 and 15 years out of school in 1976. In the same year there were 44 079 primary school pupils (up to and including standard 5), and 28 494 secondary school pupils, that is, including pupils in pre-vocational schools and special classes. (100)

Of the 218 schools, there were 42 primary schools with enrolments of under 50 pupils and 49 combined schools indicating that about half of these schools serve sparsely populated or rural areas. Only 77 primary schools had total pupil enrolments exceeding 50 pupils. In 1976 the pupil-teacher ratio in primary schools was 24 : 1, in secondary schools 16 : 1, and in special schools 12 : 1. (101)

In order to meet the new demands of differentiated education, the Department embarked on an accelerated building programme. In the 1975-76 estimates, there was provision for 39 services constituting new schools, additions and modernization of existing buildings. Further, there was an additional four services for technical and commercial schools and two services for agricultural schools and sixteen services for hostel accommodation. <sup>(102)</sup>

This Department <sup>(103)</sup> provides the following specialist rooms in primary schools in order to meet the new demands of differentiated education: junior science room, needlework room, art room, singing room, music room, library, audio-visual centre and kindergarten rooms <sup>\*</sup>. In the case of secondary schools this Department provides geography laboratory, art room, singing room, music room, needlework room, home economics centre, biology laboratory, physical science laboratory, library/ resources centre, audio-visual centre, metalwork centre and a hall for gymnastics. Although the specialist rooms are well planned and the Department presently has standard plans for each subject, not all schools are equipped with all the necessary specialist rooms. The Department has a priority list, and these specialist rooms are provided as funds become

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\* term as used by the OFS Education Dept. for grades classrooms.

available. As at 20 September 1976, it was found that, in the primary schools, needlework rooms, music rooms and kindergarten rooms obtained in all schools, art rooms and singing rooms in 80% of the schools, libraries in 70% of the schools, junior science laboratories in 50% of the schools but audio-visual or resource centres in only 5% of the schools. At the same time, in secondary schools, there were music rooms, needlework rooms and home economic centres in all schools, physical science laboratories in 90% of the schools and biology laboratories in 70% of the schools, singing rooms and libraries in 80% of the schools, metalwork centres in 60% of the schools, art rooms in 50% of the schools, halls for gymnastics in 40% of the schools but geography laboratories and audio-visual centres in only 10% of the schools. Thus, it is observed that differentiated education was not being implemented at many schools because of a lack of essential facilities. The resource centres appear to be just getting off the ground although audio-visual education is gaining momentum universally in the teaching situation.

#### 2.2.2.6 Conclusions

It is generally agreed that it is desirable that the principal should maintain close contact with each

primary/

primary school pupil, his home and his parents. In this regard the Nicol Commission recommended that every effort should be made to limit the size of a primary school to a maximum total pupil enrolment of 450.<sup>(104)</sup> However, there are many primary schools with pupil enrolments of over 600, especially in high density urban areas where school sites are at a premium. For example, in 1975, there were 19 schools out of a total of 123 primary schools in the OFS with total pupil enrolments exceeding 600. However, there were also 49 schools in the OFS with uneconomic and combined class units because of total pupil enrolments of under 50.<sup>(105)</sup> The White population in this country is experiencing a declining growth rate. Inclusive of the immigration of 30 000 per annum, the White population increased from 3 080 159 in 1960 to 3 751 328 in 1970, representing an average annual growth rate of 2,22%. This growth rate is expected to drop to 2,19% by 1980, and 1,69% by 2 000 taking mortality rate, fertility rate and migration into account.<sup>(106, 107)</sup>

The total number of White pupils expressed as a percentage of the total White population in the RSA has been decreasing steadily, if not slowly. In

1962 this percentage was 22,67, and it was decreasing to 22,49 in 1965 and 22,27 in 1968.

It is anticipated that an average percentage of 22,5 will be maintained for the period 1970 to 1990. (108)

The average annual growth rates of school populations around 1970 were 1,22% for the Cape, 3,73% for Natal, 2,50% for the Transvaal and an annual increase of 1 000 pupils in the OFS. (109)

Many of the existing schools lack the essential specialist rooms in order to implement differentiated education successfully. Often it is difficult to convert existing buildings to new norms on account of the revised modulus of building structures. Further, the drop-out rate in secondary schools is high and needs to be arrested despite the fact that education is compulsory for Whites up to age 16 in the RSA. This drop-out rate from std. 6 to std. 10 varies from about 50% in the TED to about 40% in the NED as evident from discussions in the preceding paragraphs.

In the RSA the average pupil-teacher ratios for Whites improved from 23,71 pupils per teacher in 1955 to 21,32 in 1968. The improvement in pupil-teacher ratios in the period 1955-1968 is expected to continue and reach 20,2 : 1 in 1980 and 19,3 : 1 in 1990. (110) This trend in pupil-teacher ratios

is in keeping with Western countries and is indicative of an adequate supply of school accommodation. Physical factors such as climate, discovery of gold and economic depression during the war years and ground motives such as religious forces have influenced the local realisation of White schools with a strong national and Christian character.

The pursuit of sports forms an extremely important part of the formative educational programme of practically all the schools under the control of White provincial education departments in the RSA. This necessitates the effective planning of future sports grounds and the judicious and economical utilization of sports facilities which already exist. (111)

### 2.2.3 Coloured Education

#### 2.2.3.1 Introduction

According to the 1970 Census, the Coloured population was 2 018 453 representing 9,41% of the total population of the RSA. Of this Coloured population 86,78% lived in the Cape Province. (112) In the first term of the same year 516 760 pupils representing 25,60% of the total Coloured population in this country were attending primary and secondary schools

but/

but excluding special schools.<sup>(113)</sup> Prior to 1964 the different provinces retained control over primary and secondary education, and the training of primary school teachers. In 1964 control of education for the Coloured people in this country was transferred from the provincial and other departments to the Department of Coloured Affairs in terms of the Coloured Persons Education Act No. 47 of 1963.<sup>(114)</sup>

#### 2.2.3.2 Nursery Education

State-aid is available in the form of allowances per capita for bona fide nursery school pupils. Interested private organisations are encouraged to establish nursery schools. The State subsidizes the provision of accommodation for creches but not for nursery schools. In 1964 the Department of Coloured Affairs took over 32 subsidized nursery schools from the provincial administrations. By 1976 the Administration of Coloured Affairs paid subsidies in respect of 5 300 pupils in 65 nursery schools. Further, there were another 13 nursery schools which did not apply for State subsidies.<sup>(115)</sup>

### 2.2.3.3 School Population

The following Table 2.2 shows the increase in the number of Coloured schools and the growth in school population from 1955 to 1976.<sup>(116)</sup> The Administration is responsible in meeting this demand for accommodation which was influenced by a high growth rate in school population especially from 1968. In 1968 this growth rate was 10,54% p.a.; and in 1976 it was 7,12% p.a.

TABLE 2.2 : NO. OF COLOURED SCHOOLS, SCHOOL POPULATION  
IN DECEMBER OF YEAR, AND ANNUAL PUPIL % GROWTH RATE  
(1955 - 1976)

Year	Schools	Pupils	Growth % p.a.
1955	1 423	245 820	3,71
1960	1 597	304 830	4,42
1964	1 747	386 732	6,13
1965	1 764	375 597	- 2,88
1966	1 809	390 600	3,99
1967	1 845	407 889	4,43
1968	1 841	450 871	10,54
1969	1 831	476 277	5,63
1970	1 818	490 351	2,96
1971	1 832	510 191	4,05
1972	1 854	534 613	4,79
1973	1 873	563 789	5,46
1974	1 895	591 850	4,98
1975	1 916	611 794	3,37
1976	1 925	655 347	7,12

In Coloured education the drop-out rate is very high at the high school level, for example, in 1970, only 1 948 pupils or 0,4% of the total school population

reached/

reached standard 10 level. Further, by as late as 1975, the secondary school population (stds. 6 to 10) constituted 13,69% of the total school population<sup>(117)</sup>. Table 2.3 shows the ratio of Coloured secondary school enrolments in the RSA.

TABLE 2.3 : RATIO OF COLOURED PUPIL ENROLMENT IN EACH SECONDARY STANDARD TO THE ENROLMENT IN STD. 6 TAKEN AS 100 (1970-1975)

Year	Std. 6	Std. 7	Std. 8	Std. 9	Std. 10
1970	100,0	59,47	38,49	14,50	8,08
1971	100,0	58,82	38,30	14,23	7,85
1972	100,0	60,79	39,49	15,89	8,35
1973	100,0	59,84	41,08	16,10	8,75
1974	100,0	72,25	44,22	18,01	9,82
1975	100,0	76,54	48,39	19,93	11,37

While the secondary school population increased from 53 146 (10,84% of the total) in 1970 to 83 777 (13,69% of the total) in 1975, the drop-out rate was high and this tendency needs to be arrested. Further, while there were 26 587 pupils in standard 6 in 1971, the corresponding cohort of standard 10 pupils in 1975 was 3 719, and this reflected a drop of 86,01%. Apart from the high drop-out rate at the end of each school year, it was found that the drop-out rate during the course of the year was

equally/

equally alarming. For example, 18 690 primary school pupils and 4 933 high school pupils left school during the course of the year in 1972, and this represented a drop-out rate of 4,23% from the first term to the fourth term. The pupils who left school during that year belonged to the higher age group, and they probably left school because of more favourable employment opportunities. <sup>(118)</sup>

The percentage of pupils of school-going age (that is, between the years of 6 and 15) not at school as at 31 December 1975, was 21,1% of 6 year olds, 2,6% of 12 year olds, 9,2% of 13 year olds, 21,8% of 14 year olds and 42,3% of 15 year olds. Children in the age group 7 to 11 years recorded 100% attendance as the direct result of the institution of compulsory school attendance on a progressive age basis. By 1979 it is expected that 100% attendance will be extended to age 15. However, a 100% attendance at age 6 cannot be achieved because of a lack of school accommodation in certain areas, coupled with the apathy shown by certain parents in not obtaining admission for pupils in this age group. <sup>(119)</sup>

#### 2.2.3.4 Primary school education

In earlier years, education for Coloured people was generally a church enterprise. In 1964, of

the/



the 1 747 schools under the control of the Department of Coloured Affairs, no fewer than 1 377 schools were State-aided. Further, on transfer of education in 1964, immediate attention was given to the education of retarded pupils and slow learners. By 1976 there were 3 885 pupils placed in 259 adjustment class units. At the time of transfer of education in 1964, compulsory school attendance applied only in Natal and at six centres in the Cape. In terms of Government Gazette Notice 1709 dated 21 September 1973, compulsory school attendance for seven year olds was introduced with effect from 1 January 1974. With effect from 1 January 1977 it became compulsory for every Coloured child to attend school regularly from the beginning of the year in which he attains the age of 7 years until the end of the year in which he attains the age of 12 years, if he resides within 5 kilometres along the shortest route to school. The Administration of Coloured Affairs follows a policy of decentralized primary school education. A primary school is considered for an area only where there is a demand for it, with a minimum requirement of 15 pupils. <sup>(120)</sup>

#### 2.2.3.5. Secondary school education

It was a considerable lapse of time before the Coloured people became aware of the value of

education/

education higher than the elementary. Thus, only in 1925, the demand for secondary education was such that the first secondary school was established in Cape Town. There was a rapid increase in the number of secondary school pupils during the years 1930 to 1963. In the Cape there were 1 139 secondary school pupils in 1930, of whom only 3 pupils were in standard 10. This secondary school population grew to 6 815 pupils in 1940, 22 592 pupils in 1960 and to 28 421 pupils prior to transfer of education in 1963. In 1964 there were 37 264 secondary school pupils, and this increased to 83 777 in 1975, representing an increase of 124,8% in 11 years. (121)

The Administration of Coloured Affairs favours the establishment of large centralized secondary schools offering a wide choice of subjects and courses. This policy necessitates hostel accommodation for pupils who do not reside within easy reach of such schools. In 1964 there were seven State hostels for secondary pupils. During the years 1972 to 1975 nine additional hostels for the accommodation of 1 750 pupils were completed. In the period 1976 - 1980, a further 13 hostels to accommodate approximately 2 600 pupils will be provided. Further, where daily transport provides

a feasible solution, travelling allowances are offered and contract school buses instituted where necessary. (122)

#### 2.2.3.6 Provision of school accommodation

The Administration of Coloured Affairs uses the norms of 35 pupils per classroom in primary schools and 25 pupils per classroom in secondary schools for purposes of assessing demand for school accommodation. When determining the demand for school accommodation in a newly established area, the Administration establishes the number of houses to be erected in that area, and it calculates the optimum school population on the basis that there will be an average of 1,5 primary school pupils and 0,5 secondary school pupils per family. In developing and established areas, the Administration normally builds schools for a specific maximum number of pupils. Where the pupil enrolment exceeds this maximum, a projection is made over a period of five years taking into account a natural growth rate of approximately 5% per annum in the school population as well as the development of new housing projects in that particular area. While the Administration is making steady progress in the provision of school accommodation for all pupils of school-going age,

overloading/

overloading of pupils in classrooms and double-sessions were yet extant by the end of 1975. As at 31 December 1975 there were 67 262 pupils in double sessions, operating in 1 995 class units. In order to meet this accommodation problem and natural growth, the Administration's building programme, for the period 1976-1981, provides for 53 new primary schools, additions to 30 existing primary schools, 35 high schools and additions to 4 existing high schools. (123)

In 1975 there were 528 017 pupils in 1 800 primary schools, and 83 777 pupils in 115 secondary schools. In the same year the pupil-teacher ratio in primary schools was 30 : 1, and in high schools was 22 : 1. (124)

By far the largest demand for school accommodation is in the Cape Province. As at first quarter in 1976 there were 655 347 Coloured pupils in 1925 schools, of whom 575 364 pupils in 1 748 schools were confined to the Cape. Further, 64,10% of the schools in the Cape are State-aided but there are twice as many pupils in State schools as in State-aided schools. This shows that State-aided schools are continuing to play a significant role in providing school accommodation, and also that most of these State-aided schools are small schools serving

rural areas in the main. (125)

Since 1966 the Administration of Coloured Affairs has been providing more than 20 new schools per annum, apart from additions to existing schools. In 1975 alone this Department provided 35 new schools and additions to 36 existing schools. In the period 1964-1975, the State provided 273 new schools and additions to 211 existing State schools, thus supplying accommodation for an additional 258 704 pupils. In the Five Year Building Programme (1976-1980), the Administration's building programme provides for 209 primary schools, 85 high schools, 19 hostels and additions to 34 existing schools. Where school accommodation is not available in their own area, pupils seek admission at hostels in other areas. These additional school facilities will provide accommodation for a further 240 000 pupils. (126)

In the period 1964 to 1975, under the control of the Administration of Coloured Affairs, the number of secondary schools increased from 86 to 116 in order to meet the growing demand for secondary school education. The provision of classrooms and specialist rooms for secondary schools is receiving the constant attention of the Administration of Coloured Affairs in order to meet the demands of

differentiated/

differentiated education. By applying modern methods of building, the Administration is able to cope adequately with the most urgent demands for secondary school accommodation. The accommodation for secondary schools includes libraries, laboratories and workshops. The Administration favours the establishment of large centralized secondary schools offering a wide choice of subjects and courses. (127)

The Administration of Coloured Affairs acknowledges the fact that, despite the significant progress made to date since transfer of control of education in 1964, there are many limitations such as the need to eliminate double sessions, shortage of secondary school accommodation, and lack of necessary specialist rooms at certain existing schools. However, the Administration believes that the future of Coloured education promises dynamic growth and abundant fruit if the Coloured people, through the Coloured Representative Council, are prepared to utilize their opportunities. Thus, while the categories and levels of schools are as those for Whites, the schools for Coloureds are inadequate in the provision of school accommodation. (128)

## 2.2.4 School Accommodation for Blacks

### 2.2.4.1 Introduction

Until 1955 the education for Blacks was provided by various church mission societies in liaison with the provincial education departments. Following the report of Eiselen Commission of 1949-51 and the Bantu<sup>\*</sup> Education Act of 1953, the education of the Blacks became the responsibility of the central government, while the Roman Catholic Church retained control of its schools as privately-run institutions without State subsidy. In the urban areas the provision of school accommodation is the responsibility of the Bantu Affairs Administration Boards, which in their turn are dependent upon the Department of Community Development for funds. In the case of farm schools the DPRD is dependent upon the initiative of the farm owner and his willingness to provide a school building subsidised by the Department.<sup>(129)</sup> In 1976 there were 4 208 such farm schools.<sup>(130)</sup> The DPRD is responsible for the education of the Blacks in the whole of the RSA outside the homelands. Its responsibility extends over 15 different ethnic groups with 17 different languages employed as media of instruction. English and mother-tongue languages are used as media of instruction in schools, the latter in primary schools.

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\* Bantu - this change in nomenclature for Blacks is used according to statistics or legislations.

2.2.4.2 Provision of school accommodation

In 1954, prior to the transfer of control of Black education to the State, there were about 5 700 schools, just over 21 000 teachers and 869 000 pupils. This school population then represented about 40 to 45 per cent of Black children of school-going age in this country, that is, children between the ages of 7 and 15 years. In 1975 the total pupil enrolment in the homelands was 2 464 615, while the Central Department was responsible for the remaining 1 401 391 pupils. <sup>(132)</sup>

The first priority of the DPRD was to ensure that every child who wished to go to school was placed within reach of a school so that he would benefit from at least four years schooling. <sup>(133)</sup> As from the beginning of 1977 it has become mandatory for a parent to sign an undertaking that the Black child will be at school for at least the first four years. <sup>(134)</sup> While there was not as yet any system of compulsory education by 1976, it was estimated by that year that just under 75% of Black children of school-going age were in schools. The high birth-rate of the Blacks is continuing to be a major setback in obtaining a target of 100%. In 1975 children of school-going age represented 21,07%

of the total estimated Black population of 17 703 000. This compares favourably with 20 to 22% of the corresponding figures in developed countries. (135)

Perhaps the most outstanding fact about Black education, since 1955, has been the phenomenal growth of the school-going population. While the average growth rate in primary education is presently 6 to 7% per annum, the average growth rate for pupils at secondary school level fluctuated from 4,1% p.a. in 1955 to 27,0% in 1974, and to 16,4% in 1977 for admissions to Form IV. (136, 137).

Whereas by 1960 only one out of twenty pupils who entered secondary school reached Form V (standard 10), this ratio had improved to one out of six pupils by 1975. The total number of secondary pupils increased from 34 983 in 1955 to 122 489 in 1970, and to 228 800 by 1977. This phenomenal growth in secondary school population is attributed to, inter alia, the increasingly successful motivation of pupils to remain longer at school. In 1976 there was an abnormal increase in admissions to Form I on account of the abolition of standard 6 in primary

schools and the resultant double-intake\* in  
Form 1. (138, 139)

The following Table 2.4 shows the growth rate  
of the school population as a percentage of the  
total Black population.

TABLE 2.4 : SCHOOLS, PUPILS AND BLACK POPULATION  
(ACTUAL : 1935-1977 AND PROJECTED : 1980-1985)

Year	Schools	Pupils	Population	% Population at School	
1935	3 407	351 908	6 787 000	5,18	
1940	3 894	464 024	7 530 000	6,16	
1950	5 338	747 026	9 282 000	8,04	
1960	7 718	1 506 034	12 077 000	12,47	
1970	10 125	2 748 650	15 918 000	17,27	
1971	10 551	2 936 862	16 326 000	17,99	
1972	10 948	3 101 821	16 803 000	18,46	
1973	11 427	3 312 283	17 298 000	19,15	
1974	11 947	3 513 975	17 745 000	19,80	(140)
1975	10 627	3 212 527	15 656 000	20,52	
1976	10 986	3 319 520	16 093 000	20,62	(141)
1977	11 422	3 492 401	16 419 300	21,27	
1980	14 900	5 041 000	21 091 000	23,90	
1985	17 700	6 506 000	24 203 000	26,90	(142)

N.B. From 1975, the figures exclude statistics  
for Transkei.

\*  
all the pupils promoted from standards 5 and 6  
in primary schools at the end of 1975 were admitted  
to Form I in 1976.

From Table 2.4 it is evident that the growth rate of the Black school population thus far has been phenomenal, and it is estimated that, by 1980, there will be more than 5 million pupils representing 23,9% of the total Black population. Between 1950 and 1960 the school population more than doubled itself, and between 1960 and 1972, the school population doubled itself again.

Further, it is observed that the Black population is growing at an explosive rate as a result of a decline in the mortality rate while the fertility rate has remained almost unchanged. In 1972 the birth rates per thousand for the different race groups were as follows: 42 for Blacks, 32 for Asians, 42 for Coloureds and 23 for Whites. <sup>(143)</sup>

In 1970 it was found that 43% of the Black population was under 15 years of age, as against 38,9% of Asians, 45% of Coloureds and 30,8% of Whites. Thus the age structure of the Blacks is that of a very young population. <sup>(144)</sup> According to the 1970 census, the Black population of 15 057 952 constituted 70,21% of the total population of the RSA. <sup>(145)</sup>

Excluding Transkei, in 1976, the total Black school population in the RSA was 3 319 520.

In terms of Circular Minute No. A7/2/B, the formula

for/

for the determination of the number of school sites and classrooms on a family basis for Black community schools was revised in 1974. The norms applicable are 50 families per classroom for lower primary schools, 125 families per classroom for higher primary schools and 250 families per classroom for junior secondary schools.<sup>(146)</sup> Departmental regulations prescribe at least  $8 \text{ ft}^2$  ( $0,74 \text{ m}^2$ ) of classroom space for each pupil in the sub-standards, at least  $10 \text{ ft}^2$  ( $0,93 \text{ m}^2$ ) for each pupil in standards 1 to 5, and a minimum of  $12,5 \text{ ft}^2$  ( $1,16 \text{ m}^2$ ) for each post-primary pupil. However, most schools were unable to meet these minimal requirements on account of an acute shortage for school accommodation and the resultant overcrowding of classrooms.<sup>(147)</sup>

In primary schools the DPRD provides specialist rooms such as needlework and woodwork rooms where these subjects are offered; in addition to general classrooms. The standard provision in secondary schools is a library, a science laboratory and a homecraft room. Additional specialist rooms such as art room, woodwork room and a typing room are provided where these subjects are offered. For industrial arts the DPRD now adopts the policy of building a large centre, offering up to eight directions and serving a number of higher primary

and/

and secondary schools in the densely-populated metropolitan areas. (148)

#### 2.2.4.3 Primary Education

Most primary schools are community schools, and a predominantly primary level of education is administered in these schools. However, primary education is provided also in farm, mine, factory and hospital schools, as well as places of safety and special schools for the physically handicapped. (149)

In 1975 there were 129 private schools in White areas, and most of these schools belong to the Roman Catholic Church. These private schools are well managed, and a high standard of teaching is maintained.

Co-operation between churches, managers and officials of the DPRD is good. (150)

The elimination of standard 6 classes in Black education from 1976 made available a large number of classrooms in primary schools for the accommodation of Form I who cannot be accommodated in secondary schools because of a double intake into Form I in that year.

Further, special or adjustment classes for mentally retarded pupils at the lower primary school level were instituted from the beginning of 1975. (151)

In 1977 there were nearly 1 475 000 pupils in primary schools, of whom 1 025 000 were in lower primary standards (excluding Transkei). (152)

In 1976 there were 379 793 pupils accommodated in *double sessions*<sup>\*</sup>, mainly in sub-standards A and B. Approximately half of these pupils are in each session. This arrangement implies that they all have a school day of about 3,5 hours. Although it was introduced as a temporary expediency in 1955-56, it is still with Black education because of limitations of finance to provide the necessary additional classrooms and teachers.<sup>(153)</sup> "Thus the phenomenal increase in pupil enrolments referred to above has been purchased at a high price, namely, over-crowding of available school space and chronic understaffing."<sup>(154)</sup>

In 1976 the DPRD embarked on a massive building programme aimed at eliminating the double sessions system obtaining in certain areas. For this purpose the DPRD also made provision for an additional 20% of the existing teaching posts. However, the rate at which this problem of double sessions will be eliminated will depend on the availability of funds for additional teachers and the provision of additional

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\* Double session system: According to this system the number of pupils taught can be doubled by duplicating the normal school session and using the same accommodation and teachers.

classrooms by Community Development Boards. <sup>(155)</sup>

Although the average loading of classrooms was 62 in 1975, the accelerated building programme is aimed at overcoming this shortage of school accommodation. Presently the position is being eased by the system of double sessions. In 1974 it was found that 45,8% of all schools had double sessions. <sup>(156)</sup> In 1976 there were 2 644 schools in White areas and 3 073 schools in Homelands operating on the system of double sessions. <sup>(157)</sup>

#### 2.2.4.4 Secondary Education

Secondary education appears to be the bottleneck in the development of Black education in the RSA. Only a small percentage of Black pupils reach secondary level. In 1975 the secondary school pupils constituted only 9,45% of the total school population. <sup>(158)</sup> In 1977 there were 204 988 secondary school pupils representing 12,49% of the total school population of 1 640 794 (excluding pupils in the Transkei). <sup>(159)</sup> It is evident that the drastic drop-out rate at the secondary school level needs to be arrested. There were only 47 boys in Form V in 1970 for every thousand in standard 5 in 1964. In the case of girls the wastage figure is even higher, as reflected by the corresponding figure of only 17. It is

estimated/

estimated that, for every thousand boys expected in standard 5 in 1984, 265 boys will reach Form V in 1989, whereas the corresponding figure for girls could be 205. Thus the future building programme may well have to consider the provision of more secondary schools for a rapidly increasing number of post-primary school pupils, taking into cognisance especially the proposed extension of compulsory school attendance for secondary school pupils.<sup>(160)</sup>

It is the present policy of the DPRD that secondary education should be catered for mainly in the Homelands, but this policy is under review since new political dispensations are being considered for Black townships like Soweto (Johannesburg).<sup>(161)</sup>

In 1976 there were 389 066 secondary school pupils indicating a phenomenal growth rate of 54,1% from the 1975 enrolment of 252 515. In 1976 the percentage of secondary pupils in the Homeland areas was 59,9. Further, in the same year, there were 667 secondary schools in the Homeland areas as compared with 174 secondary schools in White areas.<sup>(162)</sup>

The provision of hostels became essential in order to accommodate secondary school pupils. In 1975 there were more than 50 000 pupils in 234 hostels, of which 204 were situated in the Homelands. These

hostels/

hostels are effectively controlled, and they are generally self-supporting. (163)

The following Table 2.5 shows the ratio of enrolment in each secondary standard to the enrolment in Form I\* taken as 100,0 in the period 1955 to 1977. (164, 165)

TABLE 2.5 : RATIO OF PUPIL ENROLMENT FOR BLACKS IN EACH SECONDARY STANDARD TO THE ENROLMENT IN FORM 1 TAKEN AS 100 (1960-1977)

Year	Form I	Form II	Form III	Form IV	Form V
1960	100,0	60,51	41,21	7,47	3,58
1965	100,0	69,72	41,04	9,65	4,75
1970	100,0	75,09	53,92	12,48	5,93
1971	100,0	79,30	55,59	14,61	7,58
1972	100,0	74,15	50,33	15,55	7,55
1973	100,0	79,33	52,57	16,04	8,11
1974	100,0	77,04	51,72	17,49	8,17
1975	100,0	61,15	34,02	12,24	6,04
1976	100,0	44,77	23,61	8,85	4,19
1977	100,0	97,60	44,91	13,23	6,83

From the above-mentioned table it is evident that the drop-out rate of secondary school pupils from Form I to Form V is excessive, especially at Form IV and Form V levels. The holding power of secondary schools at Form V level is improving steadily from 3,58% of Form I pupils in 1960 to the corresponding figure of 8,17% in 1974.

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\* Form I is equivalent to standard 6 as in White education in the RSA.

The percentage for Form V, and also for the other Forms in 1975 has shown a drop in 1975 because of the double intake in Form I. However, the drop-out rate in 1976 was again alarmingly high, even from Form I to Form II.

#### 2.2.4.5 Finance

The per capita expenditure on the education of Black pupils lags behind those for other race groups. In 1971 the per capita expenditure was R21 for Blacks. Further, in 1971 the per capita expenditure on Black secondary pupils was 5,4 times that on primary school pupils. However, in the ensuing years, the gap in the per capita expenditure for the different race groups in education has been narrowing steadily. (166)

When the State assumed the control of Black education in 1955, the financing of Black education was on the principle that the Blacks should find most of the money needed for their education. The State then budgetted a sum of R13 million per annum for Black education, but since then the capital expenditure per annum has shown sharp increases over the years. Capital expenditure for schools in Black education in the RSA, including the Homelands, increased from R68 320 300 in the 1972/73 financial year to R131 466 000 in the 1974/75 financial year, and to

R225 467 000 in the 1977/78 financial year, a phenomenal increase of 230% in 6 financial years. Further, Treasury approval has been obtained to increase the annual subsidy payable to the owners of farm schools from R240 to R1 000 in respect of a one-room building, and from R360 to R1 800 in respect of a two-room building. For special schools a 90% building subsidy is available.<sup>(167)</sup>

#### 2.2.4.6 Conclusion

As a result of the political and social climate coupled with the narrowing of the wage gap and the corresponding higher standard of living, the Blacks are expected to be motivated to keep their children longer at school. Thus, the trends in Black education shows an unabated increase in pupil projections, a feature of developing communities. Already, by 1974, the then Deputy Minister of Bantu Administration and Bantu Education pointed out, in Parliament, that the gap between per capita expenditure on the education of Black pupils and for other race groups in this country should be diminished soon, and that, if we do not begrudge others what we claim for ourselves, Black education in the RSA should see unparalleled progress in future years.<sup>(168)</sup> It was not surprising to find, therefore, a 43,25% increase in the budget

estimates/

estimates for the financial year 1977/78 of the DPRD when compared with its estimates for the financial year 1976/77. (169)

### 2.3 GENERAL CONCLUSIONS

In this chapter the principal object of the writer was to investigate the trends in the provision of adequate school accommodation in certain Western and Eastern countries, and, locally, for the different race groups in order to formulate future plans for Indian education.

In the RSA, as in overseas countries, the State is responsible for the education of all children of school-going age. In the case of Blacks in the RSA, the State is responsible for their education outside the Homelands. Education is the responsibility of centralized education departments in the RSA, as it is in many overseas countries such as France and the Federal Republic of Germany. As for Whites, the education policy has been nationalised but the control of pre-tertiary school education has been decentralized on a provincial basis. All education departments in the RSA use common-core syllabi with modifications to suit availability of physical amenities in their respective departments. In this respect it is noted that there are no platoon classes or shortage of classroom accommodation in White education departments, as they obtain in non-White education departments in the RSA. Further,

in order to meet the demands for the new differentiated system of education in 1973, White education departments embarked on an accelerated building programme with high priority being given to the provision of specialist rooms. In the case of non-White education departments, the emphasis in the school building programme was in the provision of classrooms in order to meet the shortage in school accommodation. However, in the case of Coloureds, new schools are being adequately designed with specialist rooms which compare favourably with schools in White education departments, and existing schools are gradually being modified or enlarged to meet national requirements. In the case of the Blacks, only the minimum number of specialist rooms, for example, laboratories and workshops, are being considered at the present time, in the light of the phenomenal growth in school population and the consequent demand in classroom accommodation.

Concerning the general loading of classrooms and specialist rooms, the present trend in most Western countries is to make the pupil-teacher ratios more liberal, especially at the secondary school level. The pupil-teacher ratio in many Western countries is close to 20 pupils per teacher, and this ratio is more liberal than those obtaining in education departments in the RSA. In the RSA, White education departments have more liberal pupil-teacher ratios than those for non-Whites, the former being approximately 25 pupils per teacher in primary schools and approximately 20 pupils per teacher in secondary schools. In 1975 the average pupil loading of classrooms in Black education was 62, for primary schools. The

holding power of schools in all education departments in the RSA has increased significantly in the last decade. However, the drop-out rate is particularly high in Black education and Coloured education, especially at the secondary school level. The average floor space per pupil is very much lower in most Black schools on account of an acute shortage of classroom accommodation and the resultant overcrowding of classrooms. This position also obtains in many Coloured schools especially in the Cape. In White education there is generally an adequate supply of classrooms, and this obviates the need to prescribe a floor space of below  $1,2 \text{ m}^2$  per pupil. It is envisaged that, if the present trends in the supply of school accommodation continues for the different race groups, the average pupil loading of classrooms will become more equitable for the different race groups in the next two decades. As an interim measure, many education departments in the RSA find it necessary to deviate from the building of conventional schools and adopt industrialized type school buildings as well as prefabricated buildings in order to provide school accommodation at a quicker rate in pressure-point areas. It is anticipated that this practice will continue to be adopted for at least the next decade, that is, until planning is well geared to meet demand and supply of school accommodation in this country. The education system for Whites in the RSA compares favourably with those in Western countries like Great Britain and the USA, while the education systems for non-Whites with shortages of accommodation and chequered growth patterns are characteristic of developing countries.

The Government in the RSA is making genuine attempts to bring the standards of education for the different population groups on an even keel, inter alia, by increasing capital expenditure for these groups annually on a pro-rata basis. The per capita expenditure on education in 1971 was R21 for Blacks, R94 for Coloureds, R124 for Indians and R461 for Whites.<sup>(170)</sup> However, in the ensuing years, the gap in per capita expenditure in education for the different race groups has been narrowing steadily.

Generally, the State provides two types of schools for non-Whites namely, the primary schools and the secondary schools. As for Whites, the State provides, in addition, nursery schools and junior secondary schools. The present trend in this country is to provide primary schools on a decentralized basis. Large centralized secondary schools with varied specialist rooms are built so that a wide choice of subjects and subject-sets may be offered. Hostel accommodation, especially for Whites and to a lesser extent for Coloureds, is being provided on account of distances from satellite feeder primary schools to admitting secondary schools.

In most Western countries and for Whites in the RSA, education is compulsory and a State responsibility. In India and for non-Whites in the RSA, education has not been made compulsory by 1978; but it has been introduced on a piecemeal basis for certain age groups and certain areas. (As from January 1979, education will be compulsory for Indian children in the age group 7 to 15 years.) Compulsory education for non-Whites, especially

the Blacks, would be feasible subject to the availability of suitable school accommodation, equipment and supply of an adequate number of suitably qualified teachers. There is no doubt that compulsory education could arrest the high wastage rate in education and improve the holding power of both primary and secondary schools.

The schools for Whites in the RSA are bearers of Western culture, and they have been designed accordingly in order to meet the school curriculum as dictated in the spirit of the National Education Policy Act of 1967. The Coloureds with their Christian background are following suit. The Indians, as will be seen in the next chapter, despite their religious differences and preservation of certain Oriental cultural norms, are also adopting educational institutions modelled on Western cultural norms. The Blacks are hoping to follow the standards set by Whites in the levels and types of schools provided in the RSA. Moreover, much of the common-core syllabi for the Blacks has been adapted to meet both the cultural needs of the community, for example, the extension of the mother-tongue language and basic crafts, and the availability of physical amenities in the different areas. Thus, the education system and school accommodation for Whites in this country compare favourably with progressive Western countries, but the education system together with shortages of accommodation for non-Whites is in keeping with the pattern in developing countries. However, unlike in most countries, where the same determining factors and the same ground motives hold good for both society and its educational system, the education systems for the different race groups in the RSA

appear to be developing under the guidance of spiritual powers not entirely their own.<sup>(171)</sup> This aspect will be discussed more fully in Chapter Five.

The changing pattern in Indian education in respect of the provision of school accommodation and facilities before and after the take-over of Indian education by the DIA is discussed in the following chapter. This aspect of the study is considered to be essential in order to review existing norms and to make recommendations for future educational planning of Indian schools.

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## CHAPTER THREE

### PROVISION OF SCHOOL ACCOMMODATION BEFORE AND AFTER

### THE TRANSFER OF CONTROL OF INDIAN EDUCATION TO THE DIA.

#### 3.1 INTRODUCTION

In this chapter a brief outline of school accommodation for Indian pupils, before the transfer of control of education to the DIA in 1965, will be attempted, followed by an evaluation of the provision of school accommodation since 1965 up to the present time. Until 1965, the development of Indian education<sup>(1)</sup> has been confined largely to Natal and Transvaal. It was in these two provinces and, in particular, in Natal, that the number of pupils justified the establishment of separate schools for Indians. In the Cape Province a significant number of Indian pupils are still being accommodated in Coloured schools. A school for Indians in the OFS will not be an economical proposition because the total Indian population in 1970 was five.<sup>(2)</sup> A study of South African education reveals a constant struggle by the Indian community to obtain adequate school accommodation for their children. However, since the transfer of control of education in 1965, there has been a very significant progress in the provision of school accommodation by the DIA.<sup>(3)</sup>

In any kind of Educational Planning both the historical antecedents

and the present trends in education must be known. This Chapter is devoted to a study of this pre-condition in Indian education. Further, a few problem areas in Indian education are compared with those for other race groups in this country and in certain overseas countries. Later, after norms for physical planning have been discussed in Chapter VI, the pedagogical context will also receive attention.

### 3.2 PROVISION OF SCHOOL ACCOMMODATION PRIOR TO TRANSFER OF CONTROL OF INDIAN EDUCATION TO THE DIA.

It should be clear that the perspectives concerning the school could not be achieved wholly without the influence of both cultural and religious factors. To the Indians, education was vital for the social, spiritual and physical upliftment of man. Thus, when the authorities concerned failed to provide the necessary school accommodation, the Indian community initiated State-aided and private schools. On the religious front the early Christian missionaries provided the first schools for Indians in this country, and in this way Indians come into contact with Christianity. However, the majority of Indians with strong roots in Oriental religions did not accept Christianity although they have generally accepted the permeation of Western culture including the broad principles of Christian religion into Indian education. The unfolding of Western culture and the tremendous technological advance resulted in the acceptance of a Western school by the Indian community. Apart from these ground motives, determining factors such as demographic,

physical/

physical, biotic and cultural factors as discussed in Chapter Five have influenced the local realisation of Indian schools in the RSA.

### 3.2.1 Provision of school accommodation in Natal before 1966

The first batch of indentured Indians arrived in Natal on 17 November 1860 at the request of the Government of Natal.<sup>(4)</sup>

The first record of Indian education in this country is in the Indian Commission Report of 1872.<sup>(5)</sup> In 1872 there were

73 boys and 15 girls in 4 Indian schools although there were 930 Indian children of school-going age at the time.

It was estimated that only 10% of children of school-going age were at schools. By 1875 Indian children were being admitted

to White schools,<sup>(6)</sup> and this practice continued in Durban

for the next 20 years. The provision of schools for the growing Indian population was inextricably bound up with

the policy of the country towards Indian immigrants who were not accorded the domiciliary rights of permanent settlers,

despite a resolution passed at the Imperial Conference in

1921 that it was "desirable that the rights of British Indians to citizenship should be recognized."<sup>(7)</sup>

The first school for Indian pupils was opened by Rev. Ralph Stott in 1869. It was a day school run for older students, and the medium of instruction was English. By 1872 there were 4 schools, but these schools closed in 1875 because Rev. Stott

was unable to find suitable teachers. (8)

In 1877 the Protector of Indian Immigrants observed that no systematic effort was made for the education of Indian immigrants of the Colony. This observation, the attitude of the Government of India and the fact that the Education Law of 1877 did not provide for the education of Indian children led to the introduction of Law 20 of 1878. This law provided for the creation, in 1879, of an Indian Immigrant School Board which became responsible for the promotion and administration of education for the children of indentured immigrants. Thus the foundation for separate educational facilities for both Whites and Indians was laid, although some Indian children (especially the Christians) who conformed to the dress and habits of Europeans attended White schools for many years thereafter. (9,10)

From the Madras Government of India, the Indian Immigrant School Board obtained the services of George Dunning, a school inspector qualified in Tamil, Hindustani and English. The payment of grants was made on the basis of regular attendance and efficient management of schools. In 1883 Dunning was succeeded by Francis Colepepper, and during the term of the latter's office three Board schools were established in Durban, Tongaat and Umgeni. These were Government schools but the

buildings and furniture in these schools were unsatisfactory. <sup>(11)</sup>

In 1882 there were ten schools with a total pupil enrolment of 323. By 1883 there were 18 schools and the total school population increased sharply to 1 011. In 1894 the Indian Immigrant School Board was abolished, and the control of Indian education was transferred to the NED. At that stage there were 26 schools with a total school population of 2 452 pupils. <sup>(12)</sup> The policy of developing a separate system of schools for the children of indentured Indian labourers was continued and extended to include children of the socially more advanced classes. Children who passed the fourth standard in Indian schools were given a concession to attend White schools if they so desired. When the demand for accommodation by Indian pupils in White schools increased significantly, the Government discontinued the admission of Indian pupils to White schools in 1899. In the same year a Higher Grade Indian School was established in Durban to provide for post-standard IV pupils. Later, this school was moved to another site, and it was subsequently named the Carlisle Street Government School. In order to meet the wishes of Indian parents who were opposed to co-education, girls were taught separately from the boys by "an experienced English lady teacher". This practice was short-lived as there was not a sufficient number of teachers to instruct the girls. <sup>(13)</sup>

In 1927 Srinivasa Sastri, the Agent-General for India in South Africa, was instrumental in establishing a much-needed teacher-training college.<sup>(14)</sup> In 1904 the education for Indian pupils in Natal was far from satisfactory. In fact, at best, such education only prepared the pupils for "inferior clerical work". By 1925 only 20% of the Indian pupils proceeded beyond standard 2.<sup>(15,16)</sup> The provision of educational facilities became the main responsibility of private bodies, mainly the missions. Painfully slow progress was made in Indian education during the first decade of the nineteenth century amidst great hostility towards Indian immigration, settlement and progress. In the period 1909-10 there were 5 Government and 31 Government-aided Indian schools with a total pupil enrolment of 3 387. Of these pupils only 400 or 11,81% of the total were girls. The average school life of a pupil was about 2 to 3 years. Lack of adequate school accommodation and a supply of competent and reliable teachers became major obstacles towards the progress of Indian education.<sup>(17)</sup>

Initially, the progress of Indian education was slow, and, by 1926, less than one third of the Indian children of school-going age were accommodated in schools, that is, only 9 155 pupils of some 30 000 were at school.<sup>(18)</sup> In 1927 the famous Cape Town Agreement was concluded between the

Governments of the Union of South Africa and India. The Union Government agreed in principle, inter alia, that "in the provision of education and other facilities, the considerable number of Indians who will remain part of the permanent population of the country, would not be allowed to lag behind other sections of the community".<sup>(19)</sup> Following the Cape Town Agreement an Indian Education Enquiry Commission was appointed to investigate the situation in Indian education. Assisted by Kailas Kichlu, an Indian educationist, the memorandum disclosed, inter alia, that "so far from Indian education having been a burden on the finances of the Province (Natal), the Province was benefitting at the expense of the Indian." It was found that in two years a sum of £18 818 was saved from the subsidy earned by Indian children. The Commission also found that the existing facilities as a whole both in the urban and rural areas were inadequate for the reasonable demands of the Indian population, the general condition of the buildings of grant-aided schools was unsatisfactory but those of Government schools was worse, and that the grant-in-aid was inadequate. The main recommendation of this Commission were, inter alia, that the building programme be accelerated largely through the erection of grant-aided schools, that grants-in-aid be based on average school attendance by pupils plus total cost of teachers' salaries, and that the total subsidy earned by

Indian pupils should be allocated to Indian children and be based on current year's attendance.<sup>(20)</sup>

In terms of Provincial Notice No. 82 of 1928, the Dyson Commission, assisted by Kailas Prasad Kichlu and Miss C. Gordon, reported in May 1928 that existing facilities were inadequate, especially in so far as State-aided schools were concerned. The buildings were generally in a poor state of repair and unsatisfactorily equipped. During the years that followed the Report, there was an average increase of about 1 000 pupils per annum in Indian schools, and more money was also being spent on schools. However, the improvements in Indian education were not commensurate with the increasing Indian population of school-going age.<sup>(21)</sup> In 1936 it was estimated that about 75% of the boys and 70% of the girls of school-going age were not at school. Despite the fact that the control of education lay in the hands of provincial administrations at that time, the Provincial Council of Natal was not willing to accept responsibility for Indian education as enunciated by the Cape Town Agreement in 1927.<sup>(22)</sup>

In 1937 the Broome Commission<sup>(23)</sup> was set up to investigate Indian education in Natal. The report summarized the then existing conditions as follows: "Viewing the rapidity with which the present system of Indian primary education has sprung up and the shortness of the average school life, it would

appear that the vast majority of Indian children do not acquire the rudiments of primary education." Post-primary education for Indians in Natal first gained significance in 1911 when the Indian Education Institute enrolled some 100 pupils. This Institute closed in 1914 but, in 1918, there was a resurgence of post-primary classes at Carlisle Street Indian School in Durban. In 1927 the high school population was 67 which was 0,6% of the total school population. In 1930 Sastri College (a secondary school for boys) and in 1932 the Mitchell Crescent Government School (a secondary school for girls) were opened in Durban. By 1933 it is recorded that there were some 300 pupils receiving secondary education. (24, 25)

In 1943 the building grant for the erection of State-aided schools was raised from  $33\frac{1}{3}\%$  to 50% and this resulted in an acceleration of the building programme. (26) The post-war demand for primary and secondary education had its special effects in that a number of centres outside Durban and Pietermaritzburg offered secondary education for the first time resulting in a "secondary" bulge as a new phenomenon, more children were staying on at schools and for the first time girls were staying on in appreciable numbers. (27)

In the period 1927 to 1952 there was an increase of 319% in the number of schools, of 530% in the number of pupils and of 383% in the number of teachers for Indian secondary pupils

in Natal.<sup>(28)</sup> Although the pupil enrolment increased by 130% from 1927 to September 1936, only 21 356 Indian children were at schools out of an estimated total of 40 000 children.<sup>(29)</sup> The number of schools (primary and secondary) increased from 100 in 1937 to 136 in 1945, and to 172 in 1950. In 1950, of these 172 schools, no fewer than 146 were Government-aided schools. In the same period the school population (primary and secondary) increased from 22 648 in 1937 to 33 431 in 1945, and to 46 303 in 1950. However, of the 46 303 pupils in 1950, it was found that some 2 000 children attended registered private schools. Further, there was a significant increase in the number of girls at schools. In 1950, it was found that, of the 46 303 pupils at schools, 17 815 or 38,47% of the total were girls.<sup>(30)</sup> In 1940 it was found that only 27 449 were in schools out of an estimated school population of 50 900 but, by 1952, the school population increased to 61 529 although an estimated 30 000 children of school-going age in Natal were out of school.<sup>(31, 32)</sup> Thus the availability of limited school accommodation determined pupil enrolments.

The following Table (page 118) shows the growth in school populations, the number of schools and secondary school pupils.<sup>(33, 34, 35)</sup> The Indian community took the responsibility of assisting in the provision of schools, when there was a lack of it, probably because of their strong cultural background and the motivation to survive with their small numbers in this country.

TABLE 3.1 : GROWTH IN SCHOOL POPULATIONS, NO. OF SCHOOLS  
AND SECONDARY SCHOOL PUPILS FOR INDIANS IN NATAL (1927-1952)

Year	School Population	No. of Schools	No. of Secondary pupils	% of School population
1927	9 766	53	62	0,63
1928	11 462	71	64	0,56
1929	13 464	80	84	0,62
1930	14 702	82	127	0,86
1931	16 318	88	189	1,16
1932	17 088	88	271	1,59
1933	17 718	90	295	1,66
1934	18 961	98	320	1,69
1935	20 652	95	353	1,71
1936	21 356	96	416	1,95
1937	22 669	107	417	1,84
1938	23 600	110	450	1,91
1939	25 081	116	429	1,71
1940	27 449	117	534	1,95
1941	28 890	115	610	2,11
1942	30 060	125	643	2,14
1943	30 883	127	751	2,43
1944	32 716	132	837	2,56
1945	34 166	139	876	2,56
1946	35 461	148	1 020	2,88
1947	37 923	153	1 156	3,05
1948	39 938	158	1 181	2,96
1949	42 620	164	1 437	3,37
1950	49 062	194	1 837	3,74
1951	51 949	202	2 447	4,71
1952	61 529	239	2 958	4,81

From Table 3.1 it is evident that the growth in secondary school population was very slow for just over a quarter of a century in the period 1927 to 1952. Thus, by 1952, secondary school population constituted only 4,81% of the total school population in Natal. Further, a significant increase of secondary school population in the period 1950-1952 is

attributed/

attributed to, inter alia, the opening of new secondary schools outside Durban.

Prior to the transfer of Indian education to the DIA in 1965, the Chief Inspector of Indian Education in the NED pointed out that even though satisfactory progress had been made in Indian education in Natal since 1937, no appreciable effect had been made on the essential problem of school accommodation for all Indian children of school-going age. In 1952 it was estimated that some 37 000 pupils had no school accommodation. This shortage of school accommodation led to the institution of platoon classes or a double shift system. This latter system was gradually replaced by a system whereby some classes are taught indoors while others are given instruction in oral subjects outside thus permitting a peripatetic system of organisation. The demerits of the platoon school system is discussed in Chapter VI. Although the building of new Indian schools progressed significantly, at the time of transfer of Indian education in 1966, there was a platoon school population of 33 543 pupils.<sup>(36)</sup> In order to meet the demand for school accommodation, a large number of State-aided schools came into being. The magnanimous community effort could not stem the tide for the increasing demand for school accommodation. The NITS, under the leadership of its then President Dr A.D. Lazarus, launched a School Building Trust Fund. The members gave up one or more annual increments in

order/

order to provide funds for new schools and additional classrooms in areas where there were shortages in school accommodation. (37)

The growth of secondary school education was slow but sustained until 1958. It is recorded that out of a total school population of 90 000 pupils, some 4 000 were in secondary schools, that is, 4,4% of the total school population. (The comparative figure for Whites in 1958 was 24%). Thereafter, there was a sharp increase annually in the number of secondary school pupils. In 1965 the secondary school pupils constituted some 13 000 pupils or 11,5% of the total school population. (38)

Shortage of school accommodation has been a basic problem in Indian education. In the early 1960's large numbers of Indian children of school-going age were out of school annually not because of apathy on the part of the parents towards education, but because there was an inadequate supply of school accommodation. At that time the chronic shortage of school accommodation of adequate quality and quantity was considered to be the greatest obstacle to progress of Indian education in Natal. Shortage of school accommodation has been the subject of international representations, of numerous press reports, petitions and memoranda to the authorities concerned by Indian cultural, religious, educational and political bodies. The Indian community has set a fine example of self-help on

the part of a less-privileged minority group in this country by providing educational facilities to such an extent as it had done. By 1952, of the 237 schools in existence, no less than 90% of the total was built on the initiative of Indians themselves. (39)

In Natal a large number of Indian children who applied for admission to both primary and secondary schools were turned away for lack of accommodation. Further, the pupils who were turned away did not represent the total shortage for school accommodation because there were those children who did not apply for admission for reasons such as having no birth certificates, parents failing to report admission cases during specified times as admission was often done on "first come first admitted" basis, transport difficulties or no schools within reasonable travelling distances. In 1951 it was recorded that no fewer than 16 029 primary and secondary pupils who sought admission were turned away. By 1958 there were 9 585 such pupils who were unable to obtain admissions to schools. Further, it was primary school pupils who were turned away in large numbers because those failing to gain admission to secondary schools constituted only a small percentage of the secondary school population. Even, as late as the early 1960s, class units at many primary schools were notoriously heterogeneous with respect to age. Thus, it was not unusual to see a five-year-old sitting

next/

next to a twelve-year-old child who sought late admission to a sub-standard class. (40)

3.2.2 Provision of school accommodation in the Transvaal before 1967

Shortly before, and especially after, the discovery of gold on the Witwatersrand in 1886, a number of "free Indians" and Indian traders settled in the Transvaal. The census of the Johannesburg Sanitary Board gave the number of Asiatics (mainly Indians) as 4 807 in 1896. Law 3 of 1885 was passed by the Volksraad of the South African Republic proclaiming that Indians could not obtain burgher rights, and confining them to certain restricted areas. However, this law was never strictly enforced and, hence, it did not stem the flow of Indians into the Transvaal. (41)

Concerned primarily with the spreading of the Gospel among the non-Whites, the Mission Societies later ventured into the provision of school accommodation, mainly on the Witwatersrand. Thus, prior to 1902, education for non-Whites in the Transvaal was primarily the concern of missionaries, who received no financial aid from the State. The Rev. John T. Darragh of the Anglican Church and the Rev. Charles Phillips of the Congregational Union were instrumental in promoting such education. It was only after the Anglo-Boer War in 1903 that the Government, as a matter of colonial policy, made provision for the establishment, maintenance, control and inspection of schools

for non-Whites in the Transvaal. Financial assistance was also granted to private schools, including those founded by the Churches. (42, 43)

The first school for non-Whites in the Transvaal was opened by a mission in Ferreirastown in 1898. Coloured, Indian, Chinese and Malay children attended the same schools initially but, in areas where a large number of pupils warranted it, separate schools for Indians were also established. (44) In 1902

Rev. W.R.C. Clark, a Superintendent for non-European education, made earnest efforts to improve the educational needs of the non-Whites. Six government schools provided education for approximately 800 Coloureds, Indians and Malays. (45)

General J.C. Smuts, as the then Minister of Education, was the architect of the Education Act No. 25 of 1907, which was passed after Transvaal received responsible government. This Act, inter alia, provided for free education for Coloured and Indian pupils, payment of teachers' salaries by the state and the provision of educational equipment and buildings by the provincial administration on the same basis for Whites. Compulsory education, however, was provided for White pupils only. (46)

The first school for Indian pupils was opened in 1903 but closed a year later. (47) By June 1910 there were 12 schools for

Indians and Coloureds with a pupil enrolment of 1 644. At the request of the British Indian Association which held that separate schools were essential to promote the religion, language and culture of the community, the Witwatersrand School Board erected a permanent school for Indians in Johannesburg. The school opened on 14 February 1913 with a pupil enrolment of 136. Mr A.H. Nye was its first headmaster. This school is still in operation, though now known as the Bree Street Primary School. Later, two schools were built in Pretoria, one sponsored by the Muslim community and the other by the Tamil Vedic Association. (48, 49)

In 1928, after it had completed its report on education in Natal, the Dyson Commission investigated the condition of education for Indians in the Transvaal. Kailas P. Kichlu, an educational expert from India, assisted this Commission and submitted a memorandum on aspects of Indian education in the Transvaal to the Administrator of the Province. It was found that there were 1 009 Indian pupils attending Government Indian schools and many more attending schools for Coloureds. Kichlu praised the Administration for valuable concessions such as free education for primary school pupils and school meals for poor children. He strongly recommended that primary education should be taught through the medium of the official languages of the country and said that ..... "If the Indian community desires to teach the children Indian vernaculars, they should be permitted to do so outside school hours, and by separate

teachers/

teachers paid for by the Indian community." On his recommendation, the provincial authorities discontinued religious and vernacular instruction in State schools. (50, 51)

Through the initiative of the Indo-European Women's Association, a separate school for Indian girls was opened in Vrededorp, Johannesburg, in 1936, with a pupil enrolment of 71. The school fulfilled a long-desired wish of Indian parents who did not wish to send their daughters to co-educational institutions. From 1950 the total pupil enrolment always exceeded 500. This school is presently known as the Queenspark Indian Girls' School. (52,53)

In 1937 the Nicol Commission was appointed, by the Transvaal Provincial Administration, to enquire into education for Coloureds and Indians among other things. It recommended that "every effort be made to replace hired buildings by government buildings at the earliest possible moment", and, in view of the short average school life of Coloured and Indian pupils, that "it be a standing instruction to inspectors of schools to encourage teachers of Coloured and Indian children to draw up their own scheme of work, so as to realise the highest aims for these children during the short period available." Thus the syllabuses intended for White pupils were not expected to be followed absolutely. Even, as late as 1945, the TED found that the poor state of school buildings adversely affected the work of teachers and children

alike/

alike. Similar findings recurred in 1949, 1953 and 1959. To ease the problem, since 1940, a few substantial White schools in the Johannesburg area have been used as schools for Indians.<sup>(54)</sup> By 1950, there were 63 Coloured schools with a total pupil enrolment of 11 946, while 30 Indian schools had an enrolment of 10 365 pupils. In other words, there was a rapid increase in the demand for school accommodation at provincial schools.<sup>(55)</sup>

In 1950 the Griffith Committee, appointed by the Administrator of the Transvaal, recommended, inter alia, that parents' associations for Indian schools be formed and recognized by the Administration, and that principals be delegated the right to exclude pupils who failed to attend school regularly. The Griffith Commission Report of 1951 also established that the majority of Coloured and Indian schools were housed in highly unsatisfactory buildings where the classrooms were generally overcrowded. It was found that there were 55 schools hired by the Provincial Administration at a rental of 9 000 pounds per annum, 26 schools built by the Province and 13 Indian-owned schools placed, gratis, at the service of the Provincial Administration.<sup>(56,57)</sup>

In the post-war period Indian education in the Transvaal was characterized by a phenomenal growth in pupil enrolment. In 1926, there were 10 schools with a total pupil enrolment of 701

pupils and, by 1930, the number of schools had increased to 15 schools with a total pupil enrolment of 1 589. In the period 1936 to 1950, the Coloured school population in the Transvaal increased by 36% while that of the Asiatics increased by 365%. This phenomenal growth is attributed to several reasons such as improvement in educational facilities, a higher standard of living, ensuring a higher status in the community and, perhaps, the insecurity of Indians in this country since they were not recognized as a permanent part of the South African population until 1961. (58, 59, 60)

The following Table 3.2 shows the growth in Indian school population and increase in the number of schools, both Indian and mixed, for the period 1950 to 1958 in the Transvaal. By *mixed schools* is meant schools attended by Coloureds, Indians, Chinese and Malays.

TABLE 3.2 : NO. OF INDIAN SCHOOLS AND GROWTH OF SCHOOL POPULATION IN THE TRANSVAAL (1950-1958)

Year	Indian Schools		Mixed Schools	
	Schools	Pupils	Schools	Pupils
1950	27	8 148	22	2 561
1951	30	9 068	23	2 570
1952	31	9 777	24	2 808
1953	32	10 252	26	3 068
1954	34	10 778	27	3 247
1955	36	11 267	29	3 396
1956	35	12 090	29	3 973
1957	30	12 989	49	11 003
1958	29	12 877	49	12 295

For the above-mentioned Table 3.2 the actual number of Indian pupils/

pupils in mixed schools is not available. The upsurge in the number of mixed schools in 1957 is attributed mainly to the erection of smaller schools in the rural areas. By 1963 the number of Indian pupils increased to 19 954 in 63 schools, of which 28 were mixed. The per capita cost for Indian pupils was appreciably higher in the Transvaal than for their counterparts in Natal. This was evident from the fact that the per capita cost for Indian pupils, in 1958, in the Transvaal, was £31 12s. 9d. whereas some six years later the per capita cost in Natal was considerably lower - that is, £23 11s. 11d. (The per capita cost for Coloured pupils in Natal in 1963 was £38 8s. Od.).<sup>(61)</sup> With regard to differentiated education, the TED had set the lead long before other departments. There existed in this province a differentiated three-stream secondary curricula. For this purpose the essential specialist rooms, including workshops, were provided at secondary schools and, in this regard, the Indian pupils in the Transvaal were at an advantage when compared with their counter-parts in Natal. Already, by 1960, depending on the ability and aptitude of the pupils, the Senior Certificate candidates in the Transvaal could have offered, in addition to the two official languages, a choice from 14 other subjects. This scope and diversity offered to Indian pupils must be regarded as generous in view of the fact that the Vocational Education Act of 1955 made it impossible for any provincial system to offer

full differentiation and maximum diversity.<sup>(62)</sup> However, prior to 1967, there were no technical and commercial high schools or colleges catering for the needs of the Indian community in the Transvaal.<sup>(63)</sup>

Physical factors such as the discovery of gold and climatic conditions had attracted the Indian traders to the Witwatersrand from Natal. The Muslim traders, in particular, desirous of retaining their sub-cultural identity, had moved away from the majority of the Indians, who were Hindus and labourers, and, who were settled in and around Durban. Initially the children were educated in overcrowded classrooms, but the accommodation problem was eased when the TED met the demands in pressure point areas with prefabricated school buildings.

### 3.2.3 Provision of school accommodation in the Cape before 1971

Prior to 1971 Indian pupils in the Cape Province attended Coloured schools under the control of the provincial education department and subsequently under the control of the Administration of Coloured Affairs. The Indians in the Cape, perhaps on account of their small numbers, have had close ties with the Coloureds and the Malays, with Afrikaans, the general medium of communication, being an important unifying factor. In the rural areas it was not an economical proposition to build separate schools for Indians because of the paucity of their numbers.<sup>(64)</sup>

The demand for school accommodation by Indian pupils was small when compared with the other non-White groups in the Cape. The Indian communities in this province are settled mainly in the urban areas of Cape Town, Port Elizabeth, East London, Kimberley and Mafeking. The 1970 census figures indicate that there were 21 617 Asians in the Cape Province, of whom 11 263 were in Cape Town, 5 280 in Port Elizabeth, 1 994 in East London and 939 in Kimberley. (65)

The Administration of Coloured Affairs was under tremendous pressure to provide school accommodation for Coloured pupils in the Cape in the early 1970s. In order to relieve this pressure, and in keeping with the State policy of "separate development", the Administration of Coloured Affairs made a strong motivation to the DIA to build schools for Indian pupils in the Cape. (66)

Until 1961, when Indians were recognised as a permanent part of the South African population, the Indian community played a dominant role in the provision of school accommodation, especially in Natal and, to a lesser extent, in the Transvaal. In the Cape, on account of their small numbers, the Indians lived in Coloured and Malay communities and Indian pupils attended the already overcrowded Coloured schools, and these schools were those which transmitted Western culture.

### 3.3 THE CHANGING PATTERN OF INDIAN EDUCATION ARISING OUT OF LEGISLATION IN THE 1960s.

The most significant event in Indian education was the transfer of the control of education for Indians from the provincial and other education departments to the DIA, Division of Education, in terms of the Indians Education Act, 1965 (Act No. 61 of 1965).

#### 3.3.1 The Indians Education Act, 1965 (Act No. 61 of 1965)

In 1965, Parliament passed the Indians Education Act, 1965, which provided for the creation of a Division of Education within the DIA. In terms of the Act, the control of the education of Indians was transferred from the provincial and other education departments to the DIA as indicated below:

- (a) Natal : with effect from 1 April 1966;
- (b) Transvaal : with effect from 1 April 1967; and
- (c) Cape : with effect from 1 January 1971. (67, 68, 69)

Thirty seven sections were embodied in this historical Act<sup>(70)</sup> which had far-reaching implications for Indian education. The Act provided for the control of education for Indians by the DIA, amended the Special Education Act, 1948, the Vocational Education Act, 1955, the Republic of South Africa Constitution Act, 1961, and provided for matters incidental thereto. Some

of the provisions, embodied in this Act, which affect provision of accommodation are: the control of education for Indians; establishment, erection and maintenance of schools; award of grants-in-aid or subsidies and loans in respect of schools and hostels; transfer of management and control of State-aided schools to the DIA; registration and management of private schools; inspection of schools and hostels; compulsory school attendance; financial and other assistance to pupils, and regulations as contained in Government Notices in the Government Gazette.

3.3.2 The National Education Policy Act, 1967 (Act No. 39 of 1967)

Although the National Education Policy Act, 1967, was planned essentially for White education in this country, it must be remembered that Indian education was influenced in Natal by the White NED, which controlled the Senior Certificate Examination for Indian pupils until 1973, and in Transvaal by the White TED. This Act<sup>(71)</sup> repealed the National Advisory Education Council Act of 1962, and became a forerunner for the implementation of a centralized educational policy. As from 1 November 1970, the Department of Education, Arts and Sciences became known as the Department of National Education. In terms of this Act, the Minister determines the general policy in respect of education in schools within the framework of certain principles:

(a) education in schools under the control of a department

of State or a provincial administration shall have a Christian character, but the religious conviction of the parents and pupils shall be respected in regard to religious instruction and religious ceremonies. In Indian education there is difficulty in establishing a single broad character because of the presence of many linguistic groups and different religious affiliations;

- (b) education shall have a broad national character;
- (c) the mother tongue, if it is English or Afrikaans, shall be the medium of instruction. In Indian schools the medium of instruction is English, while Afrikaans as a second language became compulsory for Senior Certificate candidates in 1974;
- (d) requirements in regard to compulsory education, and the limits relating to school age shall be uniform. In Indian education a measure of compulsory education was introduced through compulsory school attendance in 1973, but compulsory education up to age 15 will be implemented as from the beginning of 1979;
- (e) education shall be provided in accordance with the ability and aptitude of and interest shown by the pupil, and the needs of the country. Differentiated education

was implemented in Indian education in January 1973;

- (f) co-ordination, on a national basis, of syllabuses, subject-sets, examination standards and research, investigation and planning in the field of education. The DIA follows the common core syllabuses of the JMB; and
  
- (g) the parent community shall be given a place in the education system with representatives on parent-teachers' associations, school committees, boards of control or in any other manner.

Urbanisation of the population group, as in the case of the Indians in this country, is an important consideration in determining to what extent the provisions of the National Education Policy Act, 1967, can be implemented in accordance with the ability and aptitude of each pupil. This is evident when one considers the high cost factor of school buildings, administrative costs and the availability of suitably qualified teachers. These factors particularly affect the quality and variety of high school instruction to children living in sparsely populated areas. (72)

3.3.3 The Educational Services Act, 1967 (Act No. 41 of 1967)

The first National Advisory Education Council saw, as one of its greatest challenges, the removal of divided control in the field of secondary education.<sup>(73)</sup> In terms of Act No. 41 of 1967, vocational education must continue to be provided in separate schools. General secondary schools can provide a maximum of two vocational subjects as part of the educational programmes. Differentiated courses in secondary schools may include vocational subjects on a restricted basis.

3.3.4 The Indians Advanced Technical Education Act, 1968

(Act No. 12 of 1968)

This Act, like Act No. 40 of 1967 for Whites, provides for the establishment of colleges for advanced technical education for Indians, for the control, administration and regulation of such colleges and for matters incidental thereto.<sup>(74)</sup> Some of the main provisions of Act No. 12 of 1968 relate to the status and proprietary capacity of a college, the declaration of the M.L. Sultan Technical College as a college for advanced technical education, certain institutions and classes which may be declared to be colleges for advanced technical education, administration of a college, appointment of staff and conditions of service, salaries and leave privileges of

members of staff, discipline, conditions of loans to students, functions of college council, delegation of powers and regulations.

3.3.5 The National Education Policy Amendment Act, 1969

(Act No. 73 of 1969)

This Act<sup>(75)</sup> was passed in order to regulate certain aspects of teacher education and to replace the National Advisory Education Council by the establishment of a National Education Council. This Act provides for the training of White secondary school teachers at universities, but makes certain concessions to the provincial colleges of education and colleges for advanced technical education. This Act also provides for the co-ordination of teacher education throughout the country in order to regulate certification, and financial assistance for students to ensure that the demand for teachers is met. In Indian education the supply of secondary school teachers is generally met by colleges of education because the University of Durban-Westville cannot supply the demand for such teachers.

3.4 PROVISION OF SCHOOL ACCOMMODATION BY THE DIA

At the time of transfer of Indian education to the DIA in 1966, the school population in Natal was 134 152. This school population

increased/

increased to 175 932 in 1978, representing an increase of 31,14% and an average annual growth rate of 2,59%. In the Transvaal there was a demand for school accommodation for 21 814 pupils in 1967, and, by 1978, the DIA met a demand for school accommodation for 25 230 pupils, representing an increase of 15,66% and an average annual growth rate of 1,42%. In the Cape there was no Indian school at the time of transfer of education to the DIA. In 1971 there was one Indian school in the Cape (in Port Elizabeth) with a total pupil enrolment of 629 and by 1978 there were 2 811 pupils in 4 schools under the control of this Department. (76, 77) Since transfer of Indian education to the DIA, significant progress has been made through a vigorous programme of building and development. The DIA has followed a progressive policy in planning the physical requirements for sound education for Indian pupils. Great progress has been made in the provision of new schools and modernising and extending facilities at existing schools. The provision of classrooms and specialist rooms to meet the demands of differentiated education receives the constant attention of the DIA. Buildings and equipment are carefully designed in order to provide optimum physical conditions for successful teaching. For example, adequate provision is being made for laboratories, resource centres and workshops. (78)

On transfer of education in Natal, the majority of the schools were State-aided. Many of the State-aided schools were in an unsatisfactory condition. One of the factors responsible for the unsatisfactory

maintenance of such schools was the payment of a low maintenance grant by the provincial department. In Natal, in 1966, there were 66 State schools and 215 State-aided schools, many in the latter category being small schools in the rural areas which accommodated 100 pupils or fewer. Nevertheless, the efforts of the Indian community in providing this much-needed school accommodation on a subsidised basis are highly commendable.<sup>(79)</sup> By March 1978, while the number of State schools in Natal had increased to 168, the number of State-aided schools had decreased to 112.<sup>(80)</sup>

At the head of the Division of Education in the DIA is the Director of Education who is responsible to the Secretary for Indian Affairs, the Executive of the SAIC, and ultimately to the Minister of Indian Affairs. From a study of Figure 3.1 (page 139) it is evident that the Division of Education has three sections, namely, the Professional Services, the Educational Services and the Administrative Services. The Professional Services consist of an Education Planning Section, Psychological Services and the Inspectorate. The planning section advises the Director of Education on the need for development and progress in both physical and educational planning. The education planners (physical) are responsible for advising the Director of Education on the formulation of policy in regard to such matters as, inter alia, norms and standards for the building programme, accommodation problems, building programme, zoning and admission of pupils, grading of schools and equipping of schools.<sup>(81)</sup>

FIGURE 3.1 : ORGANISATION CHART OF THE DIVISION OF EDUCATION (DIA)

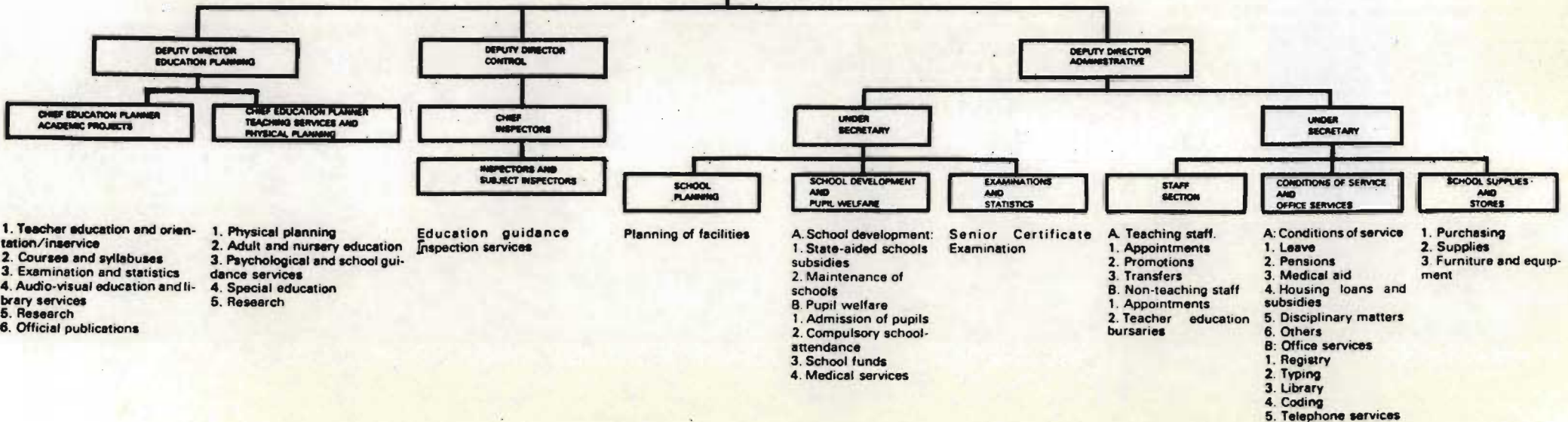
SECRETARY OF  
INDIAN AFFAIRS

MINISTER OF INDIAN AFFAIRS

SOUTH AFRICAN  
INDIAN COUNCIL

DIVISION OF EDUCATION

DIRECTOR



The DIA has accepted full responsibility for the provision of adequate school accommodation for Indian pupils, and almost all the schools built since 1966 for Indian education are State schools. (82)

There is a need to adapt the school system to the rapidly changing social and economic conditions in the RSA, which have made demands on the school system, particularly at the secondary and tertiary levels, and indicated the need for more vocational and technical education. In the following Table. 3.3 (Page 141) one observes that the DIA had to contend during the period 1966-1973 with a comparatively young population group, where over 95% of children of school-going age were at schools. In the case of the Blacks there has been a rapid increase in the percentage of the population in schools in the period 1935-1973, and by 1973, the Blacks had the lowest percentage of the population as compared with other race groups in the country because the drop-out rate especially at high school level was relatively high. The figures for 1970 and 1973 for the Indian population group reflect the position under the control of the DIA.

In Table 3.3 the figures for the Coloureds in the period 1935-1955 are the same as for Indians in the corresponding years because, until 1955, the statistics are for Coloureds and Indians combined. However, it would appear that if the trend for Coloureds after 1955

TABLE 3.3 : PERCENTAGE OF POPULATION OF EACH RACIAL GROUP IN RSA  
IN PUBLIC PRIMARY AND SECONDARY SCHOOLS (1935-1973)

Year	Whites	Coloureds	Indians	Blacks
1935	19,95	13,27	13,27	5,36
1940	19,35	16,05	16,05	6,54
1945	18,96	17,85	17,85	7,62
1950	19,36	18,48	18,48	8,88
1955	21,57	19,78	19,78	9,73
1960	23,23	20,10	26,16	11,56
1965	23,24	21,89	27,86	13,48
1970	22,66	24,85	25,38	17,25
1973	22,12	26,09	26,00	19,00

was regular then there was a slight loading on the percentages prior to 1960 for Coloureds. <sup>(83)</sup> As more children of school-going age were admitted to schools, the percentage for Indians improved significantly. By 1960 the Indians surpassed the Whites according to percentage of population at school. This also shows that the Indians had larger families, and they were generally a younger population group than the Whites. Thus the norms for school planning for these two groups would differ when based on vital statistics.

The following Table 3.4 (page 142) shows the average number of pupils per teacher in public and private schools for the four race groups in this country in the period 1967 to 1972. However, it should

not be confused with the average loading of classrooms because there are generally, in a school and moreso in a high school, more teachers than there are classrooms. (84)

TABLE 3.4 : AVERAGE NO. OF PUPILS PER TEACHER FOR DIFFERENT RACE GROUPS IN PUBLIC AND PRIVATE SCHOOLS (1967-1972)

Year	Whites	Coloureds	Indians	Blacks
1967	22,1	31,8	28,5	57,0
1968	22,2	32,2	27,6	57,4
1969	21,9	32,0	27,6	57,5
1970	21,3	32,0	27,9	59,4
1971	20,6	31,3	27,2	59,0
1972	20,0	30,8	27,0	58,5

It is evident from Table 3.4 that, even in this relatively short period, the DIA was able to improve the pupil-teacher ratio despite the fact that there were and still are a large number of pupils in platoon classes and a shortage in school accommodation. Of the non-white groups, the Indians had the best pupil-teacher ratios in the above-mentioned period. However, it would seem that a Black teacher on the average had to cope with twice as many pupils as a Coloured or Indian teacher and thrice as many as a White teacher. Further, in the period 1967-1973, while the pupil-teacher ratios for the other three groups had been decreasing steadily, the number of pupils per teacher for the Blacks had grown.

Despite the significant progress made through the Department's School Building Programme, the abnormal growth rate had placed special demands on high school accommodation. Even by 1974, not all high school pupils were accommodated in high schools. Rather than refusing pupils admission to high schools, the DIA retained junior secondary classes in primary schools as a temporary measure. In 1974 there were 1 948 standard 7 pupils in 6 primary schools apart from 4 482 standard 6 pupils being also retained in primary schools in Natal and the Transvaal. (85)

Although standard 5 forms part of the junior secondary phase, the pupils in this standard are generally accommodated in primary schools. However, the Department made much progress and, by March 1978, there were two primary schools with 157 standard 7 pupils and 22 primary schools with 1 875 standard 6 pupils, despite the fact that the practical course was extended from standard 8 to standard 9 in 1978 and the holding-power of high schools was increased. (86)

The number of high school pupils (standards 6 to 10) under the control of the DIA increased from 33 405 (Natal and Transvaal) in 1967 to 58 401 pupils (Natal, Transvaal and Cape) in 1978, representing an increase of 74,83% and an average annual growth rate of 6,80%. In the period 1966 to 1978 the Department experienced the closure of no fewer than 71 schools (of which 8 were State schools), with over 820 classrooms. These schools closed for various reasons

such as the movement of Indians to new group areas, schools being in a poor state of repair and schools with small pupil enrolments being not economically viable to administer. Thus the closure of these schools brought about greater demands on the DIA to provide adequate school accommodation for Indian pupils. <sup>(88)</sup>

School accommodation was one of the main problems and challenges facing the DIA on transfer of education. A shortage of school accommodation resulted in the continuation of the platoon school system. In 1966 there was a platoon school population of 33 543 pupils which represented 25,0% of the total school population of 134 152 in Natal. <sup>(89)</sup> By March 1978 the platoon school population had decreased to 11 579 pupils which represented 6,56% of the Natal school population and 5,66% of the total school population under the control of the DIA. <sup>(90)</sup>

The DIA also made much progress in the provision of technical education at high school level. As a temporary measure, Loram High School (Durban) accommodated the pupils for this direction of study, while the Workshop Practice and Trade Theory was done at the M.L. Sultan Technical College. These pupils were subsequently accommodated at the Clairwood Technical High School which opened in January 1978 with a total pupil enrolment of 1 450. Of this pupil enrolment a large number of pupils is following the ordinary course, and it is the intention of the DIA to phase out these pupils gradually. This technical high school has eight workshops and it is offering nine trades. <sup>(91)</sup>

In the Transvaal, the DIA did not encounter platoon classes on transfer of education as it did in Natal. In 1967 only one school in the Transvaal, namely, Ferreira Primary School in Johannesburg, had 233 pupils in platoon classes but these were discontinued in the following year. While classroom accommodation was available, there was still a shortage of essential specialist rooms in order to meet the requirements of the new differentiated system of education. Thus the Department embarked on a policy of improving existing State schools to bring them up to its latest standards. Further, it became necessary to build schools in newly proclaimed Indian areas to replace existing schools, for example, Stanwest High School, Nelspruit High School, Potchefstroom High School and Pietersburg High School, among others. <sup>(92)</sup>

Perhaps, three areas in the Transvaal needed the Department's regular attention in the provision of school accommodation, namely, Lenasia (Johannesburg), Laudium (Pretoria) and Actonville (Benoni). Of all areas in the Transvaal, Lenasia has shown the greatest growth in school population. At the time of transfer of education in the Transvaal in 1967, Lenasia had a school population of 2 432, and, by 1978, this population had increased to 5 864, representing an increase of 141,12% in 11 years. The DIA was able to cope with this increasing demand for school accommodation without instituting platoon classes in the area through the provision of new schools. <sup>(93)</sup> According to the Department of Community Development, <sup>(94)</sup> Lenasia is expected to develop into 11 service areas with 16 200 housing units. It is

anticipated/

anticipated that Lenasia will have an optimum Indian population of 83 400 by 1990. In order to meet the future demand for school accommodation in this area, the DIA has programmed an additional five primary and two high schools together with additions to existing schools for Lenasia. A technical high school for Transvaal, the M.H. Joosub Technical High School, was built by the Department in Lenasia. This school opened in January 1975 with a total pupil enrolment of 432. Although this high school has been designed to offer courses with a technical bias, the demand for such education was well below anticipation. In the interim, this high school is also accommodating pupils in the normal ordinary and practical streams, and even primary school pupils in order to relieve the pressure for primary school accommodation in the area. The pupil enrolment at this high school in March 1978 was 917 with a class range from standard 4 to standard 10. <sup>(95)</sup>

The rural areas of the Transvaal are sparsely populated by Indians. Hence, the Indian community erected and maintained private hostels at Standerton, Waterval and Potchefstroom where both primary and high school pupils were accommodated. At these hostels, accommodating pupils from the different sub-cultural groups presented a problem. Shortage of adequate housing for teachers was also a setback in attracting the better qualified personnel to many centres in the Transvaal. <sup>(96)</sup>

In the period 1967 to 1978 under the control of the DIA, the school population in the Transvaal increased from 21 814 pupils to 25 280

pupils, representing an increase of 15,89% in 11 years. In the same period the DIA provided thirteen primary and seven high schools apart from additions to seventeen existing schools.<sup>(97)</sup> In the Cape Province the first school for Indians under the control of the DIA was the Woolhope High School (Port Elizabeth) which opened on 19 January 1971 with a total pupil enrolment of 629, and an initial class range from class (i) to standard 7.<sup>(98)</sup> Where the Indian communities are relatively small and scattered over a large area, the take-over of Indian pupils from Coloured schools in the Cape is being undertaken by the DIA on a piecemeal basis as and when the Indians are resettled in their own proclaimed areas and school buildings become available. Pupils from sparsely populated rural areas seek private boarding accommodation at larger centres like Port Elizabeth and Cape Town.<sup>(99)</sup>

By 1974 the majority of Indian pupils in the Cape were still attending Coloured schools. In that year the Administration for Coloured Affairs<sup>(100)</sup> recorded that 2 441 Indian primary school pupils and 1 299 Indian high school pupil attended 136 Coloured schools in the Cape. This total of 3 740 pupils was far in excess of 914 Indian pupils in the Cape under the control of the DIA. In that year the distribution of Indian pupils in Coloured schools according to the various centres was as follows: Wynberg 2 432 pupils, Belville 368 pupils, East London 509 pupils, Kimberley 320 pupils, Port Elizabeth 91 pupils, Beaufort West 11 pupils and Worcester 9 pupils. It is noteworthy that there were still 91 pupils

attending/

attending Coloured schools in Port Elizabeth despite the fact that Woolhope High School, with a class range from class (i) to standard 10, had ample accommodation available.

In Cape Town, Rylands High School opened in August 1976 with a total pupil enrolment of 475. Initially there was much reluctance on the part of the Indians in Rylands to send their children to the local Indian high school on political grounds. However, the pupil enrolment at this high school has since improved and, by March 1978, the total pupil enrolment was 612. Cravenby Primary School, also in Cape Town, opened in January 1977 with a total pupil enrolment of 380. Subsequently, East London Indian High School opened in January 1978 with an initial pupil enrolment of 402, and a class range from class (i) to standard 8. Rylands Primary School (Cape Town) is nearing completion, and it is expected to open in January 1979. It is assumed that by 1982 the Indian schools in the Cape will carry the normal class range and that they will be accommodating practically all the Indian pupils. (101)

The following Table 3.5 (Page 149) shows that the holding power of Indian schools under the control of the DIA in standards 6 to 10 for the period 1974 to 1978 has increased.\*

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\* These ratios were calculated using the figures contained in Tables 4.7, 4.8 and 4.9.

TABLE 3.5 : RATIO OF PUPIL ENROLMENT IN EACH HIGH SCHOOL STANDARD TO THE ENROLMENT IN STD. 6 TAKEN AS 100 IN NATAL, TRANSVAAL, CAPE AND THE RSA (1974-1978)

	Std. 6	Std. 7	Std. 8	Std. 9	Std. 10
1974 : Natal	100	122,28	86,32	57,17	33,45
Transvaal	100	108,39	95,14	67,20	45,28
Cape	100	76,53	58,16	24,49	29,59
R.S.A.	100	119,92	87,37	58,36	35,12
1975 : Natal	100	93,57	105,99	47,41	34,78
Transvaal	100	100,93	122,57	62,93	45,82
Cape	100	102,47	81,48	24,69	17,28
R.S.A.	100	94,59	107,98	49,28	36,10
1976 : Natal	100	84,30	86,82	44,80	30,16
Transvaal	100	84,77	99,56	61,79	34,93
Cape	100	76,92	91,21	27,47	18,68
R.S.A.	100	84,32	88,50	46,90	30,71
1977 : Natal	100	86,80	82,06	39,79	31,54
Transvaal	100	95,19	96,53	61,11	40,76
Cape	100	93,81	63,40	18,04	12,37
R.S.A.	100	87,92	83,59	42,12	32,42
1978 : Natal	100	92,57	77,46	59,85	30,62
Transvaal	100	98,81	100,65	69,77	43,53
Cape	100	98,38	73,68	38,46	10,93
R.S.A.	100	93,39	80,08	60,67	31,81

From Table 3.5 it is observed that there has been a sharp decrease in the holding power of high schools from the third phase to the fourth phase beginning at standard 8. Compulsory school education, up to age 15, is expected to arrest this significant drop-out rate at the high school level. Further, the holding power of high schools in the Transvaal has been better than those for the other two provinces. In the Transvaal the drop-out rate is comparatively high at the standard 9 level. The holding power of high schools in the Cape as

reflected/

reflected in Table 3.5 is not realistic because the new high schools in Cape Town and East London are in the process of extending the class range to include pupils in the fourth phase.

The following Table 3.6 shows the drop-out rate of Indian pupils at high school level for the period 1973 to 1978 in the RSA. These calculations were made using the following Tables 4.7, 4.8 and 4.9 and pupil statistics for the period 1969 to 1972 from the records of the DIA, Division of Education. (102)

TABLE 3.6 : ELIMINATION OF INDIAN HIGH SCHOOL PUPILS IN THE RSA USING STD. 6 PUPILS AS 100 (1973-1978)

Year	Std. 6	Std. 7	Std. 8	Std. 9	Std. 10
1973	100,0	82,18	60,42	45,72	29,51
1974	100,0	92,74	64,23	46,23	31,78
1975	100,0	93,21	82,29	35,70	28,18
1976	100,0	95,81	99,11	40,61	25,28
1977	100,0	95,71	103,41	51,35	30,57
1978	100,0	97,56	91,09	78,41	40,52

The figures for standards 7, 8, 9 and 10 have been calculated as percentages of the corresponding cohort of standard 6 pupils. For example, the standard 8 figure for 1973 is 60,42% of the total number of standard 6 pupils in 1971. In Table 3.6 it is observed

that/

that the drop-out rate has been greatest in the period 1972 to 1976 when only 25,28% of the standard 6 pupils in 1972 were in standard 10 in 1976. There has been an improvement in the drop-out rate in the period 1973 to 1977, when 30,57% of the corresponding cohort of standard 6 pupils reached standard 10 in 1977.

In the period 1966 to 1978 the DIA provided no fewer than 57 primary schools and 28 high schools in Natal, Transvaal and the Cape. This is apart from the programme of modernising and extending facilities at 93 existing schools. This building programme represents a capital outlay of R52,91 million which excludes the cost of land, electrical installations and equipping of the buildings. There is additional capital expenditure for services under the new Minor Works Programme where essential services for a financial year, not costing more than R30 000 each, are provided, for example, prefabricated classrooms and adaptation room. (103)

The following Table 3.7 (page 152) shows the provision of schools in the three provinces under the control of the DIA. (104) It is evident from Table 3.7 that in Natal, in the period 1967 to 1978, there have been always more State-aided schools than State schools. However, the number of State-aided schools has dwindled over the years, decreasing from 211 schools in 1967 to 132 schools in March 1978. Moreover, the State-aided schools that closed were generally small schools, on the average about 7 classrooms each; whereas the provision of new State schools were 20 classroom primary schools

TABLE 3.7/

TABLE 3.7 : NO. OF INDIAN SCHOOLS (PRIMARY AND HIGH) IN NATAL, TRANSVAAL AND CAPE UNDER CONTROL OF THE DIA (1967-1978)

Year	NATAL				TRANSVAAL		CAPE		N.B.
	State		State-aided		H	P	H	P	
	H	P	H	P					
1967	33	40	4	207	19	44	-	-	(i) H = High Schools (ii) P = Primary Schools (iii) Schools in Transvaal and Cape are all State schools.
1968	37	51	5	202	17	44	-	-	
1969	38	67	5	191	19	44	-	-	
1970	40	72	5	180	20	44	-	-	
1971	40	78	4	172	20	44	1	-	
1972	45	90	4	163	20	44	1	-	
1973	46	97	4	157	20	43	1	-	
1974	47	97	4	151	20	42	1	-	
1975	48	100	4	146	19	42	1	-	
1976	48	102	4	143	19	42	1	-	
1977	51	112	4	136	19	42	2	1	
1978	54	114	4	128	19	42	3	1	

and 30 classroom high schools. In the Transvaal the number of schools was practically the same in this period. In the Cape the provision of Indian schools is done gradually because of political pressure and the desire of Indians to remain in mixed schools.

The following Table 3.8 (page 153) shows the number of primary and high schools, and number of primary and high school pupils under the control of the DIA in the period 1967 to 1978. Primary school pupils are from class (i) to standard 5, and high school

pupils are from standards 6 to 10. (105)

TABLE 3.8 : NO. OF SCHOOLS AND PUPILS (PRIMARY AND HIGH) UNDER CONTROL OF THE DIA (1967-1978)

Year	PRIMARY SCHOOLS		HIGH SCHOOLS		TOTAL (ALL SCHOOLS)	
	Schools	Pupils	Schools	Pupils	Schools	Pupils
1967	291	126 209	56	33 405	347	159 614
1968	297	119 824	59	35 758	356	155 582
1969	302	120 173	62	37 718	364	157 891
1970	296	122 747	65	40 229	361	162 976
1971	294	123 190	64	44 210	358	167 400
1972	297	124 298	69	47 289	366	171 587
1973	297	125 872	70	50 366	367	176 238
1974	290	130 281	71	50 434	361	180 715
1975	288	135 006	71	48 110	359	183 116
1976	287	138 276	71	49 382	358	187 658
1977	291	141 893	74	53 089	365	194 982
1978	285	147 865	80	58 401	365	206 266

In the period 1967 to 1978 the number of primary schools decreased from 291 in 1967 to 285 in 1978 while the number of high schools increased from 56 to 80 in the same period. As for the number of pupils in the corresponding period, the primary school population increased by 17,16% and the high school population by 74,83% over 11 years. Although the number of primary schools decreased in this period, the actual number of classrooms increased on account of the closure of small State-aided schools and the provision of new large State schools. Further, the DIA had to cope with an increased total

school population in this period when the increase was 29,23% over 11 years. The increase in school population from 1976 to 1977 was 3,90%, and one of the main factors contributing to this increase was that over a thousand Indian pupils sought to transfer from Coloured schools in the Cape to Indian schools. Further, the growth rate of high school population from 1977 to 1978 in the RSA was 9,74%, and this abnormal growth rate was largely on account of the extension of the practical course from std. 8 to std. 9 in 1978, whereby the holding power of high schools improved. (106)

Prior to transfer of control of Indian education to the DIA, the Indian community played a dominant role in the provision of school accommodation but, since 1966, the Indian community believes that the State has accepted total responsibility for the provision of school accommodation for Indian South Africans. Thus the Indian community has been exhorting the DIA to provide adequate and suitable accommodation in pressure-point areas through regular deputations.

The value of nursery school education is recognized universally as providing the infant with greater educational experience than would normally be provided in the home. The DIA regards nursery school education essentially as a localized facility, and it prefers to act as a central controlling body for nursery schools established by private enterprise, local authorities or other organizations. Nursery schools are required to register with the DIA so that certain minimum standards, governing among others, accommodation, equipment, and

personnel,

personnel, may be maintained. The DIA subsidises such registered schools on a per capita basis, and the present rate of subsidy is R7 per child per quarter. <sup>(107)</sup> The DIA supervised 6 nursery schools in 1977, of which 4 were in Natal and 2 in the Transvaal. In that year, the average pupil enrolment for a nursery school was 35,3 and the pupil-teacher ratio for such schools was 18,3. However, there are many private nursery schools which have not been registered with the DIA because they have not complied with the minimum standard norms for such schools. The DIA is making further investigations into the demand for nursery school education. It is confidently expected that the number of nursery schools will increase when a new basis for subsidy is finalised by the DIA. <sup>(108)</sup>

In order to meet the changing social patterns among Indians in this country, crèches are being provided for young working mothers who wish to leave their pre-school children in trained hands. In approved cases, the Department of Community Development makes sub-economic loans available to private welfare agencies who would like to promote the establishment of crèches. The DIA assists with an initial subsidy for furniture and equipment, and a per capita subsidy to such approved cases. <sup>(109)</sup>

Perhaps one of the greatest advantages in centralization of education was that more substantial national fund for Indian education became possible than was the case under provincial administrations. The following Table 3.9 (page 156) shows how State expenditure on Indian

education per capita increased sharply over the period 1910 to 1974, and moreso under the control of the DIA since 1965. (110)

TABLE 3.9 : ADJUSTED STATE EXPENDITURE ON INDIAN EDUCATION PER CAPITA OF POPULATION (1910-1974)

Year	Total in R1 000's	Adjusted Totals in R1 000's	Per capita of Population in R
1910	17	22	0,15
1945	869	657	2,34
1950	1 792	1 125	3,20
1955	3 466	1 715	4,11
1960	5 455	2 420	5,08
1965	9 803	3 892	7,10
<hr/>			
1966	11 194	4 287	7,57
1967	13 394	4 959	8,49
1970	18 450	6 231	8,71
1974	37 722	9 257	13,06
	(1)	(2)	

N.B. (1) This amount includes all current expenditure on primary secondary, vocational, technical and university education.

(2) In order to make the amount spent *per capita* (of population) comparable over the years, the annual current expenditure on education was adjusted in terms of the Consumer Price Index of 100 in 1938.

It is observed that the adjusted per capita expenditure has grown from a meagre R0,15 in 1910 to R4,11 in 1955 and to R7,10 prior

to take over of Indian education by the Department. After transfer of education to the DIA in Natal (1966) and Transvaal (1967), the per capita expenditure rose to R8,49 in 1967, and to R13,06 by 1974. Thus, from Table 3.9, it is evident that there was an increase of 236,98% in State expenditure on education and an increase of 72,52% per capita expenditure (adjusted) in the period 1966 to 1974 under the control of the DIA.

As compared with the other race groups for this period 1965 to 1974, the increase in adjusted per capita expenditure for Whites was from R25,3 to R34,2; for Coloureds from R7,06 to R9,34 and for Blacks from R0,77 to R2,03. The rate of expenditure on education increased faster per capita in the case of the Indian population during the last two decades than it did in the case of any of the other three race groups. One of the main reasons for this increased expenditure is the rapid development of high school education for Indians in this period. (111)

The expenditure by the State in the 1976-77 financial year for University education was R6 733 712, and an amount of R49 475 000 was voted for Indian education (excluding technical and university education) for the 1977-78 financial year. (112)

### 3.5 PROVISION OF ACCOMMODATION FOR STUDENTS PURSUING TEACHER EDUCATION AT COLLEGES OF EDUCATION

Apart from the University of Durban-Westville, three institutions were

responsible/

responsible for teacher-education until the end of 1973, that is, the Springfield College of Education, the Transvaal College of Education and the M.L. Sultan College for Advanced Technical Education. At the beginning of 1974, the teacher education division was transferred from the M.L. Sultan College for Advanced Technical Education to the Springfield College of Education. The former college of education offered diplomas in the fields of commerce, home economics, industrial arts and physical education. The remaining two colleges of education concerned offer three-year post Senior Certificate Education Diplomas in Pre-primary and Junior Primary, Senior Primary and Junior Secondary. The Springfield College of Education has separate hostel accommodation for male and female students in order to meet the demand for boarding by students from areas outside Durban. The Springfield College of Education supplies most of the primary and junior secondary school teachers for Natal while the Transvaal College of Education in Fordsburg, Johannesburg, caters primarily for students from the Transvaal. The latter college of education is invariably unable to meet the demand for teacher trainees locally, and this leeway for teacher supply is being counteracted by recruiting selected students from Natal. Lack of hostel accommodation at the Transvaal College of Education presents a problem in recruiting suitably-qualified students. This problem is expected to be solved when the proposed college of education with its hostels for male and female students in Laudium, Pretoria, is ready for occupation, in 1981. <sup>(113)</sup>

The effect of the Gericke Commission on institutions training future

teachers/

teachers is that the Minister of Education ruled, in terms of Government Notice No. 1103 published in the Government Gazette dated 10 July 1970, that the training courses for secondary school teachers being offered by the various colleges of education be gradually phased out and discontinued after 31 December 1976.<sup>(114)</sup> In the main the supply of teachers for the senior secondary phase is met by the University of Durban-Westville while the remaining teachers including teachers of certain specialist subjects like Industrial Arts, Home Economics and Physical Education are generally trained at both the colleges of education. The Springfield College of Education can accommodate a maximum student enrolment of 800, and the proposed Transvaal College of Education in Laudium is expected to carry a maximum of 300 students. The demand for accommodation at the colleges of education needs to be reviewed shortly in the light of the proposed institution of a four-year post-Senior Certificate course as being the minimum requirement for teacher trainees.<sup>(115)</sup>

The enrolment at teacher training institutions in 1977 was 701 students at the Springfield College of Education, 184 students at the Transvaal College of Education and 739 students at the University of Durban-Westville. At the Springfield College of Education there were, in the various years of study, 273 students following the pre-primary and junior primary education diploma, 165 students following the senior primary education diploma and 263 students following the junior secondary education diploma. At the Transvaal College of Education the number of students for the corresponding

diplomas was 28; 146; and 10. Student pursuing the junior secondary education diploma are being phased out at this college of education. At the University of Durban-Westville, in 1977, there were 253 students pursuing the Bachelor of Paedagogics degree in the different faculties and 434 students studying for teaching diplomas, including those for Resource Centre Managements, Special Education, School Counselling and Diplomas for Teachers of the Deaf and Hard of Hearing. (116)

### 3.6 CONCLUSIONS

Prior to transfer of education to the DIA, there was no provision for Indian languages in the school curriculum. Today, all the main Indian languages form an integral part of the school curriculum. Further, there was a clear cultural pattern emerging in the Indian community with acculturation. While much of the Oriental cultural norms have been retained, for example, in diet, art, music, and marriage ceremonies, yet the Western culture is predominant in this country on account of the ruling White government. Further, it is not economical for the State to provide for the diverse language sub-groups and religious sub-groups among Indians in all the schools, especially in so far as religion is concerned. Prior to transfer of control of education to the DIA, the levels of schools were basically primary schools and secondary schools.\* However, the DIA has

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\* In terms of the Indians Education Act, 1965, these secondary schools are classified as high schools.

encouraged the provision of nursery schools, crèches and special schools through subsidies to private organisations.

The DIA has made significant progress in its object of providing school accommodation over the last decade and, in the process, reduced the platoon school population substantially, improved the quality of the teaching spaces and kept pace with the natural growth in school population. The high growth rates in Indian school population and shortages in school accommodation are characteristics of developing countries. It is also noted that the Indian community itself has laid a strong foundation for its present state of education by providing the much-needed State-aided schools when there was such a dearth of school accommodation prior to transfer of control of education to the DIA.

The ratio of pupil-enrolment in each high school standard to the enrolment in standard 6 steadily decreases with each higher standard; and the sharp drop is noticeable at the standard 9 level as for the Whites in the RSA. Further, the drop-out rate for a cohort of pupils progressing from standard 6 to standard 10 is high in Indian schools. Thus, in 1976, only 25,28% of the 1972 pupils who were in standard 6 reached the standard 10 level. This high wastage rate is a national liability in terms of man-power resources and finance. However, this drop-out rate improved to 40,52%, by 1978, as evident from Table 3.6. While the average pupil-teacher ratios of about

27 : 1 compares very favourably for Indians with other race groups in the RSA (vide Table 3.4), the average pupil-loading of classrooms in primary schools was 32 and even higher in densely populated Indian areas like Chatsworth. The excess pupils in a primary school were accommodated in platoon classes. Classrooms are presently designed to accommodate a maximum of 40 pupils each.

Further, compulsory school attendance for Indians was initiated in 1973 on a class/standard basis, and this form of attendance did arrest the drop-out rate in primary schools on a piecemeal basis. However, it is desirable that compulsory education, as for Whites, be implemented for Indians in order to improve the holding power of both primary and high schools. The extension of the practical course up to standard 10 has also contributed in reducing the high drop-out rate obtaining in high schools. This trend is in keeping with the more progressively developed Western countries.

The number of State-aided schools under the control of the DIA is reducing, while the State is providing more schools which are also better designed and equipped. The Indian community has shown concern in the continuation of platoon classes in which the pupils are educated in unfavourable conditions; and this community is making representations through the school education committees and civic bodies for the general upliftment of standards in education.

Culture and the Indian education system correlate with the greater

cultural/

cultural needs of the community. The ground motive or spiritual driving force shows that the Indians have accepted a Western type of school in which much of the Oriental culture is retained and transmitted. Large numbers of pupils in developing countries may be an asset, but this is not so in Western countries. Thus, with acculturation and improvements in standards of living, the birth-rates for Indians have been decreasing steadily. Further, determining factors such as physical, biotic and cultural have also influenced the demographic distribution of Indians in the RSA and, hence, the local realisation of schools.

In the following Chapter Four a demographic study of the Indian population in the RSA is made in order to ascertain a trend for its future demand and supply of school accommodation based on population growth rates and the geographical distribution of pupils.

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## CHAPTER FOUR

### A DEMOGRAPHIC STUDY OF THE INDIAN POPULATION IN THE RSA

#### 4.1 Introduction

Ground motives such as the driving religious forces and technological advances and determining factors such as demographic, physical, biotic and cultural factors have influenced the local realisation of Indian schools. A comparative study of the various race groups in the RSA in regard to population growth rates is made in order to assess the relative demand in accommodation for Indians. The factors influencing the present growth patterns for the Indian population, the geographical distribution of Indians and its school population and the role of the Indians as a socio-cultural, political, economic and pressure group in the RSA have been discussed with a view to determining a trend for the future demand in school accommodation, and ascertaining whether the same determining factors and the same ground motives hold good for both the Indian society and its educational system. This chapter has been included as a setting for the considerations in regard to the planning of school accommodation in the pedagogical context for Indians.

The Department of Statistics records the various race groups in the RSA as follows: Whites, Coloureds, Asians\* and Bantu. The Asian

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\* Asian: term used to designate mainly Indians by the Dept. of Statistics

group is preponderantly of Indian origin. The only major non-Indian group is Chinese who numbered about 6 000 in 1970, and this group constituted just one per cent of the total Asian population of 620 436 in that year.<sup>(1)</sup> Thus Indians form the smallest of the four race groups in this country. The population distribution is largely one of historic origins, legal enactments and economic opportunities. Natal was the first province of the indentured immigrants but some of the free immigrants established themselves in the other provinces, particularly the traders who settled in the Transvaal when gold was discovered in the Witwatersrand.

#### 4.2 THE ROLE OF THE INDIANS AS A SOCIO-CULTURAL, POLITICAL, ECONOMIC AND PRESSURE GROUP IN THE RSA

Indian influences in Africa are more marked in East Africa than in the RSA partly because the Indian South Africans were indentured labourers who severed the cord with India and deliberately emphasised the value of being "South Africans" rather than "Indians," and partly because the Whites as rulers were determined to retain a Western tradition and stand as a bulwark against the East. Yet Indian culture is extant in Natal, giving this province a unique colour and atmosphere.<sup>(3)</sup> Much of the cultural content in urban and rural areas was consciously and deliberately derived and selected from traditional sources in India. The social system of India, particularly caste and village organisation, was replaced by the class structure and competitive individual economy in the South African milieu.<sup>(4)</sup>

Unlike many other immigrants who came to the RSA because of political or religious persecution, the indentured Indians came as individuals spurred on by a variety of incentives such as poverty, ambition, domestic tensions, restlessness of spirit, the urge to escape an epidemic or other misfortune. Some Indians hoped to return to India after acquiring wealth; others realised that they would never go back. The Indians in the RSA formed a society which differs from that of their forbears in India. Within the Indian community, the caste system in the RSA is fast losing its significance, and new elite structures are developing based on Western criteria. (5)

Traditional education was an integral part of religion. The Hindus and Muslims were evaluated primarily by their knowledge of the sacred books. Of late, the interest of Indians in traditional Indian culture has been intensified by obtaining the services of outstanding scholars trained in leading universities and ashrams. In Natal, Indian children who conformed in dress and habit to Western standards were permitted to attend European private schools but the Government discontinued the admission of Indian boys in 1899 and of Indian girls in 1905, to European schools. (6) Indian South Africans are in this country for over 100 years, but they trace their culture to one of the oldest known world civilizations, namely that of the Indus Valley. The intellectual and physical fusions of four influences, namely, the Dravidian, the Aryan, the Islamic and the British, have resulted in the Indian people. (7) Three streams of immigrants from India brought with them to South Africa their cultural differences and have upheld

their/

their identity in Hindi, Tamil and Telegu speaking groups. These sub-groups were most conspicuously recognised by their language and religion. The majority of the Indians are Hindus, others are the Muslims, the Christians, the Parsees and the Gujaratis. However, while there are differences of language and religion in the Indian society, these do not undermine its unity. Indians respect these differences, and consider some of them as having a vitalising effect on their composite cultures. The Indians constitute a single community in which members occupy numerous positions in the occupational and social hierarchy, regardless of such differences. (8)

Vernacular languages such as Tamil, Hindi and Arabic are recognised matriculation subjects for Indian South Africans. (9)

The Indians in the RSA cannot be called Orientals in the true sense because, as a minority group, they are constantly exposed to various media such as the radio, press, cinema and the television that have their roots in a Western civilization. However, their religion has always been a strong stabilising factor, and they express themselves in their art, printing, drama, music and dancing. (10)

Economically, Indian South Africans were recruited initially for the sugar plantations as a result of persistent demands for cheap and reliable labour in Natal, but they were employed subsequently on the railways, harbour, coal mines, municipal and domestic services. Distinct from the indentured, the "passenger Indians" entered the country under the ordinary immigration laws and at their own expense. These Indians came mainly to trade or serve in commerce.

They realised the economic potentialities in a young and developing country.<sup>(11)</sup> Indians are generally regarded as traders, and this is illustrated by the fact that, in 1970, although Indians constituted under 3% of the total population of the country, 8% of the wholesale and 20% of the retail enterprises in this country were Indian-owned.<sup>(12)</sup> Today there are many more opportunities of employment for Indians in this country than in the past, mainly through efforts to diversify the Indian economy. The tempo of economic development in this country resulted in a bigger demand for trained manpower, and this created opportunities for the Indians to be employed in an increasing range of occupations in the semi-skilled and skilled categories of work.<sup>(13)</sup>

Perhaps the attitude of Indians towards education as an investment can be seen best when one considers the contribution of the Indian community towards the building of State-aided schools. The fruits of this self-sacrifice are being reaped today in that the standard of education for Indians compares favourably with other population groups in this country. The Indians, almost as soon as they landed in this country, realised that their salvation lay in the education of their children.<sup>(14)</sup>

The relaxation of job reservations in industries and other areas of employment together with present-day inflationary trends in this country augurs well for the better educated Indian on a competitive

basis. Parents are encouraging their children to remain longer at school in order to attain the highest possible qualification because it is axiomatic that there is a positive correlation between educational attainment and income. <sup>(15)</sup>

Politically, in the early years, the passenger Indians enjoyed the same privileges as European colonists and were granted full voting rights. These voting rights were also extended to the indentured when freed from their service. However, on account of strong opposition by European settlers, the Indians lost the Parliamentary franchise in 1896, and municipal franchise in 1924. <sup>(16)</sup> The early Indians had no traditional leadership and, in South Africa, the immigrants developed new political organisations in accordance with their new status. The first political elite emerged from the trader class, challenging White privileges; and they were the first to be affected by the various anti-Indian legislations. Thus the merchants, mainly Muslims, took the initiative in organising legal defence against attacks on Indian trading rights while the Indians still under indenture voiced their grievances through government-appointed inspectors who visited their places of employment once or twice a year. Subsequently, Mahatma Gandhi shaped Indian political action through the Natal Indian Congress which he founded in 1894. <sup>(17)</sup> The broadening of Gandhi's Congress policy is reflected in the development of the first Passive Resistance Campaign. The Cape Town Agreement provided for the upliftment of educational and other facilities, and repatriation of Indians. The settlement of Indians in better serviced White suburbs was restricted through the "Pegging

Act" of 1943.<sup>(18)</sup>

There was competition and conflict between the Indians and Whites but the Indians, in terms of the agreement between the two British governments of India and Natal, expected full citizenship rights on expiry of their contracts "*with privileges no whit inferior to that of any other class of her Majesty's subjects resident in the colonies.*"<sup>(19)</sup> Successive legislation restricted the Indians the freedom to own immovable property throughout the country. Meer<sup>(20)</sup> points out that house-ownership is to the Indians what cattle ownership is to the Blacks, that is, it is a symbol of social status in the community in which he lives. Initially the Indian parent strove relentlessly to educate his children because of insecurity of tenure in this country. The fear of being expatriated always loomed large, and the Indian parent thus deemed it necessary to educate his children to enable them to apply themselves to fulfil future roles and occupations. Only as late as 1961 were the Indians recognised as part of the permanent population of this country.<sup>(21)</sup>

In 1964 the SAIC was created as a liaison body between the central government and the Indian community. This Council is expected to become a fully elected body with legislative powers on all matters affecting Indian people, including education. The Council's Executive is expected to develop to cabinet status when the Cabinet Council is created, which will serve to promote co-operation between the Council on the one hand, and the White Parliament and the central

government/

government on the other. (22)

By involving the Indian population in administrative executives, the DIA is ensuring that Indians will eventually be able to assume full responsibility for their own affairs, with a voice at the highest level in a joint cabinet committee together with Whites and Coloureds. Further, the appointment of Indians as full members on various statutory boards such as the Wage Board, the Transport Board and Censorship Board has certainly contributed to the promotion of the welfare of their people. (23)

In 1965 Parliament passed the Indians Education Act, 1965 (Act No. 61 of 1965) which provided for the creation of a Division of Education within the DIA. In terms of this Act, the control of education for Indians by the provincial and other education departments was transferred to the DIA, Division of Education:

- (a) Natal : with effect from 1 April 1966;
- (b) Transvaal : with effect from 1 April 1967; and
- (c) Cape : with effect from 1 January 1971. (24, 25, 26)

#### 4.3 SOME DEMOGRAPHIC DETAILS OF THE VARIOUS RACE GROUPS IN THE RSA

Table 4.1 (page 178) shows the population figures for the four race groups in the RSA from 1936 to 1970. (27) By far, the Black population is the largest in the RSA. The Asiatics form the smallest

TABLE 4.1 : POPULATION OF RACE GROUPS IN THE RSA (1936-1970)

Year	Whites	Coloureds	Asiatics	Blacks	Total
1936	2 003 334	769 241	219 691	6 595 597	9 587 863
1946	2 372 044	928 062	285 260	7 830 559	11 415 925
1951	2 641 689	1 103 016	366 664	8 560 083	12 671 452
1960	3 080 159	1 509 053	477 047	10 927 922	15 994 181
1970	3 751 328	2 018 453	620 436	15 057 952	21 448 169

race group in this country, constituting 2,30% of the total population in the RSA in 1936, and increasing steadily but albeit slowly to 2,89% of the total by 1970.

By 1936 the annual growth rate for Whites was 1,90%, for Coloureds 2,30%, for Asiatics 1,90% and for Blacks 2,30%. Thus, in that year, not only did Blacks constitute 68,79% of the total population in the RSA but they registered the highest natural growth rate. By 1970 the corresponding growth rates were 2,10% for Whites; 3,20% for Coloureds; 2,89% for Asiatics and 2,80% for the Blacks. Thus, in the period 1936 to 1970, the various race groups showed an increase in annual growth rates, except the Whites. By 1970, the Whites represented 17,49% of the total population in the RSA as compared with 20,89% of the corresponding total in 1936. (28)

There are more Indians in the RSA than in the rest of Africa combined. The South African Indian population traces its origin to the importation of the first indentured labourers from India into Natal in 1860. Although the system of indentured labour was abandoned

in 1911, there were 133 000 Indians settled in South Africa by that year. The Government of this country made several unsuccessful attempts to repatriate the Indians from this country on a voluntary basis, at government expense and augmented by bonuses. In 1961 the Government abandoned any further attempts at repatriating Indians. They were recognised as a permanent part of the South African population. (29)

Table 4.2 shows a comparison of vital statistics for the various race groups for the period 1940-1970. (30)

TABLE 4.2 : VITAL STATISTICS FOR WHITES, COLOUREDS AND ASIANS (1940-1970) AND BLACK ESTIMATES FOR 1970

Race Group	Year	RATES PER THOUSAND			
		Birth Rate	Mortality Rate	Natural Increase	Infant Mortality Rate
Whites	1940	25,2	9,4	15,8	50,1
	1950	25,1	8,7	16,4	35,7
	1960	24,8	8,7	16,1	29,6
	1970	23,5	9,1	14,4	20,9
Coloureds	1940	45,9	22,7	23,2	157,0
	1950	46,9	20,3	26,6	134,3
	1960	46,6	15,6	31,0	128,6
	1970	36,2	14,8	21,4	121,9
Asians	1940	38,6	13,8	24,8	89,9
	1950	37,9	11,5	26,4	68,5
	1960	29,7	7,6	22,1	59,6
	1970	32,7	6,8	25,9	35,6
Blacks	1970 (Estimates)	43,0	14,0	29,0	100-110.

From/

From Table 4.2 (Page 179) it is evident that the infant mortality rate shows rapid decrease in the period 1940 to 1970 for Coloureds, Whites and Asiatics, especially for the latter two race groups. While the birth rates are decreasing over the years for all the race groups, the birth rates are comparatively higher for Blacks and Coloureds. While the mortality rate is lowest for Whites, the mortality rate has improved by about 50%, from 1940 to 1970, for the Asians. The decreasing infant mortality rate, in particular, does influence the demand for school accommodation.

#### 4.4 FACTORS INFLUENCING POPULATION PROJECTIONS FOR INDIANS IN THE RSA

Sadie<sup>(31)</sup> maintains that, in order to make any meaningful projections of populations, it is necessary to obtain reliable statistics on:

- (a) a base population by sex and age; and
- (b) the three ingredients of population growth and change, namely, fertility, mortality and migration rate of the population.

In order to make a demographic study of the Indian population in the past and formulate reasonable assumptions about its future trends, it becomes necessary for the researcher to have accurate information on the census, vital and migration statistics. Research in the past has revealed that while these statistics are generally fairly accurate for Whites, this is not true in respect of Asians, Coloureds and the Blacks.<sup>(32)</sup> A comparison of the Indian population by age

and/

and sex at successive census dates reveals inconsistencies. It was found that the number of survivors aged  $x$  years in year  $t$  are in some cases found to be larger than the original cohorts aged  $x-5$  years enumerated in the year  $t-5$ , even allowing for immigration. Moreso, immigration for the Indian population is insignificant since foreign Indians, except for special cases, have been prohibited by law from settling in this country. In other cases the number of survivors of a particular cohort was too small to reflect a realistic survival ratio. In all the censuses, the age group (0-4 years) was grossly underenumerated.<sup>(33)</sup> For example, the 1970 census figures for the age group (1-4 years) in Natal was 56 490 Indian children. This gives an arithmetic mean of 14 122 children for each of the four successive years, and yet the annual intake of class (i) Indian pupils in Natal from 1973 to 1977 exceeded 18 000 pupils. It is evident that the Indian population has been underenumerated.<sup>(34,35)</sup>

Sadie<sup>(36)</sup> used the well-known balancing equation  $P_{t+n} = P_t + B - D + M$  in order to evaluate and adjust all other demographic data, where  $P_t$  and  $P_{t+n}$  denote population size in year  $t$  and  $(t+n)$  respectively,  $B$  for births,  $D$  for deaths and  $M$  for net immigration (or immigrants less emigrants). Earlier birth registrations among Indians have been unreliable. Only migration and deaths which are registered by law are the controlling factors that may be used to determine the validity of an Indian population base and its fertility.

4.4.1 Mortality

Using figures from previous censuses and survival ratios of the Indians, Sadie determined the following expectations of life at birth: <sup>(37)</sup>

TABLE 4.3 : LIFE EXPECTATIONS IN YEARS FOR INDIAN MALES AND FEMALES (1936-1970)

Sex	1936-41	1941-46	1946-51	1951-56	1955-60	1960-65	1965-70
Male	52,73	51,30	54,87	58,31	59,03	59,90	59,58
Female	50,88	49,94	55,05	59,87	61,21	62,86	63,69

From Table 4.3, the following deductions may be made:

- (a) Up to 1946 the life expectations of males was higher than that of females. The probable explanation here is that the high maternal mortality rate is associated with females;
- (b) The difference in life expectancy for males and females was becoming greater from 1946 onwards, that is, there was a difference of 0,18 years in the period 1946-51; 1,56 years in 1951-56; 2,18 years in 1955-60; 2,96 years in 1960-65 and 4,11 years in 1965-70;
- (c) There has been no significant change in the life expectancy for males since 1955; and
- (d) Since 1946 the life expectancy for females has been higher

than/

than those for males, and this difference tended to increase progressively over the years. The change in marriage habits together with the ability of the community to provide natal and post-natal medical facilities influenced the greater life expectancy of the females.

Thus, the drop in the death rate affected the natural increase of the Indian population.

#### 4.4.2 Fertility

Sadie used past census figures to determine fertility projections. (3) He calculated the figures and the gross reproduction rates (GRR) which measure the average number of daughters who will be born alive to each woman during the reproductive period of 15 to 49 years (assuming that she does not die before reaching the end of the cycle) from 1936 to 1965-70, using actual figures from censuses. Sadie found that the historic series of fertility rates at all ages of Indian females have been decreasing steadily when the GRR was a high 3,611 in 1936 to 1,935 in the period 1965-70. In the corresponding period the GRR for Whites decreased from 1,701 to 1,556; for Coloureds from 3,138 to 3,145 and for the Blacks from 3,202 to 3,133. It is anticipated that this downward trend will continue with further improvements in standards of living and change in cultural values, among other factors. However, an assumption is made that no specific fertility rate

should/

should be lower than that projected for White females. While the fertility rate of Asian women has been diminishing at all ages between 15 and 50 years, the most significant reductions occurred between 20 and 35 years, the period of highest fertility. The Indian population is now ageing. There was a process of demographic juvenescence up to 1951, and thereafter the population became older. The reduction in the mortality rate was responsible for raising the percentage in the age group 0-14 years between 1936 and 1951. After 1951 the force of declining birth rate has manifested itself. At the same time the life span of Asians appears to be reducing gradually at 65+ years age level. Thus, in 1941, it was found that 2,4% of the total Asian population was in the age group 65 years +, but this percentage attained a decreasing trend pattern so that, by 1970, only 1,8% of the population was in this age group. Further, the percentage distribution of Asians in the different age groups revealed that, whereas 46% of the population was in the age group 0-14 years in 1936, this corresponding percentage decreased to 40,3% by 1970. Consequently, the percentage distribution of Asians in the age group 15-64 years showed an increase from 51,8% in 1936 to 57,9% in 1970. Thus the Asian population is ageing in keeping with the cultural norms of advanced progressive countries. (39, 40)

Sadie<sup>(41)</sup> also found that the reproductive habits of Indian

women have changed significantly. Table 4.4 shows the percentage distribution of births by age of a cohort of women living through the fecund period (20 to 35 years).

TABLE 4.4 : PERCENTAGE DISTRIBUTION OF ASIAN BIRTHS BY AGE OF A COHORT OF WOMEN

Year	AGES OF FEMALES IN YEARS							
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	Total
1936	9,3	24,3	24,3	22,0	14,1	4,8	1,2	100,0
1960	6,2	26,0	29,2	18,7	14,0	4,7	1,2	100,0

From Table 4.4 it would appear that Asian women started the process of family-building at a later age in 1960 than those who lived in 1936. There was also a tendency to complete the family unit comparatively earlier. Further, according to 1970 census statistics<sup>(42)</sup>, of the Asian married females, only 4,3% were below 20 years of age while 20,6% were older than 40 years. Thus 75,1% of married females in the fecund period were in the age group 20 to 39 years. Further, in 1970, just under a quarter of the 5 940 widows were under the age of 35 years, and they are likely to be re-married. Thus, the future demand for school accommodation is influenced by the number of child-bearing females in the different age-groups.

The life styles of Asian women corresponds to life styles of

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urbanisation. In 1970, only 81 900 or 13,2% of the total of 620 436 Asians lived in rural areas of the RSA.<sup>(43)</sup> Thus the concentration of pupils in urban areas makes the provision of school accommodation economical in these areas.

Sadie also found that there was a tendency for Asian girls to marry much later. While in 1921, 10% of the females in the age group 10-14 years had already married, in 1960 only 0,05% out of a total of 33 910 in the same age-group had been married. Further, it was found that 92,8% of the females in the age-group 20-24 years were married in 1921 as against 52% of that age-group in 1960. It would appear that the changing marriage pattern among Asian females has an adverse effect on birth rates. Between 1921 and 1960, the expected average number of children who would be born to an Asian woman in the fecund period declined from 6,6 to 4,1 representing a reduction of 38%.<sup>(44)</sup>

#### 4.4.3 Immigration and Migration

During the period 1936-1960 there was a total net immigration of 9 100 Indians. This made a small contribution to the population growth, that is, 3,41% of a total increase of 266 540 in that period. However, it is known that the Indian population started initially as an immigrant group when the first contingent of 341 Indians arrived in Natal as indentured labourers in 1860. Between 1890 and 1914 the inflow of

immigrants/

immigrants averaged 1 400 per annum. Large scale immigration came to an end when the Admission of Persons to the Republic Regulation Act, 1913 (Act No. 22 of 1913) was passed, thus stemming the flow of future immigrants into this country. Further, in the period 1936-48, there were some 4 508 females out of a net immigration of 5 272 Indians. (45)

However, in early 1977, after several representations by the SAIC at Cabinet level, the Minister of Interior agreed to consider applications by Indian South Africans for the admission of their wives and children under the age of 16 years and who were born overseas. This recent dispensation to the Indian community is not expected to have a significant effect on its growth in population in this country. (46)

82,98% of the Indian population was settled in Natal in 1970. According to the 1970 census, the geographic distribution of the Asian population was as indicated in Table 4.5 for urban and rural areas in the different provinces. (47)

TABLE 4.5 : GEOGRAPHICAL DISTRIBUTION OF ASIANS IN URBAN AND RURAL AREAS BY PROVINCES IN 1970

Province	Urban	Rural	Total	% of Total
Natal	438 678	76 132	514 810	82,98
Transvaal	78 185	2 378	80 563	12,98
Cape	21 473	144	21 617	3,49
O.F.S.	5	0	5	0
Bantu Homelands	195	3 246	3 441	0,55
<b>TOTAL</b>	<b>538 536</b>	<b>81 900</b>	<b>620 436</b>	<b>100,00</b>

Just when Indians started seeking residence outside Natal, a law of the Orange Free State in 1891 prohibited Indians into that province, and a South African law of 1913 further pegged the migration of Indians from Natal.<sup>(48)</sup> From Table 4.5 it is observed that the Asians are a highly urbanised community. Further, 324 920 or 62,71% of the total population of Natal were living in the Durban-Pinetown complex. A quite extraordinary degree of demographic distribution is borne out by the fact that about two-thirds of the total Indian population in this country is concentrated in the Durban-Pinetown area, the Pietermaritzburg area, the Tongaat-Verulam area and the Witwatersrand area. No other population group is concentrated to quite the same extent as the Asians. However, of the 3 441 Indians living in the Bantu Homelands in 1970, no fewer than 2 736 were living in the rural areas of Inanda District of Natal. In the Transvaal the largest Asian settlements were in Lenasia (Johannesburg), Laudium (Pretoria) and Actonville (Benoni), constituting 71,66% of the total provincial population in 1970. In the same year in the Cape it was found that 82,83% of the total provincial Asian population was settled in Cape Town, Port Elizabeth and East London.<sup>(49)</sup>

In 1936 the urban Asians constituted 71,66% of its total population in the RSA. By 1960 the ratio of urban to rural population for Asians in the RSA was 83,23% to 16,77%. This trend appears to continue for, by 1970, the urban population

of the Asians constituted 86,80% of its total in the RSA. This movement of the Asian population into the urban areas facilitates the provision of more economical school accommodation in concentrated Indian areas. The movement of the Asian population towards urban areas, especially after 1960, has been influenced by such factors as the implementation of the Group Areas Act, better job opportunities, and availability of school and housing accommodation. Further, if the present trends in urbanisation continues in Natal, it is expected that the huge Phoenix-Newlands housing complex will attract more Asians in the present decade from the rural areas.<sup>(50)</sup> It is, therefore, natural that the largest number of schools for any one area in the present five-year School Building Programme will be in Phoenix-Newlands.

#### 4.5 THE DISTRIBUTION OF INDIAN PUPILS BY PROVINCES SINCE 1970

##### 4.5.1 Introduction

Since 1966 in Natal, 1967 in the Transvaal and 1971 in the Cape, all Indian schools in these provinces are under the control of the DIA. The demand for school accommodation for Indian pupils was economical in only these three provinces because there was an insignificant number of Indians elsewhere in the RSA. According to the 1970 census figures<sup>(51)</sup>, there were 620 436 Asians in the RSA, of whom 514 810 (82,98% of the total) were in Natal, 80 563 in the Transvaal, 21 617 in the

Cape, 5 in the Orange Free State and 3 441 in the Bantu Homelands. It is noteworthy that, of these 620 436 Asians, no fewer than 538 536 were settled in urban areas thus making the provision of school accommodation for Indians in urban areas more economical.

4.5.2 The distribution of school population in the different provinces

In 1970 there were 141 256 pupils in Natal and 21 720 pupils in the Transvaal under the control of the DIA<sup>(52)</sup>. According to the 1970 census figures there were 164 570 Asians in the age-group 5 to 16 years living in Natal<sup>(53)</sup>, and thus the Natal school population in that year represented 85,83% of this age-group. According to the same census, there were 23 480 Asians in the Transvaal in the age-group 5 to 16 years, and the school population in the Transvaal represented 92,50% of this age-group. It would appear that the holding power of schools in the Transvaal is higher than that of Natal.

The following Table 4.6 (Page 191) shows the distribution of actual pupil enrolments under the control of the DIA in Natal, the Transvaal and the Cape in the period 1971-1978.<sup>(54)</sup>

TABLE 4.6 : ACTUAL PUPIL ENROLMENTS UNDER CONTROL OF THE DIA IN NATAL, TRANSVAAL AND CAPE (1971-1978)

Province	1971	1972	1973	1974	1975	1976	1977	1978
Natal	144 497	148 508	152 954	157 272	159 620	163 700	168 733	176 579
Transvaal	22 163	22 275	22 438	22 529	22 569	23 006	24 123	25 280
Cape	740	804	846	914	927	952	2 126	2 811
TOTAL	167 400	171 587	176 238	180 715	183 116	187 658	194 982	204 670

In the above-mentioned table the abnormal increase in school population in the Cape is attributed mainly to the transfer of Indian pupils from Coloured schools to schools under the control of the DIA, as the latter schools became available at different centres. In 1978, by far, the largest Indian school population was in Natal, and this population constituted 86,27% of the total school population under the control of the DIA. Thus the demand for school accommodation was greatest in Natal.

The following Table 4.7 (Page 192) shows the class distribution of actual pupil enrolments in Indian schools in Natal for the period 1973 to 1978.<sup>(55)</sup> In the period 1973 to 1975 the primary school population growth rate has been greater than that for the corresponding high school population. In fact, in the years 1973 and 1975, there had been negative growth rates. In the period 1976 to 1978, there have been significantly high growth rates for high school populations, and a reducing growth rate for primary

school/

school population from 1973 to 1977. Compulsory school attendance for primary school pupils is probably one of the major factors contributing to the stabilising of the primary school population. However, the high school growth rate is expected to increase further with the extension of the practical course to standard 10 in 1979.

TABLE 4.7 : NATAL - CLASS DISTRIBUTION OF ACTUAL PUPIL ENROLMENTS IN INDIAN SCHOOLS (1973-1978) BUT EXCLUDING SPECIAL SCHOOLS

	1973	1974	1975	1976	1977	1978
Cl. (i)	18 636	18 289	<b>18 056</b>	18 717	19 227	19 687
(ii)	18 641	19 339	19 262	18 889	18 965	19 789
Std. 1	16 505	17 217	17 917	17 712	17 623	17 638
Phase 1	53 782	54 845	55 235	55 318	55 815	57 114
Std. 2	16 280	16 165	16 830	17 644	17 541	17 372
3	15 366	16 910	17 035	17 384	18 055	18 143
4	12 790	14 290	15 596	16 005	16 583	17 347
Adj. Cl.	738	886	1 080	1 123	1 026	1 128
Phase 2	45 174	48 251	50 541	52 156	53 205	53 990
<b>Primary Total</b>	<b>98 956</b>	<b>103 096</b>	<b>105 776</b>	<b>107 474</b>	<b>109 020</b>	<b>111 104</b>
Std. 5	11 525	11 559	12 970	14 111	14 550	15 275
6	13 989	10 675	10 707	12 169	13 276	13 925
7	12 081	13 053	10 019	10 259	11 523	12 891
Phase 3	37 595	35 287	33 696	36 539	39 349	42 091
Std. 8	7 971	9 215	11 348	10 565	10 894	10 786
9	5 106	6 103	5 076	5 452	5 283	8 334
10	3 326	3 571	3 724	3 670	4 187	4 264
Phase 4	16 403	18 889	20 148	19 687	20 364	23 384
<b>High Total</b>	<b>53 998</b>	<b>54 176</b>	<b>53 844</b>	<b>56 226</b>	<b>59 713</b>	<b>65 475</b>
<b>Grand Total</b>	<b>152 954</b>	<b>157 272</b>	<b>159 620</b>	<b>163 700</b>	<b>168 733</b>	<b>176 579</b>
<u>Growth % p.a.</u>						
Phase 1	2,11	1,94	0,71	0,15	0,90	2,33
Phase 2	8,24	6,85	4,75	3,20	2,01	1,48
Phase 3	-3,77	-6,18	-4,51	8,44	7,69	6,97
Phase 4	8,77	15,19	6,67	-2,29	3,44	14,83
Primary Total	4,85	4,18	2,60	1,61	1,44	1,91
High Total	-0,25	0,33	-0,61	4,42	6,20	9,65
Grand Total	2,91	2,84	1,49	2,56	3,07	4,65

Table 4.8 shows the class distribution of actual pupil enrolments in Indian schools in the Transvaal in the period 1973 to 1978. <sup>(56)</sup>

TABLE 4.8 : TRANSVAAL - CLASS DISTRIBUTION OF ACTUAL PUPIL ENROLMENTS IN INDIAN SCHOOLS (1973-1978) BUT EXCLUDING SPECIAL SCHOOLS

	1973	1974	1975	1976	1977	1978
Cl. (i)	2 396	2 412	2 560	2 565	2 829	3 007
(ii)	2 311	2 281	2 325	2 497	2 521	2 702
Std. 1	2 185	2 278	2 297	2 302	2 467	2 546
Phase 1	6 892	6 971	7 182	7 364	7 817	8 255
Std. 2	2 112	2 141	2 235	2 262	2 321	2 444
3	2 052	2 080	2 151	2 264	2 259	2 359
4	1 827	1 995	1 986	2 108	2 245	2 275
Adj. Cl.	16	70	82	59	129	110
Phase 2	6 007	6 286	6 454	6 693	6 954	7 188
Primary Total	12 899	13 257	13 636	14 057	14 771	15 443
Std. 5	1 857	1 738	1 961	1 968	1 984	2 176
6	2 213	1 811	1 613	1 832	1 872	1 856
7	1 920	1 963	1 628	1 553	1 782	1 834
Phase 3	5 990	5 512	5 202	5 353	5 638	5 866
Std. 8	1 628	1 723	1 977	1 824	1 807	1 868
9	1 215	1 217	1 015	1 132	1 144	1 295
10	706	820	739	640	763	808
Phase 4	3 549	3 760	3 731	3 596	3 714	3 971
High Total	9 539	9 272	8 933	8 949	9 352	9 837
Grand Total	22 438	22 529	22 569	23 006	24 123	25 280
<u>Growth % p.a.</u>						
Phase 1	3,03	1,13	3,03	2,53	6,15	5,60
Phase 2	2,40	4,63	2,67	3,70	3,90	3,36
Phase 3	-4,65	-7,99	-5,62	2,90	5,32	4,04
Phase 4	3,33	5,92	-0,77	-3,62	3,28	6,92
Primary Total	2,68	2,76	2,86	3,09	5,08	4,55
High Total	-1,79	-2,80	-3,66	0,18	4,50	5,19
Grand Total	0,77	0,41	0,18	1,94	4,86	4,80

In Table 4.8 it is observed that the primary school growth rate has been an increasing factor in the Transvaal in the period 1973 to 1977, and virtually doubling itself to 5,08% p.a. in this period. The high school growth rate has been increasing rapidly from -3,66% p.a. in 1975 to +5,19% p.a. in 1978. These rapid growth rates in school populations have made big demands on school accommodation, and they have created pressure points for accommodation in areas such as Lenasia, Laudium and Actonville.

TABLE 4.9 : CAPE PROVINCE - CLASS DISTRIBUTION OF ACTUAL PUPIL ENROLMENTS IN INDIAN SCHOOLS (1973-1978) BUT EXCLUDING SPECIAL SCHOOLS

	1973	1974	1975	1976	1977	1978
Cl. (i)	88	115	100	120	323	346
(ii)	74	67	126	117	230	363
Std. 1	89	83	65	88	229	259
Phase 1	251	265	291	325	782	968
Std. 2	84	87	90	71	230	278
3	105	84	97	97	175	288
4	95	102	91	99	193	233
Adj. Cl.	-	-	-	-	-	-
Phase 2	284	273	278	267	598	799
Primary Total	535	538	569	592	1 380	1 767
Std. 5	100	93	94	74	188	250
6	71	98	81	91	194	247
7	67	75	83	70	182	243
Phase 3	238	266	258	235	564	740
Std. 8	34	57	66	83	123	182
9	39	24	20	25	35	95
10	-	29	14	17	24	27
Phase 4	73	110	100	125	182	304
High Total	311	376	358	360	746	1 044
Grand Total	846	914	927	952	2 126	2 811
<u>Growth % p.a.</u>						
Phase 1	1,22	5,52	9,81	11,68	140,62	23,79
Phase 2	-7,78	-3,82	1,83	-3,96	123,97	33,61
Phase 3	18,42	11,72	-3,01	-8,92	140,00	31,21
Phase 4	55,39	50,66	-9,10	25,00	45,60	67,03
Primary Total	-3,78	0,56	5,76	4,04	133,11	28,04
High Total	25,40	20,90	-4,79	0,56	107,22	39,95
Grand Total	5,22	8,03	1,42	2,70	123,32	32,22

Table 4.9 shows the class distribution of actual pupil enrolments in Indian schools in the Cape in the period 1973 to 1978. <sup>(57)</sup>

The abnormal increase in school population in 1977 was on account of the opening of the second high school in the Cape, namely, Rylands High School in Cape Town with an initial class range

from/

from class (i) to standard 8. Until all Indian pupils attending Coloured schools in the Cape are transferred to Indian schools and all the Indian schools attain a normal class range, a chequered pattern is expected in growth rates for school populations in this province.

From the distribution of pupils for the three provinces concerned, it is evident that, by far, the greatest demand for school accommodation is in Natal. In 1978 Natal had a demand for 86,27% of the total demand in RSA, Transvaal 12,35% and Cape 1,38%. From Table 6.3 it can be observed that the number of Indian schools in 1978 was 300 in Natal, 61 in Transvaal and 4 in the Cape.

#### 4.6 CONCLUSIONS

It is anticipated that the different sub-cultural groups of the Indian population in the RSA will continue to retain their Oriental religious doctrines. The Indian languages are expected to be retained and, perhaps, extended in the school curricula. However, these Oriental languages are expected to play a comparatively diminishing role in Indian education in the future on account of the anticipated integration of Black languages into the school curricula. Essentially, the Indian school in the RSA is expected to be the bearer of a Western culture.

With improvement in standards of living among the Indians in this

country/

country, the birth rates of Indians is decreasing steadily, and this will consequently affect the future demand for school accommodation. Of particular importance is that Indian females are marrying at a later age and planning smaller family units, and this trend is in keeping with Western cultural norms. Further, the demand for Indian school accommodation in the RSA is expected to be based largely on natural growth. The demand for future school accommodation is not expected to be affected significantly on account of immigration because of at least two factors, namely, the immigration laws for Indian South Africans is restrictive and the political climate in this country is not expected to attract many immigrants.

The largest geographical distribution of Indians in the RSA is by far in Natal and, therefore, expectedly, the largest demand for school accommodation is in this province. The growth rate of the Indian population is lower in the Transvaal than in Natal because the more affluent Indians in the Transvaal have smaller family units.

The Indians in this country are essentially an urban group. In 1936 the urban Indians represented 71,66% of their total in the RSA, and this percentage increased to 86,80% by 1970. This pattern is expected to continue in the next decade on account of better job opportunities, housing and school accommodation, especially at the high school level, being more easily available in urban areas. From the point of provision of school accommodation, it is easily discernible that it

will/

will be more economical for the DIA to provide schools in densely populated areas.

The DIA, Division of Education, took transfer of control of Indian education from the NED in April 1966 and from the TED in April 1967. In the period 1967 to 1978, under the control of the DIA, the total school population increased from 159 614 to 204 670, a natural growth rate of 28,23%. In the same period the demand for primary school accommodation for natural growth alone increased by 15,63% and, for high school accommodation, by a phenomenal growth rate of 56,97% in the corresponding period. The DIA was also responsible for the provision of additional school accommodation on account of movement of Indians affected by the Group Areas Act, the closure of State-aided schools and the replacement of unsatisfactory classroom accommodation.

For at least the next decade, Indian schools are expected to serve the Indian community predominantly. However, these are already pressures in certain areas of the RSA for schools to become multi-racial in character. Among the non-White race groups in the RSA, the serious shortages of school accommodation, the quality of teachers and the mode of transmission of cultures are at variance with the different education departments. These factors militate against integration of the different race groups in significant numbers at the present time, but this trend is a probability for the future.

The infiltration of Indian art, music, drama, housecraft, handicraft, right living and languages into the school curriculum makes it essential for the education planner to review the needs of the Indians community in the provision of physical amenities at schools. It is significant that, if the Indian community were more affluent, more of the State-aided schools like the Orient High School in Durban would have embraced Oriental designs and motifs in the external feature of the schools. In this way these schools would have transmitted much of the Oriental architecture. Further, Indian schools do not promote vernacular education during normal school hours probably because of the existing tight school curriculum, the diverse linguistic and religious Indian groups and the uneconomic demand by certain of these groups. Ground motives such as religious forces determine the needs of sub-cultural groups as, for example, the demands made by Muslims for Oriental type toilets in a Western school and concession to leave school during normal school hours for worship in mosques.

The four chapters in Part One of the thesis gives a historical, comparative and demographic background study to an understanding of the planning and provision of school accommodation viewed against the background of the function of the contemporary school. Part Two deals with the analytical and constructive aspects of this study. With the background study made in Part One, the writer discusses in Part Two school accommodation in the pedagogical context, an

analytical/

analytical study of pupil projections, the norms in the physical planning of schools and the function of the contemporary school in meeting the demands of differentiated education before making proposals which are believed to be the future needs of the Indian community.

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PART TWO

ANALYTICAL AND CONSTRUCTIVE ASPECTS

CHAPTER FIVE

SCHOOL ACCOMMODATION IN THE PEDAGOGICAL CONTEXT

5.1 INTRODUCTION

School accommodation has a definitive place within the educational system. It is necessary to take a closer look at the function of the contemporary school by examining both its universal and local features. The role of natural and cultural factors in determining the local realisation of the school together with their implications in regard to aims, methods, curriculum, media and facilities, organisation and administration show the importance of school accommodation in the pedagogical context. Indian education is modelled on the White system of education in the RSA based on Western cultural norms.

5.2 THE THREE-FOLD CONNECTION OF EDUCATION SYSTEMS WITH CULTURE

Culture is the essence of human existence. It is the sum total of human creation which springs from adaptations to various environmental circumstances. It is essentially the product of man's

pre-occupation/

pre-occupation with nature. Man in the exercise of his cultural mandate from civilization creates cultures in all aspects of reality, for example, agriculture, aesthetic culture, physical culture, linguistic culture and religious culture. In this world of culture, we find pedagogic culture as well, and with it the education system. To subjugate the cosmos, to manage and control it, to give it constantly new use in changing circumstances is the progressive cultural mandate of man. It is the task of every generation to transmit received culture and religious revelations to non-adult generation. Thus, it is evident that education systems are correlated with culture in three ways:

- (a) The education system has the task of cultural transmission;
- (b) The education system has the task of equipping the not-yet-adult sector of the population for its own adult cultural mandate in accordance with the divergent ability and possibilities among them; and
- (c) As a system it is in itself an integral part of the national culture milieu, and, as such, pedagogic culture.

An education system is essentially a network of instructive education interwoven with the culture and the society to which it belongs. <sup>(1)</sup>

It is in the light of this three-fold connection with culture that the role of Indian education in the RSA is envisaged. Indian South Africans follow the same basic system of education as Whites, as

spelt out in the National Education Policy Act of 1967, with minor modifications to provide for the transmission of certain Eastern cultural norms. While this Act provides for a system of education which is essentially Christian and national in character and for the broad development of the child in terms of the requirements for differentiated education, in Indian education there is flexibility to allow for the diffusion of other religions as well, such as Hinduism and Islam. Within a similar type of school plant as for Whites, differentiated education is implemented for Indians but the school curriculum permits the teaching of Oriental languages such as Tamil, Hindi, Arabic and Telegu, the preparation of Eastern meals as well as the sewing of Eastern garments in the Home Economics centre and the propagation of Eastern themes in school subjects such as art, music, drama (school plays), right-living and handicrafts.<sup>(2)</sup> Thus, the Indian education-system does differ from that of the White education-system in this country in certain cultural respects, and its distinctiveness is accentuated by virtue of the fact that the system of education for Indians meets the pedagogic cultural needs of its own particular community.

### 5.3 THE SCHOOL AS AN EDUCATIONAL INSTITUTION WITHIN THE EDUCATION SYSTEM

#### 5.3.1 Its universal features

Although one may talk of universal features of a school as an institution, no two education systems, schools, curricula or lessons are the same. Therefore, each school is seen as being different, and, in a sense, unique.<sup>(3)</sup> The school is

seen/

seen in its specific relationship; that is, as an educative instruction in which growing and developing children are instructed and educated by trained teachers by means of differentiated subject-matter in a methodically planned way in observance of certain norms. The "all-embracing" concept of school includes the understanding and relationship between the child, the teacher, the tutorial matter, the aims, the methods, the curriculum, the educational media, aids and facilities, and organisation and administration. (4)

The school is an institution established to provide the child with emotional and intellectual upliftment, together with education. It is within this framework of civilised culture that the school, together with the family, the church, the state, teachers' associations and other related bodies, constitutes a community unit pursuing a common goal. Man's cultural striving is dedicated to the maintenance and expansion of his civilization. Therefore, one of the main functions of the school is to guide the child to a realisation of this aim. (5) Perhaps, in Indian education, the church does not play such a significant role but TASA, the SAIC and even welfare organisations act as custodians of Indian education.

#### 5.3.1.1 The school as a Social group

The education in the home is concerned primarily with the formation of the affective life and the psycho-motor training of

the/

the child. However, as the child becomes more disassociated from reality in the higher levels of development, he must be systematically helped to master the culture or contents of life to which he is being guided in the school situation. The teachers are observed as adults in the school, with a special knowledge of the cultural contents as a system, and accompanying the child-as-totality to self-realization and so to adulthood.<sup>(6)</sup> The school is not an extension of the family, or vice versa, but it has its own unique and essential character because of its structure. In the Indian school the education of the children must be integrated with the children's views of life, and it must be linked with the Indian families and the South African nation to which they belong.

#### 5.3.1.2 The school as a bearer of cultural heritage

Culture has significance only when it is a continuation of what man has already evolved in well-defined societal relationships such as the nation, the state, the church, the family and the school. Differentiation of cultures becomes necessary. In the upliftment of their own culture, men trade on the achievements of others and integrate the cultural achievements of others into their own cultural pattern. This differentiation in culture obtains in the Indian community. Man's cultural heritage is observed as being eventually transferred to and embodied in the school's body of learning.<sup>(7)</sup>

5.3.1.3 The school as a transmitter of culture

As the community develops and its culture grows in magnitude, the transmission of culture no longer becomes a simple and natural process. Where culture is organised into a system according to definite rules, we may speak of a school. Unsystematized moulding and teaching of the young does not cease when the school comes into being, but is supplemented by systematized education in the school. On account of the close connection between the school and the culture of the community it serves, the school has an increasingly important responsibility especially in progressive communities. Thus the survival of any community depends to a certain extent on how its schools meet this challenge.<sup>(8)</sup> Thus, when the authorities concerned made no serious effort to provide adequate school accommodation for Indians in the RSA, the community initiated State-aided schools which, by far, outnumbered the supply of State schools.<sup>(9)</sup> Apart from the important function of the school as a transmitter of culture, the school has a further task of educating the child as a whole person, to lead the child to cultural maturity and to perform its educative task of instruction and development of personality in a properly planned and organised institution.

5.3.1.4 The nature of the educational task of the school

The school has many tasks but, fundamentally, the object of the school is to cultivate - that is, the pupil must be educated

to a mature cultural level to enable him to assume a responsible role in his community. The school is responsible for the intellectual development of the child. The child, however, is seen as a complex being and must be educated *as a totality*, that is, including the intellectual, emotional, physical, social, economical, aesthetic and juridicial functions of man. Thus, the task of the school is seen as an extension of the educational objectives developed in the home. Further, since not all homes have the same philosophy of life, the school should reflect the diverse philosophies of the community. Another function of the school is to pass on to youth that which is common and serves as a bond in the community, thus protecting the principle of unity in the community and promoting the existence, survival and development of the community. The school is expected to educate a given community by formulating its ideals. It is not expected to function independently or in isolation from the community. However, a school may use the knowledge and experience of an outside culture in the process of transmitting its own culture. Although the community may set the values, the ideals and goals of education, the school must be free to decide on educational methods and to implement its decisions so that all that the community expects from the school can be realized. Where the teaching of the child in a home is not conducive to the welfare of the community, the child's home education and moulding must be corrected by the school. <sup>(10)</sup>

5.3.1.5 The task of the school in the child's life

The task of the school is to lead the child via educative teaching to cultural maturity, where reality is subject to norms and the child must learn to accept these norms. The role fulfilled by the school in the child's life is an inseparable whole; that is, this role is identified with the role of the home and the community, and with the role of any social group or institution with which he comes into contact. The transmission of knowledge is considered to be the specialised function of the school for both pupil and community. However, true knowledge does not imply the mere accumulation of unrelated facts but the correlation, analysis and synthesis of facts, distinction between the essential and the incidental, and the marking of correct deductions in order to lay a foundation for further knowledge and deeper insight. Further, teaching is important not only as a means to knowledge and basic skills, but also as a means of defining and transmitting norms, ideals and attitudes in the pupil, and the moulding of his character. Physical education and the welfare of the child must also be taken cognisance of in the development of the whole person. (11)

5.3.1.6 How the school performs its educative task of instruction and development

In order to obtain the optimum benefits in teaching, it is essential that the school be properly planned and organised, with tuition provided methodically and scientifically. The school executes its task of developing the child's personality through the transmission and advancement of culture. The *recasting* of culture includes the systematisation, the purification and the selection of culture leading to a more worthwhile culture as an inspiration to young people to develop and extend when they leave school. Inherent in the instruction at school should be the motivation of youth to an *active* acceptance of culture. Instruction should be unquestionably educative and goal-directed in order to achieve purposeful moulding of the young. Further, the entire school milieu is educative or formative, that is, the teachers and pupils, intra- and extra-mural activities and the school plant, all contribute to the school milieu.<sup>(12)</sup>

5.3.1.7 The nature (structure) of the school

The school, where it is observed as an institution for instruction, has its own specific character with

special emphasis on intellectual formation within the general structure of education. The school is mainly concerned with freeing the child's intellectual or analytical faculties by imparting a body of knowledge and availing itself of educational aids.<sup>(13)</sup> According to Stone<sup>(14)</sup>, the school's structure may be described in terms of the following six typifying characteristics:

- (a) *Planning*: School instruction includes thorough planning of the time-table, the curriculum and subject matters, the allocation of duty to teachers and the preparation of lessons.
- (b) *The type of school*: The type of school is intimately related to the pupils' potential for development, school maturity and age, among other factors. The different types of schools include those for normal and retarded children, primary and secondary schools, among others. The implications for this study are obvious, now that the State has accepted responsibility for the whole spectrum of Indian education.
- (c) *The teacher*: Schools require teachers with the necessary academic and professional training to

teach/

teach the particular class or subject. In Indian education, one of the objects of the DIA has been to offer suitable in-service teacher education courses for those inadequately qualified in certain special subjects like Afrikaans, Mathematics, the Sciences and Industrial Arts.

- (d) *Differentiation* : The school originated in the course of cultural development. As an analogy we may consider the evolution from the farm school to the modern high school, differentiating into such fields as academic, technical, commercial, scientific, domestic or agricultural.
- (e) *Relation with the other spheres of life* : The structure of the school can be seen in the area of differentiation as well as in the interweaving with the other spheres, for example, the family, the church, the state and teachers' associations.
- (f) *Norms and ideals* : The school is characterized by the norms and ideals (aims) which are used to typify education and teaching. These norms spring from the people and/or the nation's philosophy, which is influenced by certain religious forces or ground motives. These views influence the norms

and ideals on which certain types of schools have been based - for example, education for Whites in this country is based on the principles of Christian and national education as entrenched in the National Education Policy Act of 1967.

#### 5.3.1.8 Pre-school

The child's pre-school education evolves around the family and the experience beyond the family circle. Thus the adjustment on first entering a school is very important. Probably the main objective of the nursery school is to help the child with this first adjustment in the complex social structure outside the home. In the more intimate atmosphere of the nursery school, free from the tyranny of formal instruction and examinations, the young child enters a sound, pedagogically-prepared field in which he is an active member of the social group. (15)

#### 5.3.1.9 The education system as an interwoven structure

The primary factor of the general characteristics of education systems is that they are interwoven structures; that is, a combination of educational institutions (schools) with other social structures such as the state, the churches, the families,

teachers'

teachers' associations, universities and economic activities. All these bodies occur in a given combination with a view to making a common country-wide education possible. This combination is known as a structural network or interwoven structure. Fundamentally, there are two kinds of interwoven structures or education systems. One is a coherence in which one institution plays the dominant role (for example, the state in a monopoly system) or two institutions play the dominant role (for example, the state and the church in a bipolar system). The other is a coherence in which one institution does not limit the power of the others by its dominant role.<sup>(16)</sup>

The cohesion need not consist in a whole, for example, the state and its subsidiary parts such as the schools as it was during the Middle Ages, when the schools were an integral part of the Church. An education system ought to be directed by educational considerations and with educational norms. According to Stone<sup>(17)</sup>, the education system may not be subjected to the state or church. If such an education system is subjected, then the school is not a free part of the whole of another social structure, and it is restricted in its powers.

In the national education system, the state plays a

special role because school education is territorially interwoven with it. The judicial functions of the state are entrenched through legislations in which the responsibilities and powers of the school, the local, provincial and central authorities, the teachers' associations and the parents' education committees are laid down. The functions of all the institutions concerned in education are harmonised in order to provide for an orderly education system. Since in any education system, as a pedagogic structure, pedagogic considerations hold, the *school* is the central structure in the network. The planning, legislation, implementation, administration and organisation in a school will naturally be pedagogically orientated. Further, in its organisational aspect, an education system has "nodal points" in its complex. These nodal points formed between a school (or schools) and one of the other social structures are essential for communication, co-operation and to give shape to the interdependence. For example, a school committee may be a nodal point between the school and its parents or an education department can be an organisational nodal point between the schools and the government authority.<sup>(18)</sup> Provision for such an interwoven structure within the education system for Indians is embodied in the Indians Education Act, 1961, (Act No. 61 of 1965).

Some of the characteristics of an education system are the following: Education systems are planned for the child with a view to his development to adulthood. Such education systems function by the labour of professionally equipped teachers. Generally, education systems function in time and reflect a certain attitude to the past, present and future trends. However, all education systems exist for at least two functions, namely, to develop the possibilities of the young so that they can accept their mandate as adults, and to open up reality for the young by systematising, selecting, purifying and simplifying it. At the roots of culture are certain fundamental insights, convictions and assumptions about man and his world, for example, it may be a humanistic or a Christian conception. These fundamental convictions, ground motives and resulting philosophies of life play a decisive part in the evolution of education systems. (19)

### 5.3.2 Determinants of local education and local features

Within the above-mentioned common structure of an education system, we observe that the education systems of two countries may differ widely; for example, the education systems of the USA and the RSA, as discussed in Chapter II.

5.3.2.1 A correlative interwovenness

All education systems function on the basis of their particular nature and, more especially, of their own particular culture. There is a correlative interwovenness or relation between an education system and the cultural milieu in which it exists.<sup>(20)</sup> In this respect Hall<sup>(21)</sup> asserts that the study of comparative education involves the study of the interaction between the educational process (with its methods, personnel and institutions) and society.

5.3.2.2 Cultural principles that are co-determinants in the development of education

The three cultural principles that are co-determinants in the development of a particular education system in every country are cultural differentiation and individualisation, cultural integration and the principle of continuity.<sup>(22)</sup>

(a) Cultural differentiation and individualization

In this world, we have a variety of cultures (civilizations) such as Eastern, Western and African which lend particular emphasis to a local system. Each of these cultures may be subdivided into many cultures and subcultures.

For example, the British culture is a sub-culture of Western culture, and the Scottish culture is a sub-culture of the British culture. Herein we recognise the historical principle of cultural differentiation or cultural individualisation. Not only do cultures differ from one another but the social structures also differ from one cultural area to another. Thus the education system of the USA differs from that in the RSA. Even the *school* in France differs from the school in Botswana. In every country the education system has an identity of its own. The American system of education is decentralized, that of the French centralized, and in Spain both the church and the state play a leading role in education. In the RSA, in accordance with the principle of cultural differentiation, there are subsystems within the country's education system. In the Black cultural group, there is a Black education system concerned with the teaching of Black children in Black schools. Similar subsystems exist for the Whites, the Indians and the Coloureds. Within the Black cultural group we find differentiation into smaller cultural-ethnic groups, each with its own national homeland, for example, the Zulus and the Tswanas. Thus Black

education is developing in the direction of a clearer individualisation of the education system of each cultural group. Education for Whites is also subjected to the principle of differentiation. There are Afrikaans and English language education institutions, and the medium of instruction is indicative of the particular cultural group to which the institution belongs. Education for Indians is not subjected to the principle of differentiation probably because of their smaller numbers. While there are many linguistic groups such as the Tamils, Hindis, Telegus and Urdus, and religious groups such as the Hindus, the Muslims and Christians among the Indians, all are English-medium schools. For the Coloureds the medium of instruction is both Afrikaans and English.

(b) Cultural integration

The second principle is cultural integration, cultural enrichment or acculturation. For example, education is responsible for training young people for national citizenship, and also to be knowledgeable and able-bodied. The four subsystems of the South African education system

as revealers of reality for their own youth are involved in differentiation and individualisation. However, these subsystems are also involved in cultural integration whereby the curriculum teaches both a national identity of their own as well as an involvement in a broader world. Thus Indian education prepares the Indian South African youth to serve his own community and also to fulfil a meaningful role for his whole country.

(c) Principle of continuity

The third cultural principle is the principle of continuity which implies an uninterrupted development or progress of a dynamic culture. Educational development must keep pace in changing times with the new demands made of the education system. The respective subsystems of the South African education system are, in a sense, a continuation of and link with the societies and their cultures found in this country. The education system in the RSA is strongly influenced by the past, serving a useful purpose for the present and planned to give further consideration to educating the youth for the future.

5.3.2.3 "Factors" that determine the nature and appearance of an education system

An education system owes its individuality to its interweaving with a unique culture. Hans<sup>(23)</sup> contends that natural factors such as race composition of a population, language, geographical circumstances and economy of a country, religious traditions and secular schools of thought give shape to the instructive education of a country and continually help to determine the character of an education system. In describing the national character of education, Hans wrote: "A national system of education is a living thing, the outcome of forgotten struggles and difficulties and of battles long ago. It has in it some of the secret workings of national life."<sup>(24)</sup> According to Kandel, the education system is an interaction between educational theory and practice, and factors affecting the history, economy, geography, demography, national character, national culture and religion of a country.

Moreover, Kandel contends that *"the forces that determine the character of education in any nation have a significance that is of greater importance than the details of its organisation and practice."*<sup>(25, 26)</sup>

#### 5.4 FACTORS DETERMINING THE LOCAL REALISATION OF SCHOOLS

The organised education of a community is an integral part of the culture of the community. Hence, without culture, there can be no education. Further, as a cultural community develops, the various societal relationship such as the state, the church and the school come into separate being.<sup>(27)</sup> According to Ruperti<sup>(28)</sup>, the ground motive or the spiritual force is the driving power for all cultural advancement, including the development of an education system. Further, a community culture, including its educational system, is directed by determining factors that may be classified into two main categories, namely, natural factors and cultural factors. In this regard, the writer has given special attention to the culture of the Indian community.

##### 5.4.1 Natural Factors

###### 5.4.1.1 Physico-geographic conditions

The distinctive feature of the South African subcontinent is an extensive plateau falling abruptly on its eastern side, and for the rest more gradually to a narrow coastal belt. The greater part of the Transvaal and the OFS and part of the Lesotho consist of temperate grasslands and form part of the plateau. The south-western Cape with a Mediterranean climate and the warm temperate eastern coastal region of Natal, Swaziland, Lesotho and part of Cape Province with good rainfall, rich vegetation and fertile

soil form part of the coastal belt. There are few natural harbours in Southern Africa's long coast line, and around these towns industrial centres have sprung up. There are few navigable rivers which could have given explorers access to the interior. The greater part of the Southern African interior was populated by Black migrations from the north. The Blacks encountered a movement of Western Europeans from the south, who were spreading in a north-easterly direction. Parts of the subcontinent are rich in mineral deposits. The mineral wealth of the south-eastern continental plateau, including gold and coal in the Transvaal, the OFS and Rhodesia, has had a far reaching influence on industrial and other culturally determinative factors.<sup>(29)</sup> The Indian population was mainly settled along the major transport routes in the coastal belt of Natal where the indentured settlers worked in the sugar industry, the Midlands and the Witwatersrand areas. The greatest concentration of the Indian population was in and around Durban. In Durban, for example, the residential distribution is strongly influenced by the topography of the city. The Whites chose the seaward facing hills and ridges while most of the non-Whites have been settled in the humid alluvial flats or inland areas. There were further changes to long-established Indian communities when the Indians were removed in terms of the Group Areas Act No. 41 of 1950.<sup>(30)</sup>

5.4.1.2 Ethnic distribution

The distribution of ethnic groups in Southern Africa is classified into three main divisions, namely, those Blacks migrating overland from the north, Orientals who came by sea and Western Europeans who came by sea.

The oldest known inhabitants of Southern Africa are the Bushmen who trekked south from North and East Africa. According to Ruperti<sup>(31)</sup>, the Bushmen are an exceptionally primitive race with a culture that has failed to unfold. The Hottentots, a mixed race and descendents of Bushmen and Hamitic invaders, trekked southwards from the region of the "great lakes" of Africa. Some of the Hottentots intermarried with the Europeans, East Indian slaves and other people to form, together with those of Malayan descent and others, the Coloureds. The Coloureds live in close contact with Europeans, speak Afrikaans and English, and their cultural level is high.

The Blacks form the largest race group in the RSA. According to the 1970 census, there were 15 057 952 Blacks speaking no fewer than 200 languages and dialects, and constituting 70,21% of the total population of the RSA.<sup>(32)</sup> By virtue of their geographic

distribution/

distribution and their differences associated with cultural and historical factors, the Blacks can be classified into an eastern, a western and a southern group. According to Ruperti, the Blacks are by no means an ethnic or cultural unity on account of their differences in spoken languages, social, military and legal systems. They were not only cattle owners, but also agriculturists and they made use of minerals. Their southward migration led to confrontation with the Whites. <sup>(33)</sup>

The people who came from the Middle and Far East formed the second great cultural group in Southern Africa. The Arabs came to Southern Africa mainly as traders. The Malays were brought as slaves to the Cape of Good Hope by the Dutch in the 18th century. Their descendants still live in the Cape, retaining their Islamic faith and many of its traditional customs. The Indians were brought as contract labourers to the sugar plantations of Natal in the 19th century. The descendants of these Indians have formed a separate South African community, the majority being the Hindus. Other Indians settled in this country as free traders. <sup>(34)</sup> Indian influences are more marked on the east coast of Africa than in Natal, partly because the indentured labourers in Natal wished to sever their links with India and be identified as South Africans, and partly because the

larger White population with its political power stood as a bulwark against any assimilation of culture from the East. Yet much of the Indian culture is evident in Natal. Indian women in vivid sarries, temples and mosques breaking the line of colonial architecture, shops stocked with silks, brassware and spices and the "Indian markets" with oriental jewellery and tinkets are familiar tourist attractions. Much of the cultural content in urban and rural areas was consciously and deliberately derived and selected from traditional Indian sources. The social system of India, particularly caste and village organisations, was replaced by a class structure based on competitive individual economy. (35)

In the 14th century, the Portuguese became the first Western Europeans to reach the RSA. The Dutch East India Company established a half-way house at the Cape of Good Hope in the 17th century. The Afrikaners, descendents of the Hollanders, spread inland from the Cape of Good Hope in the 18th and 19th centuries. The French Huguenots, fleeing from religious persecution in France, settled at the Cape of Good Hope at the end of the 17th century, and were assimilated into the Afrikaner community. The British settled permanently in the RSA towards the end of the 18th century, and

their/

their numbers were gradually increased so that, today, the British culture is strong in the RSA. The German descendants, largely assimilated into the Afrikaner community, also took to the culture of the Whites in the RSA. (36)

#### 5.4.2 Cultural factors influencing education systems in the RSA

Education systems are deeply rooted both in the conscious and unconscious culture of a community. The author briefly examines the cultural foundations of the education systems for the Blacks, the Coloureds, the Indians and the Whites in the RSA.

##### 5.4.2.1 Blacks

Generally the various Black tribes lived in comparative isolation, and the older folk transmitted the tribal culture unchanged to the following generation. Cultural change was regarded with suspicion and even enmity as it could endanger the continuing identity of the community. The traditional Black cult is a strong sanction for the retention of the chieftainship. There is generally respect and obedience to authority, and a strong family and group consciousness characterizing the Blacks. This attitude in the school situation, which may be construed by Whites as being passive, unfolds itself in what appears to be an uncritical acceptance

by the pupil of everything the teacher says. Cultural contact with the Whites has not changed the Blacks into a Western European identity. According to Rupert, generally the Blacks prefer an education system in which control is centralized in the state authority, and they tend to modify or completely reject the school curricula based on a purely Western content. Yet some Blacks have indicated preference for control of education to be left in the hands of provincial departments. (37)

#### 5.4.2.2 Coloureds

The Coloureds do not represent a separate culture in Southern Africa. This mixed race is dominated by one or more cultures of the Western European nations, and this influence is being strengthened by a continuing cultural contact. Western ground motives have gained strength among them and, consequently, their development follows a Western pattern adapted variously to the different circumstances of each community. The Coloureds are mainly Protestant Christians, and they readily accept the principles of a Christian and national education as prescribed for the Whites in this country. (38)

5.4.2.3 Whites

The cultural influence of the Afrikaners, the British, the French and the Germans predominate among the Whites of this country. Missionaries came with the express object of spreading the Christian faith, and there was a conscious, purposeful, direct intervention in the cultural set up of Southern Africa. This resulted in a process of acculturation. A definite change of ground motive took place, and this led to a further unfolding of Black African culture. The Dutch East India Company was the bearer of Dutch culture in this country, and it has left its mark on every facet of the Afrikaner culture. However, the British political ties with the RSA lasted longer and was more recent than the Dutch. Hence, the British influence is still very marked in this country, especially in Natal. Unlike the Dutch, the British retained their identity and did not become an integral part of the Afrikaner community. Although the British and Afrikaner groups have Western and Protestant roots, they remain distinct cultural groups. Both Afrikaans and English are the official languages of the country. The schools are Afrikaans medium, English medium and dual medium for Whites. Since they came into political power in 1948, the Afrikaner's philosophy

has dominated the political and educational scene. The Afrikaner believes in the realisation of the policy of separate development for the different population groups. Intermarriage between White and non-White is prohibited by law. According to Ruperti, the White educational system serves as a model to a great extent for the other three non-White education systems. (39)

#### 5.4.2.4 Indians

The Indians form a relatively small percentage of the total population in this country, that is, 2,89%.<sup>(40)</sup> They are characterized by heterogeneity of religion, language and other cultural aspects. However, the Indians are overwhelmingly Hindus. According to the 1970 census, 68,3% of the total Indians in the RSA were Hindus, 20,0% were Muslims, 8,5% were Christians and 3,2% were of other religious denominations.<sup>(41)</sup>

Indians differ from other South African communities in their religious ceremonies, diet, dress and marriage customs, among others. While it is true that the Indian South Africans are just over a hundred years old, they trace their roots in India to one of the oldest known world civilizations with its technologically complex and literate culture which

dates as far back as 3500 B.C.<sup>(42)</sup> Thus the Indians form a highly intelligent community, especially the Hindus who have descended from a very old civilization. The Indians have shown a particular flair for commerce, and they reveal a strong family and group loyalty. The Islamic conception of the universal brotherhood of mankind, equality and dignity of the individual has a possible relationship with their generous acts of charity towards the poor in the community. As far as education is concerned, no other community has provided so many schools through self-sacrifice as did the Indians in the RSA.<sup>(43)</sup> The vernacular has disappeared as a medium of communication in many Indian homes, especially in Christian homes. To all intents and purposes, the Indians in Natal speak the English language. By 1970, it was found that more than a third of the total Indians in the RSA were speaking Afrikaans, English or both as home languages.<sup>(44)</sup> Although there are many cultures converging in the RSA, the Indian has remained dogmatic in some aspects of acculturation while in others he is accommodating. Social segregation between the different race groups is due partly to cultural differences and partly to legislation. Differences in language, religion and marriage alliances do not

undermine the unity in the Indian community. Indians respect these differences, and consider some of them as having a vitalising effect on their composite cultures. Within this single community, members of the sub-groups and sub-cultures occupy positions in occupational and social hierarchy, regardless of such differences. Further, there are aided-schools run by Christian missionaries, Muslim religious bodies and Tamil societies, and they are open to Indian pupils of all languages and sub-cultures. (45)

In the main the Hindu and Muslim sections have retained their forms of worship, festivals and customs almost intact. However, of late, reform agencies within the Hindu section, such as the Divine Life Society, the Ramakrishna Mission and the Arya Samaj, have effected changes in Hindu religious practices, which have resulted in the elimination of much of the colourful ritual in worship considered meaningless by them, and the rationalization of many of their observances. The Muslims remain a closely knit group, and they closely follow the Islamic faith. The latter has attracted many converts, especially from the Black community. (46)

In a recent investigation by Bekker<sup>(47)</sup>, it was found that the SAIC fully supported the need to extend the

National Education Policy Act, 1967, to include education for Indians, with the proviso that the Indian community would take exception to the concept of a Christian character being given to education. However, this Council did believe that education must have a broad religious character to meet the requirements of the various religious groups active in the Indian community in the RSA.

5.4.2.5 Underlying problems surrounding the ground motive

In the normative development of an education system of any country, the same determining factors and the same ground motive hold good for both society and its education system. According to Rupert<sup>(48)</sup>, this normal situation is foreign to most of the communities in the RSA where education systems are developing under the guidance of spiritual powers not entirely their own. Among the Western cultural communities in the RSA, the British, the Portuguese and the French are not independent cultural units. Their ground motive and philosophy of life and, hence, their culture and their educational system correlate with the greater cultural community. The Afrikaans cultural connection with the West is strong but more diffuse, resulting in a more independent cultural entity and a stronger

internal correlation of educational and community development. As for the Blacks, the general and educational development is being guided by foreign ground motives. Further, over the past centuries, it is evident that the historical ground motive for Blacks lacks dynamism. However, contact with Western cultures over the years, especially the early contact with the Christian missionaries, has influenced the ground motives of the Blacks. The Western type of school has been generally accepted by developing communities, although not always readily. According to Rupert, the correlation between the school and the Coloured community is largely a modified version of that in the particular Western community or communities with which each is culturally associated. Like the British, many South African communities of Eastern origin are also sub-communities of a greater cultural unit, with its centre outside Africa. In the unfolding of Western culture, resulting in tremendous technological advance, the non-Western communities have shown preference for the Western type school. In this regard, Rupert maintains that the "non-Western desire for a Western orientated education system ..... no matter how well motivated, does not detract from the fact that an education system which has not developed with and from the community represents an abnormal

situation/

situation and is fraught with problems." (49) TASA opposed the transfer of control of education for Indians in this country to the DIA. TASA believes that there should be one National System of Education for all the race groups in the RSA, which also provides for the special needs of a particular community, if any. (50)

#### 5.4.2.6 Problems surrounding the determining factors

Although natural factors such as demographic, physical, biotic or cultural factors are not in themselves problems for an education system, they cause problems; for example, large numbers of children may be an asset in developing countries but this is not so in Western countries. In 1971 the population density per km<sup>2</sup> was 18,1 in the RSA. Educational facilities can be provided more easily and, per capita, more cheaply in a small densely populated area than in an area where the population is thinly scattered over a vast region. Physical factors such as climate, communication possibilities and the presence of rich mineral deposits influence the provision of educational facilities. The percentage of the national income or of the gross national product spent on education differs from country to country. According to a survey made by

UNESCO in 1965, Mauritius spent 3,8% of her national income on education, Lesotho 4,2%, Botswana 5,0%, Malawi 5,1%, Zambia 7,8% while the RSA spent a corresponding 3,47% in 1966.

Further, the development of an education system is affected by biotic factors. The population growth rate is generally higher in poor communities than in the rich. Thus the need for educational facilities increases at a higher rate among the communities who are least able to afford it. In 1968 the growth rates per annum for the four population groups in the RSA were: 1,8% for Whites; 2,1% for Asians; 2,3% for Blacks and 3,1% for Coloureds. Compulsory education is successfully introduced only when and where the school attendance is already nearly universal. Compulsory school attendance for non-Whites in this country has been introduced on a piecemeal basis, that is, for certain age groups in specified areas. Compulsory education is naturally influenced by adequate provision of school buildings, equipment and supply of suitable teachers. Finally, the school is a transmitter of foreign culture when viewed by a non-Western cultural community. The curriculum with a foreign cultural orientation and instruction through a foreign language creates problems in the development of an education

system for a community, when it is generally accepted that the best medium for teaching a child is his mother tongue. <sup>(51)</sup> In the investigation by Bekker <sup>(52)</sup>, it was found that Indians were opposed to the use of vernacular languages as a medium of instruction in schools. As far back as 1928, concerning Indian education in the RSA, it was reported: "The primary education of a country can only be organised on the basis of the official languages of the country concerned and not on the basis of the languages supposed or real, of the country or countries from which the persons living in the country originally came ..... If the Indian community desires to teach the children Indian vernaculars, they should be permitted to do so outside school hours, and by separate teachers paid for by the Indian community."

## 5.5 IMPLICATIONS FOR SCHOOL ACCOMMODATION WITH REGARD TO

### 5.5.1 Aims

In promoting the fullest development of the individual, the variant aim of the British is the importance of character training as the end of education while the Americans emphasise the training of personality. <sup>(53)</sup> In the RSA the aims of education are embodied in the National Education Policy Act, 1967 (Act No. 39 of 1967), which states "that education shall

be provided in accordance with the ability and aptitude of and interest shown by the pupil, and the needs of the country, and that appropriate guidance shall, with due regard thereto, be furnished to pupils." This, no doubt, was the broad philosophy laid down for White education in this country but, by the spirit of it, it was meant for pupils of all races.<sup>(54)</sup> Mallinson contends that education is a social force in the sense that any education system must reflect closely the ethos of the people it is called upon to serve.<sup>(55)</sup> Joad<sup>(56)</sup> describes the purposes of education as being three-fold, namely, to enable a child to make his living, to equip him to play his part as a useful citizen, and to enable him to develop all the latent powers and faculties of his nature and so enjoy a good life. As there are different styles and manners of thinking amongst the different nations, one can expect different methods of approach adopted towards problems that are common to all the nations, that is, problems concerning the vast extension of educational facilities that are being planned, problems concerning the demand for equality of educational opportunity for all, and problems concerning the relation of education to society. Education is part of a greater whole, and it cannot act independently.<sup>(57)</sup> In terms of differentiated education, the DIA provides for the ability and aptitude of Indian pupils, where facilities and an economical demand for a subject or a subject-set obtain. Differentiation may be regarded as synonymous with individualization. It is simply the adjustment of education

to accommodate individual differences. The recent legislations in this country provide, inter alia, for a school system structured on the comprehensive school concept, with differentiation and streaming the important ingredients. Further, one of the main challenges of the DIA was and is to clear the shortage in school accommodation and provide adequate facilities to implement differentiation and compulsory education for all Indian pupils up to the age of fifteen years. (58)

#### 5.5.2 Methods

The great challenge to contemporary social science is creating and transmitting the knowledge for understanding and coping with a future that remains largely unknown. For an adequate response, a revolution is necessary in dominant theories and perspectives, in methodologies, in the content of what is taught, and in teaching techniques themselves. Children must be made sensitive to alternative factors, to an array of future possibilities and to corrective and innovative action. (59)

Differentiation should be according to the method of presentation and not in syllabus content. The school should be provided with facilities to cater for the different age groups, for example, the grades rooms for infants will differ from the physical science laboratory for senior high school pupils in design, lay-out and equipment. The German Thought Psychology has drawn our attention to the three levels of consciousness,

the need for our educational programmes to be adapted in order to cater for the child's level of thinking, and the importance of audio-visual aids. The behaviourist school has laid emphasis on counselling and guidance, and the need to identify pupils who are dull-normal and also the gifted. Piaget and his Geneva collaborators have postulated a theory that intellectual growth follows a pattern of development through certain well-defined stages as maturation proceeds. Thus the facilities at a school should permit the various methods of teaching to be modified for all types of pupils with their varying age groups, levels of thought development, stages of maturation and learning, aptitudes, interests and abilities. Undoubtedly this eclectic approach must also cater for the dull pupil in the practical grade and the extension of the gifted child in the ordinary group; as Sir Percy Nunn remarks "..... securing for everyone the conditions under which individuality is most completely developed."<sup>(60)</sup>

The facilities of a school should lend themselves to problem-solving methods as a useful means of extending pupils of all ability groups. The design and lay-out of buildings should not lend themselves only to the authoritarian methods of teaching but, rather, the open spaces and the "open-plan" school could be used to advantage. In the activity method, the play situation can be transformed into a learning situation.

Well-equipped facilities and a choice of subjects and subject-

sets are essential to meet the demands of differentiated education. Programmed learning, for example, the "Science Research Associates" (SRA) language laboratories, provide for individualized, self-educative and self-evaluative practice on graded material. They are essentially skill builders. The school should offer opportunities for creative thinking by the pupils. The lack of workshops and other essential specialist rooms at all Indian high schools has had an effect on methodology and the contents of the school curriculum. (61)

### 5.5.3 Curriculum

Differentiated education is essential for both the individual and the community. The cultural factors play an important determining and limiting role in the development of the whole system of schools; for example, a more developed community requires a greater variety of technical, commercial and other vocationally biased subject-sets than a less industrialized community. (62) Distinctive features of a curriculum are concepts, structure, choice of subjects, subject-sets and contents. The focus on cultural systems as an approach to reforming the curriculum is gaining increasing support among education administrators. (63)

Culture is transmitted by a school. Since culture cannot be absorbed by any one person, the school ensures that only the

nucleus of a culture is conveyed to all the pupils. To accomplish this object, the school offers systematized cultures through different school courses of different subject-content and degree of difficulty according to aptitudes, interests and abilities of pupils. (64)

In terms of Act No. 39 of 1967, section 2(1), it is compulsory for White schools to provide for a civilized Christian and national education in their curriculum. Owing to the great variety of schools and courses in this country, there are very few pupils for whom no suitable school or subject-set exists. (65)

The differentiated system of education in the RSA is designed to ensure that children receive the education that suits their skills, interests, abilities and aptitudes. What it means in practice is an extension of the school curriculum at all high schools to give a better balance between academic and vocational subjects, and a greater use of school guidance at both the primary and secondary school levels. In the junior primary phase, pupils are grouped as educational units and differentiation is in the presentation of subject matter. During this phase class teaching is generally done. In the senior primary phase in Indian education, differentiation is according to the method of presentation but not in syllabus content. Class teaching should still form the basis of the educational programme, but subject teaching may be attempted in certain subjects where specialized knowledge

and/

and method of presentation will enable the child to develop according to his true educational potential. In the junior secondary phase the education programmes are such that they assist the children to obtain a clear vision of their ability by means of suitable factual content, testing and accountable guidance programmes. The syllabuses for the subjects in this phase will not be differentiated, but the subject content is presented in a differentiated manner. Those pupils, who do not derive any real benefit in the normal educational programme, are offered a more practical and vocationally orientated course to enable these pupils to derive the maximum benefit from their schooling. In the senior secondary phase the educational programme provides for extensive differentiation in various fields of study and for subjects to be studied on ordinary and standard levels. (66)

Limitations of available buildings become a major obstacle in school administration. This in turn has influenced curriculum reappraisal in both primary and secondary education. In the last decade there has been a shift of emphasis from the assimilation of factual information to be memorised to the identification of key concepts to be used in developing a selective structure of knowledge. Essentially it is the dynamic view that curriculum renewal is a continuing process. Cognisance must be taken of the technological changes taking

place in education, ranging from audio-visual aids to computer-aided education. Often, subject to economic considerations, the new facilities promote curricular change, and also establish the effective limits within which change occurs.<sup>(67)</sup> Continuous curriculum development will be one of the most important supervisory tasks as cultural patterns evolve in a community.<sup>(68)</sup> The school should be designed to meet a wide diversification of its curriculum.

#### 5.5.4 Media, aids and facilities

Educational facilities can be provided more easily and, per capita, more cheaply in a small, densely populated area than in an area where the population is sparsely scattered over a vast region.<sup>(69)</sup> In formulating the theoretical framework for a future-orientated curriculum, Toffler<sup>(70)</sup> realises the need for new, future-focused and change-orientated materials to replace the past-orientated and static materials to which most high school students are still exposed. For this purpose education planners are expected to provide suitable facilities in the future to cope with the proposed curriculum.

Alive to the demands of differentiated education, the DIA has started resource centres at various Indian schools in the country. A wide range of sophisticated audio-visual teaching aids are provided to stimulate teaching in the classroom

situation. Standard lists of furniture, equipment and consumables are reviewed regularly and these lists are updated in consultation with the Department's subject committees and even the CSIR.<sup>(71)</sup> The PWD provides schools for the DIA. According to the latest standards, in a 20 classroom primary school, 7 specialist rooms are provided, and in a standard 30 classroom high school, 17 specialist rooms are provided in order to meet the demands of differentiated education in such fields of study as general, commerce, science, technical, domestic science, among others. On account of a lack of funds, all the essential facilities at existing schools cannot be provided by the DIA overnight. The highest priority is being given to the provision of classroom accommodation in pressure-point areas such as newly proclaimed Indian areas or where platoon classes exist. It is the policy of the DIA to bring existing schools up to its latest standards of accommodation, and particular attention is being given to high schools without the necessary workshops and other essential specialist rooms. It is also the policy of this Department to provide primary school accommodation locally, but high school accommodation is provided in areas which justify an economical demand. Where an area has no high school accommodation, the DIA assists with its liberal transport and boarding subsidies for pupils.<sup>(72)</sup>

5.5.5 Organisation and administration

Every school functions as a unit of educational organisation within the natural pattern of educational institutions. The principal and staff are responsible for the interpretation and implementation of legal enactments and rulings of controlling bodies. The principal, as the chief permanent officer, is responsible, among other things, for the school curriculum, classifying pupils, work load and supervision of teachers, school time-tables, and extra-mural activities. The entire organisation of education in which legislation administrators, inspectors of education, principals and teachers participate is undertaken for the sole purpose of bringing together the right teacher and the pupil in a physical situation where the child receives the most suitable education. The influence of the ground motive can thus be traced through the controlling and other organs to the very heart of the system. (73)

The process of decision-making is vital to the understanding of organization. Simon theorized that the effectiveness of organisational decisions could be maximized by increasing the rationality of these decisions. (74) Griffiths has formulated a theory of administration as decision-making based on the following assumptions: 'administration is a generalized type of behaviour to be found in all human organization, and it is

the process of directing and controlling life in a social organization.' Further, the specific function of administration is to develop and regulate the decision-making process in the most effective manner possible, and the administrator works with groups or with individuals with a group referent, and not with individuals as such. Griffiths theorized that the decision-making process is an organisational matter, and the criterion by which an organization may be evaluated is the *quality* of the decisions which the organization makes and the *efficiency* with which it puts the decisions into effect.<sup>(75)</sup>

The school is one of the major concerns of the school administrator. It is generally accepted that the school should reflect the educational programme and needs, and conversely, that the educational programme bears many evidences of the influence of the school.<sup>(76)</sup> It often occurs that the organization of schools is greatly influenced by the available school buildings. For example, in many communities, the junior high school has been given a new impetus because it relieved overcrowding in both the primary schools and the senior high schools. School buildings influence instruction to the extent that instruction is limited by the availability of facilities. The administrator determines the future demand for school accommodation based on natural growth, movement of population through resettlements, overcrowding of classrooms, double sessions in many communities and existing unsatisfactory

buildings/

buildings, among other considerations. It is essential that existing school plants should be evaluated periodically for the determination of maintenance needs, optimum utilization, additions and alterations. Forward planning and the rate at which adequate school accommodation may be provided are dependent on the availability of funds.<sup>(77)</sup> Banghart and Trull<sup>(78)</sup> have expounded on how to develop a long-range guide that will use all available resources in attaining educational objectives on a continuing basis. Comprehensive educational planning proposes total community development and use of school facilities by all members of the community. The designing of a school plant is a complex problem taking into consideration such factors as cultural and political influences, natural and man-made environments, climate, psychological and technological factors. The plan, when translated into physical form, is essentially in an open system with cultural interchanges becoming increasingly important in the structuring of our environment and its communication power.

In every community educational institutions differ according to the provision of the various educational needs and requirements of individual pupils and of individual communities. National systems of schools and other educational institutions form complex patterns, and they may be best classified into vertical and horizontal divisions. The RSA with its four education

subsystems based on ethnic-cultural grounds is a good example of vertical classification. Horizontal classification refers to the division into levels (for example, nursery, primary and secondary schools) and of each level into classes usually of a year's duration, based mainly on scholastic attainment. In 1973 the Indian school system changed from a 7 + 5 year system to a (3 + 3) + (3 + 3) system in order to meet the demands of differentiated education, although the standard 5 pupils are by and large still being accommodated in primary schools. (79)

In terms of the South African Indian Council Act No. 31 of 1968, the SAIC was created to act initially as an advisory body. In January 1976, the Minister of Indian Affairs, who is at the head of the DIA, delegated some of his executive powers concerning education to the SAIC. This Council is expected to take full control of Indian education shortly. The Director is the chief permanent executive officer for education in the Division of Education. (80) Thus, presently, the Minister of Indian Affairs and the SAIC are both involved in the general decision-making process in Indian education. While primary, high and certain special schools are under the control of the Director of Indian Education, the college for advanced technical education and the University of Durban-Westville are controlled by the Minister of National Education. Statutory education committees act as liaison between school and parents, but their functions are mainly supervisory,

advisory/



advisory and fund raising. The general planning of Indian education is done by education planners and other senior administrators in the Division of Education. (81)

#### 5.6 CONCLUSIONS

It is evident that the school as an institution, apart from performing its task of meaningful instruction, caters, inter alia, for the various needs of an individual, for the socialising process of individuals, and is a bearer and transmitter of culture, developing the individual's personality as a whole person, to lead the individual on to cultural maturity. The availability of school amenities must ensure the best use for the fulfilment of these aspirations. It is easy to recognise the need for provision of amenities in order to promote the development of the cognitive, psychomotor, affective, aesthetic and physical aspects of the individual. The structure of a school may be described in terms of its organisation, the type of school (such as normal schools and special schools), level of school (such as nursery schools, primary schools and secondary schools), its staff, the subjects and subject-sets offered, its relationship with other spheres of life (such as the family, the community, the state and teachers' associations) and the norms and ideals used to typify education and teaching.

The Indians are deeply conscious of their Oriental cultural heritage. However, as a minority group, the Indians are being constantly exposed to radio, press and cinema media that transmit Western cultural norms. Further, having become aware of the tremendous technological/

technological advances, the Indians have come to accept the cultural norms of a Western type school.

The Indians in the RSA have accepted the Western orientated education system as is the case in most developing communities. The importance of school accommodation for Indians with regard to aims, methods, curriculum, media, aids and facilities, organisation and administration must be seen in the light of the policy of the differentiated system of education in terms of the National Education Policy Act of 1967, but with modifications to suit the availability of classroom accommodation and specialist rooms, the availability of staff and pupil-teacher ratios obtaining in primary and secondary schools, the implementation of compulsory school education and the extension of the practical course up to standard 10. Within this system of education, the Indian schools transmit through modified subject syllabuses Oriental cultural norms in the form of art, music, crafts, home-economics, right living and a study of vernacular languages. Thus the Indian school is unique in that it transmits the particular culture of its community.

The determinants and norms for education indicate clearly that there must be a "vehicle" to cater for the above-mentioned needs of an individual. In observing this role of the school, Kandel<sup>(82)</sup> states the function of educational administration as *"Fundamentally ..... to bring pupils and teachers together under such conditions as will most successfully promote the ends of education."*

It should also be observed that no attempt is made by the contemporary school to reveal to the child *all* the knowledge which he may require later as an adult, since a major aim of education is to give *guidance* towards maturity. Viewed in this light it is evident that the subject-matter should be carefully selected since an overloading of curricula and syllabuses is not pedagogically sound. (83)

It is against this background of both natural and cultural factors, together with the religious forces, that the role of the Indian school must be seen in this country. In the next chapter considerations for the planning and provision of school accommodation by the DIA are discussed and evaluated in terms of the existing norms and the function of the contemporary school.

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## CHAPTER SIX

### CONSIDERATIONS FOR THE PROVISION OF SCHOOL ACCOMMODATION BY THE DIA

#### 6.1 INTRODUCTION

It is nearly thirteen years since the education of Indian South Africans was brought under the wing of the DIA, Division of Education. Thirteen years is not a long period in the history of a people and, yet in that short space of time, the type of school buildings underwent metamorphic changes. This provision of school accommodation brought about both a qualitative and quantitative improvement in Indian education. The DIA is planning further significant changes in order to make greater progress in the provision of school accommodation by the State. Cognisance is also taken of the magnanimous efforts of the Indian community in the provision of school accommodation in the form of State-aided and private schools. Platoon classes, although introduced as a temporary expedient in the early 1950's, is still operative in Indian education, but on a reducing scale. The Indian schools in this country have essentially adopted the education system for Whites based on Western cultural norms. However, these Indian schools are also bearers of certain

Oriental cultural norms in regard to art, crafts, music, drama, religion, languages and right living. Indian education has retained a distinct philosophy of its own.

In the provision of school accommodation for the present and the future, the DIA takes into consideration the cultural needs of the community, the norms to be used to determine the demand for school accommodation, the accommodation essential for a standard contemporary school, the design and lay-out of buildings, the furnishing and equipping of schools, monetary allocation for the school building programme and the implications for school accommodation in areas such as differentiated education, compulsory education, a more liberal staff-ration, the platoon school system, State-aided schools, admission and zoning of pupils and the Group Areas Act. An evaluation of these considerations is made through several proposals for the future needs of the Indian community as discussed in Chapter VIII.

## 6.2 NORMS FOR PHYSICAL PLANNING OF SCHOOLS

In assessing the demand for classroom accommodation, provision has been made by the DIA not only for the varying natural growth rates of the school populations in the different provinces but also for the resettlement of Indian pupils as a result of the Group Areas Act, the replacement of unsatisfactory classrooms, elimination of platoon classes, closure of State-aided schools and political pressure. Certain approved norms and principles are used by the DIA in the

physical planning of schools in order to meet the potential demand for school accommodation. (1, 2) They are as follows:

- (a) The average size of an Indian family is 6,75 persons of whom 2 are of school-going age, that is, about a third of the total Indian population based on the 1970 census figures;
- (b) A standard primary school with 18 general classrooms, an adjustment classroom and 6 specialist rooms will accommodate a maximum of 740 pupils. A standard high school with 27 general classrooms and 17 specialist rooms is designed to carry a potential load of 1 152 pupils or 36 class units, and this loading implies a peripatetic system of classrooms and specialist rooms utilization;
- (c) The general classroom with a floor space of 49,00 m<sup>2</sup> is designed to accommodate 36 pupils in a primary school and 32 pupils in a high school\*. However, when schools experience a pressure for school accommodation, 40 pupils or more are often placed in a class unit;
- (d) The ratio of primary to high school population is 7 : 4, that is, 63,64% of the school population will be infant-primary school pupils while the remaining 36,36% will be high school pupils;

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\* In terms of the Indians Education Act, 1965, secondary schools are classified as high schools.

- (e) The size of school sites for primary schools is 2 to 3,2 hectares (5 to 8 acres), and for high schools is 3,2 to 6 hectares (8 to 15 acres) in extent depending on, inter alia, the topography and suitability of site;
- (f) The future demand for school accommodation is determined on the growth patterns for the Indian school populations in the various provinces of this country based on the 1970 census figures;
- (g) In 1971 about 27% of the Indian population was in schools. The corresponding figures for Whites in this country was about 25%. The growth patterns for the Indian populations in the three provinces have shown variations. In the Transvaal, for such reasons as acculturation, affluency of the community, job occupancy and housing accommodation, the growth rate for Indians is closer to the figure for Whites than their counterparts in Natal. The DIA assumes that 28% of the Indian population in Natal and 25% of the Transvaal Indian population will be in schools by 1980. The figures for the Cape are not reliable because a large number of Indian pupils in this province are still attending Coloured schools, and the planning of Indian schools in the Cape is being done on an ad-hoc basis; and
- (h) For purposes of projecting total school populations, the DIA uses

a growth rate of 3,1% per annum for pupils in Natal and 1,5% per annum for pupils in the Transvaal. There are no approved norms for the Cape at this stage but planning is done in close consultation with the Administration of Coloured Affairs because a large number of Indian pupils still attended Coloured schools in 1971 when the norms were established.

Where Indian residential areas are being planned and developed by the Department of Community Development or local authorities, sites for schools are reserved in compliance with the accepted norms. If the PWD is unable to acquire an adequate number of suitable school sites for Indian education, as is often the case in built-up areas, multi-storey buildings are designed even for primary schools. Further, it becomes necessary to deviate from the approved norms and build thirty-classroom primary schools when there is a scarcity of school sites rather than permit the continuation of platoon classes in the area. While the above-mentioned norms are essential for general planning, the education planner applies differentiated norms for specific areas, for example, when there is an abnormal influx into an area, or high density population based on type of dwellings.<sup>(3)</sup>

Contributory factors influencing the irregular growth patterns for Indian school populations in this country are, inter alia:

- (i) The NED instituted the platoon school system because of lack of accommodation, resulting in an abnormally large intake of class (i) pupils;
- (ii) It was not possible to admit all the children of school-going age and, hence, a waiting list existed in many schools where preference was being given to older children;
- (iii) There was a tendency for older children to leave school when they had gained a degree of literacy;
- (iv) The admission of the last of the children on the waiting lists of schools in 1966 showed high failure rates for class (ii) in 1967, standard 1\* in 1967 and 1968, standard 2 from 1967 to 1969 and standard 3 from 1967 to 1970 although the tendency to leave school had an effect here too;
- (v) The transfer of education to the DIA, when a new age limitation was imposed for admission to schools, resulted in an abnormally low intake of class (i) pupils in 1967. Other factors, such as the inability of parents to supply suitable proof for ages of children also contributed to this low intake;
- (vi) The abnormal intake of class (i) pupils appears to be influenced by "school readiness" of children in the lower sub-economic groups of the Indian community;

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\* Forms I to XII are referred to as class (i) to std. 10 in Indian education.

(vii) The fact that the first written examinations are held at the end of standard 3 could also account for the high failure rate and the high pupil enrolment in standard 3. High enrolment figures are characteristic of standard 6 classes in the various years. Standard 6 is generally the admitting standard in high schools, and primary schools tend to have a comparatively high pass rate at the end of standard 5 while the opposite is true for standard 6 pupils at high schools.

A review of the norms for Natal in 1974 indicated that the average total growth rate over the previous five years showed a close correlation to the Department's approved norm of 3,1% p.a. A similar review in 1978 for Natal showed that the average total growth rate over the previous five years was 2,9% p.a., and over the previous three years was 3,4% p.a. However, the growth rate patterns for both primary and high school populations fluctuated annually as it is evident from Tables 4.7, 4.8 and 4.9 for Natal, Transvaal and the Cape. Further, the low intake of class (i) pupils affected the growth rate for primary school populations in Natal and Transvaal until 1974 and, thereafter, the high school populations until 1978. Despite this low-point remaining in the high school sector in 1978, the growth rate for the high school population from 1977 to 1978 was 9,65% in Natal and 5,19% in the Transvaal, mainly attributed to the extension of the practical course from std. 8 to std. 9 in 1978. This high growth rate is expected to be maintained in 1979 when the practical course will be extended from std. 9 to std. 10 and compulsory

education until age 15 will be implemented. These factors will naturally influence the holding power of both primary and high schools. The DIA also assumes that the distribution of pupils by standards will be the same as for Whites by 1985 when compulsory education, extension of the practical course to standard 10 and the shortage of school accommodation should normalise the growth rate of the Indian school population.<sup>(4)</sup> The acceptance of a Western type school and the high growth rate in school population are characteristics of most developing communities.

### 6.3 STANDARD ACCOMMODATION FOR STATE SCHOOLS

In order to keep the costs of school buildings down to a minimum and accelerate the provision of school accommodation, it has become necessary to adopt a set of standardised plans for the design of a school. On transfer of education to the DIA, the PWD built the schools based on the accommodation particulars submitted by the user department. The education planner prepares a certificate of accommodation particulars for a proposed school based on the educational programme to be offered at that school. On approval by the Secretary for Indian Affairs, this certificate is issued to the Secretary for Public Works for the programming of this service. Presently, the PWD has sub-contracted a private firm of architects to undertake the majority of the services in Indian education. One of the greatest advantages accruing from this present arrangement is that there is a very close consultation between the architects and

the education planners to effect the special needs of a local community for a proposed service although the accommodation particulars have been standardised. <sup>(5)</sup>

Continual research is required to ensure that the amenities are up to date so as to meet the changing demands of differentiated education. This has been achieved in the case of special services such as the Clairwood Technical High School (Durban), the Newcastle School of Industries for Boys, the proposed Newcastle School of Industries for Girls and the proposed Transvaal College of Education (Laudium), for which services modern facilities have been planned. A special feature of the amenities planned for the technical high school has been a workshop complex to accommodate 750 pupils in 9 trades. Additions to the Newcastle School of Industries for Boys will include workshops for trade instruction and hostels to accommodate 200 pupils. Facilities planned for the proposed Newcastle School of Industries for Girls makes provision for home economics and commercial courses as well as hostels to accommodate 150 pupils. Special facilities planned for the proposed Laudium College of Education include modern auditoriums, an audio-visual centre and hostels for 200 students. <sup>(6)</sup>

In the case of a conventional primary school the amenities have crystallised into standard type buildings. The standard accommodation together with minimum floor spaces for a primary school is shown in Table 6.1

TABLE 6.1 : ACCOMMODATION PARTICULARS FOR A STANDARD INDIAN PRIMARY SCHOOL

A.	Grades classrooms : 8 of 57,50 m <sup>2</sup> each
B.	General classrooms : 10 of 49,00 m <sup>2</sup> each
C.	Handicrafts room : 1 of 72,80 m <sup>2</sup>
D.	Needlework room : 1 of 60,20 m <sup>2</sup>
E.	Adaptation classroom : 1 of 61,60 m <sup>2</sup>
F.	General purpose/Music room : 1 of 99,36 m <sup>2</sup>
G.	Library/Resources centre : 1 of 123,20 m <sup>2</sup>
H.	Art room : 1 of 72,80 m <sup>2</sup>
I.	Science classroom : 1 of 72,80 m <sup>2</sup>
J.	Administration block:
	(a) Principal's office : 1 of 17,42 m <sup>2</sup>
	(b) Secretary's office : 1 of 12,76 m <sup>2</sup>
	(c) Deputy/Vice Principal's office : 1 of 17,42 m <sup>2</sup>
	(d) Staff-room : 1 of 42,13 m <sup>2</sup>
	(e) Sick-room : 1 of 6,10 m <sup>2</sup>
	(f) Store-rooms:
	(i) Stock room : 1 of 50,00 m <sup>2</sup>
	(ii) Cleaner's store-room : 1 of 3,87 m <sup>2</sup>
	(g) Tuck shop : 1 of 8,32 m <sup>2</sup>
	(h) Roneo room : 1 of 6,10 m <sup>2</sup>
K.	Caretaker's store room : 1 of 54,08 m <sup>2</sup>
L.	Ablutions : According to P.W.D.'s standards
M.	Assembly area : 1 of 464,52 m <sup>2</sup>
N.	Parking area : 1 for + 32 cars

- O. Sports field : 1 of 4 180,64 m<sup>2</sup>
- P. School hall : provision is made in the lay-out drawing for a future school hall of ± 750,00 m<sup>2</sup>

At the time of transfer of education to the DIA, the austerity type single-storey structures accommodated 800 pupils in the primary school and 1 000 pupils in high schools. At that time the standard provision for a primary school was 20 general classrooms, a general-purpose room and limited administrative facilities while the standard high school consisted of 30 general classrooms, a specialist block comprising a physical science laboratory, a biology laboratory, a lecture theatre, a kitchen, a needlework room, a general-purpose room and limited administrative amenities. In 1968 the standard plans for both primary and high schools were revised. The accommodation for primary schools was increased to include grades classrooms, a handicrafts room, needlework room, adaptation room, book-distribution room and a larger administrative block in multi-storey buildings. In the case of high schools the following additions were effected to the standard plans: Industrial Arts Centre, a typing room, a music room, an art room, a geography room, history room, library, secretary's office and deputy-principal's office. The accommodation particulars for a standard primary school were subsequently revised in 1977, and these particulars are as reflected in Table 6.1. Apart from additional amenities for a primary school, there has been an increase in the floor-spaces for general classrooms from 44,59 m<sup>2</sup> to 49,00 m<sup>2</sup> each, for a

needlework room from 44,59 m<sup>2</sup> to 60,20 m<sup>2</sup> and for store-rooms from 32,51 m<sup>2</sup> to 53,87 m<sup>2</sup>. However, the number of general classrooms in a primary school have been decreased from 20 to 18 and, in order to permit the optimum use of the teaching spaces, the peripatetic system for the senior primary phase is being encouraged. The facilities at a thirty-classroom high school have been extended to include an additional typing room, two science classrooms, a library/resources centre, a guidance unit, a music practice room, a roneo room, a tuck-shop and additional store-rooms including those enclosures under the staircases of multi-storey buildings hitherto left unused. The areas of teaching spaces in high schools have been increased generally. The floor space has been increased for a general classroom from 44,59 m<sup>2</sup> to 49,00 m<sup>2</sup>, for a typing room from 55,74 m<sup>2</sup> to two typing rooms of 74,20 m<sup>2</sup> each, for a music room from 44,59 m<sup>2</sup> to 49,00 m<sup>2</sup>, for a general purpose room from 89,19 m<sup>2</sup> to 99,36 m<sup>2</sup>, for a science lecture room from 48,31 m<sup>2</sup> to 60,20 m<sup>2</sup>, for a home economics kitchen cum needlework room from 185,80 m<sup>2</sup> to 243,04 m<sup>2</sup>, for an art room from 63,17 m<sup>2</sup> to 98,00 m<sup>2</sup>, for a history/geography room from 55,74 m<sup>2</sup> to 72,80 m<sup>2</sup>, for a large manual training centre from 342,44 m<sup>2</sup> to 374,42 m<sup>2</sup> and for a library/resources centre from 89,19 m<sup>2</sup> to 193,71 m<sup>2</sup>. The increase in floor space was necessitated by new demands made in differentiated education, avoiding splitting of class units into uneconomical teaching units and adjustments made to meet the requirements for the metricised modules of classroom and specialist room blocks. The following Table 6.2 (Page 271) shows the present accommodation particulars for a standard high school. (7)

TABLE 6.2 : ACCOMMODATION PARTICULARS FOR A STANDARD INDIAN HIGH SCHOOL

- A. General classrooms : 27 of 49,00 m<sup>2</sup> each
- B. Typing rooms : 2 of 74,20 m<sup>2</sup> each
- C. Music room : 1 of 49,00 m<sup>2</sup>
- D. General purpose room : 1 of 99,36 m<sup>2</sup>
- E. Biology laboratory : 1 of 113,88 m<sup>2</sup>
- F. Physical Science laboratory : 1 of 113,88 m<sup>2</sup>
- G. Science lecture room : 1 of 60,20 m<sup>2</sup>
- H. Science classrooms : 2 of 61,60 m<sup>2</sup>
- I. Needlework room : 1 of 124,60 m<sup>2</sup>
- J. Home Economics kitchen : 1 of 118,44 m<sup>2</sup>
- K. Art room : 1 of 98,00 m<sup>2</sup>
- L. Geography room : 1 of 72,80 m<sup>2</sup>
- M. History room : 1 of 72,80 m<sup>2</sup>
- N. Large manual training centre : 1 of 374,42 m<sup>2</sup>
- O. Library/Resources centre : 1 of 193,71 m<sup>2</sup>
- P. Guidance unit : 1 of 68,70 m<sup>2</sup>
- Q. Administration block:
  - (a) Principal's office : 1 of 17,42 m<sup>2</sup>
  - (b) Secretary's office : 1 of 17,85 m<sup>2</sup>
  - (c) Strong room : 1 of 8,50 m<sup>2</sup>
  - (d) Deputy Principal's office : 1 of 13,52 m<sup>2</sup>
  - (e) Vice principal's office : 1 of 17,42 m<sup>2</sup>
  - (f) Staff room : 1 of 65,90 m<sup>2</sup>
  - (g) Sick rooms : 2 of 6,10 m<sup>2</sup> each

- (h) Store-rooms:
  - (i) Stock room : 1 of 55,12 m<sup>2</sup>
  - (ii) Cleaner's store-room : 1 of 3,87 m<sup>2</sup>
- (i) Tuck shop : 1 of 8,32 m<sup>2</sup>
- (j) Roneo room : 1 of 6,10 m<sup>2</sup>
- R. Change room block : 1 of 118,22 m<sup>2</sup>
- S. Caretaker's store room : 1 of 54,08 m<sup>2</sup>
- T. Ablutions : according to P.W.D.'s standards
- U. Assembly area : 1 of 464,52 m<sup>2</sup>
- V. Parking area : 1 for + 32 cars
- W. Sports field : 1 of 4 180,64 m<sup>2</sup>
- X. School hall : provision is made in the lay-out drawing for a future school hall of + 750,00 m<sup>2</sup>

Special planning for a primary school is done when the accommodation particulars for a proposed school differs from the standard requirements. This is often the case of new schools that are to be built in rural or sparsely populated areas where the demand for accommodation is less than 20 classrooms for a primary school, or the amenities for a school where the class range is from class (i) to standard 10. The minimum number of teaching/learning spaces including the provision of specialist rooms is given careful consideration when determining accommodation particulars for special cases. As a utility measure, where there is a great pressure for school accommodation, the DIA has asked the PWD to build industrialized-type

school buildings (primary and high schools), prefabricated school buildings (primary schools) and terrapin-type school buildings (primary schools). The latter two types are temporary buildings which are replaced with permanent structures when adequate funds become available. The accommodation particulars for the industrialized-type and prefabricated school buildings are the same as for a conventional school. However, in the case of terrapin-type school buildings which are of the demountable type, the DIA has planned the required administrative and specialist-rooms accommodation for a school in units of a general classroom floor-space so that these rooms may be transferred to other pressure-point areas, as general classrooms, when the occasion arises. <sup>(8)</sup>

Thus, in Indian schools, while the teaching spaces in the classrooms compare favourably with those in overseas countries and for White education in this country, there are many specialist rooms which are larger, designed differently and equipped with more sophisticated items forming special complexes in Great Britain and the Federal State of Germany than one may find locally. Further, the local schools are less compact in design and lay-out, and they take up more ground space than schools in the overseas countries discussed in Chapter II.

#### 6.4 DESIGN AND LAY-OUT OF SCHOOL BUILDINGS

Physical planning of schools is the "art of shaping and guiding the physical arrangement and structure of a school in harmony with

the social and economic needs and in tune with the community's educational attainment." The education planner needs to determine the demand, choose the location for various uses and investigate the areas that require transition and adjustment to adjacent surroundings in order to attain educational objectives on a continuing basis. <sup>(9)</sup>

The education planner takes cognisance of several general principles in the planning of schools for Indians. Apart from providing additional teaching-spaces in the latest standards for school buildings in Indian education, the new plans permit a greater flexibility and individuality in the design and lay-out of school buildings. The planning of a school is a team effort undertaken by the architect in consultation with education planners. A study is made of the proposed educational programme to be offered in a new school, and provision is made for the educational and administrative activities of a school. The physical requirements for these activities are determined, and facilities are designed accordingly . Depending on the teaching or administrative functions to be performed, the facilities at a school are laid out as groups. <sup>(10, 11)</sup>

In regard to each teaching space, it is essential to take into consideration such factors as, inter alia, space requirements based on the number of pupils taught in each space, requirements in respect of audio-visual teaching equipment, requirements in respect of electrical and mechanical services and fixtures requiring plumbing services, requirements in respect of fixed furniture and fittings,

chalkboards and pinning boards, and location of loose fittings, furniture and equipment. In Indian education the administrative block, the change-rooms for physical education and caretaker's quarters have been treated as separate blocks, and not as individual room units. Each teaching area (and not the block of rooms) has been standardised in order to permit flexibility in the lay-out and arrangement of amenities. In the lay-out of amenities for a school, the following parameters govern the assembly of the room units; namely, the site for the school, the climate, construction and materials, educational norms, school curriculum, school class structure and space relationships in primary and high schools. When considering the lay-out of the amenities for a school, provision is made for future addition of specialist rooms and not general classrooms. Finally, the buildings are orientated on the site to create the desired aesthetic and educational environment. (12)

In terms of the Indians Education Act, 1965, provision is made for two types of normal schools, namely, the primary school and the high school. Various factors influence the planning and designing of Indian schools. The *class structure* for a primary school in Indian education is class (i) to standard 4 (phases 1 and 2) and standard 5 (beginning of phase 3), while the class range for a high school is generally from standard 6 to standard 10 (part of phase 3 and phase 4). The main reason in keeping the standard 5 pupils in primary schools is that there is a shortage of high school accommodation, and the overflow of junior secondary pupils is kept in primary schools where

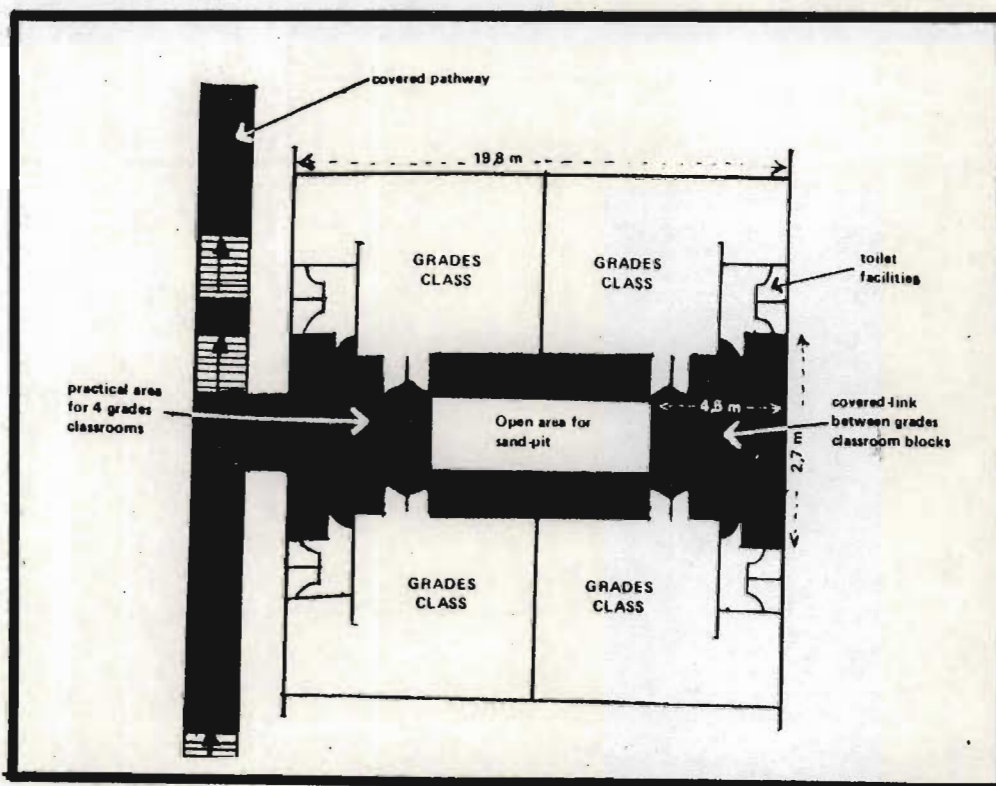
platoon classes may be instituted, if necessary. (13)

Several principles influence the design and lay-out of a school. (14)

Concerning *school sites* the majority of the sites in Natal, especially those in Chatsworth, Phoenix, Newlands and Duikerfontein areas, are restricted in size and mainly located on hill-tops with minimal flat areas. Often these sites have unstable substrata (for example, ecca-shale) necessitating full sub-soil investigations. Initial and representative reports of these investigations dictate the form of buildings, their sub-structures, and to a certain extent their final siting. As compared with the previous standard blocks of rooms, the topography of the majority of the school sites permits the "cluster system" of compact units. As for *climate*, the majority of the schools is in the sub-tropical, hot and humid area. Prevailing wind is mainly from the South-West, and heavy rainfall is common throughout the year. In certain areas, like the Cape, the climate is different and schools are planned accordingly. Since air-conditioning is not provided in Indian schools, it is essential that the buildings are correctly orientated to permit climatic control. *Audio-visual education* is playing an increasingly important role in the learning situation. However, the blackout of teaching spaces creates ventilation problems. To overcome this problem to a certain degree, the principle of rear-projection, where the projection room rather than the teaching space is blacked out, has been adopted in the designing of rooms. An interesting feature of the "cluster system" is that, where access corridors can be grouped, the larger covered areas so

formed can be used as additional *optional teaching spaces* subject to prevailing weather conditions. This physical arrangement is illustrated in Figure 6.1 which illustrates the lay-out of four grades classrooms and an optional teaching space.<sup>(15)</sup> The first of the Indian primary schools with such optional teaching spaces will come into operation at the beginning of 1979, namely, Rylands Primary School (Cape Town) and Effingham Primary School (Durban).

FIGURE 6.1 : LAY-OUT OF FOUR GRADES CLASSROOMS SERVED BY AN OPTIONAL TEACHING SPACE



On the question of *construction* and *materials* to be used for schools, the DIA has adopted the use of conventional brick buildings in order to minimise cost and maximise speed of construction. This system allows for the erection of school buildings by smaller

contractors/

contractors as well on the "open market." Low-maintenance materials are to be used wherever possible, for example, face brick is preferred to painted surfaces. *Educational norms* take into consideration, inter alia, teaching methods, flexibility of spaces, shape of spaces, audio-visual aids, circulation spaces, outdoor teaching and inter-relationship of spaces in schools. The principle of differentiated education demands the teaching of children in various sizes of groups from the individual child to double class groups which are involved in team-teaching. The learning/teaching spaces are planned for maximum flexibility. Hitherto, teaching spaces were designed for teaching class units only. *Teaching methods* have shown greater flexibility through the medium of audio-visual aids such as overhead projection, projection of films and slides, and the possible use of closed-circuit television. Thus it has become necessary to make provision for these services on the planning of amenities at a school. Compatible with the possibility of arrangement of furniture for conventional teaching methods, the spaces provided by the DIA are square rather than linear since the former is the more flexible shape for sub-division. Where outdoor spaces are provided under cover, these spaces are designed to provide additional optional teaching areas rather than purely circulation spaces, for example, wet messy activities could be moved into these spaces where feasible. As far as it is possible the architect tries to link each indoor teaching space directly with an optional outdoor teaching space.

In the light of the above-mentioned planning principles and designs

of teaching spaces on the latest standards, education planners are responsible for the planning of school accommodation. Indeed, it is a big step forward in design, lay-out, aesthetic value, utility value and flexibility of the new school buildings which are being provided by the DIA.

The administration block contains the offices of the school principal, his deputy and heads of departments, the school secretary, sick-bays, staff-room, store-rooms, tuck-shop and roneo room. This block is generally closely related to the main entrance areas of the school and the school hall. The principal's office is easily accessible from the visitors' waiting space, and easily accessible to the strong room and the secretary's office. It is important that this office creates a favourable impression with visitors, as every parent who enters this room may judge the entire school by the impressions formed here. In new schools, the resource centre is in close proximity with the administration block. In high schools the industrial arts centre provides for metalwork workshop and a woodwork workshop. Storerooms are provided for storage of materials, tools and equipment. Care is taken to ensure that the noise generated in this space does not disturb the classrooms, laboratories or quiet rooms. A fixed worktop is provided along one wall. Wall storage units are provided and a pegboard for the storage of small tools. Power points are also provided for the use of power tools. The laboratories serve as a home base for one class. The laboratories are provided with continuous worktops, under which movable and mobile storage units

can be housed. Pinning boards and folding-type chalkboards are fixed equipment in addition to laboratory sinks and display cabinets for specimens. The laboratory should have direct access to the practical area and to a large store-room cum preparation room. In addition to the physical science laboratory, the biology laboratory and the lecture theatre, two science classrooms are provided especially for the junior secondary classes. The guidance unit is generally situated close to the administration block. Apart from a guidance room where guidance and counselling are done for the class unit, there is an interviewing room for the teacher and the individual pupil. The interviewing room has direct access from the guidance room.<sup>(16)</sup>

#### 6.5 FURNISHING AND EQUIPPING OF SCHOOLS

The furniture and equipment required for a school is the link between the education process and school building design. The design of the furniture must, therefore, be based on methodology and design philosophy for the school concerned. In a school it is essential to provide a range of furniture for children between the ages of 5 and 18 years depending on the class range of the school. The children need to be seated comfortably for the long hours spent in a school, and a degree of standardisation of furniture promotes economy of production of furniture required. In this regard the importance of good furniture design based upon simplicity and good craftsmanship cannot be overstressed.<sup>(17)</sup> In the schools under the control of the DIA, furniture and equipment have been standardised for both

primary/

primary and high schools. Copies of these standard lists of furniture and equipment were sent to Indian schools under cover of I.E. Circular No. 40 of 1974 for reference, and for purposes of up-dating their requirements. These lists were subsequently revised in 1977, and are constantly reviewed and amended in the light of new requirements to meet the demands of differentiated education.<sup>(18)</sup> The Supplies Section (Stores) of the Division of Education is presently a decentralised unit from the Head Office of the Director of Education. The basic function of this section is to supply educational institutions under the control of the DIA with essential furniture, equipment and consumables. The Supplies Section ascertains the requirements of educational institutions and requests for funds through budget estimates. With the monetary allocation available, this Section then determines priorities for the demand made by institutions. It also has to find the sources of supply, place orders for the items required, distribute the items to schools from central stores depot or arrange for direct supply to the institutions concerned. For new schools or additions to existing schools, the Supplies Section budgets in advance for the requirements of proposed services based on "R208 Information" supplied by education planners. This information is important in that the administrative staff is advised, inter alia, of the class range, number of pupils per standard, specialist rooms, and subject-sets to be offered at the proposed school.<sup>(19)</sup>

Alive to the demands made through the implementation of differentiated education, the DIA has given urgent attention to the provision of a wide range of sophisticated audio-visual teaching aids by extending

its standard lists of equipment to include such items as overhead projectors, cine projectors, spirit duplicators, cameras, tape recorders, episcopes, photo-copier, record player and projection screens. (20) The DIA provides a wide range of furniture and equipment for all the teaching spaces including the many and varied specialist rooms, the administration block and cleaners' store and quarters. For classroom furniture in the primary schools, the Department's standard provision is four categories of pupils' furniture. Infant tables 330mm high and chairs are provided for pupils in class (i) and class (ii), small dual desks with chairs 410mm high are provided for those in standards 1 and 2, mediums dual desks with chairs 430mm high are provided for those in standards 3 and 4, and large dual desks with chairs 460mm high are provided for pupils in standard 5. The standard classroom furniture for all pupils in a high school is a single desk with storage space, and a chair 460mm high. The specialist rooms in both primary and high schools are suitably furnished as per standard lists in consultation with the inspectorate. Apart from the furniture and equipment provided by the DIA as per standard lists, the school buildings also have built-in or fixed furniture. This is particularly so for the specialist rooms in both the primary and high schools, where there are built-in cupboards for storage spaces alongside walls, fixed work benches and steel frames for storing metal and timber sheets in workshops, double-bowl sinks and pannelite tops on cupboards skirting the walls in a kitchen, stoves in the kitchen, tracing-tables in history/

geography rooms, water and gas fittings in laboratories among other fixtures in specialist rooms. General classrooms have cupboards for pupils' work while grades classrooms for infants have built-in "pigeon-holes" for storage and bookcases for display of pupils' efforts. In technical high schools like Clairwood Technical High School and the M.H. Joosub Technical High School the fixed fittings, especially those in the workshops, are sophisticated. According to 1977/78 budget estimates, the current cost of furnishing and equipping a 20 classroom primary school with specialist rooms is R31 000, and the similar cost for a 30 classroom high school with specialist rooms is R110 000. Provision is also made in the standard list for pupils in platoon classes, that is, for classes without a classroom as a home base. For these pupils who are involved in outdoor teaching/learning situations, meranti benches without backrests are provided for the pupils. Movable chalkboard with easels together with a steel cupboard are provided for each platoon class unit. In this regard it is observed that there is a shortage in the provision of the above-mentioned furniture and equipment for platoon classes at certain schools because of insufficient funds being available for this purpose. Further, primary schools are provided with special furniture and equipment after consultation with the academic inspectors when a decision is taken by the DIA to retain standard 6 or standard 7 pupils in a primary school. This decision is taken generally when there is a shortage of high school accommodation in the area. For this purpose, such primary schools are being provided presently with a set of furniture and equipment for the subject Technical Drawing

so that the boys may offer basics as a compulsory seventh subject. The girls offer Mothercraft as an alternate to Technical Drawing, and for this purpose the minimum requirements over and above what is being provided for Needlework for senior primary school pupils are allocated to the school concerned. The DIA supplies the minimum requirements for the teaching of General Science, furniture, equipment and consumables for junior secondary classes retained in a primary school as a temporary measure. In this way the Department ensures that minimum standards are maintained in terms of differentiated education for the pupils. (21)

In the case of State-aided schools which numbered 139 in March 1978 (see Table 6.3), the proprietors are expected to furnish their schools adequately according to the provision made in the Department's standard lists of furniture and equipment for primary and high schools, if furniture and equipment at such schools have not been donated to the State. State-aided primary schools generally have classroom accommodation and lack specialist rooms. Further, furniture for pupils in many of these schools are out-dated and in a poor state of repair. The pupils in these schools are placed at a disadvantage in terms of amenities and suitable furniture and equipment. However, where Grantees of State-aided schools have donated their furniture and equipment to the State, the DIA undertakes to replace all unsatisfactory furniture and equipment and to supply additional items as may be required. In this regard it is observed that the Department provided an amount of

R496 000 in the 1978/79 budget estimates in order to bring these schools up to standard and also to replace unsatisfactory furniture. In the interim period Principals are requested to effect minor repairs where possible in order to have an adequate supply of furniture for pupil enrolments at these schools. (22)

6.6 THE PROVISION OF SCHOOL ACCOMMODATION ON A SUBSIDIZED BASIS AND BY PRIVATE ENTERPRISE

J.N. Reddy, Chairman of the Executive Committee of the SAIC, had this to say in regard to the provision of State-aided and private schools on the occasion of the Golden Jubilee of Merebank Primary School: "The history of Indian education, more especially in Natal, is a proud record of determination, self-help and sacrifice on the part of the Indian community to ensure that their children would receive the necessary education to face the challenges of the future. One can only appreciate the concern of our people when one looks back on their efforts in different parts of the province to start up schools under trying circumstances. What has been achieved over the years until Indian education became State responsibility in more recent years, will stand out as a monument unequalled by any other sector of the South African population." (23) This probably sums up the role of the Indian community in the provision of school accommodation.

While the aided schools in Great Britain were built to preserve and promote religious interests such as those of the Catholic and Protestant schools and private schools were built to provide for the

middle and upper classes, the birth of aided schools for Indians in this country was as a result of neglect by the authorities concerned in the provision of school accommodation for this race group. It was through sheer self-sacrifice that the foundations for today's Indian education was laid, and the Indian community can be justly proud of its objectives in education. Though Indian education owes its origin to Christian missionary effort, the schools provided by the Indian community itself soon exceeded the number of mission schools. So eager were they for education that the money for school sites and buildings came from generous donations and magnanimous efforts of the Indian community. Well into the 20th century, about 80% of the schools in Natal were State-aided. Strong community support for education continued to be a noteworthy feature of Indian education in Natal. Monumental evidence of this is Sastri College which was established as the first Indian high school in Natal in 1930, and the M.L. Sultan College for Advanced Technical Education which opened in 1932. The M.L. Sultan Trust persevered with the erection of State-aided schools and, as at March 1978, there were still 9 primary and 2 high schools in Natal which bear testimony to its stirring efforts to provide much needed school accommodation.<sup>(24)</sup> Even before there was control of the education of Indian children, a new era in Indian education began through the magnanimous efforts of the Christian missionaries. The real pioneers were Wesleyan missionaries who had established eleven schools by 1892. At the close of the 19th century, the missions were still active in the educational field. The supply of school accommodation was totally inadequate even after the establishment

of the Union of South Africa in 1910 in order to meet the rapidly growing demand for school accommodation. In 1926, there were 9 Government schools and 45 Government-aided schools with a total school population of 9 155 pupils representing 28,61% of an estimated 32 000 Indians children of school-going age.<sup>(25)</sup> Deeply conscious of their cultural heritage, the Indians extended their guiding principle of self-help to include the establishment of aided schools for their children. In 1928 there were 9 Government schools with 2 047 pupils and 43 Government-aided schools with 7 799 pupils. By 1960 there were 30 Government schools and 208 Government-aided schools. Including registered and religious schools, there were 99 975 pupils in 253 schools in 1960.<sup>(26)</sup>

The development of Indian education despite many vicissitudes was enhanced by the efforts of trusts such as the NITS Building Trust and the M.L. Sultan Trust and other private enterprises. In 1950, Indian leader Dr G.M. Naicker remarked "The provision of sufficient school buildings to accommodate the 30 000 children without accommodation is the biggest single problem facing the authorities, the teachers, the parents and the community to-day."<sup>(27)</sup>

State-aided schools obtained only in Natal. Prior to transfer of education to the DIA, the Indian community played a singularly important role to relieve the pressure for accommodation of a rapidly growing Indian school population. By 1952, of the 237 State, State-aided and Private Registered Schools, no less than 90% had been built through

the initiative of Indians themselves. It was in 1943 that the building grant for the erection of State-aided schools was raised from  $33\frac{1}{3}\%$  to 50% of the cost of buildings. The following Table 6.3 shows that, at the time of transfer of education in 1966, there were approximately three times as many State-aided schools as State schools. Over the years, since 1966, the number of State-aided schools has been dwindling steadily while the State was providing new schools at an accelerated rate in order to meet the demands for school accommodation. In 1967 the number of State-aided schools constituted 60,81% of the total number of schools under the control of the DIA and, by March 1978, this ratio had decreased to 37,47%. This declining motivation on the part of the Indian community is not attributable to apathy. The State has assumed the responsibility of providing adequate accommodation for the Indian community.

TABLE 6.3 : NO. OF STATE AND STATE-AIDED SCHOOLS UNDER THE CONTROL OF THE DIA (1966-1978)

Year	Natal		Transvaal State	Cape State	R.S.A. Total	State-aided as % of Total
	State	State-aided				
1966	66	215	-	-	281	76,51
1967	73	211	63	-	347	60,81
1968	88	207	61	-	356	58,15
1969	105	196	63	-	364	53,85
1970	112	185	64	-	361	51,25
1971	118	176	64	1	359	49,03
1972	135	167	64	1	367	45,50
1973	143	161	63	1	368	43,75
1974	144	156	62	1	363	42,98
1975	148	150	61	1	360	41,67
1976	150	147	61	1	359	40,95
1977	163	140	61	3	367	38,15
1978	168	139	60	4	371	37,47

Of the 168 State schools in Natal under the control of the DIA, 22 schools were State-aided schools which were taken over by the State. These aided schools were either handed over to the State gratis because the proprietors did not wish to bear the responsibility of maintaining such schools or these schools were sold to the State, especially if they were situated in proclaimed Indian areas. The present State-aided schools generally serve the rural areas and are comparatively smaller in size to State schools. Although the State-aided schools numbered 38,15% of the total number of schools under the control of the DIA in 1977, the number of pupils in these State-aided schools was 41 591 pupils representing 24,65% of the Natal school population and 21,33% of the total school population in this country in 1977. In 1967 there were 73 730 pupils in 207 State-aided primary schools and 3 578 pupils in 4 State-aided high schools in Natal, and this total school population of 77 308 pupils in State-aided schools then represented 56,10% of the total school population in Natal and 48,43% of the total school population under the control of the DIA. It is, therefore, evident that not only did the number of State-aided schools dwindle over the years, but the holding power of State-aided schools decreased considerably. Nevertheless, the Indian community has set a fine example of self-help on the part of a less-privileged minority group in this country by providing educational facilities to the extent it had done. Since transfer of education in 1966, no new State-aided school was built. However, there have been additions to State-aided schools situated in unproclaimed or controlled areas where the DIA, until now, does not build schools as a matter of policy. The top

priority/

priority in State-aided schools was classroom accommodation and, hence, the majority of such schools lacked specialist rooms of any kind. (28, 29)

Where the Indian community does not take the initiative in controlled areas or areas unproclaimed for Indian settlement, the DIA negotiates with employers with a view to hiring accommodation that is provided by such employers, for example, as in the case of Waterton Primary School in Zululand. (30)

Many of the State-aided schools are presently in an unsatisfactory state of repair. As from 1 April 1977 the annual maintenance grant for State-aided schools has been increased from R4 per pupil to R7,50 per pupil. This increase in maintenance grant was most welcome by the proprietors in view of the need to increase the salary of caretakers and also meet the increasing cost of maintenance to old school buildings in particular. Further, it is the small State-aided schools with pupil enrolments of under 100 each (there were 29 such schools as at 1 March 1977) that still find the revised maintenance grant inadequate for the upkeep of school buildings in a satisfactory condition because the grant is directly related to the average total pupil enrolment for the school concerned. It is the policy of the DIA to take over the State-aided schools as funds become available, thus relieving the Indian community of the financial responsibility of erecting and maintaining school buildings. (31)

Although the Indians Education Act, 1965, makes provision for the

establishment/

establishment of nursery schools, priority for the present is the provision of classrooms in order to eliminate the shortage in school accommodation in the way of platoon classes. The policy of the DIA is to subsidise registered private nursery schools, and from 1 April 1977 this subsidy was increased from R4 to R7 per pupil per term. In 1978 there were 5 nursery schools in Natal and 2 nursery schools in the Transvaal, and these nursery schools were run by private organisations and registered with the DIA. However, there are many more unregistered private nursery schools which do not receive a subsidy because these schools do not satisfy the minimum standard requirements for registration with the DIA. Crèches are built by private welfare agencies on a subsidised basis. In 1977 there were 212 pupils with 11 teachers in 6 registered private nursery schools. This is indeed a very small number of pupils when one considers the fact that 23 040 class (i) pupils (5½ years +) were admitted to Indian schools in January 1978. (32, 33)

A number of special schools in Indian education have come about through the magnanimous effort of the Indian community. Special schools for children who are blind, deaf and cerebral palsied, have come about through generous donations and the sacrifice in time made by welfare leaders and educationists. Generous subsidies are provided by the DIA for these schools. By 1978, the New Horizon School for the Blind (Pietermaritzburg), the Durban School for the Deaf (Durban) and the M.L. Sultan College for Advanced Technical Education (Durban) were institutions receiving grants-in-aid. The DIA

has assumed responsibility for trainable mentally retarded children as defined in Act No. 63 of 1974. Once again the Indian community rallied support and provided the necessary accommodation. The DIA subsidises these private schools and, in 1978, subsidies were being paid to three such training centres, namely, the Golden Gateway Training Centre (Durban), Lotus Haven Training Centre (Pietermaritzburg) and the Jiswa Training Centre (Johannesburg). Plans are afoot to establish a similar centre at Laudium (Pretoria). However, adjustment classes for educable mentally retarded Indian pupils are being accommodated in adaptation classrooms at ordinary schools under the control of the DIA. As at March 1978 there were 1 238 such pupils in adjustment classes. (34, 35)

In Great Britain the direct-grant schools are the hybrids of the private and state systems of education. In these schools the admission of pupils is done on a selective basis and a "means test" is applied for remission of fees. These private schools, with a better pupil-teacher ratio, have proved to be some of the most successful academic institutions in Great Britain. In this country, thus far, private schools have been established for White pupils only. Of late, these private schools have indicated their willingness to admit non-White pupils who satisfy the minimum requirements for admission to such schools including the high cost of fees. The establishment of such private schools in Indian education has not got off the ground. The most enduring element in the demand for private education remains the desire of a parent to give his child "the best in education" while the poorer parents see these children in private schools as "privileged".

Clearly/

Clearly academic performance is not the only criterion in the choice of a private school. It is an amalgam of both sociological and economic factors. Moreover, in Great Britain where such private schools are being held in such high esteem, the demand for private education has been decreasing significantly and, in the period 1951 to 1970, this demand has decreased by 60 000 pupils. (36) The writer believes that while such private schools normally provide for children from the middle or rich classes, the State schools will permit more equal opportunities for children of all social classes and income groups and that the latter type of schools are more likely to promote greater social cohesion. Further, State-aided schools built economically cannot compare favourably with the amenities provided at schools in most Western countries and for Whites in this country.

#### 6.7 THE DEPARTMENT'S SCHOOL BUILDING PROGRAMME

The monetary allocation for the provision of schools by the State is reviewed annually. In planning the school building programme, the principal objective of the DIA is to meet this demand to the best possible advantage within the monetary allocation for capital expenditure. The school building programme provides for the natural growth of the school population, the reduction of platoon classes, the resettlement of Indians brought about by the Group Areas Act of 1949, the closure of schools, the replacement of schools and classrooms that are in an unsatisfactory condition and sometimes on account of political pressure. (37)

Although/

Although in the past there have been consultations with the various State departments and local authorities, the DIA took the initiative, in 1975, to establish a Co-ordinating Committee for School Planning. The objective of this committee is to be kept informed of developments in existing and new townships so that planning of schools and the provision thereof are done timeously. By March 1978, eight such committees were established on an area basis, four in each of Natal and the Transvaal. This Committee is represented by the DIA, the PWD, the Department of Community Development, the Department of Agricultural Credit and Land Tenure and the local authorities concerned, with the Deputy-Director of Planning (Division of Education) as Chairman of these committees. Based on the approved norms of the DIA for the provision of school accommodation in an area, school sites are identified and acquired in consultation with other State departments and the Local Authority concerned. At such meetings, for example, the development of the housing scheme in Phoenix-Newlands area is discussed. Details of the area or unit that is being developed and the housing programme with its delivery rate of houses are tabled so as to enable the DIA to determine priorities in the provision of a school in the school building programme. When measuring the demand for school accommodation, the DIA establishes contact with all bodies concerned with the planning of townships, that is, apart from the above-mentioned bodies who are represented on the Co-ordinating Committee for School Planning, such bodies as the Private Townships Boards and the Town and Regional Planning Committees are consulted regularly in the provision of school

accommodation/

accommodation for the Indian community. (38)

While the DIA is the user department, the PWD is responsible for the building and maintenance of all State schools. After the school building programme has been finalised, the PWD acquires the necessary school sites (if it has not already done so), design the schools, finance the services and supervise the building operations in consultation with the user department. In order to expedite the planning and provision of new schools and additions to existing schools for Indian education, the PWD has enlisted the services of a private firm of architects. (39)

The Director of Indian Education has established a Planning Committee for the School Building Programme with the Chief Planner (Physical) as Chairman of the committee. This committee has monthly meetings and advises the Director, inter alia, on the drawing up of and implementation of the Major Works Building Programme and the New Minor Works Building Programme. When the cost of a service exceeds R30 000, that service is considered for inclusion in the Major Works Building Programme which is a five year programme. Services that cost between R600 and R30 000 are considered by this committee for inclusion in the New Minor Works Building Programme which is for a financial year. Services costing under R600 are executed under local authority of the PWD. With the available monetary allocation for the five year school building programme, this Committee determines the number of additional services that are to be included in the

programme/

programme annually. The demand and supply of school accommodation for the different areas throughout this country are carefully analysed before services are included in this programme. Priorities for the services are reviewed in the light of the latest demand for school accommodation in the different areas. Various factors influence the ordering of priorities, for example, the shortage of school accommodation in an area, the availability of suitable school sites, unforeseen closure of schools, acceleration in the delivery rate of houses in housing schemes, the movement of the Indian population affected by the Group Areas Act and the abnormal influx into proclaimed Indian areas. In planning the School Building Programme, priorities for services are reviewed annually by the Secretary for Indian Affairs, and the main object is to meet the demand for school accommodation to the best possible advantage within the allocated budget. The Major Works Programme provides for the planning of special services. Although the demand for the special services are related to the demand for schools, it cannot be dictated by general planning norms but requires special planning, for example, the technical high school at Clairwood or the proposed college of education at Laudium. As for the New Minor Works Programme practically every principal indicates in his annual returns what services need attention at his school. However, the committee presently considers only services that are of national importance because of the economic recession in this country. Priority, for example, is given to urgent temporary classrooms at schools where there are platoon classes and the Major Works Programme is unable to bring relief to the area concerned. (40, 41)

Presently/

Presently, halls are being built at schools on a subsidised basis. Provision is made by the DIA for future school halls at State schools in the planning stages. The DIA is presently giving priority to the provision of classroom accommodation in an attempt to eliminate the shortage in school accommodation before school halls are provided by the State. It takes about five years from the time the decision is taken to build a school until the new school is occupied by pupils, and about two to three years from the time the architects receive the brief for a service to commence planning until occupation is taken of the new school by the user-department. (42)

Since transfer of education to the DIA, the Indian school population in Natal increased from 134 152 pupils in 1966 to 176 579 pupils by March 1978, representing an increase of 31,63% in 12 years; and in the Transvaal from 21 814 pupils in 1967 to 25 280 pupils by March 1978, representing an increase of 15,89% in 11 years. In the Cape there were no Indian schools on transfer of education but, by March 1978, there were 2 811 pupils in 4 Indian schools. To meet this demand in growth of school populations and the additional demand imposed through closure of no fewer than 75 schools in the period 1968 to 1978, the DIA provided 89 new schools and additions to 135 existing schools in the same period at an estimated cost of R67,8 million. Most of this accommodation has been built in the form of multi-storey buildings which have replaced the austerity type single-storey structures in use at the time of transfer of control of education. A further significant

achievement/

achievement of the building programme has been its effect on the reduction of pupils in platoon classes from 33 543 in 1966 to 11 579 in March 1978. The following Table 6.4 shows the provision of new schools, the number of additions to existing schools, the number of schools that closed and the number of State-aided schools that were taken over by the State in the period 1968 to 1978.<sup>(43)</sup>

TABLE 6.4 : NO. OF NEW SCHOOLS PROVIDED, ADDITIONS TO EXISTING SCHOOLS, SCHOOLS THAT CLOSED AND SCHOOLS TAKEN OVER BY THE STATE (1968-1978)

Year	New Schools		Additions		Closure of Schools		Taken-over by State	
	P	H	P	H	P	H	P	H
1968	6	1	1	5	4	-	-	1
1969	2	1	3	8	3	-	3	-
1970	8	4	5	3	14	1	2	-
1971	3	1	5	2	5	-	3	-
1972	10	7	11	8	7	1	6	-
1973	5	3	12	5	6	2	1	-
1974	2	2	8	4	11	1	1	-
1975	3	1	12	2	2	1	3	-
1976	3	-	13	5	4	-	-	-
1977	11	4	6	5	5	-	2	-
1978	5	7	8	4	4	4	-	-
Total	58	31	84	51	65	10	21	1

KEY: P = no. of primary schools

H = no. of high schools

Using approved norms, the DIA has provided accommodation for 78 632 in new schools and approximately 13 500 pupils in additions to 135 existing schools. However, the DIA has lost over 600 classrooms through closure of no fewer than 75 schools in the period 1968 to 1978,

and/

and, in this way, has lost accommodation for approximately 21 600 pupils using the Department's approved norms. (44)

The following Table 6.5 shows the distribution of schools according to total pupil enrolments, as at 7 March 1978, for Natal, Transvaal and the Cape. (45) From this table it is evident that the majority of the schools is in Natal, and there are a number of small schools which are mainly State-aided and serving rural areas. The State provides the larger schools. In March 1978 it was found that, of the 378 schools under the control of the DIA, no fewer than 53 schools had pupil enrolments of under 100 pupils each, and about one quarter of the total number of schools had pupil enrolments of under 200 pupils each. On the other hand there has been 49 schools, as at March 1978, with total pupil enrolments of 1 000 pupils and more at each of these schools.

TABLE 6.5 : CATEGORIES OF SCHOOLS UNDER THE CONTROL OF THE DIA ACCORDING TO PUPIL ENROLMENTS BY PROVINCES AS AT 7 MARCH 1978

No. of pupils	Primary Schools			High Schools			Special Schools	R.S.A. Total
	N	T	C	N	T	C		
1 000 +	16	1	-	29	2	1	-	49
800 +	19	3	-	11	3	1	-	37
600 +	64	8	-	9	2	-	-	83
400 +	41	3	1	6	3	-	-	54
200 +	50	4	-	4	7	1	-	66
100 +	29	5	-	-	1	-	1	36
50 +	22	9	-	-	-	-	6	37
50 -	7	9	-	-	-	-	-	16
Total	248	42	1	59	18	3	7	378

KEY: N = no. of schools in Natal  
 T = no. of schools in the Transvaal  
 C = no. of schools in the Cape

In the larger high schools more courses can be offered economically subject to there being the amenities and demand for a specific course. In the smaller high schools (there were 13 such schools with total pupil enrolment of under 400 pupils) a limited number of courses are offered and the demands of differentiated education cannot be fully met. (46)

The present five year School Building Programme (1978-1983) provides for 68 new primary schools, additions to 5 existing State primary schools, 40 new high schools and additions to 20 existing State high schools. The DIA has requested for 38 additional services comprising; 21 new primary schools, additions to 4 existing primary schools, 12 new high schools and additions to an existing high school for the period 1978-79 to 1983-84. For the period 1978-79 to 1980-81 the DIA has been allocated R41 381 000 for capital expenditure. This monetary allocation is expected to increase the tempo of the school building programme significantly. (47)

The present five year School Building Programme provides for 30 primary schools and 13 high schools in the Phoenix-Newlands Indian Housing Complex which is expected to have the greatest influx of Indians in the next five years. This housing complex is being planned for an estimated population of 240 000. Although adequate school accommodation has been planned for this area, the anticipated dates of completion of the proposed schools do not match the delivery rate of houses. This is understandable when one considers the whole School Building Programme, the priorities for all the services in the country

and/

and the available monetary allocation for capital expenditure in Indian education. (48)

On transfer of education in 1966, the monetary allocation for the School Building Programme for the period 1966-67 to 1971-72 was R20 million, and this monetary allocation for capital expenditure in the period 1977-78 to 1982-83 has been increased to R77 million, an increase of 285%. Further, in 1966-67, the average cost of a 20 classroom primary school was R70 000, and that of a 30 classroom high school about R185 000. In 1977-78, the average cost of a standard primary school with seven specialist rooms was R500 000, and that of a standard high school with 17 specialist rooms and increased floor spaces of teaching areas about R750 000. The school buildings are now superior to those built early in 1966; the cost of providing a primary school has increased by more than 600% and that of a high school by more than 300%. Despite the spiralling cost of school buildings, the high growth rate especially in the high school sector, the closure of schools and the movement of the Indian population affected by the Group Areas Act, the DIA has made significant progress with its School Building Programme in its object of providing adequate school accommodation in the short period of time since transfer of control of education in 1966. Moreover, the DIA is well geared to meet the future demand of school accommodation for more than 262 000 pupils by 1985. (49)

#### 6.8 THE PLATOON SCHOOL SYSTEM AND ITS IMPLICATIONS FOR SCHOOL ACCOMMODATION

In the 1950's there was a chronic shortage of school accommodation

of adequate quality, and this inadequacy became the greatest obstacle to the progress in Indian education. It also became the subject of international representations, of numerous press reports, petitions and deputations to the authorities concerned. Moreover, it has also become the focal point around the magnanimous effort of a less-privileged minority group in this country to provide much school accommodation through self-help. In order to alleviate the problem of school accommodation, the platoon school system was established whereby one building was used to accommodate two schools, the one functioning mainly during the morning and the other largely during the afternoon. (50)

This platoon system came into widespread usage in Natal in 1952 although an experimental school under the control of the NED came into operation in the Clairwood area (Durban) on 6 August 1940. The authorities immediately recognised, from this experiment, that the system was not satisfactory from an educational point of view. However, by instructing the more senior classes at Clairwood in the first half of the day with the school commencing at 07h30 and closing at 13h00, and the infants in the afternoon, more children have been brought under instruction in the same school plant. Each session in a school had its own principal and staff. (51) Unfortunately, pressure for school accommodation was not relieved even with this system and, by 1952, the number of children of school-going age but with no school accommodation of any sort was estimated at 37 000. (52)

Although/

Although the platoon school system was introduced as an emergency measure to accommodate more pupils, the NED intended this system to be a temporary expedient. While bringing relief to the accommodation problem, this system was already fraught with difficulties in other areas such as teachers, organization and psychological problems for children. Shortage of school accommodation resulted in Indian children entering school for the first time at ages varying from 5 to 15 years, depending upon the availability of places at schools to which applications for admission were made. Thus, even in the early 1960's, prior to transfer of education to the DIA, class units were notoriously heterogeneous with respect to age, and it was not unusual to see a five-year-old sitting next to a twelve-year-old child in sub-standard one. (53)

It became necessary to institute platoon classes in many areas in Natal in order to meet the growing demand for school accommodation. By 30 September 1959 there were 22 459 pupils in platoon classes accommodated in 75 schools in Natal, and the enrolment constituted 32% of the total school population of 74 382 under the control of the NED. Although the building of new State and State-aided schools progressed appreciably, there were still 30 000 pupils in the platoon classes by the end of 1963. (54, 55)

The platoon school system originated with two separate schools in one building, that is, each school with its own principal and staff. Subsequently, one principal was given an allowance and made responsible

for both sessions. The platoon school system was adopted wherever the school plant permitted and because of an acute shortage of school accommodation obtaining at that time. Instruction in these schools was reduced to four hours by careful pruning of the curriculum. The NITS, the teachers' association recognised by the education department, gave its blessing to this departure from regulations concerning hours of instruction in a school in order to overcome the "bottle-neck" in school accommodation for Indians in Natal. However, a recommendation by the NITS to the NED for the erection of hutments in order to solve the vexed accommodation problem did not find favour. (56)

The platoon school system was modified, and a new approach was evolved whereby some classes were taught indoors while other classes were given instruction simultaneously out-of-doors. Generally, lessons demanding written work are dealt with indoors while some lessons lend themselves to out-door instruction such as oral work and physical education. This accommodation arrangement enables the school to cope with a larger pupil enrolment than that for which it is designed. A more recent development involves the use of the peripatetic system in which all class units rotate by using rooms that are vacated when classes move to specialist rooms or outside for instruction in oral subjects and physical education. Evidently the latter system is gaining popularity because the long drawn-out school hours are curtailed significantly. However, the use of this peripatetic system is practical on a restricted basis depending on, inter alia, the size of the school, the availability of specialist rooms, the

number of platoon classes involved and inclement weather. Only pupils from class (i) to standard 5 are involved in platoon classes. Thus a twenty-classroom primary school, with its highest standard as standard 5, can carry a potential load of 40 class units. However, the number of platoon classes at a school depends upon the demand and availability of school accommodation, and it is seldom necessary for a school to be fully platooned. (57)

The distribution of pupils in platoon classes according to standards and percentages of the total number of pupils in platoon classes as at 7 March 1978 is given in Table 6.6. From this table it is evident that just over 90% of the pupils in platoon classes in 1978 were in the class range class (i) to standard 2.

TABLE 6.6 : DISTRIBUTION OF PUPILS IN PLATOON CLASSES IN THE  
RSA AT AT 7 MARCH 1978

Std.	No. of pupils	% of Total
cl. (i)	2 462	21,26
cl. (ii)	3 407	29,42
std. 1	2 281	19,70
std. 2	2 283	19,72
std. 3	781	6,75
std. 4	324	2,80
std. 5	41	0,35
Total	11 579	100,00

The pupils in this class range get instruction of a shorter duration per school day, and this enables the principal of a school to organise his platoon classes in such a manner that no pupil remains at school

after/

after 15h00. Further, in March 1978, the distribution of pupils in platoon classes according to areas indicates that the greatest pressure point areas for school accommodation are Chatsworth (with 3 340 pupils in 92 class units), Northdale (with 2 087 pupils in 56 class units), Mt Edgecome (with 799 pupils in 20 class units), Isipingo (with 501 pupils in 14 class units), Newcastle (with 536 pupils in 14 class units), Merebank (with 475 pupils in 14 class units), Avoca (with 413 pupils in 11 class units), Mariannhill (with 383 pupils in 10 class units), Inanda (with 342 pupils in 10 class units), Clare Estate (with 348 pupils in 10 class units), Port Shepstone (with 274 pupils in 8 class units), Northdene (with 261 pupils in 7 class units), Phoenix (with 261 pupils in 8 class units), Red Hill (with 254 pupils in 7 class units), Overport (with 302 pupils in 9 class units) and five other areas with enrolments between 100 and 200 pupils in platoon classes. It is evident that the greater concentration of platoon classes are in the larger Indian areas in Natal. No platoon classes exist in the Transvaal, and every endeavour is made by the DIA to avoid the institution of such classes in this province for political reasons. In the Transvaal there were no platoon classes on transfer of control of education to the DIA, and this community was assured that this position would be maintained by the DIA. Further, in the rapidly growing huge Phoenix-Newlands complex, there were only 261 pupils in 8 platoon class units in March 1978 on account of primary school pupils being accommodated in local high schools, and the high school pupils being transported to the Durban Central and Springfield areas. The School Building Programme takes into consideration the

above-mentioned/

above-mentioned pressure point areas in its priority services.

The DIA is aware of the problems encountered in the platoon school system. The pupils outside the classroom are subject to the vicissitudes of the weather and invariably, on rainy days, such classes are disbanded before scheduled times for the day. Secondly, the noise element is a disturbing factor to pupils in both sessions, especially when class groups are in close proximity to one another, and distractions are not conducive to learning. Further, organisation of time-tables, extra-mural activities for pupils in both sessions, extra-mural duties for teachers and staff meetings present problems. Maintaining the discipline and tone of a school makes further demands on the principal and staff. The pupils in platoon classes are restricted from attending classes for vernacular/religious instruction.<sup>(59)</sup> Thus, the platoon school system does not meet the pedagogical needs of the child as would be the case of a child attending a normal school.

While educationists acknowledge the fact that the platoon school system is both undesirable and educationally unsound, one must be mindful of its many achievements in Indian education. The main achievements of the platoon school system are, inter alia, all pupils of school-going age may gain admission to schools and this is perhaps the most important realisation of this system, a higher age restriction would have been imposed upon beginners in view of the limited school accommodation if the platoon school system was not acceptable to the

Indian community, compulsory education would not have been considered at this stage if platoon classes were not accepted as a temporary measure, and the platoon school system has ensured a higher degree of literacy amongst the Indian community.<sup>(60)</sup>

One of the important considerations in drawing up a School Building Programme is the need to reduce or possibly eliminate the platoon school system. School accommodation was one of the main problems and challenges of the DIA when it took over Indian education in this country. At the time of transfer of Indian education in 1966, there was a platoon school population of 33 543 pupils in Natal. This total represented 25,00% of the total Natal school population of 134 152 in that year. In the Transvaal there was only one school namely, Ferreira Primary School in Johannesburg, which accommodated 233 excess pupils in platoon classes in 1967, but these classes were discontinued in 1968. The following Table 6.7 shows how the progress was made in terms of the School Building Programme which enabled the DIA to reduce the platoon school population since 1966.<sup>(61)</sup>

TABLE 6.7 : PLATOON SCHOOL SYSTEM : NO. OF PUPILS, SCHOOLS, CLASS UNITS AND PERCENTAGES OF SCHOOL POPULATIONS (1967-1978)

Year	No. of pupils	No. of schools	No. of class units	% of Natal sch. pop.	% of RSA sch. pop.
1967	28 590	108	752	20,75	17,92
1968	18 425	70	491	13,76	11,84
1969	13 963	53	377	10,26	8,84
1970	13 466	51	371	9,53	8,26
1971	14 491	54	400	10,03	8,66
1972	13 114	58	351	8,83	7,64
1973	11 940	51	310	7,81	6,77
1974	14 754	62	395	9,38	8,16
1975	14 819	59	399	9,28	8,09
1976	14 029	53	369	8,57	7,48
1977	11 777	51	319	6,98	6,04
1978	11 579	51	318	6,56	5,66

In Table 6.7 it is observed that there has been a steady progress towards the elimination of platoon classes under the control of the DIA. There was a significant reduction in 1973 when 8 new schools and additions to 17 existing schools brought accommodation relief. The platoon school populations, as a percentage of the total school population of Natal and of all pupils under the control of the DIA in the RSA, have been calculated using Table 4.7 and pupil statistics from the records of the Department. It is also observed that the schools with platoon classes are concentrated in certain areas only. By March 1978 the platoon school population had been reduced to 11 579 pupils, a reduction of 65,48% from the total of 33 543 pupils in 1966. This reduction in platoon classes is further appreciated when it is observed as a percentage of the total school population. In addition to the reduction of platoon classes, the School Building Programme makes provision for the natural growth of the school population, the resettlement of Indian families in terms of the Group Areas Act and the replacement of unsatisfactory classrooms. Further, the escalating costs of buildings, the lack of suitable school sites in densely populated areas and the closure of no fewer than 75 schools in the period 1966 to 1978 have had a significant bearing on the rate at which platoon classes were being reduced. Moreover, in 1978, the practical course was extended from standard 8 to standard 9, thus increasing the holding power of high schools. The writer does not anticipate a significant reduction in the platoon school population, in 1979, when the practical course will be extended further from standard 9 to standard 10 and compulsory education for children up to age 15

will be implemented as from January 1979. Of late there have been agitations from the local Indian communities arising from the institution of platoon classes, especially in Newcastle, Ladysmith, Pietermaritzburg (Northern Natal) and Lenasia (Transvaal), and subsequently representations were made to Parliament on grounds of the pupils concerned being subjected to extreme weather conditions in winter and summer. As an emergency measure the DIA deviated from the School Building Programme and planned, for immediate erection, industrialized type buildings at Trinity High School (Lenasia), St. Oswalds High School and S.E. Vawda Primary School (Newcastle) and prefabricated classrooms at five existing schools in Northdale (Pietermaritzburg) where there were 2 087 pupils in platoon classes in March 1978. Based on the School Building Programme, the DIA is geared to eliminating the platoon school system by 1985.<sup>(62)</sup> The platoon school system does not exist in Western countries because there is no shortage of accommodation. This also applies to White education in this country.

#### 6.9 THE IMPLICATIONS OF THE GROUP AREAS ACT FOR SCHOOL ACCOMMODATION

It is essential that the reader appreciates the concept of *separate development* in order to understand why educational facilities for the main population groups in this country are being provided separately. In terms of the Group Areas Act, residential segregation for these race groups was introduced in this country. The main task of the DIA is to prepare the Indian community to accept, in conformity with the principle of separate development, to have a measure of self-government in matters such as education, social welfare and local government.<sup>(63)</sup>

The Indian community, barely 2,89% of the South African population in 1970 (see Table 4.1), was most adversely affected by the Group Areas Act in comparison with the other race groups as observed from the following figures tabled in Parliament. The Minister of Community Development stated in Parliament that, by 1969, there were 35 956 Indian families uprooted by the Group Areas Act. Further, the Minister of Community Development reported, in June 1977, that there were still another 13 331 disqualified Indian families which are to be resettled.<sup>(64)</sup>

Thus, in terms of the approved norms, the DIA would have had to provide school accommodation for about 72 000 children on account of movement of school populations by 1969, that is, accommodation by way of over 2 000 classrooms. Apart from providing additional school accommodation in the period 1969 to 1977, the DIA would have had to plan accommodation for about yet another 26 662 pupils in both primary and high schools for disqualified Indian families. Further, there was reluctance on the part of Indian community to provide school accommodation in affected areas where there is a shortage because it is asserted that the provision of school accommodation is the responsibility of the State. Seventy-five schools closed in the period 1968 to 1978, and the closure of these schools is attributed mainly to the migration of the Indian population and the resulting uneconomical use of school buildings. Thus there were empty classrooms in affected areas and platoon classes in many proclaimed Indian areas where there were shortages in school accommodation.<sup>(65)</sup>

The rapid development of certain Indian townships is attributed

to the influx of families into the area apart from the natural growth of the local community. Indian families from affected areas, overcrowded Indian areas like Chatsworth, controlled areas and rural areas have been generally settling in newly proclaimed Indian areas. For example, for the huge Phoenix-Newlands complex with a potential population of 240 000 when fully developed, the DIA has planned 40 primary schools and 20 high schools. One of the implications of the Group Areas Act has been the urbanisation of the Indian population. In 1936 there were 157 425 Indians or 71,66% of the total Indian population in urban areas. This percentage increased steadily to 77,64% in 1951 and to 86,80% of the total Indian population by 1970. (66) However, this polarisation of the Indian population has assisted the DIA in providing more economical school accommodation in the urban areas. In the rural areas, especially in the Transvaal, the DIA is compelled to provide accommodation which is far more expensive. In many of these schools the provision of specialist rooms is limited.

In the planning of new school accommodation, the DIA has made provision for about 26 660 pupils or 760 classroom accommodation on account of 13 331 families yet to be moved in terms of the Group Areas Act as at June 1977. Thus, in its School Building Programme, the DIA provides for the movement of school population affected by the Group Areas Act. (67) The Group Areas Act also created special accommodation problems for the Blacks and the Coloureds in this country.

6.10 ADMISSION AND ZONING OF PUPILS TO SCHOOLS UNDER THE CONTROL OF THE DIA

Application of admission to an Indian school from the age of 5,5 years plus as at January of the school year is done on form I.E. 1. In order to make the optimum use of school buildings, the DIA resorts to admission of pupils to schools on a geographical area basis. Prior to transfer of control of education to the DIA, pupils who sought admission were put on a priority list and, consequently, many pupils were admitted to schools in other areas because of a lack of accommodation in their own area. This was especially the case where high schools admitted pupils from countrywide on a merit basis. This was an unsatisfactory system of accommodating pupils in schools because pupils were found travelling in opposite directions to their respective schools, pupils were spreading much valuable time in travelling and missing out on essential extra-mural activities, certain schools were under extreme pressure for accommodation and became recognised as prestige schools while at other high schools the class units were uneconomical, and transport costs became an added expenditure to the Indian parents. Thus both Indian parents and educationists alike welcomed the decision taken by the DIA to implement a system of zoning based on geographical service areas for schools. In this way no stigma would be attached to an admitting school responsible for the education of the whole range of pupils with varying interests, aptitude and ability. (68)

The DIA makes an annual survey on zoning and admission of pupils at

the end of the first half of the year so that it can formulate plans how best to accommodate the anticipated pupil enrolments at each and every school under its control at the beginning of the following year. Education planners visit the pressure point areas and advise the principals concerned on the optimum use of school plants, and how to keep the platoon school population in the area to a minimum. On the basis of the information collated from the annual returns, the DIA makes provision, in the revised budget estimates, for any serious shortcomings in the anticipated demand for school accommodation and revises the estimates accordingly. On this basis every child of school-going age is ensured accommodation at the beginning of a school year. Where there is a shortage of school accommodation in an area, platoon classes are instituted. Before schools close at the end of a school year, a circular minute is issued to principals of all schools under the control of the DIA. Embodied in this circular minute are zoning plans for each area so that principals concerned may make adequate arrangements timeously for, inter alia, the anticipated pupil enrolment for his school with staffing, text-books and stationery, and furniture and equipment implications to attend to. (69)

When a new primary school is ready for occupation, pupil enrolments for the new school and for other schools in the area are based on zoning of pupils according to geographical service areas. Principals of schools concerned are consulted before the zoning plan for the area is finalised and approved by the Director of Indian Education.

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In this regard it may be noted that the DIA takes into consideration such factors as reduction or elimination of platoon classes, closure of schools, bringing the smaller children nearer home, where possible, normalising the class range of a primary school (that is, from class (i) to standard 5) and making the best use of school accommodation in an area. In the case of a new high school, admission and zoning of pupils is also done on an area basis. Generally a primary school becomes a feeder school to an admitting high school but, in densely populated areas like Chatsworth (Durban), a primary school can often become a feeder-school to one or two high schools in an area. Special individual pupil problems arising from the zoning plan for an area are dealt with by the local principals in consultation with the Circuit Inspector concerned, for example, when a high school pupil wishes to follow a subject-set that is not being offered at his admitting school. When a new high school opens, the standard 6 classes, and often the standard 5 classes, in primary schools in the area are discontinued and transferred to the new high school. This invariably results in the reduction of platoon classes in the area concerned. The zoning system adopted by the DIA based on geographical service areas ensures that the optimum use is made of all available accommodation in an area, and the number of pupils in platoon classes is kept to a minimum. (70)

6.11 DIFFERENTIATED EDUCATION AND ITS IMPLICATIONS ON THE DEMAND FOR PHYSICAL AMENITIES

In this country, Act No. 39 of 1967 laid down the education policy

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for Whites in this country. One of the ten principles of this national education policy is that education must be provided in accordance with the abilities, talents and interests of the pupils. In August 1971 the Minister of National Education announced the regulations for the implementation of the policy of differentiated education. In these regulations it is accepted as a cardinal principle that the education system must make effective provision for the educational needs of each pupil. Thus, in the presentation of the subject matters, this could lead to differentiation in each school phase, and provision has to be made not only for the teaching of a whole class unit but for smaller groups and individuals. (71

The NED implemented the differentiated system of education at the beginning of 1973. The DIA followed suit in 1973 because the Indian pupils were then writing the Senior Certificate Examination controlled by the NED. In order to meet the demands of differentiated education, it became necessary for the DIA to review the provision of accommodation for both primary and high schools. After many consultations with the PWD which provides school accommodation for this Department, the standard plans for both primary and high schools were revised in 1974. In Indian education, differentiated education was virtually initiated as an extension of the school curriculum at all high schools to give a better balance between academic and vocational subjects, and a greater use of school guidance at both primary and high school levels so that children will be directed

to the courses that suit them best. However, the lack of essential educational amenities has limited the choice of subject-sets at many high schools, especially at older established high schools. As all Indian high schools do not have the facilities for the technically orientated subjects, Technical Drawing is being offered as a subject instead of Industrial Arts temporarily, where necessary. Another factor that influenced the number of subject-sets that may be offered at a high school was the economical demand by pupils. Apart from satisfying certain criteria such as availability of accommodation and suitable teachers, it is necessary to get an economical teaching unit of at least 25 pupils, if the enrolment in standard 8 is 125 or more pupils, and one-fifth of the total, if the enrolment is between 60 and 125 pupils, before a subject-set can be approved for a school. Thus, differentiated education cannot be offered fully in small high schools with fewer than 60 pupils in standard 8 as a viable proposition. The DIA is aware of the limitations of high schools built on the old standards, and it has taken the necessary steps to remedy this situation by programming specialist rooms at existing schools in order to bring them up to the latest standards. (72)

School buildings are structured to provide for twelve years of school education for an individual, that is, four schools phases of three years each. Teaching in this country has always been, and continues to be, classroom orientated for the predictable future. However, methods of teaching are changing and schools must, therefore, provide teaching spaces that are essentially class orientated but permit

innovations in teaching practice and educational organization, including the practice of self-activity as a learning process. (78)

In the junior primary phase embracing children in class (i), class (ii) and standard 1, the child is taught basic skills with due regard to limitations in school readiness. In this phase, differentiation is based on presentation of subject matter. The accommodation presently provided by the DIA is a grades classroom which is especially fitted-out with "pigeon-holes" for storage of pupils' work, folding-type book-cases for display of work, low chalkboards for easy access by the infant, and toilets with low pedestals next to the grades classrooms where the infant may be given toilet-training. The senior primary phase extends from standard 2 to standard 4. In this phase, differentiation is according to the method of presentation but not in syllabus content. Class teaching still forms the basis of the educational programme, but subject teaching may be attempted in certain subjects where specialized knowledge and method of presentation will enable the children to develop their ability to the maximum. These pupils are accommodated in the general classrooms but the teaching of certain specialist subjects such as art, handicrafts and needlework is done in the specialist rooms. In the primary schools additional specialist rooms such as the library/resources centre and science classroom are being provided in order to meet the changing demands of differentiated education. The adjustment or special class, numbering about 20 pupils, is accommodated in the adaptation room which is suitably fitted out for these pupils with work-benches and tables for needlework and clothing, among others. Further, the

classroom/

classroom blocks and specialist-room blocks are so laid out that optional teaching spaces between blocks are created for small group and individual activities. In Indian education, phases 1 and 2 are accommodated in the *primary school*. Standard 5 pupils, who form an integral part of the junior secondary phase, are generally accommodated in primary school because of a lack of adequate supply of high school accommodation. Naturally, where accommodation is available, the standard 5 pupils are accommodated in high schools. Many primary schools also retain standard 6 pupils temporarily, that is, when admitting high schools experience accommodation problems, and such pupils with additional equipment make do with primary school specialist rooms. Further, it is in the primary schools where there is a serious shortage of school accommodation. This shortage of accommodation has resulted in the continuation of platoon classes. The pupils in such classes are unable to benefit to the optimum because teaching is done largely outdoors where pupils are not seated comfortably, lack writing desks and are subject to inclement weather conditions. The DIA is aware of the limitations of the platoon school system, and it is endeavouring to its best to eliminate this system within the monetary allocation for capital expenditure. (74)

The junior secondary phase comprises standards 5, 6 and 7. In this phase the main concern of the educationist is the valid assessment of the child's aptitude, skills and interests. The educational programme during this phase must assist the child to obtain clarity in an awareness of his own ability and decide on the future directions of his studies and the curriculum he will undertake in the fourth

phase/

phase. The syllabuses for the subjects in the third phase for the ordinary group is not differentiated, but the subject content is presented in a differentiated manner so that the pupils obtain the maximum benefit from the educational programme according to their ability and aptitude. At the end of standard 5, the pupils are streamed into ordinary and practical groups. Thus, for some pupils, the educational programme must provide for a more practical and vocationally-orientated course to enable these pupils to derive the maximum benefit from their schooling. Where facilities do not exist, boys offer Technical Drawing as the seventh subject instead of Industrial Arts, and girls offer Needlework and Clothing instead of Housecraft. As a rule the pupils in the junior secondary and senior secondary phases are accommodated in a high school. However, the DIA has four high schools under its control, namely, Mayville High School, Pinetown High School, Isnembe High School and Darnall State-aided High School, where the class range ends with phase 3 because these schools have limited facilities for phase 4 and the demand for phase 4 is generally uneconomical. In the senior secondary phase, comprising standards 8, 9 and 10, provision is made for extensive differentiation in the various fields of study. The DIA offers six directions of study, namely, humanities, general, natural sciences, commercial, home economics and technical. It is of interest to note that while the NED, which indirectly pressurised Indian education onto the new differentiated system of education, initially offered 47 subject-sets that led to Matriculation Exemption and 10 additional subject-sets that led to a Senior Certificate, the

DIA offered no fewer than 113 subject-sets that led to Matriculation Exemption and 29 additional subject-sets that led to Senior Certificate by 1974. <sup>(75)</sup> However, the number of subject-sets offered in high schools serving rural areas is limited to about four on account of uneconomical demand for certain subject-sets, lack of specialist amenities and the existing staff-ration restricting the number of specialist teachers for a school. Further, even in larger centres, the DIA is unable to offer Physical Science on account of an acute shortage of suitably qualified teachers for this subject.

It is the policy of the DIA to accommodate all pupils in standards 6 to 10 in high schools, except in areas where there is a shortage in high school accommodation. In this regard it is noted that, in March 1978, there were 3 061 such pupils or 5,22% of the total high school pupils in primary schools. Further, the teaching of subject content with behavioural objectives has improved the quality of instruction in Indian education. High schools with no fewer than 17 specialist rooms, more and better equipment together with sophisticated audio-visual aids have enabled the DIA to meet the increasing demands made by differentiated education. Guidance and counselling are important integral factors in the successful implementation of differentiated education. In high schools the DIA provides a guidance unit comprising a room for guidance and counselling and a small interviewing room where individual pupil problems are discussed with good rapport. <sup>(76, 77)</sup>

6.12 COMPULSORY EDUCATION AND ITS INFLUENCE ON SCHOOL ACCOMMODATION

In many Western countries the compulsory school age is generally 14 years although in a few states like California, this age is extended to 18 years. The span of compulsory school attendance is ten years in Great Britain, eight in the Union of Socialist Soviet Republics, nine in Sweden and eleven for Whites in the RSA. (78)

In terms of the National Education Policy Act, 1967 (Act No. 39 of 1967), Section 2 (1)d, provision was made for compulsory education up to age sixteen for White children in the RSA. (79) For Coloureds in this country, Natal was the first province to introduce compulsory education, in terms of Ordinance No. 23 of 1942, for children in the age group 7 to 15 years. With effect from 1 January 1977, it became compulsory for every Coloured pupil in this country, in the age group 7 to 12 years, to attend school regularly, if he resides within 5 kilometres along the shortest route to a suitable school. (80)

For Black pupils, there is only a measure of compulsory school attendance for pupils in primary schools on account of an acute shortage of school accommodation for this race group.

For Indians in this country, there was no provision for compulsory education prior to the transfer of control of education to the DIA. In terms of Section 23 of the Indians Education Act, 1965, provision was made for the introduction of compulsory education for Indian children in this country. The Minister of Indian Affairs has the power to implement compulsory education if he is satisfied that

sufficient/

sufficient and suitable school accommodation is available. The regulations relating to compulsory school attendance for Indians were published in Government Notice No. R581 dated 15 April 1966.<sup>(81)</sup> In terms of Government Notice No. R63 dated 12 January 1973, the Minister of Indian Affairs declared that regular attendance at a State or State-aided school for Indians in the RSA shall be compulsory for every child who in 1973 or thereafter lawfully enrolls in class (i) at such school, and that such child shall continue to attend such school regularly until the end of the year in which he or she reaches the age of fifteen years.<sup>(82)</sup> However, this regulation would not be enforced, if in the opinion of the Director of Indian Education, the child was "receiving regular and effective education in any other manner", or was debarred from attending school regularly due to ill-health, or "for any other good and sufficient reason."<sup>(83)</sup> It is evident that these regulations are not sufficiently rigorous to enforce compulsory education. By 1975 school attendance was compulsory for pupils from class (i) to standard 1 and, by 1978, compulsory school attendance was extended to pupils from class (i) to standard 4. Further, figures from Tables 4.7 and 4.8 were examined to consider the drop-out rate of pupils in Natal and Transvaal only because in these two provinces the school populations were more stabilised; the Cape figures were excluded because they are considered to be unreliable on account of the many Indian pupils still in attendance at Coloured schools. In Natal and Transvaal there were 62 417 pupils in phase 1 in 1975 and, by 1978, this cohort of pupils was reduced to 60 869 pupils (including pupils in adjustment classes

up to standard 4), reflecting a drop out rate of 2,77%. It is evident that the above-mentioned legislation governing compulsory school attendance did not have the desired effect of curbing the drop-out rate of Indian pupils. In order to expedite the introduction of compulsory education generally, the Minister of Indian Affairs removed the condition that "sufficient and suitable school accommodation is available" in terms of section 31 of the General Law Amendment Act, 1973 (Act No. 62 of 1973) and a further restriction that compulsory education was to be implemented "for a specific age group in a specific area."<sup>(84)</sup>

A feature of Indian education in the post-war era was the considerable increase in pupil enrolment. In the period 1936 to 1950, the Asiatic school population rose by 365% while the corresponding increase for the Coloured school population in that period was 36%.<sup>(85)</sup> Further, since transfer of control of education for Indians to the DIA, there was an increase of 31,55% in total school population in the period 1968 to 1978.<sup>(86)</sup> Although compulsory education had never been enforced, Indian parents had always regarded education for their children to be their highest priority. Indeed, it was estimated that, by 1970, less than 5% of children of school-going age were out of school. However, despite the necessary steps taken by the DIA in 1974, irregular attendance was not readily countenanced.<sup>(87)</sup> In 1970 a survey was made by the DIA to assess the "drop-out" rate of Indian pupils from schools, and the number of children of school-going age who had never attended school but

were in good health. The survey was confined to children between the ages of 7 and 16 living in Natal and Transvaal during the period 1 March 1968 to 1 March 1969. The main findings of this investigation were that 7 105 children were in attendance at schools but they dropped out for various reasons; 1 674 children had never attended school although they were in good health and the total drop-out figure was 8 779 children.

This total drop-out group constituted 5,8% of the total number of pupils who were in school between class (i) and standard 8. The DIA attributed this comparatively low drop-out rate without compulsory education to the success of streaming. This drop-out rate is expected to decrease further with the implementation of the new differentiated system of education on a larger scale. (88)

It is generally accepted that the drop-out rate of pupils is higher in high schools than it is in the primary schools. It was found in the primary schools that, of the 18 586 pupils who were admitted in class (i) in 1966, 20,75% of this cohort either failed or left school before they reached standard 5 in 1970. In high schools it was found that, of the 10 560 pupils who were in standard 6 in 1966, only 2 145 reached standard 10 in 1970. This accounts for a drop-out rate of 79,69% which is phenomenal by White standards of education. A comparative figure for White pupils showed that 50,03% of the pupils under the control of the NED reached standard 10 in 1970. (89)

In reply to a question tabled in Parliament in 1977, the Minister of Statistics pointed out that, in 1975, the percentage of population at primary schools in the age group 5-9 years was 81,4% for Whites; 74,5% for Coloureds; 83,3% for Asiatics and 52,4% for Blacks. The holding power of schools improved for pupils in the age-group 10-14 years, that is, 99,9% for Whites; 95,3% for Coloureds; 94,0% for Asiatics and 77,7% for Blacks. In the age group 15-19 years the holding power of secondary schools showed a significant drop, that is, 47,1% for Whites; 27,6% for Coloureds; 32,8% for Asiatics and 32,8% for Blacks.<sup>(90)</sup> Thus, it is observed that the Asiatics had the best percentage of the four race groups in the age category 5 to 9 years. However, in the age category 10 to 14 years, Asians lagged behind Whites because there was no compulsory education for the former. This drop-out rate has also influenced the age category 15 to 19 years for Asians. Of the non-White groups the holding power of Indian schools appears to be the best. Further, if it is assumed that class (i) to standard 3 fall into the age group 5 to 9 years and that standards 4 to 8 fall into the age group 10 to 14 years, by using Table 4.6, there ought to have been an additional 20 278 pupils in the age group 5 to 9 years and 4 556 pupils in the age group 10 to 14 years who were not at Indian schools in 1975. In terms of school accommodation in 1975, this would have meant a demand for 4 923 additional classrooms using the present norms for primary and high schools.

The writer believes that it is both educationally desirable and

physically/

physically possible to introduce compulsory education for all pupils in the age group 6 to 16 years even at this stage. The institution of compulsory education would inevitably increase the holding power of schools and, consequently, increase the platoon school population and the demand for teachers, but the Indian community has been accustomed to the platoon school system for over two decades. This problem can be resolved through an accelerated building programme. Moreover, compulsory education will achieve its educational objective of curbing the drop-out rate at schools because an early abandonment of formal education is not only a waste of talent but also results in a wastage of public money. Further advantages that will accrue from the implementation of compulsory education are, inter alia, the problem of truancy and absenteeism would gradually diminish, the use of child labour would be discouraged, a higher degree of literacy amongst the Indian community would be ensured, higher educational qualifications would generate higher productivity (and also better job opportunities would become available) and Indian girls, who hitherto had a higher drop-out rate than the Indian boys, would remain longer at schools and thereby enrich their community culturally and otherwise.<sup>(91)</sup> As better educational qualifications are an important prerequisite for the socio-economic development of the Indian people, the DIA should employ all possible means to encourage the Indian pupil not only to attend school, but to remain at school for as long as they can do so profitably.

Table 3.5 which shows the ratio of pupil enrolment in each high

school/

school standard to the enrolment in standard 6 for the different provinces and the RSA and, in particular, Table 3.6 which shows the drop-out rate of different cohorts of pupils from standard 6 to standard 10 give a clear indication of what the holding power of Indian schools are. It is evident that, with compulsory education, the holding powers of schools, especially at the high school level, must improve. For example, if one considers a cohort of 12 891 class (i) pupils in Natal in 1967, one finds that there were, as at March 1978, in Natal 4 264 pupils in standard 10, representing 33,08% of the original cohort of class (i) pupils. This same cohort of class (i) pupils reached standard 7 in Natal in 1975 numbering 10 019 pupils and reflecting a drop-out rate of 22,28%. Realising that this is indeed not a true reflection of the drop-out rate because of the varying pass-failure rates in the different standards, nevertheless, it does show that the holding power of schools in the class range class (i) to standard 7 will increase significantly since they fall into the compulsory school age range. Immigration does not affect this cohort of pupils because of the restriction imposed by law forbidding Indians to immigrate into this country and, if anything, there ought to have been an insignificant number of pupils affected by emigration in the period 1967 to 1975. Apart from those Indian pupils who have never been admitted to school, a conservative estimate is that school accommodation for pupils in the compulsory school age group needs to be increased by 20%, that is, school accommodation for about 30 639 additional pupils using the total of 153 195 pupils

in phases 1, 2 and 3 in 1978 under the control of the DIA. Naturally, this drop-out rate can be arrested only over a period of time, and accommodation will need to be increased on a proportionate basis annually. (92)

The Secretary for Indian Affairs has stated in his annual report for 1977, that a thorough investigation into all aspects of compulsory education for Indians has been made. A comprehensive report on the feasibility of extending the policy of compulsory school attendance for all pupils in the 7 to 15 years age group was made to the Minister of Indian Affairs for consideration. (93) In terms of Government Notice R276 dated 17 February 1978, the Executive Committee of the SAIC, as provided for in section 23(1) of the Indians Education Act, 1965, declared that regular attendance at a State or State-aided school for Indians in the RSA, shall as from 1 January 1979, be compulsory for every Indian child from the beginning of the year in which such child reaches the age of seven years until the end of the year in which such child reaches the age of 15 years. (94)

The writer made yet another survey taking a cohort of class (i) pupils in Natal and Transvaal in 1970 and tracing them to standard 7 in 1978 (Cape was not taken into consideration because of the large number of Indian pupils who were gradually seeking transfer to Indian schools as they became ready for occupation in the different centres). It was found, of the 19 867 pupils in class (i), only

14 725 or 74,12% of the total reached standard 7, thus showing a drop-out rate of 25,88%. Using an arithmetic mean of 2,88% for nine years (class (i) to standard 7), the DIA needs to provide additional school accommodation for phases 1, 2 and 3 from January 1978 in the order of about 87 additional classrooms to cope with the holding power of schools. However, initially, this would mean additional platoon class units. The rate at which the proposed shortage in school accommodation will be eliminated will depend very much upon when and what extra monetary allocation for capital expenditure will become available to Indian education. (95)

#### 6.13 PUPIL-LOADING ON CLASSROOMS AND SPECIALIST ROOMS

For education planning purposes the DIA uses the approved norm of 36 pupils per classroom for optimum loading in a primary school, and 32 pupils per classroom in a high school. However, the principals in primary schools are often found accommodating 40 pupils or more in a classroom rather than having to contend with a larger number of platoon class units in pressure point areas. Similarly, heavy loading is also found in high schools situated in densely populated areas where there is a shortage of high school accommodation. From 6.5 it is observed that, in March 1978, there were 32 high schools with total pupils in excess of 1 000 each despite the fact that these schools were not built according to the latest standards of the DIA with the necessary specialist rooms. In the primary school the whole class unit makes use of a specialist room at a

time except when it comes to handicrafts for boys, the girls "split" for needlework and clothing. In the revised standard plans for primary schools, provision is made for fewer general classrooms and more specialist rooms in order to permit the operation of the peripatetic class system in the senior primary classes. In this manner a higher number of class unit loading for a primary school may be accomplished.

However, in high schools, the pupils in a classroom, excepting for English and Afrikaans, generally break into smaller teaching units for other subjects, where necessary. In the planning and organisation of a school, the DIA assumes that, on the average, 90% of the general classroom spaces and 66,67% of the specialist rooms will be utilized during the course of a week. This implies that the school will employ the use of the peripatetic system of accommodating pupils in classrooms and specialist rooms in order to get a more economical use of the school plant.<sup>(96)</sup> From Table 6.5 one can observe the distribution of 378 schools, under the control of the DIA as at March 1978, according to pupil enrolments. However, there were also 51 primary schools which enrolled the pupils in the platoon classes. Uneconomical loading of teaching spaces are generally experienced in smaller primary and high schools and, in March 1978, there were 89 such schools or 23,54% of the total number of schools under the control of the DIA with pupil enrolments of under 200 pupils each.<sup>(97)</sup>

The pupil-teacher ratio gives a clearer picture of the average loading of a teaching unit. This also implies that, if the loading of a teaching unit is made more liberal, there will be a need not only for more teachers but more accommodation or teaching spaces for pupils. The following Table 6.8 shows the average pupil-teacher ratios in primary and high schools under the control of the DIA in the three provinces and for the RSA. The ratios in Table 6.8 were calculated by using the total pupil populations and total teaching staff for primary school pupils and high school pupils separately in the period 1974 to 1978. Pupils from class (i) to standard 5 were considered for primary school pupil-teacher ratios, and pupils from standard 6 to standard 10 for high school pupil-teacher ratios. Further, all posts in a school, including the principal and his management staff, were included in the teaching staff for a school. Expectedly, the pupil-teacher ratios for high schools were comparatively lower than those for primary schools. <sup>(98)</sup>

TABLE 6.8 : NO. OF INDIAN PUPILS PER TEACHER FOR PRIMARY AND HIGH SCHOOLS BY PROVINCES AND THE RSA (1974-1978)

Classification	1974	1975	1976	1977	1978
Natal : Primary	29,20	29,62	30,25	29,92	28,90
High	24,58	21,83	22,18	22,59	22,83
Transvaal : Primary	29,58	29,65	28,82	29,81	29,86
High	19,37	18,95	19,28	19,09	19,30
Cape : Primary	27,43	33,15	33,30	29,58	31,03
High	25,73	15,53	15,05	19,24	16,20
R.S.A. : Primary	29,24	28,39	28,55	29,90	30,12
High	23,63	24,25	25,00	21,99	22,18

There was a drop of high school population in the three provinces in 1975 and, hence, it was possible to obtain more liberal pupil-teacher ratios in that year. Up to 1976 the ratios for the Cape were based on pupil enrolments and staffing position in one school only but, in 1977, there were 3 schools, and 4 schools in 1978. The pupil-teacher ratios for primary school pupils in Natal were becoming more liberal from 1976, but these ratios were by no means as liberal as in certain overseas countries, for example, the budgetted pupil-teacher ratio in the Scottish Education Department for the session 1977-78 was 15 : 1, and consideration was being given to make this ratio even more liberal.<sup>(99)</sup> From 1975 the Cape had the most liberal pupil-teacher ratios for high school pupils in the three provinces. Considering the country as a whole, there was a significant drop in pupil-teacher ratios for high schools in 1977. Further, the pupil-teacher ratios for primary schools in this country have been steadily increasing from 1975 onwards, mainly on account of Indians concentrating in urban areas.

Lack of adequate school accommodation resulted in loading of classrooms with pupils well above the permitted staff-ration in certain developed areas, for example, in the Chatsworth/Shallcross area where there were 41 primary schools in 1974. The pupil-teacher ratio in that area for primary schools was 31,1 : 1 while the pupil-teacher ratio for Indian primary schools in the country was 29,2 : 1 in that year. It is anticipated that, as more school

accommodation becomes available, the loading on these classrooms will be eased. (100)

The existing staff-ration used by the DIA takes into cognisance both the minimum number of hours for teaching per staff member in the various categories of posts and the number of pupils in a school, primary and high school pupils separately. This formula can cause heavy loading for teachers in certain subjects like English and Afrikaans, where the class units average close to 40 pupils each. As from January 1979 the DIA is to implement a revised staff-ration for primary and high schools. (101) The revised staff-ration is more liberal than the existing one, and the new staff-ration is expected to conform to the broad principles that are to be adopted by all education departments in the country. Naturally the rate at which the new formula will be applied will vary with each department depending on the availability of teaching staff and as more school accommodation becomes available. In Indian education it is expected that the revised staff-ration will be implemented in stages over a period of five years or so until additional supply of teachers can be trained and the present serious shortage of school accommodation in certain areas like Phoenix, Chatsworth (Durban) and Northdale (Pietermaritzburg) is expected to ease within the next five years. The revised total staff allocation for Indian schools takes into consideration, inter alia, the management staff, average class group size by phases, the creation of split classes, provision for library education and counselling, additional provision for schools with a

technical/

technical direction of study, additional provision for schools offering art and/or music as examination subjects in the senior secondary phase, non-teaching time of teachers and heads of department, and partial relief to the principal and deputy-principal from teaching. The proposed number of pupils per teacher will be determined separately by phases, and it is anticipated that the average number of pupils per teacher will be 25 pupils for phase 1; 28 pupils for phase 2; 24 pupils for phase 3 and 18 pupils for phase 4. The effect on school accommodation is that the demand is expected to increase by 40% for phases 1 and 2, and by 38,9% for phases 3 and 4. It is for this reason that the DIA is planning to implement the new staff dispensation in stages for the different areas. For this purpose, in the next five years, the DIA needs to provide additional accommodation in the way of 87 primary schools and 39 high schools in stages. A more liberal staff-ration will certainly ease the pupil-loading per teaching unit and create the demand for more school accommodation, but the writer believes that this is a natural step to improve the quality of teaching/learning situations in terms of differentiated education where the aptitudes, interests and abilities of *individuals* are to be developed meaningfully. (102, 103)

#### 6.14 CONCLUSIONS

Indian education is in the midst of a significant change in its educational programmes in both content and methodology. While the differentiated system of education is changing educational concepts

to an appreciable extent, it must be viewed as the natural outcome of the educational systems which were operative for a long time both in this country and overseas. The differentiated system of education has made new and exciting demands on Indian education in areas such as the many varied specialist rooms, adequacy and design of teaching spaces for large groups to individuals, the equipping of classrooms and specialist rooms according to the latest standards, additional school accommodation on account of compulsory education, extension of the practical course to standard 10, the proposed staff-ration and the new approach to teaching/learning situations. The DIA still has to contend with the platoon school system with its many educational demerits, granted on a decreasing scale, and how best to educate the child in a school which lacks the essential specialist rooms to meet the demands of differentiated education, especially as in the case of the many State-aided schools which brought tremendous relief to school accommodation prior to the transfer of control of Indian education to the DIA in 1965.

Indeed, the DIA can be justly proud of its achievements through its School Building Programme in order to bring about both a qualitative and quantitative improvement and affecting the whole spectrum of Indian education in just over twelve years; by no means a long period in the history of a people. Its concerted effort exemplify the progress made in the reduction of the number of pupils in platoon classes despite the rapid growth in school

population, and especially in the provision of a quality of school buildings which compares favourably with those provided for White education in this country. The DIA has accepted full responsibility for the provision of school accommodation for the Indian community. In pursuance of the policy that the education of Indians is a State responsibility, there is provision in the Indians Education Act, 1965, for the gradual take-over of State-aided schools with adequate compensation for the proprietors, if the latter so desire. This shows the sincerity of purpose, dedication and the will of the DIA to provide the school accommodation essential for the Indian community. With its massive School Building Programme, the DIA is well geared in its object of meeting the future demand of school accommodation for more than 262 000 Indian pupils by 1985.

Indian schools have been designed to meet the requirements of the common-core syllabuses of the Joint Matriculation Board of the RSA. The school curriculum is fundamentally that of a White school based on Western cultural norms but with slight modifications to include Oriental culture in Indian languages, music, art, handicrafts and home-economics. However, the availability of physical amenities invariably determines the choice of subjects and subject-sets available to pupils especially in smaller centres, for example, the demand for typing in Indian schools exceeds the supply of teaching spaces in typing rooms and, on account of an inadequate

number of workshops, technical drawing is offered as an unsatisfactory substitute for Industrial Arts in the third phase. There are two types of schools in Indian education, the primary school with its highest level at standard 5, and the high school with its highest level at standard 10.

Further, the DIA requires increased monetary allocation for capital expenditure in order to eliminate the platoon classes within the next five years, meet the future demand for school accommodation and bring all existing schools up to standard. While these differences at existing schools remain, pupils will receive differentiated education based not in terms of subject content and methodology but in terms of availability of physical amenities and subject teachers. More research is required to determine the need for other types of schools such as junior secondary schools especially in rural areas, the need to revise accommodation particulars of standard schools especially with a view to increasing the number of specialist rooms to meet the demands of specialist teaching, the need to meet the cultural aspirations of the Indian community by providing prayer rooms where the various Indian religions may be promoted and the need for hostels in order to implement differentiated education more successfully among pupils especially in sparsely populated areas.

The Indian community has played a significant role in the upliftment of its education by providing the essential school accommodation when

the/

the authorities concerned were unable to meet the serious shortages. Now that the DIA has assumed full responsibility for Indian education, the community is directing its financial assistance and guidance to the promotion of services involving special education, nursery education, vernacular education and religious instruction; the latter two areas receive attention after normal school hours by the Indian community without State subsidies of any kind. Much of the Oriental culture is still preserved and transmitted by an Indian society which has modelled its education system on that of the Western cultural norms as for the Whites in the RSA. Thus Indian education in this country has a distinct culture of its own. Both the natural and cultural factors have influenced the demand and local realisation of Indian schools. Determining factors such as demographic, physical, biotic and cultural factors together with ground motives such as religious forces, the unfolding of a Western culture in an Indian society which is conscious of its strong Oriental culture and the tremendous technological advances in this country have influenced the normative development of a particular system of education for Indians in this country.

Thus, while the basic teaching space in a classroom at Indian schools compares favourably with schools in overseas countries, the number of pupils in a classroom is greater in Indian education. Further, there are no platoon classes in Western countries or for White education in the RSA, as it obtains in Indian education. The high

growth/

growth rate of school population and the consequent demand in accommodation for Indians are characteristic of developing countries. Hence, there is a delay in instituting compulsory education for all pupils of school-going age, as this measure will arrest the high drop-out rate of pupils especially at the high school level and increase the holding power of schools.

In the light of the above-mentioned planning and provision of school accommodation by the DIA, the writer has made certain observations and recommendations for the future needs of the Indian community in Chapter VIII. In the following Chapter VII, the future demand for school accommodation is determined based on natural growth rates of Indians and pupil projections.

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- (81) REPUBLIC OF SOUTH AFRICA : *Indians Education Act, 1965* (Act No. 61 of 1965).
- (82) DEPT. OF INDIAN AFFAIRS (DIVISION OF EDUCATION) : Compulsory school attendance, *I.E. Circular No. 6 of 1973*, 23 January 1973.
- (83) REPUBLIC OF SOUTH AFRICA : Government Gazette of 19 April 1973, Regulation No. R640.
- (84) DEPT. OF INDIAN AFFAIRS (DIVISION OF EDUCATION) : *I.E. Circular No. 23 of 1974*, 13 May 1974.
- (85) BEHR, A.L., AND MACMILLAN, R.G. : *op. cit.*, pp. 423-424.
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- (88) DEPT. OF INDIAN AFFAIRS (DIVISION OF EDUCATION) : Compulsory school education, File No. 19/10/2.
- (89) VAN DER WALT, DR. N. : 'Failure at School - Part I', *Fiat Lux* (1.134), pp. 18-19.
- (90) REPUBLIC OF SOUTH AFRICA : *House of Assembly Debates* (Hansard), Vol. 18, (2.37), questions column 1218.
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- (92) DEPT. OF INDIAN AFFAIRS (DIVISION OF EDUCATION) : Pupil Statistics, File No. 19/46/2.
- (93) REPUBLIC OF SOUTH AFRICA : *Report of the Department of Indian Affairs* (2.38), p. 56.
- (94) DEPT. OF INDIAN AFFAIRS (DIVISION OF EDUCATION) : Compulsory school education, File No. 19/10/2.
- (95) DEPT. OF INDIAN AFFAIRS (DIVISION OF EDUCATION) : Pupil Statistics, File No. 19/46/2.
- (96) DEPT. OF INDIAN AFFAIRS (DIVISION OF EDUCATION) : Norms for Indian school population, File No. 19/1/11/2.
- (97) DEPT. OF INDIAN AFFAIRS (DIVISION OF EDUCATION) : I.E. Circular Minute No. AD of 1978, dated 23 March 1978.
- (98) DEPT. OF INDIAN AFFAIRS (DIVISION OF EDUCATION) : Staff Statistics, File No. S15/2.
- (99) EDUCATIONAL INSTITUTE OF SCOTLAND : *The Scottish Educational Journal* (1.31), p. 924.
- (100) DEPT. OF INDIAN AFFAIRS (DIVISION OF EDUCATION) : Staff Statistics, File No. S15/2.
- (101) DEPT. OF INDIAN AFFAIRS (DIVISION OF EDUCATION) : Revised Staff-Ration, I.E. Circular No. 33 of 1978, dated 3 October 1978.
- (102) DEPT. OF INDIAN AFFAIRS (DIVISION OF EDUCATION) : I.E. Circular No. 10 of 1978, Revised post and salary structure for teaching personnel, dated 8 March 1978.
- (103) DEPT. OF INDIAN AFFAIRS (DIVISION OF EDUCATION) : Teaching staff-ration for primary and high schools, File No. S29/2.

## CHAPTER SEVEN

### PROPOSED PROJECTIONS OF THE INDIAN POPULATION AND ITS SCHOOL POPULATION IN THE RSA

#### 7.1 INTRODUCTION

Since an important aspect of this study involves the determination of the future needs of the Indian community in the RSA in the provision of school accommodation, projections of pupil populations form an essential part of this investigation. The universal method<sup>(1)</sup> of correlating pupil projections with population projections is adopted and, in this regard, the writer takes into consideration the various factors influencing population growth patterns. In this chapter the methods used in futures research, a recent field of study, the various methods of forecasting with their limitations and the problem of planning in education are discussed. It is also evident that the construction of a forecasting model that takes into account a clear definition of the objectives of the system of Indian Education and a clearer understanding of the role of decision-making is essential for purposes of determining pupil projections and, hence, the future demand for school accommodation for Indians in the RSA. Such a model has been constructed and proposed, by the writer, for projecting Indian pupils. It is also envisaged that other researchers will be prompted to re-examine the problem and arrive at an improved model

for projecting pupils.

## 7.2 FUTURES RESEARCH AND FORECASTING PROCEDURES

### 7.2.1. Introduction

A forecast is "an estimate of what future observations will be if the underlying process continues as it has in the recent past".<sup>(2)</sup> A forecast does not predict what will or must materialise in the future but, rather, it is intended to permit the introduction of timely measures that would bring about an harmonious balance in the development of the future.<sup>(3)</sup> Pupil projections based on perceptible mathematical laws are essential when determining future demand for school accommodation.

### 7.2.2 Futures Research

Futures research<sup>(4, 5)</sup>, one of the more recent fields of research, embodies a study of a multitude of factors that is expected to influence future planning. It is not possible to study all the factors because a number of factors are unknown. Further, it is not the future itself that is studied, but, conceptions of the future formulated in the present. In futures research it is more important to assist in decision-making, so that the future welfare of a society is ensured, than to arrive at a correct forecast.<sup>(6)</sup> Kreykamp defines futures research as an accountable investigation of

the future based on inter-disciplinary study.<sup>(7)</sup> Kreykamp expresses the view that futures research provides man with a better understanding of his existence in terms of the future. This could lead to man's critical participation in future planning; that is, man has an inherent part in determining his own fate. In this way the emphasis has shifted from *expectation* of the future to *planning* for the future.

In futures research all planning is directed towards the future. The education planner is not interested merely in finding the sum total of a series of estimates so that he may formulate an image of the future. He interprets the factors and the dynamics of interaction of these factors meaningfully. The task of a futures researcher<sup>(8)</sup> is, inter alia, the gathering of information on present and expected circumstances; making forecasts supplementary to those of existing disciplines and bodies; integrating information into images of the future and/or methods to ensure desirable developments; dissemination of this information to bodies responsible for planning; and liaison with the bodies to determine their needs with regard to information and particular perspectives.

The future researcher is required generally to view the future demand by means of a multi-dimensional approach.<sup>(9)</sup> For example, a study of the future demand for school accommodation may incorporate the study of a number of variables such as

the varying growth rates of the Indian school population in the different provinces of the RSA, the implementation of a revised staff-ration in schools, the provision of additional funds in order to accelerate the building programme, the proclamation and de-proclamation of Indian group areas, the availability of suitable school sites, norms for "pupil-loading" of classrooms in primary and high schools, the provision of specialist rooms and a general change in the educational system of the country concerned. The process of planning<sup>(10)</sup> in education, for example, entails a series of choices. The quality of alternatives would depend on what is known about a subject. If a problem is foreseen, the planner is expected to take action timeously, to avert such a development. One of the main problems<sup>(11)</sup> confronting the modern researcher in the RSA and many other countries is that attempts at forecasting are usually hampered by outdated and incomparable data. For example, a ten year forecast made on available data is not only likely to be erroneous, but the data on which the forecast is made may be as much as five years old.

Rescher<sup>(12)</sup> classifies the methods of futures research into three categories, namely, extrapolation of historical knowledge, analytical models and the use of experts. Extrapolations based on historical knowledge and current trends are in general use. Control of limitations of past experiences is essential

for purposes of forecasting. Analytical models are commonly used in exact sciences. In educational planning decision models are in use. The use of experts for forecasting is vital when it is appreciated that an expert or specialist in a field such as education is best able to recognise a new trend in its initial stages. It is evident that the choice of a method will depend on the utility value of the project. Both the merits and the limitations of the various methods in use by researchers and planners in education must be analysed so that the forecast will be more meaningful.

### 7.2.3 Various Methods of Forecasting

Some of the more popular methods used in education for purposed of forecasting are as follows:

#### 7.2.3.1 Trend Extrapolation

Extrapolations<sup>(13, 14, 15)</sup> based on historical knowledge and current trends are in popular use. The principle of taking the best out of the past or learning by experience has accepted value. By extrapolation is meant that a trend is determined on a series of observed phenomena in a given, known, interval of time, and that this deduction is then made applicable to another unknown interval. This method has its limitations; for example, the researcher can hardly consider all the preponderables

when/

when making forecasts. However, this method creates the possibility of sketching trends of the past and the present by means of simple curves or graphic representations. Projections are based on mathematical laws that are perceptible in the observed trend. Cognisance of the following forms of trend extrapolation would also assist in forecasts:

7.2.3.1.1 Projection: This is generally considered to be a refined form of extrapolation;

7.2.3.1.2 Mapping: Mapping is the relationship between two sets of figures, where the second set is the image of the first, that is, if  $x \in \text{set A}$ ,  $y = f(x) \in \text{set B}$ . This is a *quantitative or qualitative method* which can be regarded as a special form of trend extrapolation;

7.2.3.1.3 Interpolation: When structure is given to an image of the future in terms of broad trends, it is possible to fill in details using the principles of interpolation. It should be noted that an aim for a particular period in the future can be set with a normative approach

as the point of departure. Intermediate steps between the two particular periods can be forecast in terms of the attainment of an aim by means of interpolation. For example, the data for five year intervals for school populations can be interpolated on a graph to obtain readings for one year intervals; and

7.2.3.1.4 Trend correlation: This is a method of forecasting the trend of a complex and highly unpredictable parameter by using its relationship with other simple trends. However, there must exist a logical and significant relationship between predictable trends which have a sufficiently high correlation with the unpredictable trend.

7.2.3.2 Use of experts for forecasting

Rescher<sup>(16)</sup> advocates the use of experts for purposes of forecasting as a very important method available to futures research. It is being contended that an expert or specialist in a particular field is best able to recognise a new trend in its initial stages, and to concentrate upon it. In the absence of any valid method, Helmer<sup>(17)</sup> finds the use of experts

necessary/

necessary in order to choose between alternative plans of action. The role of the expert is evaluated in terms of the relative frequency with which his predictions are eventually confirmed by later events. It is easier to conduct such tests with short-term forecasting than with long-term forecasting. Lätti<sup>(18)</sup> believes that an expert is useful for purposes of forecasting because of both the knowledge factor and the social factor. The knowledge factor amounts to more knowledge, alternative opinions and even an increase in the knowledge of group members in the search for the best solution. The social factor embodies the principle of conformity, the dominant person in a group and the desire to win an argument rather than seek the best solution.

#### 7.2.3.3 Cross-impact matrices

The use of cross-impact matrices<sup>(19)</sup> is based on an experimental approach whereby the probabilities associated with each event in a given set which may take place in the future can be adapted. This set is chosen from the universe of conceivable future events so that interaction between sub-groups is possible. Further, most events which are predicted are associated to past as well as future events. The actual interrelationship between events and future

developments/

developments is called "*cross-impact*". It is evident that a systematic description of all possible ways of interaction between a large group of variables as well as an estimate of the effects of interaction is complicated. The importance of cross-impact in the area of knowledge is gauged by the fact that it can improve insight into historical events as well as forecasting of futures. Euzer<sup>(20)</sup> points out that the advantage, among others, of cross-impact techniques is that they can serve for purposes of self-correction, especially when there are inconsistencies between various forecasts. Further, a small number of input items can describe a great variety of possible events and reasons for changes in probabilities can be traced. The main disadvantages of this technique are that mathematical transformations and analytical procedure are not logically accountable, cross-impact factors are not specifically defined, relative probabilities of individual series of events remain undetermined, and interaction between pairs of events only is taken into consideration.

#### 7.2.3.4 Scenarios

A scenario<sup>(21, 22, 23)</sup> is a credible depiction of events whereby possible sequence of events, which are interrelated, are outlined. The sequence is a more-or-less acceptable version of what the future may/

may look like. Hypothetical sequences of events are constructed for purposes of controlling decision-making. Description of scenarios has become a useful method of investigation in futures research. This involves the invention of credible paths between present conditions and hypothetical future conditions, so that more meaningful choices may be made among currently available options. Simulation models can create a new scenario with each trial run so that a methodical collection of complex images of the future can be constructed.

#### 7.2.3.5 Analytical Models

Griffiths<sup>(24)</sup> points out that the chief values of a model are that it enables one to ask questions, and it offers clues as to how the questions can be answered. He points out that the *mathematical model* is a special case of the isomorphic model; that is, there is a one-to-one correspondence between the model under discussion and that of which it is a model. Further, Griffiths contends that it may be possible that a theory may have the same form as a set of mathematical truths; that is, the relationships within the empirical theory may be the same as the relationships within a certain

mathematical/

mathematical system. Thus numbers may be assigned to the properties of the empirical system, and these numbers may be manipulated according to the laws formulated in mathematics. Analytical models<sup>(25)</sup> are commonly used in exact sciences and even in education. The better a phenomenon is understood, the better is the model that can be constructed out of it, and the more the information that can be obtained from it. A model constitutes the formally laid down concepts or variables which are necessary for the researcher to draw conclusions. Moreover, a model is not the real system but only an abstract idealization of it.<sup>(26)</sup> The wealth of detail in the educational system is virtually inexhaustible and not only are many different models possible, but the construction of any model involves a deliberate selection of important characteristics which are considered to be essential. This selection can only be made on the basis of the purposes for which the model is intended. Thus a model, by virtue of its reduction of detail by selection, is a simplification of reality.

Considering the various methods available to the researcher, the writer recommends the use of a mathematical model for purposes of projecting pupil

populations and, hence, determining the future demand for school accommodation. From a study of forecasting procedures, it is evident that the construction of a mathematical model demands a clarification of the objectives of the system of Indian education and a clearer understanding of the role of decision-making in determining policy. The mathematical model can be used to select the sequence of decisions and, in the light of experience, the model can be reconstructed so that it can be related more closely to the real system. However, in human sciences, some variables are difficult to control. For example, it is not clear if and when there will be a policy change to permit pupils of other race groups to be admitted to Indian schools, thus changing the pattern for the future demand in school accommodation. Therefore, the researcher, from his disciplinary logic, has the last word since he must provide the final answer whether his theoretical model will be able to pass the test of reality. <sup>(27)</sup>

The use of a mathematical model is proposed because the writer believes it is necessary to develop a long-range guide that will use all available resources in attaining educational objectives on a continuing basis. Moreover, it should be clearly noted that the

mathematical model should be used as a guide for the planning of new schools in the different areas. From discussions in the previous chapter and in this chapter, it should be evident that the growth rates for specific areas may differ for such reasons as an influx of people into a developing area or an outflow of people from an area affected by the Group Areas Act. In such cases the model needs to be modified in order to meet the local needs for school accommodation.

### 7.3 POPULATION GROWTH RATES AND PROPOSED POPULATION PROJECTION FOR INDIANS IN THE RSA

It is generally accepted that the prediction of the future size and composition of a population cannot have any greater merit than the assumptions on which it is based. This implies that the validity of the results is dependent on the assumptions made. Population projections are generally presented in sets of three: a minimum, a medium and a maximum projection.<sup>(28)</sup> In this study, there is one set of projected figures which represent the author's judgement reflecting existing trends, peculiarities in Indian education and future trends inferred from experience in the Education Planning section of the DIA.

Using future population projections and the "ratio method", one can

estimate/

estimate the future population by sex-and-age groups, for provinces, small areas, towns or districts. In the "ratio-method" it is assumed that the ratio of population in each segment of the country to the country's total population will change at the same rate as it did in the past or according to an assumed pattern. For example, if a certain province had 35% of the total population in 1960 and 43% in 1970, one may infer by extrapolating on a graph that it is expected to contain 45% in 1975, unless there is reason to assume otherwise. However, this method needs to be used with good judgement if absurd results are to be avoided when using progressions. (29)

In Table 7.1 the figures for the Asian population from 1936 to 1960 have been taken from Sadie's works (30), the figures for 1970 from the Population Census, the growth rate from 1960 to 1970 was calculated using the formula  $P_{t+10} = P_t (1+i)^{10}$ , and the figures from 1971 to the year 2000 are projected figures which were extrapolated graphically by the writer, showing a decreasing growth rate trend.

TABLE 7.1 : ASIAN POPULATIONS AND GROWTH RATES - ACTUAL (1936-1970) AND PROJECTED (1975-2000)

Year	Population	Growth Rate % p.a.
May 1936	227 500	-
May 1946	314 990	3,31
May 1951	357 730	3,59
May 1956	436 810	3,06
Sept. 1960	494 030	2,88
May 1970	651 458	2,80
1975	736 346	2,47
1980	831 889	2,45
1985	939 371	2,43
1990	1 060 222	2,40
1995	1 196 037	2,38
2000	1 348 591	2,36

Sadie and van Rensburg, separately, recognise that there has been gross under-counting in census figures. They used "correction factors" to arrive at a more realistic population figure. The 1970 figures are actual figures taken from the Population Census, and these figures are reputedly more accurate than previous census readings.<sup>(31, 32)</sup> Further, the writer contends that even the 1970 census figures are an under-count. For example, in Natal, there were 15 120 Asian children who were 4 years old according to the 1970 census, and these children would have been in school in class (i) in 1972, but the actual pupil enrolment in Natal Indian schools in 1972 was 18 373. Thus, for just one year in Natal, there has been an under-count to the extent of 17,7%. Further, according to the 1970 census there were 118 110 Asian children in the age-group 6-12 years, while in the same year there were 122 747 Indian children from class (i) to standard 5 in Indian schools in this country. This reflects an under-count of 3,78% for primary school children.<sup>(33, 34)</sup> (There is no compulsory school education presently for Indian children of school-going age, that is, up to age sixteen.)

#### 7.4 PROPOSED PROJECTION TECHNIQUES AND PROJECTED INDIAN SCHOOL POPULATION

The writer makes use of demographic studies and graphical representations to enable him to construct a mathematical model for purposes of projecting Indian pupil populations.

Basically/

Basically two factors determine the size of the future school-going population, namely, the expected growth of the school-age population and the anticipated expansion of the school system which may result from other developments such as policy changes than the mere growth of the population. (35)

#### 7.4.1 Pupil projections from demographic studies

While pupil projections have often been attempted by studying past and present pupil enrolments, it is not adequate to project enrolments based on pupil population alone. A significant weakness of this method is that it does not take into account those children of school-going age who are not at school. Further, the actual future intake of pupils will depend largely on the growth patterns of the various age-groups of the Indian population.

In 1970 the total number of Indian pupils in schools under the control of the DIA was 162 976. (36) However, this total excluded an estimated 3 750 Indian pupils who were attending Coloured schools at the Cape in 1970, but included an estimated 750 Coloured pupils in attendance at Indian schools in the Transvaal. Thus, in 1970, out of an estimated total Indian population of 651 458, the total number of Indian pupils of school-going age was 167 069, representing 26,93% of the

total/

total population.<sup>(37)</sup> In 1975 the total number of Indian pupils in schools under the control of the DIA was 183 116. In that year, the number of Indian pupils in Coloured and other schools in this country totalled 4 609, while there were 655 Coloured pupils in Indian schools in the Transvaal.<sup>(38)</sup> Thus, in 1975, the total number of Indian pupils of school-going age in this country was estimated at 186 953 which represented 25,39% of an estimated Indian population of 736 346\*. Using the "ratio-method" and future population projections, the writer estimates the school populations for the provinces. Sadie, Steenkamp and van Rensburg used this approach, and their figures were used to construct Table 7.2 from 1955 to 1965.<sup>(39, 40)</sup> The figures in columns A and B of this table were obtained from Table 7.1 and graphical extrapolation. The figures from 1955 to 1975 are actual figures while the figures from 1980 to 2000 are projected figures. The projected percentages (column C) have been obtained by extrapolation, using the ratio-method. The pupil figures from 1970 to 2000 have been extrapolated by the writer on the assumption that the number of pupils, expressed as a percentage of the total population, will tend to increase until it reaches 28% in the year 2000. This assumption is based on the fact that the percentages of the total population will not be less than that for Whites.<sup>(41)</sup> The figures in column D were calculated using corresponding figures in columns B and C.

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\* Calculation was made using figures from Table 7.2.

TABLE 7.2 : TOTAL PUPIL POPULATIONS FOR INDIANS IN THE RSA -  
ACTUAL (1955-1975) AND PROJECTED (1980-2000)

Year	A	B	C	D
1955	2,88	426 000	22,60	96 276
1960	2,68	494 030	26,90	132 894
1965	2,55	563 920	26,80	151 130
1970	2,48	651 458	25,65	167 069
1975	2,47	736 346	25,39	186 953
1980	2,45	831 889	27,04	224 918
1985	2,43	939 371	27,97	262 762
1990	2,40	1 060 222	28,87	306 094
1995	2,38	1 196 037	28,50	340 871
2000	2,36	1 348 591	28,00	377 606

- KEY:
- A : Population increase expressed as a percentage increase per annum, for example, the estimated annual growth rate from 1960 to 1965 was 2,68% p.a.
  - B : Total Indian population in RSA.
  - C : Pupils expressed as a percentage of the total Indian population; and
  - D : Total number of pupils in the RSA.

The following Table 7.3 shows the distribution of pupils according to the three provinces where Indians are settled. The figures from column D in Table 7.2 were re-distributed, based on past and present ratios of school populations in Natal, the Transvaal and the Cape. The Indian pupils attending

Coloured schools at the Cape have been included for the Cape figures because it is assumed that, as Indian schools are built in the various Cape centres, the Indian pupils will seek transfers from Coloured schools to Indian schools. The pupil distributions for Natal and Transvaal from 1967 to 1975 are actual figures and have been obtained from the records of the DIA, while the figures for the Cape in that period have been estimated by including Indian pupils attending Coloured schools. The figures from 1980 to the year 2000 are projected figures based on trend extrapolations. The method used to extrapolate is described under "NOTE" of Table 7.3.

TABLE 7.3 : DISTRIBUTION OF INDIAN PUPILS ACCORDING TO THE THREE PROVINCES : ACTUAL (1967-1975) AND PROJECTED (1980-2000)

Year	RSA	Natal	%	Tvl.	%	Cape	%
1967	163 367	137 800	84,35	21 814	13,35	3 753	2,30
1968	159 425	133 894	83,99	21 688	13,60	3 843	2,41
1969	161 857	136 139	84,11	21 752	13,44	4 966	2,45
1970	167 069	141 256	84,55	21 720	13,00	4 093	2,45
1971	170 884	144 497	84,56	22 163	12,97	4 224	2,47
1972	175 143	148 508	84,79	22 275	12,72	4 360	2,49
1973	179 792	152 954	85,07	22 438	12,48	4 400	2,45
1974	184 301	157 272	85,33	22 529	12,22	4 500	2,45
1975	186 789	159 620	85,45	22 569	12,08	4 600	2,46
1980	224 918	192 033	85,38	28 085	12,49	4 800	2,13
1985	262 762	225 045	85,65	32 717	12,45	5 000	1,90
1990	306 094	262 500	85,76	38 112	12,45	5 482	1,79
1995	340 871	291 990	85,66	42 438	12,45	6 443	1,89
2000	377 606	323 080	85,56	47 012	12,45	7 514	1,99
	(1)	(2)	(3)	(4)	(5)	(6)	(7)

NOTE: Column (1) : The figures in this column, from 1967 to 1975, are from the records of the DIA, which

includes/

includes Indian pupils in attendance at Coloured schools at the Cape. The figures from 1980 to the year 2000 are taken from column D of Table 7.2.

Column (2) : The numbers of pupils in this column, from 1967 to 1975, were taken from the records of the DIA, while the figures from 1980 to the year 2000 were estimated using columns (1) and (3).

Column (3) : From 1967 to 1975 the actual pupil enrolments in Natal were expressed as percentages of the RSA Indian school population. The percentage distribution from 1980 to 2000 are projected figures obtained by extrapolation using the "ratio-method". The percentages tend to decrease gradually from 1980 because the Indians are expected to migrate freely from Natal to other provinces in search of better employment opportunities.

Column (4) : The figures in this column from 1967 to 1975 are from the records of the DIA. The figures from 1980 to 2000 are projected figures

estimated/

estimated by using the "ratio-method" and corresponding figures in columns (1) and (5).

Column (5) : From 1967 to 1975 the actual pupil enrolments in the Transvaal were expressed as percentages of the RSA Indian school population. The percentage distribution from 1980 to 2000 are projected figures obtained by extrapolation using the "ratio-method". The percentage distribution of Indian pupils in the Transvaal has been decreasing steadily on account of the gradual phasing out of Coloured pupils from Indian schools up to 1975. The extrapolation done by the writer as from 1980 shows an almost static trend based on a slight influx from Natal but coupled with a decreasing growth rate trend of an affluent community.

Column (6) : The figures from 1967 to 1975 were actual pupils under the control of the DIA together with Indian pupils in Coloured schools at the Cape. The figures from 1980 to 2000 have been calculated by subtracting figures in columns (2) + (4) from corresponding figures in column (1).

Column (7) :/

Column (7) : The percentages in this column were calculated by expressing pupil enrolments in column (6) as percentages of corresponding pupils in column (1).

These pupil projections are based on the changing growth pattern trends of the Indian community and certain assumptions made by the writer in the light of research findings by experts in this field such as those of Sadie and van Rensburg.

#### 7.4.2 Pupil projections from graphical representations

The following graphs illustrate past, present and future trends in Indian school populations and class distributions. A comparison is also made of Indian school population with school populations of the other three race groups, namely, the Whites, the Coloureds and the Blacks. Figure 7.1 (Page 370) is a graphical representation of Table 7.4 which shows pupil projections for the different race groups in this country.

TABLE 7.4 : SCHOOL POPULATIONS FOR THE DIFFERENT RACE GROUPS IN THE RSA : ACTUAL (1955-1970) AND PROJECTED (1975-2000)

Year	Whites	Coloureds	Indians	Blacks
1955	615 971	245 820	96 275	1 139 684
1960	692 436	304 830	132 894	1 506 034
1965	764 072	394 587	151 130	1 950 558
1970	843 200	490 351	167 069	2 748 650
1975	921 000	611 800	186 789	3 212 500
1980	999 000	640 900	224 918	3 869 700
1985	1 077 000	722 600	262 762	4 644 700
1990	1 154 000	804 400	306 094	5 495 300
1995	1 231 800	885 900	340 871	6 395 300
2000	1 309 600	967 400	377 606	7 400 000
	(1)	(2)	(3)	(4)

NOTE: /

NOTE: The figures for columns (1), (2) and (4) have been extracted from a study by the HSRC.<sup>(42)</sup> The latter figures used in column (3) have been extracted from column (1) of Table 7.3 while the earlier figures were from the same HSRC study.

It was found that, in 1955, the Indian school population represented 4,59% of the RSA total school population of 2 097 750 for all four races. By 1970 the Indian school population was 4,14% of the RSA total school population of 4 034 369. It is evident that the growth rate of the Indian school population is comparatively slower than that of Blacks or Coloureds. In the year 2000 the Indian school population is expected to represent 3,19% of a projected RSA school population of 9 995 710, extrapolated graphically.

Figure 7.2 shows graphically projected pupil populations for Natal, the Transvaal and the Cape up to the year 2000. The graphs in this figure have been drawn using figures extracted from Table 7.3, and from the records of the DIA.<sup>(43)</sup> The projected graphs beyond 1978 have been extrapolated trendwise. Graph (N) illustrates the growth pattern for the Natal school population, graph (T) for the Transvaal school population and graph (C) for the Cape school population. The growth pattern for the Cape school population is emerging more clearly now that more Indian schools have opened in

FIGURE 7.1 : PUPIL PROJECTIONS FOR THE DIFFERENT RACE GROUPS

IN THE RSA-1955-1975 (ACTUAL) AND 1980-2000 (PROJECTED)

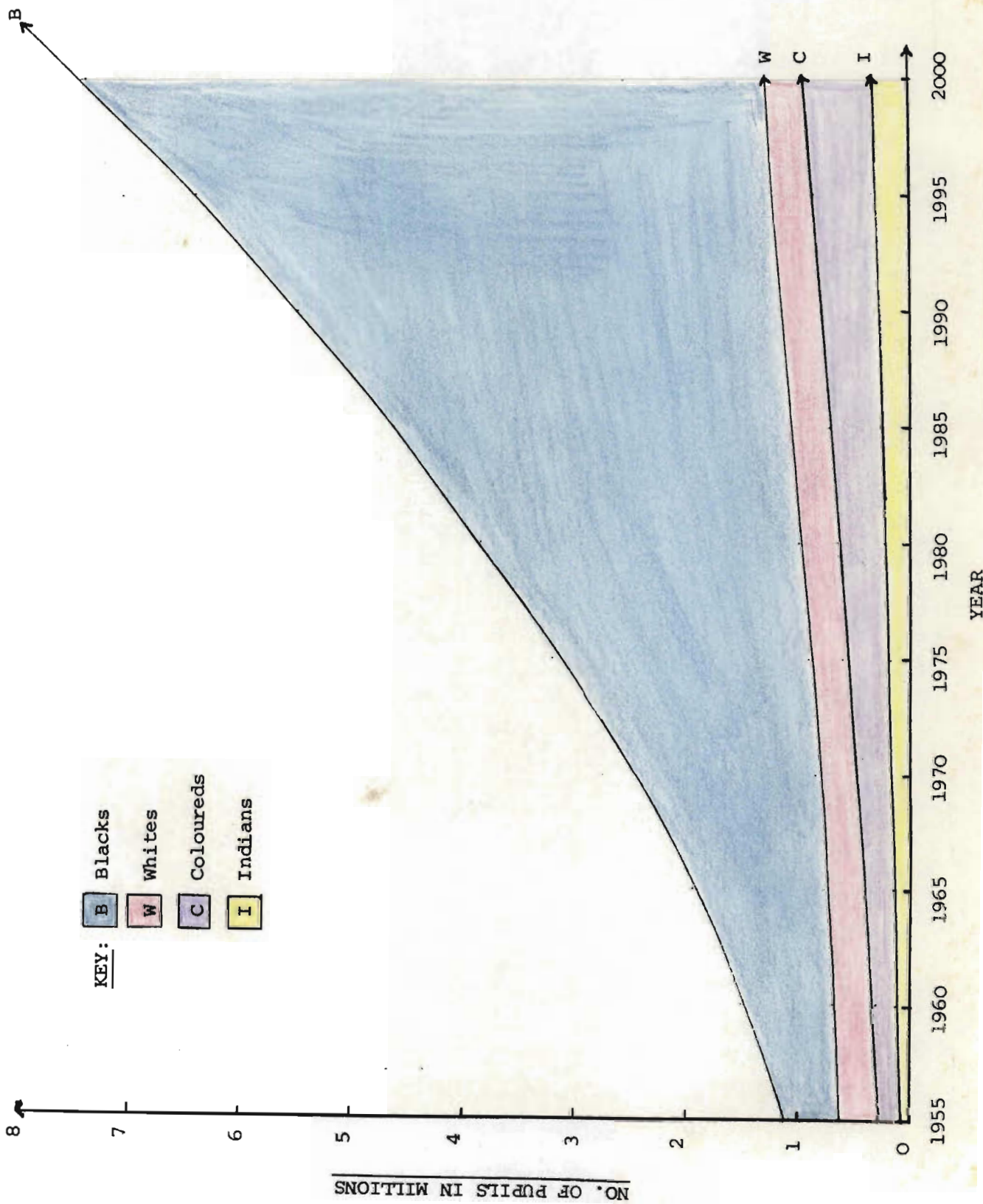
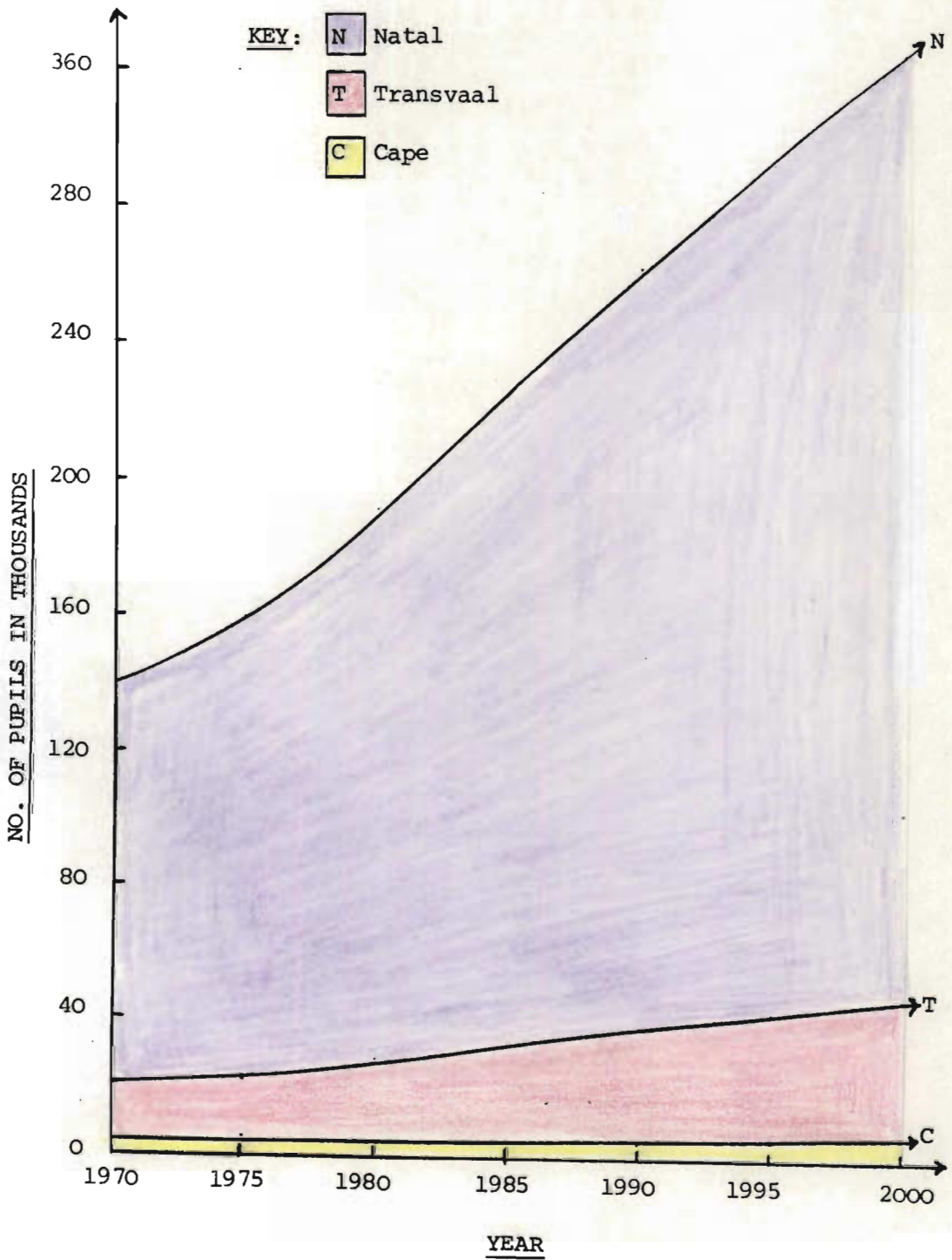


FIGURE 7.2 : PUPIL PROJECTIONS FOR INDIANS IN NATAL, TRANSVAAL  
AND CAPE : 1970-1975 (ACTUAL) AND 1980-2000 (PROJECTED)



Cape Town, Port Elizabeth and East London. The writer assumes that, with the extension of the class range at these centres and with the opening of more schools in the Cape, Indian pupils will seek transfer to these schools from Coloured schools.

A major deficiency in the method of graphical representation is that a feature of the school population growth rates is its chequered pattern. Insufficient points on the graph make extrapolation of trend graphs difficult. For example, pupil enrolments for standard 2 in Natal schools tended to decrease from 18 007 pupils in 1967 to 12 746 pupils in 1970,<sup>(44)</sup> and then there was an upward trend to 16 280 pupils in 1973. The total pupil enrolment for this standard then dropped slightly to 16 165 in 1974, but continued to increase over the next two years to 17 644 in 1976 before decreasing slightly to 17 541 in 1977. It is difficult to predict whether this drop in enrolment for standard 2 will continue, or if one can justify an upward trend. Thus, it is apparent that graphical methods in themselves are poor predictors and, at best, only a general trend can be observed as illustrated by the graphs in Figure 7.1 and Figure 7.2.

#### 7.4.3 Mathematical model for projecting pupil enrolments

Sadie of the University of Stellenbosch and van Rensburg of the HSRC, separately, recognise the need to project pupil enrolments based on the total Indian population.<sup>(45, 46)</sup> Both

acknowledge/

acknowledge the changing patterns of the Indian population, and they advocate that varying growth rates be used for each province in this country for purposes of projection. Further, as indicated earlier in this chapter, both acknowledge that there has been a significant undercounting in census figures, and they build in a correcting factor to arrive at more realistic projected pupil enrolments.

Based on a declining growth pattern and present trends in pupil enrolments as discussed in Chapter Four, the writer assumes that the distribution of Indian pupils by standards will be the same as for the Whites in the RSA by the year 2000. The distribution of White pupils in the year 2000 has been calculated by using the figures given by Kies<sup>(47)</sup> in an article published in the journal Spectrum 7<sub>4</sub>, and this mathematical model to project pupils for the year 2000 by standards is given in column (8) of Appendices A, B and C. According to this model, the distribution of pupils by phases is 25,70% for phase 1; 26,90% for phase 2; 25,30% for phase 3 and 22,10% for phase 4. The pupils from class (i) to std. 5, including the pupils in the adjustment classes constitute the primary school pupils, and pupils from std. 6 to std. 10, including the pupils in both the ordinary and practical streams, constitute the high school pupils. By the year 2000, it is anticipated that 61,20% of the total will be primary school pupils and 38,80% will be high school pupils.

Further/

Further, this model for the year 2000 is expected to hold true for Indian school populations for all provinces; that is, for Natal, the Transvaal and the Cape.

Projection of pupils from 1978 to 1980 is done by the *factor* method. Factors are used to determine pupil enrolments by standards. By a *factor* is meant the quotient obtained by dividing the number of pupils in a specific standard in a year by the number of pupils in the preceeding standard for the previous year. For example, dividing the number of std. 5 pupils in Natal in 1978 by the number of std. 4 pupils in 1977, one obtains a factor of 0,92 (correct to two decimal places). By multiplying the number of pupils in std. 4 in 1977 by the factor 0,92, the pupil enrolment for std. 5 in 1978 is obtained. The diagonal factors are used for multiplying the number of pupils in a standard to obtain a projected enrolment for a higher standard in the following year. The advantage in using the factor method is that certain features such as the "low points" and the actual pupil enrolments in the different standards are taken into account. The factor for class (i) is obtained by examining the intake of class (i) pupils in the preceeding years and the estimated Indian population in the 4,5 to 5,5 years age-group. The factors for the adjustment classes and the total school population in a province are determined by examining the present trends in enrolments. In Appendices A, B and C, the factors for 1978 in column (1) are actual

factors/

factors for the different standards based on actual pupil enrolments from 1977 to 1978. The factors for 1979 and 1980, for the different standards, are based on present trends in pupil enrolments, the chequered growth-rate patterns for the different standards, the extension of the practical stream from std. 9 to std. 10 in 1979, the implementation of compulsory education up to age 15 as from January 1979, the abnormally low intake of class (i) pupils in 1967 as explained in Chapter Six, the norms for the physical planning of schools, the provision of school accommodation by the DIA (for example, the opening of schools in new areas in the Cape and other parts of the RSA), the strong motivation on the part of the Indian parents to give their children the highest education possible based on cultural factors, the first written examinations being held at the end of std. 3, the drop-out rate of pupils especially at the high school level, the lack of hostel accommodation and allied transport problems for pupils residing in rural areas, and other personal experiences of the writer in the Education Planning section of the DIA. Thus, for short-range pupil projections up to 1980, the writer has resorted to the use of the *factor* method. The factors to determine the number of pupils in a standard from 1978 to 1980 in Natal, the Transvaal and the Cape as contained in Appendices A, B and C respectively were used together with the actual corresponding pupil enrolments for

the different standards as reflected in Tables 4.7, 4.8 and 4.9 in order to obtain pupil projections for 1979 and 1980 by standards as contained in Tables 7.5, 7.6 and 7.7.

For middle-range and long-range planning, that is, from 1985 to 2000, the writer uses a mathematical model showing distribution of pupils in the various standards by *percentages*. The proposed model for the year 2000 is described in an earlier paragraph of this sub-section, and the writer assumes that, by that year, the distribution of pupils in the different standards by percentages will be the same for Natal, the Transvaal and the Cape. The distribution of pupils, by percentages, for the various standards in 1978 is actual for the three provinces concerned, and these percentages were calculated using corresponding figures from Tables 4.7, 4.8 and 4.9, and indicated in column (4) of Appendices A, B and C. Taking into consideration this model for 1978 (by percentages), the proposed model for the year 2000 and the factors influencing the present trends in the demand for school accommodation as indicated in the above-mentioned paragraph, the writer proposes a model for projecting pupil enrolments in 1985 for Natal. This model showing the distribution of pupils in Natal for the different standards, by percentages, is illustrated in column (5) of Appendix A. Similar models for the Transvaal and the Cape have been constructed and indicated in column (5) of Appendices B and C respectively. While the model for

1985 appears to be realistic for middle-range planning, there is an imbalance in the distribution of Indian pupils by standards, as compared to White pupils. The models for 1990 and 1995 in columns (6) and (7) of Appendices A, B and C were constructed by calculating the arithmetic mean between the percentages for 1985 and the year 2000 in respect of each standard, and adding or subtracting it progressively to obtain the required percentages for the different standards. For example, in Appendix B, the arithmetic mean between 1985 and 2000 for std. 1 is 0,44 and, by decreasing the percentage for std.1 progressively by 0,44, one obtains 8,98% for 1990 and 8,54% for 1995.

It will be observed that the proposed 1985 mathematical model for the Transvaal (vide Appendix B) is closer to the ideal White model for the year 2000 than it is for Natal (vide Appendix A), especially in regard to the distribution of pupils in the secondary phases. This difference is on account of cultural and other factors as discussed in Chapter Four. In the Cape it is only now that a clearer pupil population trend for Indians is crystallising since the opening of Indian schools in Port Elizabeth, Cape Town and East London after 1970. The life style and natural growth rate of the Indians in the Cape are assuming a pattern close to that of their counterparts in the Transvaal.<sup>(48)</sup> For these reasons, the writer has

assumed that the models for 1985, 1990, 1995 and 2000 shown in Appendix B for the Transvaal will hold good for the corresponding models shown in Appendix C for the Cape. In the models showing the distribution of pupils by percentages in columns (4), (5), (6), (7) and (8) of Appendices A, B and C, the totals are indicated as 100% each. The totals in columns (1), (2) and (3) of the above-mentioned Appendices are shown as factors which were described earlier in this sub-section. In Appendix C the factors shown in columns (1) and (2) are high on account of opening of new schools and increased pupil enrolments in the various standards. In column (4) the percentage for standard 10 is low because two of the three existing high schools in the Cape are comparatively new schools, and these schools have not extended their class range to standard 10 as yet.

7.4.5 Proposed projection of pupils by standards, phases and provinces

The writer used the mathematical models illustrated in Appendices A, B and C, projected total Indian school populations by provinces as indicated in Table 7.3 and actual pupil enrolments in the three provinces concerned as reflected in Tables 4.7, 4.8 and 4.9 in order to determine projected pupil enrolments by standards for the period 1979 to the year 2000. A projection for pupil enrolments in Natal was determined by using the above-mentioned procedure; this projection is contained in Table 7.5. Similar projections have been made for the Transvaal (vide Table 7.6) and the the Cape (vide Table 7.7).

Table 7.8/

Table 7.8 shows a projection of pupil enrolments by standards for Indians in the RSA, and this table was calculated by adding the corresponding pupil enrolments for each standard from Tables 7.5, 7.6 and 7.7. The annual growth rates by percentage for the three provinces were computed for primary school population (phases 1 and 2), high school population (phases 3 and 4) and total school population by using the formula  $P_{t+10} = P_t (1+i)^{10}$ .

TABLE 7.5 : PROJECTION OF PUPIL ENROLMENTS IN NATAL BY STANDARDS, PHASES, PRIMARY AND HIGH SCHOOL TOTALS (1979-2000)

Std.	1979	1980	1985	1990	1995	2000
cl. (i)	20 278	21 056	25 565	27 668	28 381	28 754
(ii)	20 278	21 056	24 260	26 486	27 505	28 108
std. 1	18 404	19 026	22 234	24 386	25 432	26 169
Phase 1	58 960	61 138	72 059	78 540	81 318	83 031
std. 2	17 462	18 285	21 200	23 573	24 936	26 169
3	18 067	18 036	22 212	24 439	25 578	26 493
4	17 417	17 328	18 746	22 103	24 848	27 785
adj. cl.	1 248	1 400	2 588	3 752	4 966	6 461
Phase 2	54 194	55 049	64 746	73 867	80 328	86 908
<b>Primary Total</b>	<b>113 154</b>	<b>116 187</b>	<b>136 805</b>	<b>152 407</b>	<b>161 646</b>	<b>169 939</b>
std. 5	16 480	16 357	17 328	20 659	23 856	27 785
6	14 664	16 018	16 946	20 606	23 447	27 462
7	13 507	14 543	15 349	19 451	23 359	27 462
Phase 3	44 651	46 918	49 623	60 716	70 662	82 709
std. 8	12 246	13 453	14 155	18 454	22 658	26 493
9	8 197	8 972	13 345	17 299	21 140	25 523
10	6 751	6 503	11 117	13 624	15 884	18 416
Phase 4	27 194	28 928	38 617	49 377	59 682	70 432
<b>High Total</b>	<b>71 845</b>	<b>75 846</b>	<b>88 240</b>	<b>110 093</b>	<b>130 344</b>	<b>153 141</b>
<b>Total</b>	<b>184 999</b>	<b>192 033</b>	<b>225 045</b>	<b>262 500</b>	<b>291 990</b>	<b>323 080</b>
<u>Growth Rate (% p.a.)</u>						
Primary Total	1,85	2,66	3,32	2,21	1,23	1,04
High Total	9,73	5,57	3,04	4,49	3,48	3,31
Total	4,77	3,79	3,20	3,11	2,11	2,09

From/

From Table 7.5, which shows projection of pupil enrolments in Natal from 1979 to the year 2000, it is evident that the high school population is expected to grow at a faster rate than that of the primary school. This has been the trend in the past five years as evident from Table 4.7, and it is anticipated that the holding power of high schools will increase significantly especially in the next five years on account of the extension of the practical stream to std. 10, the institution of compulsory education up to age 15 as from January 1979 and improved transport/boarding facilities for pupils, especially from the rural areas. The high drop-out rate in the fourth phase, as illustrated in Tables 3.5 and 3.6, is expected to be arrested and, hence, the growth rate is anticipated to be higher in the fourth phase than in the third phase. It is also expected that there will be no appreciable drop in the platoon school population obtaining in Natal up to 1980 based on the availability of additional accommodation in terms of the present five-year School Building Programme, the anticipated increase in the holding power of schools and the revised staff-ration becoming operative from January 1979. However, after 1980, the pressure for school accommodation is expected to decrease on account of the anticipated decreasing trend in growth rates for school populations for primary and high school sectors and the availability of additional monetary allocation for capital expenditure for the following three years. <sup>(49)</sup>

Table 7.6 shows pupil projections for the Transvaal in the period 1979 to the year 2000. In this province too, the growth rate of high school population is expected to be higher than that of the

primary/

primary school population generally over the above-mentioned years. This high growth rate is expected to be maintained up to 1985 for reasons similar to that of the Natal pattern, and also on account of the present trend of more Indians moving into the Transvaal from Natal because of better employment opportunities being available in the former province. Further, the high school population in the Transvaal is expected to virtually double itself in the period 1980 to 2000

TABLE 7.6 : PROJECTION OF PUPIL ENROLMENTS IN TRANSVAAL BY STANDARDS, PHASES, PRIMARY AND HIGH SCHOOL TOTALS (1979-2000)

Std.	1979	1980	1985	1990	1995	2000
cl. (i)	3 127	3 253	3 674	3 983	4 104	4 184
(ii)	2 947	3 065	3 282	3 654	3 883	4 090
std. 1	2 702	2 947	3 082	3 421	3 624	3 808
Phase 1	8 776	9 265	10 038	11 058	11 611	12 082
std. 2	2 546	2 703	2 948	3 320	3 569	3 808
3	2 468	2 572	2 840	3 247	3 548	3 855
4	2 359	2 468	2 729	3 213	3 616	4 043
adj. cl.	130	150	242	442	666	940
Phase 2	7 503	7 893	8 759	10 222	11 399	12 646
<b>Primary Total</b>	<b>16 279</b>	<b>17 158</b>	<b>18 797</b>	<b>21 280</b>	<b>23 010</b>	<b>24 728</b>
std. 5	2 252	2 336	2 604	3 114	3 556	4 043
6	2 067	2 184	2 683	3 163	3 561	3 996
7	1 819	2 026	2 653	3 139	3 552	3 996
Phase 3	6 138	6 546	7 940	9 416	10 669	12 035
std. 8	1 871	1 855	2 696	3 136	3 488	3 855
9	1 476	1 478	1 956	2 523	3 081	3 714
10	920	1 048	1 328	1 757	2 190	2 680
Phase 4	4 267	4 381	5 980	7 416	8 759	10 249
<b>High Total</b>	<b>10 405</b>	<b>10 927</b>	<b>13 920</b>	<b>16 832</b>	<b>19 428</b>	<b>22 284</b>
<b>Total</b>	<b>26 684</b>	<b>28 085</b>	<b>32 717</b>	<b>38 112</b>	<b>42 438</b>	<b>47 012</b>
<u>Growth Rate (% p.a.)</u>						
Primary Total	5,41	5,40	1,89	2,48	1,57	1,48
High Total	5,77	5,02	5,03	3,86	2,82	2,81
Total	5,55	5,25	3,08	3,09	2,23	2,28

The School Building Programme must take cognisance of a more liberal staff-ration and the anticipated demand for school accommodation through natural increase in the Transvaal. There are no platoon classes in the Transvaal, and it is expected that this pattern will continue in this province in the future as well. Where there is a shortage of school accommodation, the DIA is expected to hire accommodation in the local areas in order to avoid the institution of platoon classes. (50)

The primary school population in the Transvaal is expected to be 14,39% of the corresponding total in Natal by 1979, and this ratio is expected to be maintained by the year 2000; that is, about 14,55%, despite the anticipated trend of a higher growth rate for primary school population in the Transvaal than in Natal with its very much larger population in the period 1979 to 2000.

Table 7.7 shows pupil projections for the Cape. Until about 1990, it is envisaged that there will be chequered patterns in growth rates for the different phases in this province on account of the anticipated opening of new Indian schools especially in Cape Town, Port Elizabeth and Kimberley, the expected transfer of more Indian pupils from Coloured schools to Indian schools as accommodation becomes available in Indian areas, the extension of the class range especially at new high schools such as East London High School and Rylands High School, an improvement in the holding power of schools through the implementation of compulsory education and migration of Indians into this province especially from Natal. It is for the above-mentioned reasons and the anticipated opening of Rylands Primary School (Cape Town) in 1979 and Woolhope Primary School (Port Elizabeth) in 1980

that/

that the growth rates at both primary and high school levels are expected to be phenomenal by any standard. It is anticipated that the demand for school accommodation in the Cape will about double itself in the period 1978 to 1990 (vide Tables 4.9 and 7.7). There are no platoon classes at Indian schools although there is pressure for school accommodation at Woolhope High School (Port Elizabeth), which is presently accommodating no fewer than 1 013 pupils in 30 class units in a school which has 20 classrooms and 12 specialist rooms. (51, 52)

TABLE 7.7 : PROJECTION OF PUPIL ENROLMENTS IN THE CAPE BY STANDARDS, PHASES, PRIMARY AND HIGH SCHOOL TOTALS (1979-2000)

Std.	1979	1980	1985	1990	1995	2000
cl. (i)	450	520	562	573	623	669
(ii)	450	520	501	526	590	654
std. 1	380	460	471	492	550	609
Phase 1	1 280	1 500	1 534	1 591	1 763	1 932
std. 2	380	458	451	477	542	609
3	390	468	434	467	539	616
4	350	428	417	462	549	646
adj. cl.	-	32	37	64	101	149
Phase 2	1 120	1 386	1 339	1 470	1 731	2 020
<b>Primary Total</b>	<b>2 400</b>	<b>2 886</b>	<b>2 873</b>	<b>3 061</b>	<b>3 494</b>	<b>3 952</b>
std. 5	350	409	398	448	540	646
6	340	410	410	454	541	639
7	310	358	405	452	538	639
Phase 3	1 000	1 177	1 213	1 354	1 619	1 924
std. 8	280	340	412	451	530	616
9	170	240	299	363	468	594
10	90	157	203	253	332	428
Phase 4	540	737	914	1 067	1 330	1 638
<b>High Total</b>	<b>1 540</b>	<b>1 914</b>	<b>2 127</b>	<b>2 421</b>	<b>2 949</b>	<b>3 562</b>
<b>Total</b>	<b>3 940</b>	<b>4 800</b>	<b>5 000</b>	<b>5 482</b>	<b>6 443</b>	<b>7 514</b>
<u>Growth Rate (% p.a.)</u>						
Primary Total	35,82	20,25	-0,91	1,27	2,69	2,50
High Total	47,51	24,29	2,13	2,62	4,01	3,87
Total	40,16	21,83	0,82	1,88	3,30	3,08

Table 7.8/

Table 7.8 shows projected pupil enrolments for the different standards and phases at schools under the control of the DIA. Indian pupils in Natal, the Transvaal and the Cape are expected to attend Indian schools by 1985 based on the present policy of the DIA. However, Indian pupils in Black Homelands have been excluded from this table, and these pupils are expected to attend Black schools for purposes of long-term planning. The globular growth rates for Indians in the RSA again emphasises the need to plan for more high school accommodation based on natural growth rates, and for primary school accommodation based on platoon classes and over-crowding of classrooms in terms of the revised staff-ration for 1979. The trend in growth rates shows a decrease generally for primary, high and total school populations in the period 1979 to the year 2000. Platoon classes in Indian schools are expected to be eliminated by 1985 on account of political pressure being exerted by the Indian community and the desire of the present-day Government to offer equal but separate development for Indians as soon as possible. The future demand for accommodation will naturally be influenced by a more liberal staff-ration, the need to provide more specialist rooms at existing schools and the future trends in growth patterns for the four phases of the Indian school population. The primary school population for Indians in the RSA is expected to increase by 20,21% from 1979 to 1985, and then by 25,33% from 1985 to 2000, while the corresponding growth rates for high school population in those periods are expected to be 24,46% and 71,63%.

TABLE 7.8/

TABLE 7.8 : PROJECTION OF PUPIL ENROLMENTS IN THE RSA BY STANDARDS,  
PHASES, PRIMARY AND HIGH SCHOOL TOTALS (1979-2000)

Std.	1979	1980	1985	1990	1995	2000
cl. (i)	23 855	24 829	29 801	32 224	33 108	33 607
(ii)	23 675	24 641	28 043	30 666	31 978	32 852
std. 1	21 486	22 433	25 787	28 299	29 606	30 586
Phase 1	69 016	71 903	83 631	91 189	94 692	97 045
std. 2	20 388	21 446	24 599	27 370	29 047	30 586
3	20 925	21 076	25 486	28 153	29 665	30 964
4	20 126	20 224	21 892	25 778	29 013	32 474
adj. cl.	1 378	1 582	2 867	4 258	5 733	7 550
Phase 2	62 817	64 328	74 844	85 559	93 458	101 574
Primary Total	131 833	136 231	158 475	176 748	188 150	198 619
std. 5	19 082	19 102	20 330	24 221	27 952	32 474
6	17 071	18 612	20 039	24 223	27 549	32 097
7	15 636	16 927	18 407	23 042	27 449	32 097
Phase 3	51 789	54 641	58 776	71 486	82 950	96 668
std. 8	14 397	15 648	17 263	22 041	26 676	30 964
9	9 843	10 690	15 600	20 185	24 689	29 831
10	7 761	7 708	12 648	15 634	18 406	21 524
Phase 4	32 001	34 046	45 511	57 860	69 771	82 319
High Total	83 790	88 687	104 287	129 346	152 721	178 987
Total	215 623	224 918	262 762	306 094	340 871	377 606
<u>Growth Rate (% p.a.)</u>						
Primary Total	2,74	3,32	3,02	2,23	1,27	1,13
High Total	9,74	5,84	3,29	4,38	3,36	3,21
Total	5,35	4,30	3,10	3,08	2,18	2,17

### 7.5 CONCLUSIONS

Futures research provides man with a better understanding of his existence in terms of the future, and the emphasis has shifted from expectation of the future to planning for the future. The methods of futures research may be classified into three categories, namely,

extrapolation/

extrapolation of historical knowledge, analytical models and the use of experts, while the choice of a method will depend largely on the utility value of the project undertaken.

Some of the more popular methods used for forecasting in education are trend extrapolation, analytical models, cross-impact matrices and scenarios. The writer has shown the need to project school populations using demographic studies, and a mathematical model has been constructed to determine pupil projections. It is hoped that other researchers will be motivated to re-examine the problem of pupil projections, and an improved mathematical model for projecting pupils will be constructed so that the future demand for school accommodation may be ascertained more reliably.

On account of better opportunities in the province, the Transvaal is expected to attract more Indians into the province in the next decade. By 1990 the Indian population in the RSA is expected to exceed 1 million, and the school population is expected to exceed 225 000 in 1980, and 300 000 by 1990.

The demand for school accommodation is expected to be greatest in the third and fourth phases for the next five years. It is, therefore, desirable that more high schools be planned for the next decade although there are more than 11 000 primary school children in platoon classes. Further, if there is an adequate supply of high school accommodation, the standard 5 pupils can be zoned from primary

schools to high schools. The platoon classes obtain in Natal only because of an acute shortage of school accommodation, and this position is expected to obtain for at least the next four years based on the present five-year School Building Programme. Platoon classes are not expected to be instituted in either the Transvaal or the Cape because of the anticipated strong political pressure from the local communities.

By far the largest demand for school accommodation is in Natal where the greatest concentration of Indians is to be found. By March 1978, the total school population in Natal was 176 579 pupils, which represented 86,27% of total school population in the RSA in that year. By the year 2000 it is assumed that there will be no Indian pupils attending Coloured schools, as presently obtains in the Cape, and that Natal will have 85,56% of the total Indian school population in the RSA while the combined totals of the Transvaal and the Cape is expected to be 14,44% of the total. Thus, the planning of future schools in the Transvaal is expected to be mainly replacement schools and schools for pupils affected by movement of population in terms of the Group Areas Act. In the Cape new schools are expected to be built mainly to accommodate pupils attending Coloured schools. The largest number of new schools is expected to be planned for Natal in order to meet natural growth in school population, replacement of unsatisfactory schools, closure of schools (especially State-aided schools) and the movement of Indians affected by the Group Areas Act.

In/

In 1970 the total Indian school population was the smallest of the four race groups in the RSA, and it represented 4,14% of the total in the RSA. Further, the growth rate for Indian pupils is comparatively slower than for Blacks or Coloureds. By the year 2000 it is anticipated that the demand for school accommodation for Indian pupils will be, comparatively, an even smaller percentage of the total - an estimated 3,19% of the projected school population for the RSA.

It is envisaged that Indian culture will continue to be transmitted in future Indian schools through the studies of Indian languages, ethics, religions, art, music and moral education. Much of Black culture is expected to be interwoven in Indian schools through the teaching of the Black languages and drama. Essentially the Indian schools are expected to be the carriers of a Western culture for the foreseeable future.

Taking into consideration the historical, comparative and demographic background study made in Part One of this thesis, a study of school accommodation in the pedagogical context as discussed in Chapter V, the present planning and provision of school accommodation by the DIA as discussed in Chapter VI and pupil projections as determined in this Chapter VII, the writer makes certain essential proposals which are considered to be important future needs of the Indian community as explained in the following Chapter VIII.

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## CHAPTER EIGHT

### PROPOSALS FOR THE FUTURE NEEDS OF THE INDIAN COMMUNITY IN THE PLANNING AND PROVISION OF SCHOOL ACCOMMODATION

#### 8.1 INTRODUCTION

Taking into account the function of the contemporary school viewed in the pedagogical context, the trends in the provision of school accommodation in certain overseas countries and for the various population groups in this country, the norms for school planning, the planning of school accommodation by the DIA and the future demand for school accommodation for Indians based on pupil projections, the writer makes certain proposals to meet the future needs of the Indian community in the planning and provision of school accommodation.

The provision of adequate school accommodation has been one of the major problems confronting Indian education in this country. Significant progress has been made by the DIA in the above-mentioned areas. However, it is believed that the quality of education imparted is commensurate with the availability of properly designed and adequate school accommodation. Several areas have been recommended for attention by the writer, in the hope that the planning and provision of school accommodation for Indians in the RSA will undergo further significant

progress/

progress and meet the needs, interests and aptitudes of the Indian child.

8.2 PROPOSALS FOR THE FUTURE NEEDS OF THE INDIAN COMMUNITY IN THE PLANNING AND PROVISION OF SCHOOL ACCOMMODATION

While making the following proposals the writer is mindful of the many other areas which also deserve attention. However, in the opinion of the writer, the following proposals are considered to be the more important ones for recommendation, and these proposals are not necessarily in priority order.

8.2.1 The need for an increased monetary allocation for capital expenditure

The monetary allocation for the five-year School Building Programme in the DIA has been increased from R20 million in 1967 to R77 million in 1978. Further sums of money are spent for additions to school buildings under the New Minor Works Programme, amounting to approximately R200 000 per annum. However, it must also be noted that the cost of a primary school has increased from R70 000 to R500 000 and that of a high school from R185 000 to R750 000 in that period. The platoon school population has also decreased significantly in that period (vide Table 6.7) but, on account of the increase in school population, there was a reduction of only 198 pupils in platoon school population from a total of 11 777 in 1977 to 11 579 in 1978 (a decrease of 1,68%). It is evident that the

building/

building programme is not keeping pace with the demand for school accommodation.<sup>(1)</sup> By 1985, it is anticipated that the demand for school accommodation will be for more than 262 000 pupils - an increase of 28% from 1978 to 1985 (vide Table 7.8). Other factors affecting the immediate demand for school accommodation are the extension of the practical course from standard 9 to standard 10 in January 1979 (an estimated increase of about 3 000 pupils in high schools as a result of this policy change), the implementation of compulsory education up to age 15 as from January 1979 (an estimated increase of 5% of total school population over a period of three years for this purpose) and the proposed staff-ration which is expected to increase the number of primary class units by 40% and high school class units by 35% over the next five years. Further, consideration needs to be given to the provision of specialist rooms at existing primary schools in order to bring them up to standard (this service has not been considered for the present five year School Building Programme 1978-1983), and this deficiency also applies to about 45% of the existing high schools. Thus, facilities at many existing schools impose a limitation on the free choice of subjects in terms of differentiated education. The present five year School Building Programme does not provide for the elimination of platoon classes in the next four years, especially in unproclaimed or controlled areas for Indian settlement where

it is not the present policy of the DIA to build schools for Indian pupils.<sup>(2)</sup> If these above-mentioned shortcomings in the provision of adequate school accommodation for Indian pupils are to be resolved, it is evident that much more money is required than the present monetary allocation for capital expenditure in Indian education. Further, there will be a greater demand on the resources available to build schools. In view of the fact that it can take as long as five years for the planning and provision of a new school<sup>(3)</sup>, the writer believes no recommendation can truly solve the accommodation problem in the next five years in Indian education. The writer, therefore, recommends that the monetary allocation for the five-year School Building Programme be increased to R150 million and, thereafter, to R100 million for the following five-year programmes subject to a re-evaluation at the end of each five-year period. However, if the present firm of private architects is unable to cope with the planning and designing of schools, the PWD should be requested to engage more private architects on a decentralized basis for the different provinces or regions. This recommendation for monetary allocation is being made in the light of the present economy of the country, the availability of adequate manpower and materials in the building industry and because it would be cheaper now than later to build schools out of public funds; further, the DIA can be saved from further embarrassment arising out of the continuation of platoon classes. This injection of funds into

the School Building Programme will certainly assist to boost the tempo of the present ailing building industry.

The writer is of the opinion that the period of about 5 years or more taken for the planning and providing of a new school be reduced drastically on account of escalating costs of services and the urgency for school accommodation in many areas. For example, on occasion there is a delay in proceeding with a service which has a very high priority in the School Building Programme because the school site has not been acquired for the DIA. In this regard it is recommended that the PWD be responsible for the supervision of building operations and maintenance of all services but that the DIA be responsible for acquisition of all sites, planning of all services, calling for tenders and handing over of the site to the contractor. The latter is particularly important because it could happen that an existing school building may need to be demolished; suitable arrangements could be made with a building contractor in regard to interference with school instruction and consideration given to whether a building service should start at the commencement of a new school term.

It is further recommended that platoon classes be eliminated within five years through constructive planning and a greater monetary allocation for capital expenditure. From Chapter VI it is evident that the priority areas are Chatsworth (Durban), Northdale (Pietermaritzburg), Phoenix-Newlands (Durban),

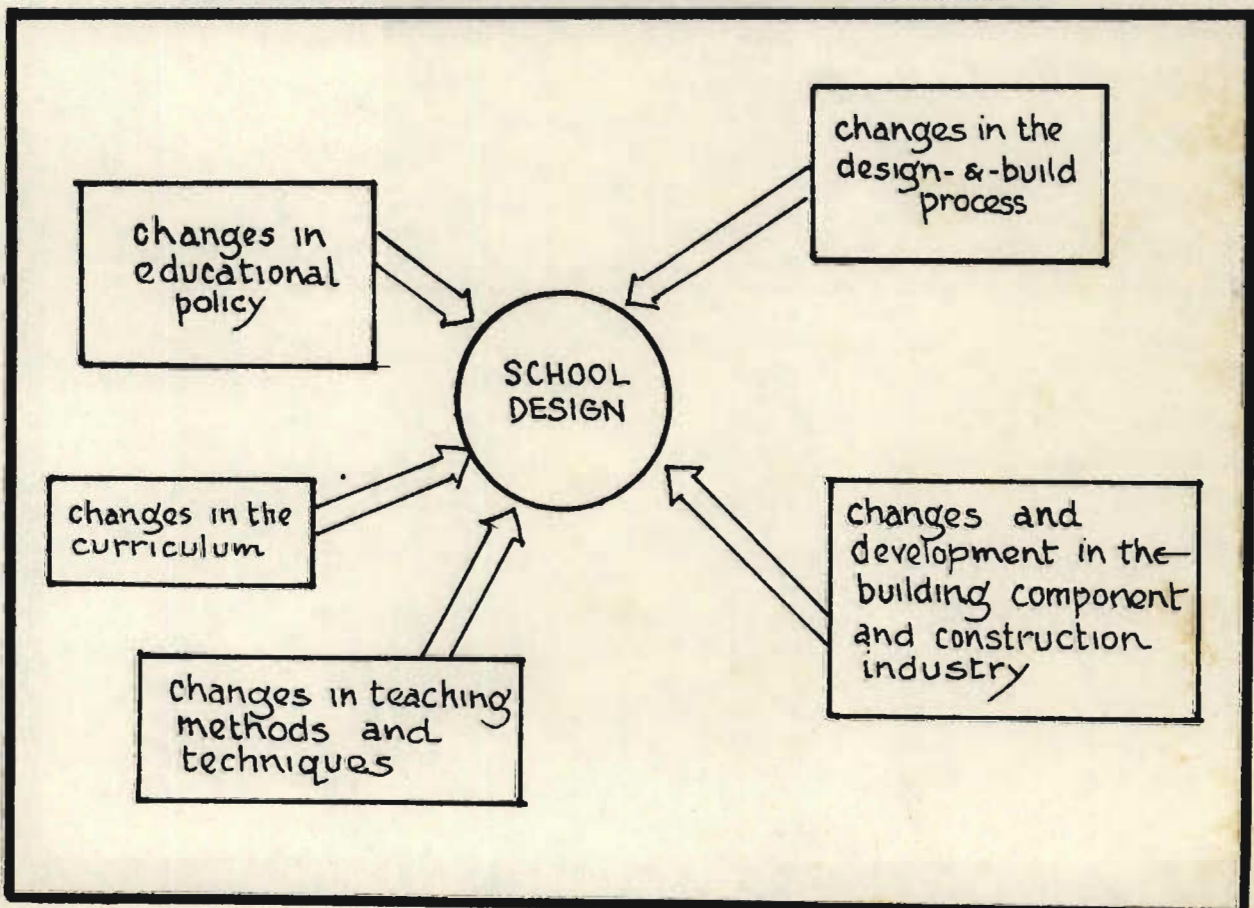
Isipingo, /

Isipingo, Newcastle and Merebank. From the pedagogical point of view, the nature of instruction and learning in the platoon session is undesirable, and the effect on the child's personality in such an inferior situation is also questionable.

### 8.2.2 Design and lay-out of school buildings

New pedagogical demands in education and modern trends in the building professions demand a review of current school planning in design and lay-out of buildings. These spheres of influence are shown in the following Figure 8.1<sup>(4)</sup>. Changes in educational policy, in curriculum, in teaching methods and techniques, in the design and building process and in the needs of a community can all influence the design of schools. Thus, certain general principles must be taken into consideration in the planning of a school.

FIGURE 8.1 : SPHERES OF INFLUENCE ON THE SCHOOL DESIGN



Teamwork undoubtedly will contribute much to successful school planning. In order that the continually changing educational system in both content and method and the full potential of planning ideas may be realized and applied, the research worker, the educationist, the administrator and the architect must work in close collaboration. Often the school buildings of yesteryear are criticized for not being able to meet today's demands. The problem of designing school buildings that do not become outdated is exercising the minds of all concerned.<sup>(5)</sup>

Educationists began to insist on school buildings designed to accommodate their teaching philosophy and practice, and this demand developed differently in the various countries. The popular concept of "schools without walls" caught on quickly in England, USA and other countries. The degree of transition or compromise between fixed classroom, open space and compact planning differs from one country to another according to the local teaching methods employed and the organisational structure of the particular school. In Europe there is a tendency towards combining classrooms with open space areas, in Great Britain towards a compact variety of interrelated spaces, and in North America towards open-space planning.<sup>(6)</sup>

The school is an institution where the pupils and teachers engaged in teaching/learning activities on the one hand and the furniture, equipment and the physical facilities on the other hand, interact closely through educationally based design

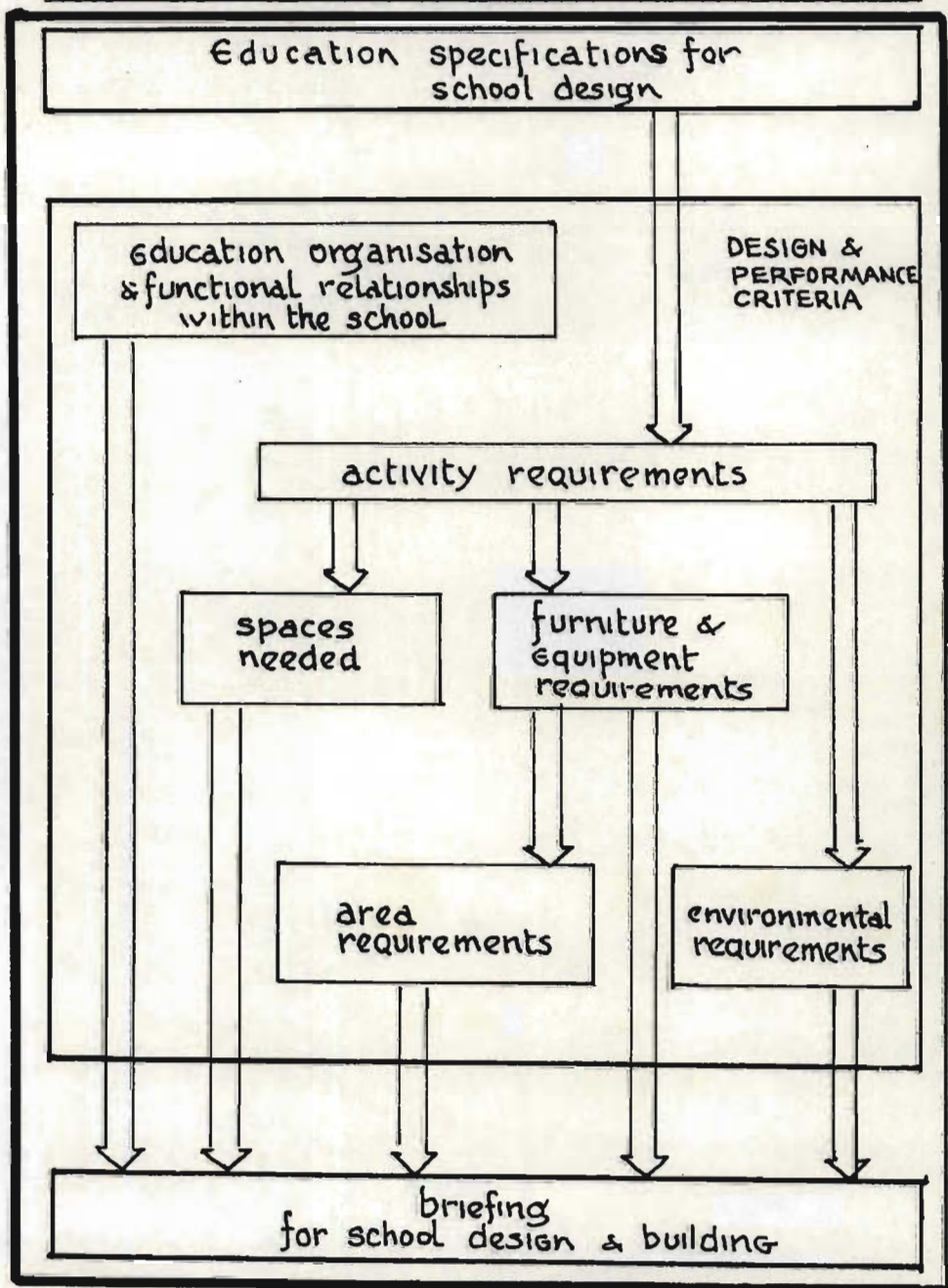
criteria./

criteria. School building design needs to be specifically orientated to local educational needs in relation to:

- (a) the organisation of a school;
- (b) the nature of educational activities to be promoted in the school;
- (c) the range and grouping of these activities; and
- (d) the range of educationally orientated variety or flexibility required.

The following Figure 8.2 illustrates the design and performance criteria for schools. (7)

FIGURE 8.2 : DESIGN AND PERFORMANCE CRITERIA FOR SCHOOLS



The object of an education planner is not only to determine the present demand for school accommodation but also to be able to formulate plans for educational growth and development. Continuous evaluation is the key to successful planning of a school. The education planner must know the relative values that are attached to the various objectives established for a plan. It is essential that a planner be prepared to sacrifice certain objectives for the fuller realisation of other objectives. For example, the desirability of providing all grades classrooms on the ground floor may be sacrificed by providing them in multi-storey blocks where the school site is very limited rather than supplying accommodation far short of the demand in a specific area. A school must be designed to facilitate both the varying group sizes and the range of activities in a school in order to meet the demands of differentiated education. For example, education in a primary school is essentially elementary and fundamental. While the class unit is retained as a teaching unit, provision must also be made for the teaching of smaller groups and individuals. In a primary school an individual child is generally expected to be for about 40% of the school day on his own, 20% in a small group of 4 to 8 children, 35% in a class group of 30 to 40 children and about 5% in a double class of children.<sup>(8)</sup>

The classroom can effectively be utilized for clean, dry and quiet to noisy activities for the whole class together, or for a small group or individual work. Additional spaces must be

provided/

provided to cover the following functions as well:

- (i) wet, messy and noisy activities such as model making and project work for individuals and small groups;
- (ii) quiet, dry activities for individuals or small groups requiring an atmosphere of intimacy and warmth such as remedial work, language exercises and quiet reading; and
- (iii) clean, dry and quiet to noisy activities for a large double-class group.

The first-mentioned activities can be accommodated in a practical area which can be a communal space for three or four classrooms. The second can be accommodated in a quiet room which may be communal to two classrooms. The third can be accommodated in two interleading classrooms or in the communal hall or music room. The following Figure 8.3 shows the practical area that may also serve for circulation and access to the classrooms around it, and to the quiet rooms. (9)

FIGURE 8.3 : THE PRACTICAL AREA SERVING ACCESS TO CLASSROOMS AND QUIET ROOMS

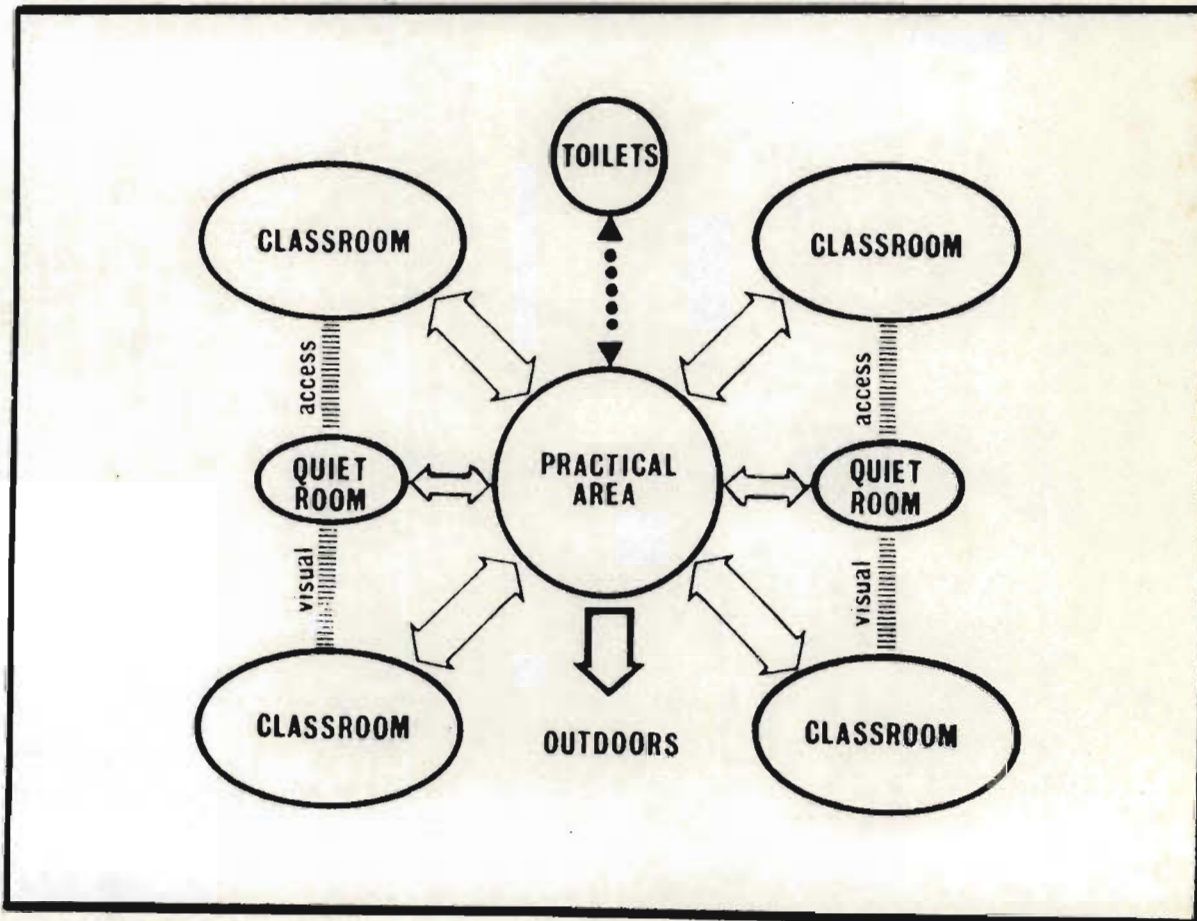


Figure 8.4 shows the space relationships for a primary school. The inter-relationships of spaces in a school are a very important consideration in order to keep movement of pupils to a minimum. In primary schools, the placing and inter-relationships of classrooms are important, especially for the younger children. The peripatetic system of class organization is in use only by senior primary school pupils who have access to specialist rooms. (10

FIGURE 8.4 : SPACE RELATIONSHIPS IN A PRIMARY SCHOOL

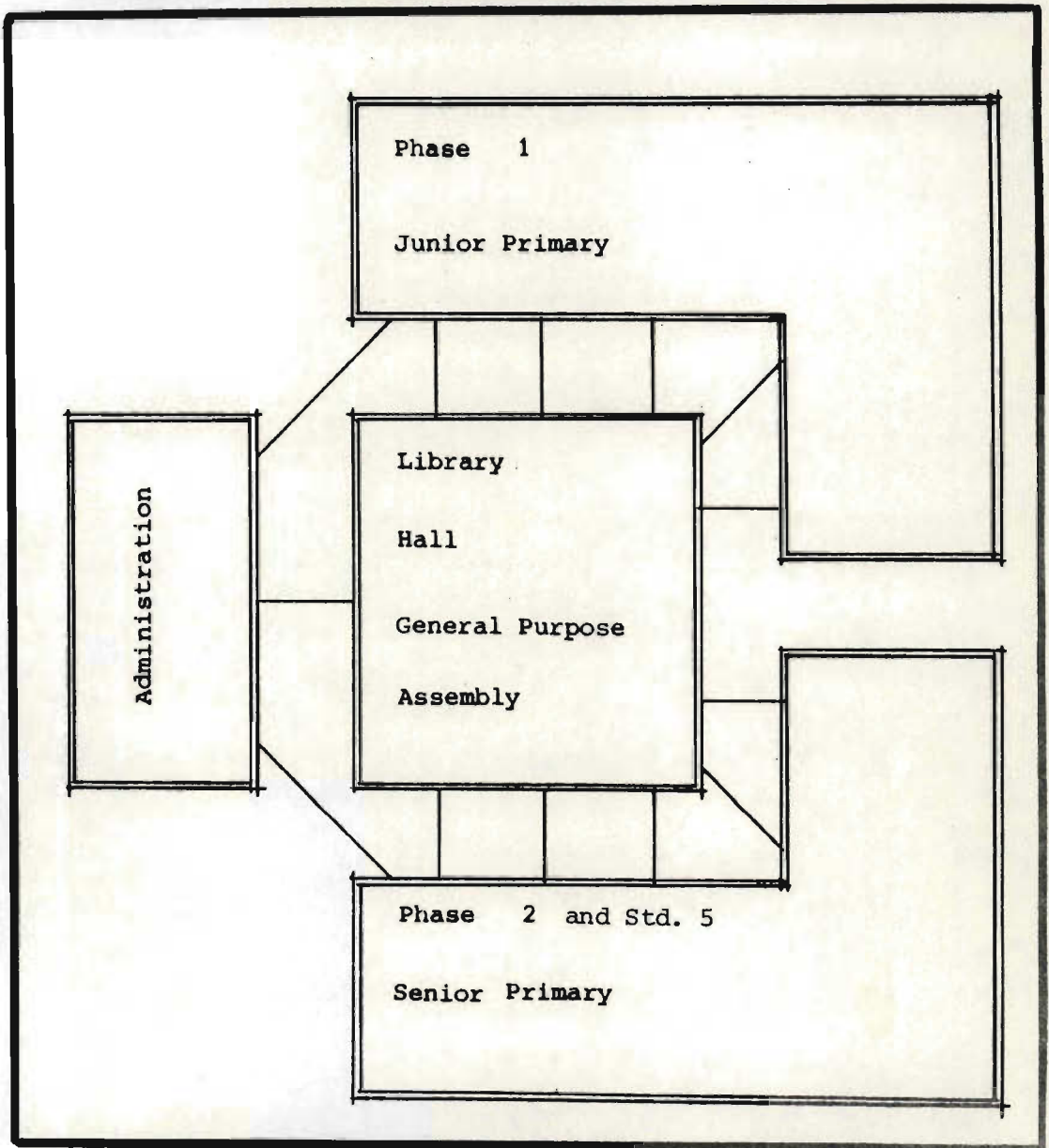
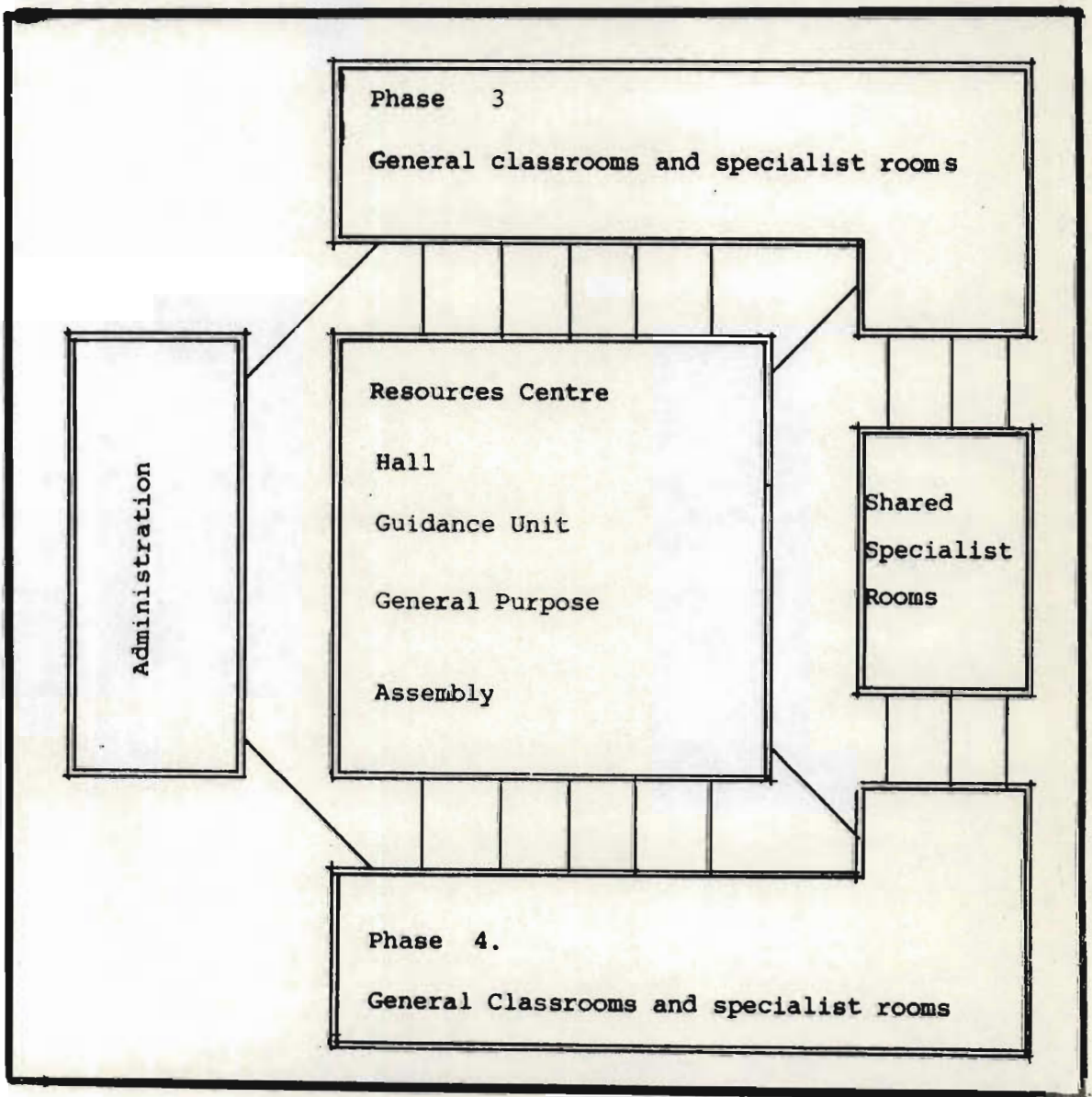


Figure 8.5/

Figure 8.5 illustrates the space relationships in a high school. In high schools all the class units are involved in a peripatetic system of organization. It is, therefore, essential that the inter-relationships of teaching spaces must promote rapid movements of pupils between classes throughout the school. (11)

FIGURE 8.5 : SPACE RELATIONSHIPS IN A HIGH SCHOOL



The writer recommends that a few open-plan schools be built on an experimental basis. Open-plan schools have aroused considerable interest in Great Britain because of their implications for the organisation of teaching and learning, and subsequently for the education of children. There is now a variety of open-plan lay-outs ranging from those with a relatively small degree of openness between different teaching areas to those in which there are virtually no divisions. In some open-plan schools, the classrooms lead onto a central area shared by all the teachers and pupils in that cluster of teaching spaces. The shared use of this central area together with open courtyards, outdoor teaching areas and the almost complete absence of corridors contribute to the openness in design. Further, the open-plan school offers teachers the opportunity to exercise a greater range of options in their work than might be the case in more traditional school lay-outs. The success of teaching in such schools is very much a result of a team effort and the willingness by the teachers to co-operate. (12)

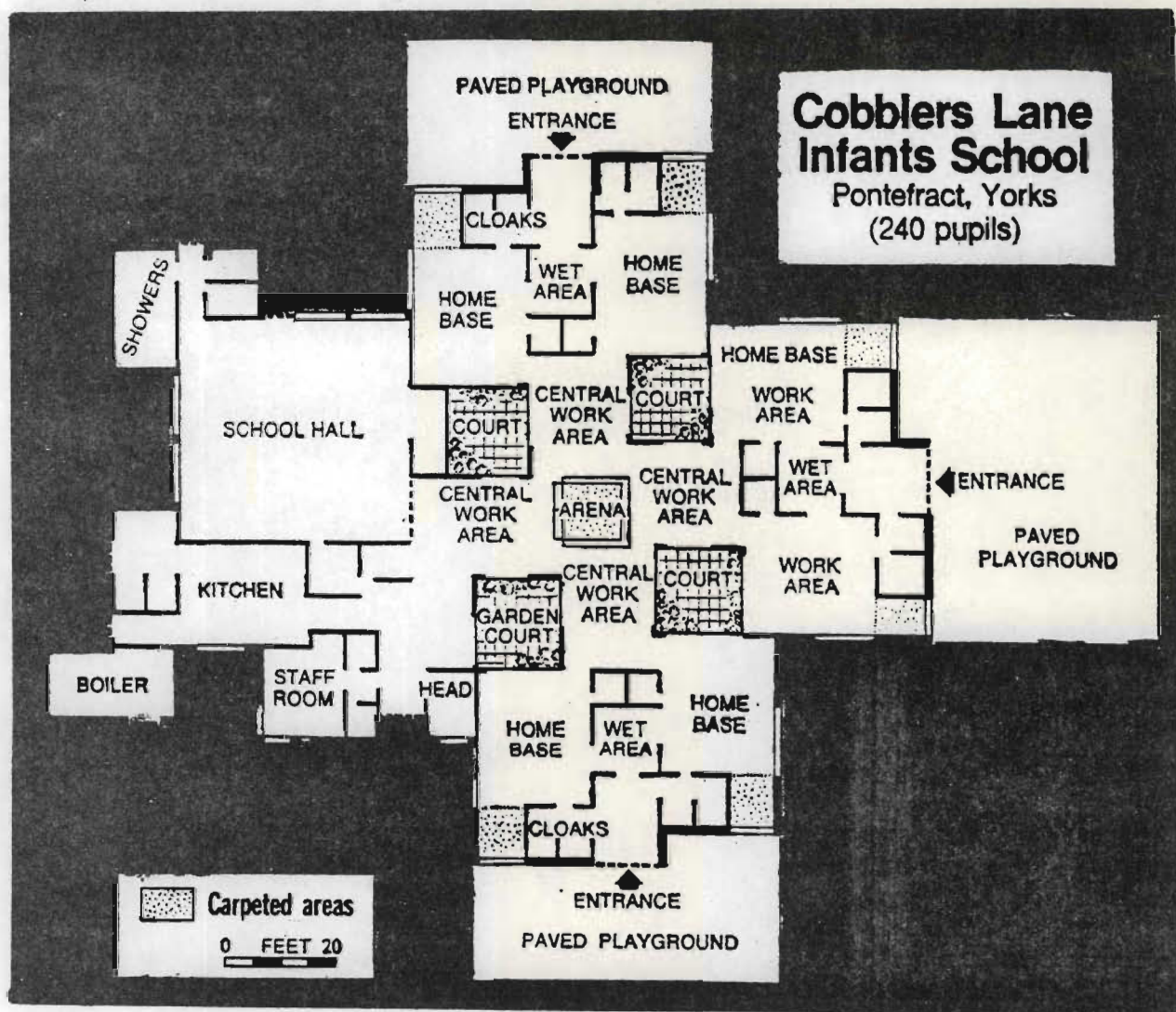
The generally accepted maxim is that the variety of activity for which schools have to be designed today is matched only by the variety of life for which young people are being prepared. In many overseas countries the modern trend is to move away from clearly defined groups toward interconnected activities where the child moves from one learning experience to another at his own pace and as his interest dictates. It is recommended

that/

that the design of a school not only permit this dynamic type of movement but encourage it. Thus the design of a school must create a balance of security and privacy with independence as well as the need to share and explore. (13)

Figure 8.6 shows the lay-out of an open-plan primary school (Cobblers Lane Infants School in Yorkshire, England).

FIGURE 8.6 : LAY-OUT OF AN OPEN-PLAN PRIMARY SCHOOL



This school is an industrialized pre-cast building painted deep pink, with white painted wood and generous areas of glass. Immediately one is aware of colour, light and space. Interior finishing with acoustic materials greatly reduces the level of sound, and every piece of pupil furniture is easily stackable. (14)

The degree of transition or compromise between fixed classrooms, open space and compact planning differs with each country depending on factors affecting local realisation of schools, the teaching methods employed, the range and grouping of activities, the local climatic conditions, cultural factors and other such factors. (15)

It is recommended that Indian schools be based on compact planning by re-designing the school to occupy a smaller overall area than is currently taken up by the finger-plan type of schools, so that better educational relationships can be achieved, the amount of circulation space can be reduced and the teaching space can be increased. By using compact planning techniques, 45 per cent teaching area of an existing primary school may be increased to 75 per cent of the superficial area. (16) Compact planning embodies the principle of deep space planning and artificial environmental control ranging from air-conditioning and artificial lighting to limited artificially controlled environment. Three planning

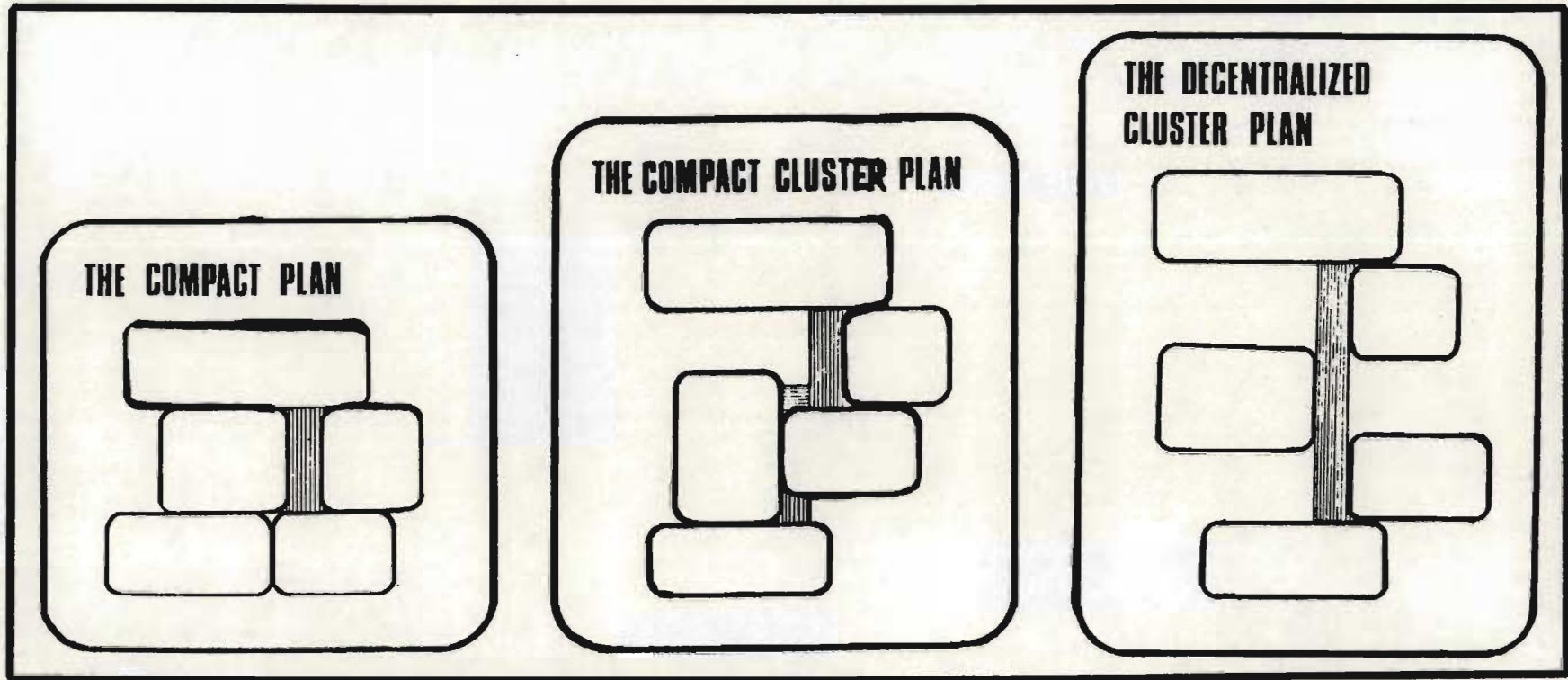


FIGURE 8.7 : THREE FORMS OF COMPACT PLANNING FOR SCHOOLS

alternatives may be considered for Indian education, namely, the compact plan, the compact cluster plan and the decentralized cluster plan. These three forms of compact planning are illustrated in Figure 8.7. In the compact plan air-conditioning and artificial lighting are essential, and the cost of this service can be off-set by the reduction of circulation area and external walling. In the compact cluster plan full air-conditioning is unnecessary and natural lighting can be used throughout though some permanent supplementary artificial lighting will also be necessary; in the decentralized cluster plan, natural ventilation and natural lighting should be adequate. (17)

The planning alternative selected will depend on such factors as locality, size of school site and climatic conditions prevailing in the different areas of this country. It is further recommended that, in view of a shortage of suitable school sites and the need to develop more sports amenities at schools, the DIA should seriously consider the demolishing of certain single-storey buildings at existing schools and replace them with multi-storey buildings on a compact planning basis. Smaller school sites could also result in a larger selection of locations, especially in developed areas such as parts of Durban.

In Indian education, greater use is made of square room

teaching/

teaching spaces because they afford greater flexibility in grouping of pupils than, perhaps, rooms with rectangular floor spaces. However, the writer recommends that the DIA gives consideration, even on an experimental basis, to the construction of general classrooms with hexagonal floor space which permits even greater flexibility for various group settings and informal teaching methods. For these types of rooms, the pavilion-type schools are advocated, with hexagonal ground-plans. The advantage of the latter design is that it offers a wide adaptability to the plot of land because of increased possibilities for connecting the rooms. Research has shown that the same number of pupils can be accommodated in a hexagonal classroom with about 15 to 20 per cent less floor space than that of a corresponding square classroom. (18)

The writer believes that the objective of the educational facility system is to provide physical environments for the adaptation of the individual. Physical planning is the art of shaping and guiding the physical arrangement in harmony with social and economic needs, and in tune with the community's educational attainment. The use of spatial design is recommended especially when planning Indian schools in urban areas. The writer realises it will be some years before new school designs and lay-outs, as envisaged here, become a reality because the translation of research findings into policy and

design decisions remains a complex and lengthy process, especially since Indian education has become nationalised and is also dependent on other government departments and local authorities. However, development project schools can be initiated and, once they have been tried and tested with success, the way is open for new schools that can give a fresh impetus to Indian education.

8.2.3 The need to review accommodation particulars for standard primary and high schools

The writer recognises the vast improvements made in Indian schools in the last decade under the control of the DIA not only in design but also in the provision of additional specialist rooms and other physical amenities. However, the standard accommodation for both primary and high schools should be reviewed in the light of changing demands made in Indian education. Consideration should be given to the provision of the following accommodation.

In *primary schools* there is a need for a remedial classroom where group or individual instruction could be given to the weaker pupils. Similarly, group-teaching rooms should be provided for enrichment instruction for the particularly gifted children. Further, there is a need for change-rooms with showers for pupils who undertake physical education .

(Presently/



(Presently such change-rooms are provided in high schools only.) The primary school is in dire need of change rooms comprising, inter alia, shower cubicles, toilet facilities, store-rooms for physical education equipment and adequate spaces for changing. Separate units are necessary for boys and girls, and they must be situated close to sportsfields. Further, a guidance unit with an interviewing room should be provided in primary schools as an essential and integral part of any school plant. A library with a "reading staircase" should be provided so that children may be seated informally when making use of a library. (Presently, practically all the primary schools have small book-distribution centres.) Moreover, a survey was made by the writer of all the 47 primary schools in Chatsworth (Durban), a developed and the largest concentrated Indian area in the RSA, and it was found that the number of class units per class/standard in 1977 were as follows: <sup>(19)</sup>

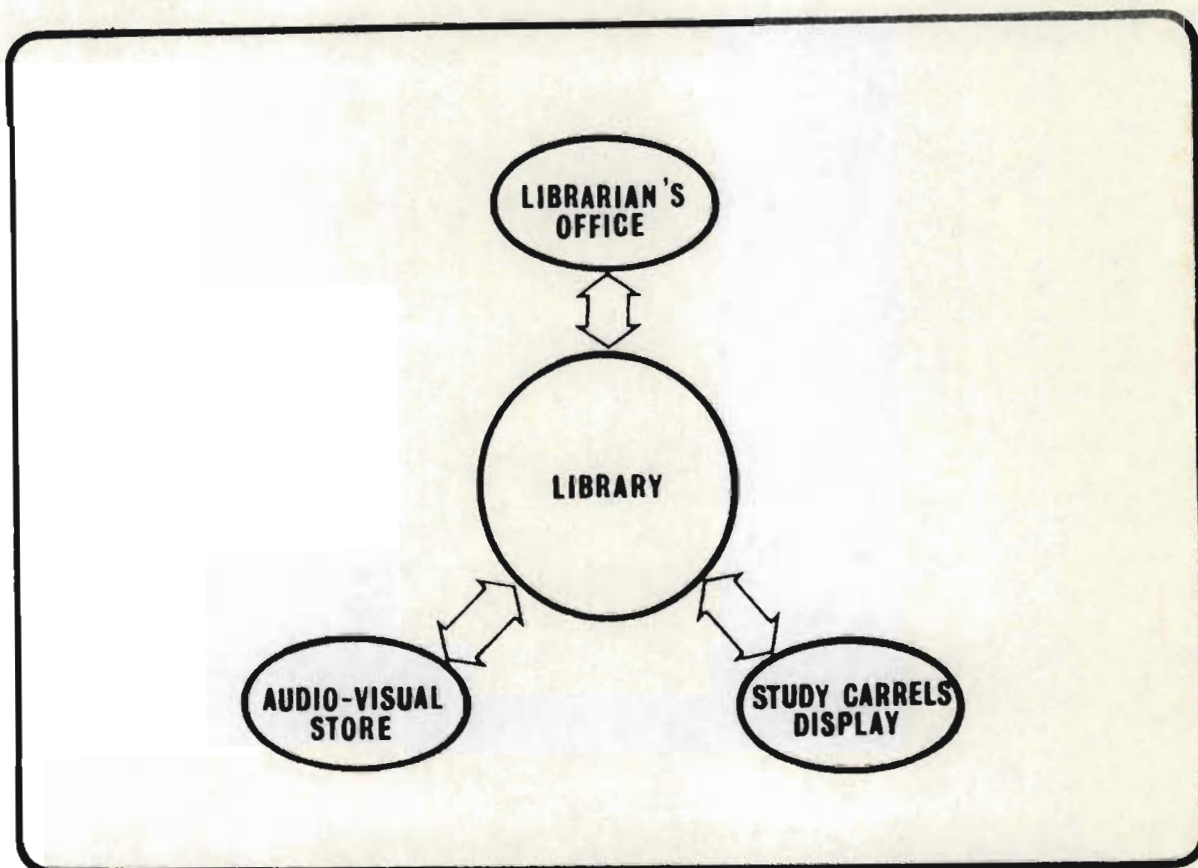
TABLE 8.1 : DISTRIBUTION OF PRIMARY CLASS UNITS IN CHATSWORTH (DURBAN) IN 1977 BY STANDARDS, PERCENTAGEWISE AND RATIOS PER TWENTY- CLASSROOM PRIMARY SCHOOL

Cl./Std.	No. of class units	% of total no. of cl. units	No. of rooms by ratio method
cl. (i)	132	13,21	2,6
cl. (ii)	166	16,62	3,3
std. 1	142	14,21	2,8
2	144	14,41	2,9
3	153	15,32	3,1
4	138	13,81	2,8
5	124	12,42	2,5
Total	999	100,00	20,00

From/

From this survey it is evident that the ratio of grades classrooms to general classrooms in a standard primary school needs to be reviewed because of a changing pattern in the distribution of pupils according to age groups. The DIA presently provides 8 grades classrooms for pupils in class (i) and class (ii) only. From a study of Table 8.1, it is recommended that grades classrooms with suitable furniture for different age groups be provided for all pupils in phase one. For this purpose, it is recommended that 9 grades classrooms, 9 general classrooms and specialist rooms as contained in Table 6.1 be provided in primary schools. In the light of the proposed staff-ration, it is further recommended that an average 750-pupil primary school be provided with 23 classrooms, about 7 practical areas and approximately 9 to 14 quiet areas, with the ratio of grades classrooms to general classrooms being increased proportionately.<sup>(20)</sup> In any school plant the resources centre is the nerve of the pedagogical activities and there must be easy access to it, both from the administrative centre and the classrooms, to facilitate the movement of pupils and teachers to and from this centre. The resources centre consists of the library, the librarian's office/workroom, an audio-visual store room and an area for study carrels and display.<sup>(21)</sup> The writer proposes the following relationship of spaces in the resources centres for Indian schools as illustrated in Figure 8.8 (Page 413).

FIGURE 8.8 : RELATIONSHIP OF SPACES IN THE RESOURCES CENTRE



The library provides space for book storage, book issue, private study and reading. An open area must be large enough to seat 40 pupils or more. A reference section is essential, and provision should be made for a card index system and an issue counter which controls the exit. The librarian's office may also serve as a work room where books can be catalogued and repaired. The study carrels/display area may take the form of a small group room. A conduit may be run along the rear of the carrels units to allow for the provision of power outlets

to supply audio-visual equipment. With the increasing recognition of the importance of all types of audio-visual material, better co-ordination can be achieved by combining the administration of these with the function of the library. Furthermore, the open display of materials encourages greater usage whereas closed drawers and boxes have the opposite effect. Further, the language laboratories could be effectively used to learn both the official languages and vernacular languages. The resources centre in an Indian school can be the storehouse for materials, displaying both Western and Oriental cultures. The best from each culture can then be transmitted by the school in that particular community. The writer proposes that every existing school should have a resources centre as a high priority.

In *high schools* there is a need for additional typing rooms in view of the increased demands made by the extension of the practical stream to standard 10 in 1979. Other facilities needed for this group of pupils merit consideration, for example, additional workshops and technical drawing rooms. In order to promote the peripatetic system of class organization effectively in a high school, the writer strongly recommends that a locker system be provided to cater for every pupil. These lockers can be decentralized and be provided in halls, gymnasias and cloakrooms in order to save floor spaces. Further,

the/

the laboratories, science classrooms and lecture theatre in a high school should form a science complex and, similarly, other separate complexes for social studies, commercial studies and aesthetic studies (music/art/drama) should be considered in the planning of new schools.

Taking into consideration the cost of providing a school plant, the writer recommends that, for aesthetic reasons, the *roofs* of school-buildings should be either tiled or coloured asbestos, suitable for the local environment. A school has status value in the Indian community, and the writer believes that the school building should rise above the local milieu. Presently the majority of Indian schools are provided with plain asbestos roofing which discolours, and eventually turns black in patches, creating a poor image in the eyes of the local community.

The writer recommends that the floor spaces of *general classrooms* be not reduced despite a more liberal staff-ration with effect from 1979 and the general pupil-loading of classrooms being reduced. With the present loading of classrooms, the pupils in front rows sit so close to the chalkboard that the vision diagonally for pupils at extreme ends is unsatisfactory. Folding-type chalkboards attached to existing fixed chalkboards can provide flexible additional space for prepared drawings and possible framework of lesson.

While the DIA makes provision for *school halls* in the planning of new schools, these halls are not expected to be built in the near future because of priorities in the building programme and the limited availability of funds. However, the writer believes that school halls are essential teaching spaces and an integral part of a school. A school hall is not merely for a short assembly each morning; it is vital for everyday cultural activities of the school concerned. It is the hub of the school, generating a sense of corporate life, setting the tone and providing opportunities for self-expression and development of personality. It could be used as a teaching space for speech training, dramatisation of Western and Oriental plays, debates, lectures, play readings and other cultural activities. (22) It is, therefore, recommended that school halls be made standard provision with immediate effect.

A *school gymnasium* is an important consideration for a school, yet this is lacking even in forward planning for Indian schools in terms of present policy. The writer believes that physical education has to prepare the youth of the country through successive stages to develop physically and to master skills in order to enjoy fully the use of leisure time. Indoor teaching space for physical education has international appeal. The advantages of gymnasia are numerous: a planned scheme for the year does not have to depend on the clemency of the weather; time is not lost at the beginning and end of a day when

apparati are brought from and returned to the store; cooler controlled temperature indoors is an incentive to produce the best; it is easier to create and maintain an atmosphere of good pupil-teacher relationship; it allows for many indoor games and gymnastics. Where schools have limited sportsfields, indoor games in gymnasia can become a useful supplement to outdoor games.<sup>(23)</sup> It is proposed that gymnasia be made standard provisions for schools.

The writer also recommends that demountable-type prefabricated classrooms or terrapin buildings be provided in pressure-point areas where a large number of platoon classes operate. When these *temporary classrooms* are replaced by permanent buildings, the temporary classrooms can be transferred to new pressure-point areas. Further, with a more liberal staff-ration, it is estimated that it will be a decade or more (unless more funds are available for the School Building Programme) before adequate accommodation can be provided in all areas. These temporary classrooms can be made more flexible by constructing movable-type dividing walls so that they can also be used as specialist rooms. Where there is an urgency for the provision of school accommodation in an area, consideration can be given to the construction of *heavy industrialized buildings* which can look attractive with their brightly coloured panels. The use of pre-cast concrete walls can save considerable amount of time and cost - and these buildings are of a permanent nature.

However, /

However, the maintenance cost of such buildings is expected to be higher than that of conventional buildings.

The *equipping of classrooms* is based on grouping of pupils according to class groups. In Indian schools one may find an age range of two to three years in a classroom. In many overseas countries, pupils are accommodated in classrooms according to age-groups. Even the age classification does not give a clear indication of the child's level of intellectual, physical and emotional maturity, his abilities and his talents. The writer recommends that class grouping should be such that it will promote the best possible development of individual personality, and the rooms should be suitably furnished with a range of furniture to cater for such differences.

The provision of suitable *sportsfields* for schools is strongly recommended. The present policy of the DIA to provide a sportsfield of  $4180,64\text{m}^2$  (vide Table 6.1) is for the purpose of practising skills and physical education. Many Indian schools have no sportsfields. School fund committees are expected to raise funds to develop sportsfields for soccer and cricket pitches, and athletics tracks. By 1978, at 25 out of a total of 378 Indian schools, tennis courts were built entirely from community efforts. Soccer and cricket are popular games in Indian schools, but the lack of facilities has discouraged the

promotion of rugby, hockey, swimming and to a lesser extent tennis in practically all the schools.<sup>(24)</sup> In certain overseas countries such as England, Norway, New Zealand, France, Australia and Russia, government schools receive financial aid from the authorities for the creation of sports facilities. Active participation in sport forms an extremely important part of the formative educational programme of practically all the White schools in this country for at least two reasons, namely, as recreation and as part of the process of establishing a culture; in these schools, the planning and lay-out of sportsfields are done by experts.<sup>(25)</sup> It would appear that the idea of communal sports grounds for urban schools especially meets with strong approval, and this concept has been successfully implemented in many White areas.<sup>(26)</sup> The NED provides for its schools well-grassed playing fields for both summer and winter games, gymnasias at high schools and physical education shelters at primary schools as well as liberal subsidies for swimming baths, pavilions and tennis-courts.<sup>(27)</sup> The writer recommends that the size of school sites be increased to 4 hectares for primary schools and 10 hectares for high schools so that an adequate number of sports amenities can be provided at a school. It is further recommended that the DIA should review its policy in regard to the provision of sportsfields at schools and be responsible for the levelling and grassing of all playing fields. Further, a Rand-for-Rand subsidy from the DIA is recommended for the

construction of swimming pools, tennis-courts and athletics tracks. Where there is a lack of adequate sports amenities at a school, the DIA should liaise with the local authorities with a view to using communal grounds, or, where practicable, consider planning a sports complex to be used by a cluster of schools.

There has been, in the recent past, a revival by the Indian communities of awareness of their identities, their rich cultural heritage and the need to retain their forms of worship. Muslim pupils take leave from schools on Fridays to worship in mosques, and this often results in organisational problems in schools. The other Indian sub-groups find it convenient to perform their religious duties outside normal school hours. It is therefore proposed that the DIA plans *prayer rooms* at schools in consultation with the local communities in order to meet their cultural needs. Only then can it be said that the school is truly the transmitter of its local culture.

#### 8.2.4 The need to review norms for the physical planning of schools

The norms that are presently applied by the DIA in the planning of new schools were last reviewed in 1973.<sup>(28)</sup> These norms were based on the 1970 census figures. In Chapter VII the writer has shown that these census figures in respect of Indians were unreliable. It was evident that the pupil

population, as indicated in the 1970 census figures, was an underestimate of the actual pupil enrolments in schools under the control of the DIA (that is, apart from those children of school-going age who were not at school). Further, in 1973, the majority of Indian pupils in the Cape were attending Coloured schools, but this position has now been reversed. A clearer growth pattern in school populations in the Cape is now emerging. It is recommended that pupil projections be based on Indian populations for the different provinces for reasons discussed in the previous chapter, and that the norms be reviewed on account of more accurate figures being now available. Further, these norms should be reviewed in the light of cultural differences that exist between the more important sub-groups among Indians, based on, in particular, the distribution and concentration of Hindus, Muslims and Christians throughout the country. In this way the growth pattern and the needs of the local community may determine the demand for school accommodation by special educational planning.

The approved norms in respect of growth rates of Indian populations are 3,1% p.a. for Natal and 1,5% p.a. for the Transvaal. These norms are used to determine the future demand for school accommodation.<sup>(29)</sup> It is evident from Table 7.1 that the growth rate pattern for the Indian population is changing for several reasons. It is recommended that these norms for growth rates be reviewed, and a changing factor be introduced to accommodate

the decreasing growth rate trend. Further, apart from the need to apply different norms for each province, there is a need to apply a more liberal norm for sparsely populated rural areas. This entails, inter alia, a review of floor space per pupil and the desirability for smaller classrooms and specialist rooms in these areas.

The norm applied by the DIA to determine the demand for classrooms in the different areas is a loading of 36 pupils per classroom in primary schools and 32 pupils per classroom in high schools. As from January 1979 the implementation of a revised staff-ration will provide for a more liberal pupil-teacher ratio and, consequently, a lighter loading of classrooms. (30

Based on more liberal norms for classroom loading, the future provision of school accommodation needs to be reviewed. It is recommended that the norms for classroom loading in primary and high schools be reviewed, and that separate norms be applicable for each of the four phases in the ordinary stream and for the pupils in the practical stream. In this way a more meaningful number of school sites for each area can be determined, identified and acquired before such an area is fully developed. The proposed norms based on the average loading of teaching spaces and the revised staff-ration are 25 pupils for phase 1, 28 pupils for phase 2; 24 pupils for phase 3; 18 pupils for phase 4 and 20 pupils for the practical stream. This proposal takes into consideration both classrooms and specialist rooms

as teaching spaces when determining the demand for schools in an area.

The Departmental norm applicable for the acquisition of school sites is 2 to 3,2 hectares for primary schools and 3,2 to 6 hectares for high schools, depending on the topography of the proposed sites. The concentration of the Indian population is in the Greater Durban-Pinetown-Pietermaritzburg complex in Natal and the Witwatersrand area in the Transvaal. In the former area the available sites are minimal in area and of hilly terrain and, often, the number of sites required are unavailable, especially in developed areas. In the Transvaal the land is generally flat and sites are more in keeping with the approved norms. Thus, in Natal, it is difficult to develop existing school sites for additional accommodation without considering the demolition of existing accommodation or converting existing accommodation nearest to the standard accommodation required. Further, the DIA presently provides a sportsfield for purposes of physical education and instruction in certain sports only. <sup>(31)</sup> Sport forms an extremely important part of the formative educational programme for a child. It is recommended that the norms for school sites be reviewed in order to provide for future planning of school accommodation, and at least two hectares of suitable land ought to be reserved for the development of the different codes of sports. For this purpose 3,2 hectares for primary schools and 6 hectares for high schools are recommended as

*minimum/*

*minimum* areas of suitable land for school sites rather than as the maximum areas as in the present norms.

The PWD applies a norm for the provision of toilets for pupils based on the maximum number of boys and girls to be enrolled at a school, and these toilets are of the Western-type. Of late, on account of a keen desire to promote their cultural needs, the Muslims in certain areas have made strong representations to the DIA to provide Oriental-type toilets on account of their religious beliefs.<sup>(32)</sup> The Muslims constituted just under 20% of the Indian population in 1970, and in many areas of the Transvaal the Indian population is predominantly Muslim. Since the Muslim pupils will also be averse to the use of the Western-type urinals, it is recommended that the norms for the provision of toilets at schools be reviewed so that the number of Oriental-type toilets provided at a school is proportionate to the number of Muslims in the Indian community in a specific area.

The above-mentioned norms are recommended for review immediately in order to determine the future needs of the Indian community in the planning and provision of school accommodation more realistically.

#### 8.2.5 The use of the school as a community centre

The school is an integral part of the community. Land and

building/

building construction costs can be minimised through intensive or repeated use of a building by staggering the time-table for interested groups. Schools could be used as social and communication facilities, communal administrative offices, and eventually for other public services. Many of these uses would be realized if there is an improvement in the relationship of schools to environment. The use of the school as a community is being promoted on an increasing scale in the USA and Great Britain.<sup>(33)</sup> The more open the school, the more real and more vital will be the school as a community resource centre. In Europe, controlled use of sophisticated indoor multi-functional buildings by the community is commonplace.<sup>(34)</sup>

With approximately 200 school days, Indian schools are put to good use for 55% of the year. The DIA grants permission conditionally, on receipt of applications, for the limited use of classrooms at a school to a few organisations. Such rooms are used for teaching of Indian languages, religious instruction, adult classes and meetings held by education committees and school fund committees.<sup>(35)</sup> The writer recommends a more economical and effective utilization of amenities at schools, subject to there being an effective control of such use. It is further proposed that the community should contribute to the maintenance costs, improvement of facilities and security of the buildings. In particular, greater use is envisaged of gymnasias and halls (when provided), tennis-

courts,

courts, swimming-baths and other sports amenities, libraries (communal libraries are sadly lacking in most Indian areas), typing rooms, language laboratories, workshops for apprentices and domestic science centres for mothers. The pupil in a school must be educated to a mature cultural level to enable him to assume a responsible role in his community. The writer believes there should evolve a well-defined societal relationship between school and parents, and school and community. The school is the hub of the community, and the focal point of society. The school is vitalised and supported by society, and creates the society of tomorrow.

#### 8.2.6 Pupil furniture for schools

School furniture and equipment are regarded as basic to the educational process and to school building design. In order to meet the demands of differentiated education, the school furniture must be so designed to provide for the hour-by-hour and day-to-day flexibility required for different teaching/learning situations, while the building provides for the separation of activity types and different group sizes. It is recommended that furniture for pupils be anthropometrically designed, and the dimensions and shapes be such that they can be easily grouped into a variety of configurations. Further the polypropylene chairs, carrying the SABS approval, are more comfortable and easily stackable than the conventional wooden /

masonite/

masonite chairs with tubular steel frames which are presently used by the DIA. Furniture may be loose like desks and chairs, mobile like trolleys for workshops and laboratories or fixed like work benches.<sup>(36)</sup> Each classroom in an Indian school is furnished according to the standard for which it is being used. However, pupils vary physically, and the writer recommends that a classroom be furnished with furniture of varying heights to suit the children in the room. A degree of standardisation in pupil furniture can be achieved by using economical anatomical groupings. In Indian high schools only one size of single desk with chair is provided for pupils from standard 5 to standard 10. Experience shows that a range of about 50 cm in heights of pupils exists in these two standards. Hence, it is recommended that pupils in high schools be provided with seating furniture for at least two categories of pupils.

Further, it is recommended that special attention be paid to the appearance of furniture supplied to pupils. Selection of colour and finish of furniture will enhance the standards of natural lighting in classrooms. Good taste and appreciation of good design should not be sacrificed for the sake of economy; rather, standardisation should dictate cost control. Simplicity and good craftsmanship are both possible, even with standardisation.<sup>(37)</sup> For example, the tops of dual desks in Indian education are fitted with hinges and compressed boards. Maintenance costs are high in respect of replacing such desk-lids

through wear because the hinges detach easily from the compressed boards, which are porous in nature. Often the whole desk-lid needs to be replaced. The desk lid should be made of solid but economical wood such as South African pine.

In science lecture theatres in Indian high schools, the pupils are seated on fixed benches at fixed writing desks. The smaller pupils in high schools find the unadjustable distance between seat and desk uncomfortable. It is recommended that the writing desks be left fixed in tier form, but that the seats be loose adjustable chairs to cater for pupils of different sizes.

There are many State-aided schools in Indian education with outdated pupil furniture. There are still many schools which accommodate 5 to 6 pupils on long benches at long desks. Further, there are still many State-aided schools which have not donated their furniture to the State; hence the DIA will not replace their unsatisfactory furniture. It is evident that pupils in such State-aided schools will be at a disadvantage through no fault of their own. Where feasible, the DIA is replacing unsatisfactory furniture at existing schools in phases, on account of limited funds being available for this purpose. It is recommended that pupil furniture should be comfortable and flexible for varying group arrangements, and furniture at all existing schools should be

brought/

brought up to standard.

Pupils in platoon classes are seated in the open air on benches which accommodate eight pupils each. The teacher uses a small chalkboard with easels. The pupils are at a disadvantage without a classroom. It is recommended that the pupils in these platoon classes should be equipped with desks and chairs as per standard list of furniture and equipment for normal classes in a primary school. They will then not be handicapped when writing during lessons. This furniture will not become redundant when the number of pupils in platoon classes falls because such excess furniture can be used in new schools or schools requiring additional furniture on account of increased pupil enrolments or additional accommodation becoming available.

#### 8.2.7 Take over of State-aided schools by the State

Since transfer of control of education to the DIA, the number of State-aided Indian schools has dwindled by 35,35% from 215 schools in 1966 to 139 schools in 1978 (vide Table 6.3). However, the contribution of the Indian community in the provision of urgent school accommodation was no mean effort on the part of one of the poorer race groups in this country. Moreover, by present standards, the buildings of State-aided schools cannot compare favourably with the quality and types of teaching spaces found in State schools. In terms of the

Indians Education Act, 1965, the State has accepted responsibility for the provision of school accommodation for Indian pupils. Hence, no new State-aided schools were built since 1965, nor were any significant number of specialist rooms added to existing State-aided schools. Further, the Grantees found the maintenance grants paid by the DIA for State-aided schools totally inadequate. The Natal Indian Grantees' Association made several representations to the DIA in an effort to get the maintenance grants payable to such schools increased. There was a significant increase in the maintenance grant from R4 to R7,50 per pupil per annum with effect from 1 April 1977, but this grant is still totally inadequate for small State-aided schools with enrolments of under 100 pupils each, especially if they are in a poor condition. Often, in such schools the annual wages for caretakers need to be supplemented from private resources. (38)

In terms of the Indians Education Act, 1965, provision is made for the take-over of State-aided schools by the State, with adequate compensation for the proprietors, if they so desire. Further, in terms of this Act, the DIA may not close a State-aided school. Thus the Grantee, after consultation of the trustees concerned, may serve notice on the DIA of his decision to close such a school. The DIA does not readily purchase State-aided schools on account of the limited funds available for such purposes. Further, in terms of its present

policy, /

policy, the DIA can take over State-aided schools in unproclaimed and controlled areas only on a hired basis. (39)

In order to bring the facilities at State-aided schools on a par with State schools and thus ensure that the quality of education in such schools is not inferior, the writer recommends that every effort and initiative be taken by the State to negotiate with the proprietors with a view to taking-over the State-aided schools immediately and programming the essential facilities to bring them up to standard. Where problems are encountered in the take over of such schools, it is further recommended that the DIA should increase its building subsidy from 50% to 90% to Grantees in order to assist State-aided schools to be brought up to standard, and thus resolve the accommodation problems in the areas concerned.

#### 8.2.8 Closure of smaller schools

In the period 1968 to 1978, 75 schools closed under the control of the DIA (vide Table 6.4). Of these schools, 41 had enrolments of under 100 pupils at the time of closure. As at March 1978 there were 16 existing schools with total pupil enrolments of under 50 each. In addition, there were 37 schools (22 in Natal and 9 in the Transvaal) with pupil enrolments between 50 and 100 (vide Table 6.5). Further, there were 10 high schools, mainly in the Transvaal, with total pupil

enrolments/

enrolments of under 150 pupils each in standard 6 to standard 10. The general experience in small schools is that there are combined classes, and in schools with a total of under 50 pupils, the principal is expected to be responsible for administrative work and also teach three standards or so in a combined class. Further, high schools with small pupil enrolments in standard 8 offer a limited number of subjects and subject-sets. In such small schools there is restricted competition for pupils academically, in the pursuit of sports and in cultural activities such as debates and the promotion of vernacular/religious education for the different sub-groups. The physical amenities are generally limited and the small staff is often not suitably qualified to meet the diverse needs of the individual pupils. It is recommended that a more generous staff-ration be applicable to small schools so that pupils are not adversely affected by the demands of differentiated education. (40)

In the Federal Republic of Germany, the so-called country school reform has proved particularly useful. In that country the objective is to do away with the small village schools (often with only one or two classes) and form "central schools" (mittelpunktschulen). In this way at least one class for every age-group is realised. (41)

It is recommended that the DIA considers planning large schools

both for economical reasons and for upholding the quality of education. In this regard the smaller schools should be closed, and the pupils from these areas should be transported at the DIA's expense to the next nearest suitable school.

Where it is not practical to use the transport scheme, it is proposed that suitable hostels be provided as annexes to large schools to serve sparsely populated areas. In this way standards of education for pupils in the different classes are ensured by organising at least one class unit for each standard.

#### 8.2.9 Provision of nursery schools and special schools by the State

The Indians Education Act, 1965, does not provide for the establishment of State *nursery schools*. However, this Act does provide for the award by the State, subject to certain conditions, of "grants-in-aid" or subsidies and loans to the governing bodies of private nursery schools. Thus, by 1978, pre-school education for Indians was still a form of social service. A nursery school (also called pre-primary school) is an educational centre which caters for the developmental needs of "infants" or children of three years or over, but below the age of compulsory school attendance. This would imply, at the present time, that there is a need for nursery schools to accommodate about 50 000 Indian pupils in the above-mentioned age group (vide Tables 4.7, 4.8 and 4.9

for class (i) intake). The Pretorius Commission of 1951 stated unequivocally that nursery school education in the RSA should be State responsibility and not private enterprise. In terms of the National Education Policy Act of 1967, the Minister of National Education announced in Parliament, in 1969, that nursery school education for Whites in the RSA was to become the responsibility of provincial administrations. (42)

The writer recommends that the DIA should be responsible for the provision of nursery school accommodation for Indian pupils, and that the Indians Education Act, 1965, be amended suitably to make adequate provision for control and establishment of nursery schools by the DIA. It is further recommended that, in view of the present shortages in primary and high school accommodation in Indian education, the DIA builds, on a priority basis, nursery schools for culturally-deprived communities which can ill-afford to construct such schools at their own cost, and grants 90% building subsidies for the building of State-aided nursery schools; elsewhere, school sites should become available gratis to the community or on a heavily State-subsidised basis, and the DIA should be fully responsible for the control and administration of such State-aided nursery schools. On the importance of nursery school education, the then Director of Education in Natal, Mr P.R.T. Nel, said in 1971: "One third of all children going to primary school for the first time are unable to cope with the education they

receive there. This is largely because they are deprived of a kind of developmental stimulation at home. A child may come from a good home but unless he is stimulated by talking and doing things with his parents he may find, when he comes to school, he suffers from being deprived of these things ..... It is worse of course when both parents are working. For children like these the nursery school was particularly useful."<sup>(43)</sup> Socio-economic factors will probably determine the priority areas where nursery schools should be established for Indian children.

The establishment of both State and State-subsidised *special schools* for Whites was provided in terms of the Educational Services Amendment Act, 1969 (Act No. 24 of 1969). By 1976, there were 27 special schools under the control of the Department of National Education. These schools were classified as schools for children with sensory handicaps and those with neurological handicaps.<sup>(44)</sup> The Indians Education Act, 1965, makes provision for special education for handicapped children. Adjustment classes for educable mentally retarded children are provided by the DIA in specially designed and equipped classrooms in State primary schools. In terms of Act No. 63 of 1974, the DIA has assumed responsibility for trainable mentally retarded children. The DIA has taken the first step in providing school clinics by establishing one in 1977. At such clinics, the Psychological Services of the DIA undertakes

to diagnose and treat emotional, social and study problems. By 1978, substantial subsidies were granted to privately-run training centres at Golden Gateway Training Centre (Durban), Lotus Haven Training Centre (Pietermaritzburg) and Jiswa Training Centre (Johannesburg). Further, special schools for the blind (New Horizon School, Pietermaritzburg), for the deaf (Durban School for Indian Deaf) and for cerebral palsied children (Spes Nova School, Durban) are all private institutions receiving State subsidies. Many of these private institutions are housed in temporary buildings on hire. It is evident that money is required for capital expenditure for building of such special schools, and funds are not forthcoming from the Indian community as hitherto, now that the State has assumed responsibility for special education. Further, these private management committees find the administration of such schools very demanding and time-consuming on a part-time basis. (45)

The writer recommends that the State should relieve welfare organisations of the responsibilities of special schools, if the latter so desire. Since the temporary buildings are not especially designed for handicapped children, it is recommended that the DIA plans permanent special schools. No provision is made in Indian education for adjustment classes in high schools. This is a serious deficiency because the educable

mentally/

mentally retarded children, at the end of standard 5 in primary schools, generally leave school or go back to a normal class still maladjusted. With compulsory school attendance up to age 15, this deficiency needs to be remedied shortly. As a temporary measure, consideration should be given to the establishment of adjustment classes at high schools, and school clinics on a decentralized basis. There is also a need for special schools to accommodate post-poliomyelitis cases, epileptic children, children with infantile autism or children crippled through congenital deformity, curvature of the spine or amputation of a limb.

It is also proposed that more trade schools and technical high schools be provided on a decentralized basis. In the light of rapid technological development and the need to expand Advanced Technical Education, Clairwood Technical High School opened in 1977 and, by 1978, it had an optimum enrolment of 825 pupils following the technical directions of study.<sup>(46)</sup> It is evident that Indian pupils are showing great enthusiasm for technological studies. On account of employment opportunities now available to Indians, it is recommended that the DIA should plan a vocationally-inclined trade school for ordinary stream pupils, as well as decentralize technical high schools.

#### 8.2.10 Institutions for Teacher Education

In order to apply the revised staff-ration<sup>(47)</sup> for Indian education with effect from January 1979 successfully, it is necessary that adequate school accommodation, together with an adequate supply of suitably qualified teachers, are readily available. It is, therefore, essential that constructive planning is done in order to meet the future demands adequately in these two areas.

Teacher education for Indians is offered at the University of Durban-Westville, the Springfield College of Education and the Transvaal College of Education. The revised staff-ration for 1979 is expected to increase the demand for teachers by 40% in primary schools and by 35% in high schools over the next five years. It is therefore, necessary to increase the intake of students at these institutions for teacher education. However, the holding-power of these institutions is reaching saturation point. As at March 1978, there were 763 students enrolled at the Springfield College of Education, 194 students at the Transvaal College of Education and 813 students at the University of Durban-Westville, pursuing teacher education in the different years of study, while their respective optimum enrolments are 800 students, 250 students and 1 000 students (including extra-mural students).<sup>(48)</sup> It is, therefore, recommended that a feasibility study should be carried out by

the/

the Education Planning Section of the DIA in order to ascertain whether additional accommodation should be provided at the existing institutions, or whether another institution ought to be built to meet the future demand for teachers. It is further recommended that additional accommodation for teacher education should take into consideration the need to extend the teacher education diploma from a minimum three-year course to a minimum four-year course and, thus, increase the holding power of these institutions by approximately a third of its present supply. Moreover, an in-service training programme for teachers on a full-time basis, with salaries fully paid, on a broader and more regular basis is also recommended in order to orientate the present teachers on the latest teaching methods and trends in education.<sup>(49)</sup> Thus, the provision of additional accommodation for teacher education is not expected to result in fruitless expenditure for the foreseeable future in Indian education.

8.2.11 A 45-15 Plan to solve the platoon school system

One method of solving the accommodation problem in Indian education is to institute or increase the number of platoon classes at a school. The demerits of the platoon school system, whereby pupils learn outside the classrooms in unsatisfactory conditions, is fully discussed in Chapter VI. Instead of subjecting the excess pupils to a platoon school system, the writer proposes that a 45-15 plan be seriously considered and

applied/

applied in Indian education until the accommodation problem is resolved. This approach to a school accommodation problem has been applied with a great measure of success in the Arizona District of the USA, which also experienced pressure for accommodation in the early 1970's.<sup>(50)</sup> The 45-15 plan means that pupils attend school for nine weeks continuously (45 school days) followed by three weeks of holiday (15 school days). This plan is repeated four times a year, that is, for 48 weeks. The remaining four weeks in the year are used as a common holiday for all in the summer when renovations to school buildings are carried out. It would be observed that the proposed plan provides for 180 school days as compared with about 200 school days presently obtaining in Indian education. This plan can be modified slightly for Indian education by extending the school hours per day for 180 days, or one can consider the implementation of the proposed plan in toto as it far outweighs the pedagogical needs of the child in a platoon class. Further, with the 45-15 plan, only three-quarters of a potential pupil population is in school at any one time (excluding week-ends and public holidays) while the remaining quarter is on a three week's vacation. At the end of each three weeks another quarter of the school population takes vacation on a rotation basis. By implementing this plan, the population of a school can be increased by a third of its normal load. The school plant is being utilized more economically, by being open all the year round, although the facilities are taxed and

maintenance/

maintenance costs of building will rise.

Thus, by adopting the proposed plan even as a temporary measure, it would be possible to eliminate the platoon classes forthwith by utilizing existing school accommodation. The 1978 platoon school population of 11 579 pupils<sup>(51)</sup> can be eliminated by using facilities at about 60 schools to the maximum. Where practical, consideration should be given to using State schools to the optimum because the buildings at these schools are comparatively more substantial than those at State-aided schools, and will be able to withstand a greater degree of wear and tear on the buildings. This principle can also be applied in order to decrease the pressure for accommodation arising from the implementation of a more liberal staff-ration.

The main advantages accruing from this proposed plan are that pupils will have full-time use of physical amenities; they will not be subjected to inclement weather or overcrowded conditions in a teaching space; there will be less learning loss (as happens with longer holidays); less fatigue; more flexibility as pupils can go back to school during intersession for remedial work or enrichment classes; attend vernacular/religious instruction and other cultural activities after normal school hours instead of being deprived of these needs by attending platoon classes; more economical use of the school plant is made and there is less chances of vandalism to school buildings. These advantages outweigh the fewer disadvantages such as different groups of pupils being on vacation at different times

except/

except at the end of a school year, and home bases for pupils being changed at the end of each school term.

Since the platoon school system will take longer to be eliminated on account of a revised staff-ration, a more liberal pupil loading of class units, the institution of compulsory education up to age 15 and the extension of the practical course up to standard 10, it is recommended that the DIA should seriously consider implementing the proposed 45-15 plan forthwith in Indian education until the shortages in school accommodation have been overcome. The additional staff, text-books and stationery for increased pupil enrolments will naturally come from the platoon sessions. There will be financial saving through utilization of the same pupil furniture for increased pupil enrolments at schools.

#### 8.2.12 Education Bureau

Presently the Education Planning Section of the DIA undertakes research, on a limited basis, on account of a shortage of staff. There is an urgent need to base educational policy on the results of scientific research. It is essential that there be educational experts, research workers and teachers of a high calibre to advise the DIA on matters pertaining to education. There should also be the clerical statistics staff to provide information for both research and experimentation. Further, it has become increasingly evident that the control and

organisation/

organisation of education can be made effective only if provision is made to meet its requirements through prior scientific planning. In one of the foremost education bureaus in the RSA, namely, the Transvaal Education Bureau, "the trend today is towards the implementation of the results of research rather than towards research and a concern with science for its own sake." (52)

For this purpose it is recommended that the DIA should establish an Education Bureau with computer facilities. This Bureau could be responsible for, inter alia, pupil projections and all statistics, education bulletins and educational journals, research in new teaching methods and school curriculum, feasibility study for school hostel accommodation (there are no hostels in Indian education at the present time), projects in differentiated education, including the need for cluster-type junior secondary schools, determining the demand for technical high schools on a decentralized basis, determining the need for and designing of more specialist rooms at primary and high schools, and streaming. Further, as at March 1978, 32% of high school pupils in Indian schools in the RSA were in the practical stream, and indications are that this percentage will increase with the institution of compulsory education up to age 15 and the extension of the practical course up to standard 10 in 1979. (53)

Moreover, according to an HSRC report, not more than 20% of the pupils in a high school, on the average, ought to be in the

practical/

practical stream.<sup>(54)</sup> The need to arrest this high incidence of pupils in the practical stream in terms of differentiated education requires the serious attention of education planners. The writer believes that consideration should also be given to streaming into ordinary and practical groups at the end of the third phase instead of at the end of the std. 5 examination as is presently the position. In terms of this proposal, pupils are afforded a better opportunity through maturation and environmental experiences before being streamed. In certain overseas countries such as Great Britain, greater differentiation in school curriculum is afforded at 12 or 13 years of age. If this proposal of streaming at a later stage is acceptable, the future demand for classrooms and specialist rooms will need to be reviewed for pupils in both streams.

It is evident that an education department can be alive to changes if it has a staff fully engaged in research in order to advise the Director of Education on future trends in education. In the absence of a research bureau, the DIA is dependent on the research findings of the CSIR, the NBRI and the HSRC for planning of Indian schools.<sup>(55)</sup> The writer recommends that an Education Bureau be established in the DIA, Division of Education, under the control of the Deputy-Director of Planning, especially to stimulate research in the area of school buildings for Indian education. It is essential for the DIA to be more directly

involved/

involved with researching and planning of schools to meet the future needs of the Indian community. Such a Bureau with an adequate number of suitable staff should be established as soon as possible in order to provide a basis for consistent planning of Indian education for the future. In the interests of our youth it is important that education should remain meaningful in terms of the enduring cultural values that our society has come to accept.

### 8.3 CONCLUSIONS

The DIA has made significant progress in the provision of school accommodation for Indians in order to meet an increasing demand based on natural growth, movement of population in terms of the Group Areas Act, closure of schools and unsatisfactory buildings, the need to eliminate platoon classes and even political pressure in certain areas. This progress can be measured in terms of capital expenditure, the provision of facilities to meet the demands of differentiated education, the improvement in the quality of education and the planning of school accommodation modelled on Western cultural norms. However, the need to bring all existing schools up to standard, especially the State-aided schools, and the desirability to design facilities at schools that will facilitate the transmission of certain Oriental cultural norms still deserve attention.

The writer has made several proposals in the areas of capital

expenditure/

expenditure for the School Building Programme, design and lay-out of school buildings, essential additional school accommodation in both the primary and high schools, norms for the physical planning of schools, pupil furniture, take-over of State-aided schools by the DIA, closure of smaller schools, a plan to eliminate the platoon school system, nursery schools, special schools and the need for an education bureau to promote forward planning. These proposals were made in the light of the cultural needs of the Indian community, the natural factors such as physico-geographic conditions and the distribution of the sub-cultural groups within the Indian community, the structure and function of a contemporary school, the future demand for school accommodation based on pupil projections and the trends in education internationally and locally and the changing growth patterns in the Indian community. It is evident that there is a need to review the basis or norms used for the physical planning of schools and, based on the above-mentioned proposals, revised standard plans for both primary and high schools for the Indian community are recommended. These proposals have been made by the writer in the hope that Indian education will undergo further significant progress in the planning and provision of school accommodation in order to meet the future needs of the Indian community.

In the next and final Chapter IX, the writer summarises the main conclusions stemming from this study. Further, a summary of thirteen recommendations are made as discussed in the preceding Chapter VII and this Chapter VIII. By no means do these recommendations represent the only future needs of the Indian community in the planning and provision of school accommodation.

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## CHAPTER NINE

PROGNOSIS AND RECOMMENDATIONS FOR THE PLANNING AND  
PROVISION OF SCHOOL ACCOMMODATION IN THE LIGHT  
OF PROJECTION TECHNIQUES, PRESENT POLICY  
OF THE DIA AND THE FUTURE NEEDS  
OF THE INDIAN COMMUNITY

### 9.1 INTRODUCTION

The nationalisation of Indian education in terms of the Indians Education Act, 1965, was part of the developmental pattern of the policy of separate development for the different ethnic groups in this country. In terms of the present policy, the development for Indians is parallel to that of the Coloureds. The progress of Indian education in the areas of physical planning of schools and the provision of school accommodation in the period 1966 to 1978 has been phenomenal by any standard. Prior to 1966 the Indian community played a significant role in an attempt to meet a serious shortage in school accommodation. The results of the present research have practical values in that it has revealed that the supply of school accommodation does not meet the present demand, and that it is not likely that this growing demand will be met in the next five years. However, the gap between demand and supply has been narrowing over the years both in

quality/

quality and quantity. Recommendations are being made in the hope that the norms and standards for physical planning of schools will be reviewed by the DIA, and that there will be an adequate supply of school accommodation for Indian pupils in the next decade based on the proposals contained in Chapters VII and VIII of this investigation.

## 9.2 GENERAL CONCLUSIONS

The following are some of the more important conclusions arising from the present investigation:

9.2.1 The physical planning of schools and the provision of school accommodation for Indians in this country compares favourably with certain overseas countries, taking local factors into consideration. In this country, it is perhaps second only to Whites.

In the overseas countries under review, it was found that education was a State responsibility; the schools transmitted the culture of the community they served; education was free and compulsory in Western countries, France and the Federal State of Germany; education was centralised in some countries as for non-Whites in the RSA and the provision of more specialist rooms and specialist teaching was being promoted by education authorities. Differences exist for the different population groups in the RSA in the provision and adequacy

of school accommodation at different levels and, in this regard, the education system for Whites in the RSA, modelled on Western cultural norms, has set the lead for the other race groups in this country. The RSA spends about 16,16% of its income through taxation on education for all race groups as compared with UK where 12,4% of the public expenditure is on educational services.

9.2.2 The schools in Indian education are essentially bearers of Western culture. However, the task of Indian schools is also to transmit certain Oriental cultural norms which affect the life style of Indians in this country in such areas as art, craft, music, dress, study of Indian languages like Arabic, Tamil, Hindi and Telegu and the study of various Oriental religions. There is no provision for places of worship either for Hinduism or the Islamic faith in the school building itself, but temples and mosques may be found in the local environment. Both natural factors and cultural factors have influenced the demand and local realisation of Indian schools in the RSA. The same determining factors and the same ground motive hold good for both Indian society and its education system in the normative development of a particular education system which is controlled by the DIA. Indian schools in this country are bearers of a particular type of culture which is unique when compared with schools for other population groups in the RSA.

9.2.3 The DIA uses norms in the physical planning and local realisation of schools. These norms were established in 1968. On account of the changing patterns in Indian education based on varying growth rates, compulsory education, streaming, subject-sets, facilities and the future demands for the provision of school accommodation based on revised staff-ration, it becomes necessary for the DIA to review these norms. The population growth rates for Indians is reducing on account of various factors such as fertility, mortality, immigration and migration rates which influence population growth and change. The population growth pattern emerging for Indians in the Transvaal is already assuming a character similar to that of Whites in the RSA. The Indians are essentially an urban population group, that is, 86,80% of the total 1970 Indian population resided in urban areas. Further, it has become more economical for the State to provide school accommodation for the Indians in this country.

9.2.4 The total school accommodation is based principally on natural growth because external factors such as immigration has minimal effect on this demand. In 1970 the Indians were the smallest ethnic group, representing only 2,89% of the RSA population. In terms of growth rates, Indians had the third highest rate of the four race groups in 1970 (vide Table 4.1). This growth rate is steadily decreasing, and it is expected

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to be under 2% per annum by 1990 for various factors such as socio-economic factors and cultural factors. The DIA is expected to meet a demand for school accommodation for more than 262 000 pupils by 1985. The largest concentration of Indian pupils in this country is in Natal (86,27% of the total in the RSA in 1978) and, hence, the demand for school accommodation is greatest in this province. This pattern is expected to continue for the predictable future. There are still an estimated 2 000 Indian pupils in the Cape attending Coloured schools. The drop-out rate is particularly high in high schools and, by 1978, only 31,81% of the total number of pupils in standard 6 were in standard 10. It is anticipated that the holding power of schools will improve significantly in the next five years.

9.2.5 There was a serious shortage of school accommodation prior to transfer of control of education to the DIA in 1965. State-aided schools played a significant role in the provision of school accommodation prior to 1965. However, since 1965, the number of State-aided schools dwindled and, by March 1978, there were 139 such schools out of a total of 365 schools under the control of the DIA. In 1966 there were 33 543 pupils in platoon classes because of a shortage of school accommodation. By March 1978 the number of pupils in platoon classes was reduced to 11 579 pupils, representing 5,7% of the total Indian school population under the control of the DIA. Further, the

DIA was responsible for the provision of classroom accommodation and other specialist amenities for an Indian school population which grew by 15,63% in the primary school sector, and by a phenomenal 56,97% in the high school sector during the period 1967 to 1978.

9.2.6 The DIA has made remarkable progress in the provision of school accommodation. The number of specialist rooms in both primary and high schools have been increased, and they compare favourably with other education departments in this country. There has been considerable improvement in design and lay-out of school buildings. The buildings are more compact and yet flexible and utilitarian. The DIA has provided 89 new schools and additions to 135 existing schools at an estimated cost of R67,8 million in the period 1966 to 1978. The DIA is on the threshold of greater progress in this area if one considers that the monetary allocation for the five-year School Building Programme has been increased from R20 million in 1967 to R77 million in 1978, an increase of 285%. The DIA also had to find alternate school accommodation for 75 schools that closed for various reasons in the period 1968 to 1978 (vide Table 6.4). Many small schools have closed and, by March 1978, 59% of the total number of schools had total pupil enrolments of over 400 pupils each. However, not all high schools are adequately equipped with amenities to meet the demands of differentiated education.

- 9.2.7 Indian education and, in particular, school accommodation was influenced by legislations during the 1960's. Apart from the Indians Education Act of 1965, the National Education Policy Act of 1967 influenced the provision of physical amenities in order to meet the demands of differentiated education. The DIA implemented the new system of differentiated education in 1973.
- 9.2.8 Various methods of forecasting and projecting pupil populations have been discussed, including the use of methods employed in futures research and mathematical models. It is intended that other researchers will be prompted to re-examine the problem of pupil projections and that an improved mathematical model will be constructed in order to obtain more reliable projections and, hence, the future demand for school accommodation.
- 9.2.9 In the future planning of school design and school accommodation for Indian pupils, the DIA has to take into consideration such factors as the extension of the practical course to standard 10 in 1979, the implementation of compulsory school education up to age 15 as from January 1979, a more liberal staff-ration which will inevitably decrease the teaching-unit loading. These factors will increase the holding power of schools and, consequently, the demand for future school accommodation will increase. The provision of high school accommodation is expected to gain a higher priority over primary school accommodation

in the next decade in most areas. Further, the DIA is expected to bring all existing schools up to standard so that the maximum number of pupils can benefit from differentiated education. Indian schools have been designed to meet the requirements of the common-core syllabuses of the Joint Matriculation Board of the RSA.

9.2.10 In Indian education the greatest growth rate in the last five years was experienced in the high school sector as is evident from Tables 4.7, 4.8 and 4.9. This trend is expected to continue in the future, admittedly on a decreasing scale, as illustrated by projected pupil populations for the different standards, phases and provinces in Tables 7.5, 7.6 and 7.7. Based on the anticipated growth patterns in school populations and other considerations to meet the future needs of the Indian community in the planning and provision of school accommodation, the writer has made several proposals in the hope that the quality of education generated in these schools will be in keeping with universal trends, and also meeting the needs of a local community with its own particular culture.

### 9.3 RECOMMENDATIONS

The following recommendations are being made by the writer in the light of discussions in Chapter VII and Chapter VIII of this investigation:

9.3.1 In order to ascertain the future demand for school accommodation,

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an eclectic approach is recommended for purposes of projecting pupil populations for short-range, middle-range and long-range planning. In this regard it is proposed that use be made of graphical representations and mathematical models based on demographic studies and special needs obtaining in Indian education. A *mathematical model* for projecting pupil enrolments by standards, phases, primary school population and high school population in the period 1979 to the year 2000 has been constructed for each of the three provinces. The proposed model for Natal pupil projections is illustrated in Appendix A, and similar models for the Transvaal and the Cape are shown in Appendix B and Appendix C respectively. Since not all variables may be controlled effectively when constructing a mathematical model for purposes of projecting pupil enrolments, the writer has explained clearly how the models for the different provinces have been constructed so that other researchers will be prompted to review the construction of the proposed mathematical models for Natal, Transvaal and the Cape.

- 9.3.2 It is recommended that a *greater monetary allocation* for capital expenditure is necessary in Indian education in order to eliminate the platoon classes which were instituted in the late 1950's as a temporary expediency, and on account of the anticipated high growth rate in school populations over the

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next five years especially at the high school level, the expected improvement in the holding power of schools in the light of compulsory education, the extension of the practical stream and improved transport facilities for pupils, the expected increase in the demand for school accommodation by implementing the revised staff-ration, closure of schools, replacement of existing unsatisfactory school accommodation and the need to bring existing primary and high schools up to the latest standards for the successful implementation of differentiated education. An allocation of R110 million for the School Building Programme is recommended for the first five years instead of the present allocation of R77 million and, thereafter, this allocation be increased to R150 million subject to a re-evaluation at the end of every five-year period in the light of all available services and the anticipated co-operation of all government departments and local authorities concerned.

- 9.3.3 It is recommended that the *design and lay-out of school buildings* for Indian education be reviewed, taking into consideration spheres of influence on school design, types of teaching spaces required, space-relationships in primary and high schools, more open teaching spaces as in "open-plan" schools, the need for compact planning especially on restricted school sites, design of buildings moving away from the conventional "rows" of classrooms and the lay-out of classrooms and other teaching spaces in the light of new pedagogical demands in education and the cultural needs of the Indian community.

9.3.4 In the light of technological developments, demands made in terms of differentiated education and the needs of a community which is experiencing changing patterns in education, it is recommended that the *accommodation particulars* for standard primary and high schools be reviewed. In primary schools recommendation are being made for remedial classrooms, group-teaching rooms for gifted children, change-rooms for physical education, guidance-unit, schools to accommodate smaller total enrolments, more grade-classrooms, school halls and school gymnasias. It is recommended that high schools be provided with additional typing rooms, workshops and technical drawing rooms especially for pupils in the practical stream, cloakrooms with lockers to facilitate the peripatetic system of accommodating pupils in a high school, separate complexes for sciences, commercial studies, aesthetic studies and social sciences, school halls, school gymnasias, larger sportsfields, the need for more temporary classrooms and heavy industrialized buildings, prayer-rooms to accommodate the various religious groups and roof-structure of schools.

9.3.5 It is recommended that the *norms* applied by the DIA for the physical planning of school accommodation be reviewed immediately in order to determine future needs more realistically. This recommendation is being made on account of a revised staff-ration, the need for a lighter loading of teaching spaces, the changing growth-rate patterns of school populations, the need for

larger/

larger school sites and the provision of toilets based on enrolments of boys and girls together with the cultural needs of the Indian community such as the provision of Oriental-type toilets for Muslim pupils.

9.3.6 The school is seen as an integral part of the community. For this reason it is recommended that greater use of the school as a *community centre* be fostered. Schools are being used for secular education for about 55% of the days in a year. Apart from the use of the buildings after normal school hours, schools can be utilized more economically for the remaining 45% of the year by the local community for promotion of adult education, vernacular education, religious education and other cultural activities.

9.3.7 It is recommended that *pupil furniture* be anthropometrically designed, more flexible for the different teaching/learning situations, conducive to use by a greater range of pupils with varying physiques, more attractive in colour and design and of a more durable and light material for pupil-handling. It is further recommended that all unsatisfactory furniture at existing schools, especially in the case of State-aided schools, be replaced immediately with a view to promoting a more conducive learning environment for the pupils.

- 9.3.8 The design, lay-out and adequacy of school accommodation at State-aided schools under the control of the DIA generally compares unfavourably with State schools. Further, the standard of maintenance at State-aided schools compares unfavourably with State schools because of the availability of limited funds by the grantees of such schools, including the maintenance grants payable to State-aided schools by the State. For these reasons *the take-over of State-aided schools* is recommended over a period of five years, and these schools should then be brought up to standard so that pupils at existing State-aided schools are not at a disadvantage in the learning situation.
- 9.3.9 Where practical, the *closure of smaller schools* is recommended. In such schools the pupils are handicapped by combined classes based on small pupil enrolments for the different standards, restricted competition for pupils academically, in sports and in cultural activities such as debates and the promotion of vernacular/religious education for the different sub-groups, and the availability of limited physical amenities and suitably qualified staff. Where feasible pupils for such schools should be transported to the next nearest school, or hostel accommodation should be provided to serve sparsely populated areas.
- 9.3.10 Presently nursery schools and special schools serve the Indian community on a limited basis, and these registered schools receive subsidies from the State. Universal trends in education

indicate/

indicate that these schools serve a very essential need of the community, and these services are State responsibilities. It is recommended that the DIA provides *State nursery schools and State special schools* for the Indian community. In view of the present pressure for normal school accommodation and the need for an increased monetary allocation in capital expenditure, such State schools should be planned on a priority basis, taking into consideration such factors as culturally-deprived local communities. Where State-aided schools are feasible, like special schools, the registered nursery schools should be given 90% building subsidies; the school sites should be provided by the local authorities gratis or on a State-subsidised basis, and the administration and control of such schools be vested in the DIA.

- 9.3.11 The *institutions for teacher education*, namely, the Springfield College of Education, the Transvaal College of Education and the University of Durban-Westville are reaching optimum loading for students pursuing teacher education. It is recommended that additions to existing institutions or another institution for teacher education be planned to increase the intake of students arising from the more liberal staff-ration with effect from 1979; the staff-ration has implications for more school accommodation and a greater demand for teachers. Further, it is recommended that additional accommodation for teacher education should take into consideration the extension

of the minimum three-year diploma to a minimum four-year diploma in teacher education, and to provide for in-service training on a full-time basis, and on a broader and more regular basis. It is, therefore, essential that additional accommodation be planned for students pursuing teacher education.

9.3.12 The platoon school system is undesirable on account of the pedagogical demands made on the child by a school. Further, the revised staff-ration, compulsory education up to age 15, extension of the practical course, high growth rate in the high school sector and other factors will influence the rate at which the platoon school population will be diminished. Until the platoon school system is eliminated, it is recommended that a 45-15 plan (as discussed in Chapter VIII) to eliminate this system be instituted in Indian education forthwith. The merits of the proposed plan far outweigh the demerits.

9.3.13 An Education Bureau with computer facilities is recommended for Indian education so that the educational policy for the DIA may be based on the results of scientific research. This Bureau could be responsible for research in such areas as hostel accommodation, pupil projections, need for satellite junior secondary schools especially in sparsely populated areas, demand for technical high school education, design and lay-out of school buildings, the need to improve and increase the number of specialist facilities at schools and projects in teaching

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methods and school curriculum. Such a Bureau with an adequate number of suitable staff should be established as soon as possible in order to provide a basis for consistent researching and educational planning for the needs of the Indian community.

#### 9.4 CONCLUSION

In this study an effort was made to place future developments in the pedagogical context of the needs of the Indian community in the planning and provision of school accommodation. The first part of this study deals with the principles involved in this research as discussed in Chapter I, a historical, comparative and demographic study of the Indians in the provision of school accommodation as discussed in Chapters II, III and IV. In the second part a basis for the study of school accommodation in the pedagogical context is formulated in Chapter V, and the general principles contained therein are applied to the considerations presently being given by the DIA in the planning and provision of school accommodation as discussed in Chapter VI. In order to meet the future needs of the Indian community, an analytical study of pupil projections for Indians is made in Chapter VII so that the future demand for school accommodation can be ascertained, and certain recommendations are discussed in Chapter VIII. In this the final Chapter IX general conclusions are made and the recommendations made in the previous chapter are summarized.

Finally, some recommendations, including a proposed mathematical model for pupil projections in each province, have been made in the hope that they are important considerations for the future needs of the

Indian/

Indian community viewed against the background of the function of the contemporary school.

Moreover, this study has revealed that further research can be conducted fruitfully in the areas of mathematical models for pupil projections, the design and lay-out of teaching spaces in future schools, the desirability to extend the age-limit for compulsory education, the choice of subject-sets in the school curriculum and implications for physical amenities, the demand for hostel accommodation and the need for satellite junior secondary schools in Indian education.

APPENDIX A : MATHEMATICAL MODEL FOR NATAL PUPIL PROJECTIONS BY STANDARDS  
USING FACTORS (1978-1980) AND CLASS DISTRIBUTION BY PERCENTAGES (1978, 1985-  
2000)

Std.	1978	1979	1980	1978	1985	1990	1995	2000
cl. (i)	1,02	1,03	1,04	11,15	11,36	10,54	9,72	8,90
cl. (ii)	1,03	1,03	1,04	11,21	10,78	10,09	9,42	8,70
std. 1	0,93	0,93	0,94	9,99	9,88	9,29	8,71	8,10
std. 2	0,99	0,99	0,99	9,84	9,42	8,98	8,54	8,10
std. 3	1,03	1,04	1,03	10,27	9,87	9,31	8,76	8,20
std. 4	0,96	0,96	0,96	9,82	8,33	8,42	8,51	8,60
std. 5	0,92	0,95	0,94	8,65	7,70	7,87	8,17	8,60
std. 6	0,96	0,96	0,97	7,89	7,53	7,85	8,03	8,50
std. 7	0,97	0,97	0,99	7,30	6,82	7,41	8,00	8,50
std. 8	0,94	0,95	1,00	6,11	6,29	7,03	7,76	8,20
std. 9	0,77	0,76	0,73	4,72	5,93	6,59	7,24	7,90
std. 10	0,81	0,81	0,79	2,41	4,94	5,19	5,44	5,70
adj. cl.	1,10	1,11	1,12	0,64	1,15	1,43	1,70	2,00
Total	1,05	1,05	1,04	100,00	100,00	100,00	100,00	100,00
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

N.B. (1): Actual factors based on 1977 and 1978 pupil enrolments for Natal.

(2) & (3): Projected factors for different standards based on present trends.

(4): Distribution of actual pupil enrolments by standards according to percentages of total (which is 100%).

(5) - (8): Projected distribution of pupil enrolments by standards according to percentages of total.

APPENDIX B : MATHEMATICAL MODEL FOR TRANSVAAL PUPIL PROJECTIONS BY STANDARDS  
USING FACTORS (1978-1980) AND CLASS DISTRIBUTION BY PERCENTAGES (1978,1985-  
2000)

Std.	1978	1979	1980	1978	1985	1990	1995	2000
cl. (i)	1,06	1,04	1,04	11,89	11,23	10,45	9,67	8,90
(ii)	0,96	0,98	0,98	10,69	10,03	9,59	9,15	8,70
std. 1	1,01	1,00	1,00	10,07	9,42	8,98	8,54	8,10
2	0,99	1,00	1,00	9,67	9,01	8,71	8,41	8,10
3	1,02	1,01	1,01	9,33	8,68	8,52	8,36	8,20
4	1,01	1,00	1,00	9,00	8,34	8,43	8,52	8,60
5	0,97	0,99	0,99	8,61	7,96	8,17	8,38	8,60
6	0,94	0,95	0,97	7,34	8,20	8,29	8,39	8,50
7	0,98	0,98	0,98	7,25	8,11	8,24	8,37	8,50
8	1,05	1,02	1,02	7,39	8,24	8,23	8,22	8,20
9	0,72	0,79	0,79	5,12	5,98	6,62	7,26	7,90
10	0,71	0,71	0,71	3,20	4,06	4,61	5,16	5,70
adj. cl.	0,85	1,18	1,15	0,44	0,74	1,16	1,57	2,00
Total	1,05	1,05	1,05	100,00	100,00	100,00	100,00	100,00
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

N.B. (1): Actual factors based on 1977 and 1978 pupil enrolments for the Transvaal.

(2) & (3): Projected factors for different standards based on present trends.

(4): Distribution of actual pupil enrolments by standards according to percentages of total (which is 100%).

(5) - (8): Projected distribution of pupil enrolments by standards according to percentages of total.

APPENDIX C : MATHEMATICAL MODEL FOR CAPE PUPIL PROJECTIONS BY STANDARDS  
USING FACTORS (1978-1980) AND CLASS DISTRIBUTION BY PERCENTAGES (1978, 1985-  
2000)

Std.	1978	1979	1980	1978	1985	1990	1995	2000
cl. (i)	1,07	1,30	1,16	12,31	11,24	10,45	9,67	8,90
(ii)	1,12	1,30	1,16	12,91	10,02	9,59	9,15	8,70
std. 1	1,13	1,05	1,02	9,21	9,42	8,98	8,54	8,10
2	1,21	1,47	1,21	9,89	9,02	8,71	8,41	8,10
3	1,25	1,40	1,23	10,25	8,68	8,52	8,36	8,20
4	1,33	1,22	1,10	8,29	8,34	8,43	8,52	8,60
5	1,30	1,50	1,17	8,89	7,96	8,17	8,38	8,60
6	1,31	1,36	1,17	8,79	8,20	8,29	8,39	8,50
7	1,25	1,26	1,05	8,64	8,10	8,24	8,37	8,50
8	1,00	1,15	1,10	6,47	8,24	8,23	8,22	8,20
9	0,77	1,79	0,86	3,38	5,98	6,62	7,26	7,90
10	0,77	0,95	0,92	0,97	4,06	4,61	5,16	5,70
adj. cl.	-	-	-*	-	0,74	1,16	1,57	2,00
Total	1,32	1,40	1,22	100,00	100,00	100,00	100,00	100,00
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

N.B. (1): Actual factors based on 1977 and 1978 pupil enrolments for the Cape.

(2) & (3): Projected factors for different standards based on present trends.

(4): Distribution of actual pupil enrolments by standards according to percentages of total (which is 100%).

(5) - (8): Projected distribution of pupil enrolments by standards according to percentages of total.

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\* Pupils in adjustment classes are expected to be enrolled for the first time in 1980 and, hence, no factors for such classes have been determined up to 1980.

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#### 4. FILES AND CORRESPONDENCES

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- 4.2 3/1/3 : Accommodation details and standards
- 4.3 3/3/2 : New Minor Works Programme
- 4.4 3/4/2 : Major Works Programme
- 4.5 4/2/4/2 : Donation of furniture and equipment from State-aided schools to the State
- 4.6 4/9/12/2 : Standard lists of furniture and equipment
- 4.7 19/1/3/2 : Special Education
- 4.8 19/1/7/2 : Teacher Education
- 4.9 19/1/11/2 : Norms for Indian School Population

- 4.10 19/10/2 :: Compulsory School Education
- 4.11 19/15/6/2 :: Courses and syllabuses for primary and high schools
- 4.12 19/36/2 :: Take over of State-aided schools
- 4.13 19/39/6/2 :: Zoning and admission of pupils
- 4.14 19/39/6/3 :: Clairwood High School : Zoning and admission of pupils
- 4.15 19/43/9/2 :: Maintenance grants and subsidies payable to State-aided schools
- 4.16 19/44/2 :: School accommodation particulars
- 4.17 19/44/3 :: Waterton Primary School - accommodation particulars
- 4.18 19/44/7/3/5/1: Phoenix-Newlands area
- 4.19 19/44/10/2 :: Use of school buildings and grounds
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