PHYSICAL DEVELOPMENT POLICIES AND THEIR IMPLEMENTATION IN AHMADU BELLO UNIVERSITY 1962 - 80

BY

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D E C L A R A T I O N

I hereby declare that this thesis is an original work of mine and has never been presented elsewhere for the award of any degree. Also that the references cited as 'footnotes' have been duly acknowledged. Any errors detected therein is entirely my own.

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The above declaration is confirmed

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Date ----------

CERTIFICATION

This thesis entitled 'THE PHYSICAL DEVELOPMENT POLICIES AND THEIR IMPLEMENTATION IN AHMADU BELLO UNIVERSITY 1962-80' by MRS. MOJISOLA S. OLATUNJI meets the regulations governing the award of the degree of Master in Public Administration of Ahmadu Bello University and is approved for its contribution to scientific knowledge and literary presentation.

Chairman, Supervisory Committee — Date

Head, Department of Public Administration — Date

Dean, Postgraduate School — Date

Ahmadu Bello University, Zaria, Mr. F. Jerome of the Development Office, Ahmadu Bello University Zaria and Alhaji Maifada, Estate Department Ahmadu Bello University Zaria.

I am equally grateful to Mr. J.O. Ajayi and Mrs. R.W. Onadiran for the excellent library services rendered

May I finally seize this opportunity to thank my husband Dr. Adegboyega Olatunji and my children - Ifedayo, Ifedotun, Ifedapo and Ifedamola for the patience, understanding and endurance which they remarkably exhibited during the course of this study.

May God bless you all.

A B S T R A C T

It is important to note that there cannot be an academic setting without buildings. This fact was recognized and emphasized in the University Educational policy of the Third National Development Plan which recommended that physical projects in form of buildings should expand with the population increase of students and the staff members.

Taking a case study of Ahmadu Bello University Zaria, the researcher finds that the building requirements of most of the departments have not been met. Some of the problems which the research work has exposed in connection with this include (1) Insufficient funds (from the Nigerian Universities Commission) to carry out the intended capital projects (2) Lack of qualified and experienced contractors and consultants to carry out the contract, (3) Administrative bureaucracy involved in the award of contracts, (4) Forces beyond the control of any one i.e. prevailing bad weather conditions. These problems have an ultimate result of causing delay in the completion of buildings.

In light of the above, the following policy recommendations have been proposed (1) The University should seek other sources of generating revenue without completely depending on the NUC. This it can achieve by consolidating its consultancy services. (2) The University should use the services of qualified consultants from the Faculties of

Engineering and Environmental Design rather than rely-solely on the Estate Engineer who cannot conveniently handle all the projects of the University. (3) The bureaucracy involved in the award of contract should be relaxed to allow for quick administrative action on contract matters. (4) Projects should be timed in such a way that from the beginning to the end, the bad weather periods are eliminated.

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CHAPTER ONE

INTRODUCTION

After Nigeria's Independence in 1960, it became clear that Nigeria had to embark on its own development programmes. It realized that foreign experts were merely introducing their own ideas into Nigeria without necessarily tackling those problems which were fundamental and peculiar to the Nigerian situation. In most cases those ideas were introduced bearing in mind their own selfish motives. It therefore became pertinent for Nigeria to develop its own technology and know-how from within its own people by first of all identifying what its own problems are and then finding out ways of solving them. To achieve this aim, the Federal Government realized that it had to produce its own manpower requirement in conformity with national needs and aspirations.[1]

Though the first and second National Development Plans recognized the importance of university development, no prominance was given to it as can be found in the Third National Development Plan. The Plan established new universities in some of the newly created states while it urged the existing ones to expand by increasing the student/faculty ratio and also by introducing new courses which are relevant to the needs of the state. Inorder to

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1. Federal Government of Nigeria: The Third National Development Plan, 1975-1980, Lagos, Federal Printing Press, 1975, p. 249.

Projects involve separate but interrelated and interdependent activities which must be completed to achieve the objectives for which they are intended.[4]

Planning - In the simplest terms, it is "the identification of short and long term needs and problems relating to a given effort and the identification of resources existing or needed to meet such needs or to solve such problems."[5]

Development - Is usually defined in terms of economic growth, social change and political stability. In economic terms, it is a stage when the country reaches a level where it can be self sustaining economically without outside assistance and through its own efforts secure the benefits of industrial and technological progress.[6] In social terms, development means improving the quality of life of the people by ensuring -

a) an equitable distribution of wealth, that is, ensuring that wealth is not concentrated in the hands of a rich few, while the majority wallow in poverty and hunger;

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4. United Nations Public Administration Division: Development Planning as a framework of Project Analysis in Planning Development Projects, New York, Dowden Hutchinson and Ross Inc. 1977, p. 30.

5. J. Robert Dumouchel, Dictionary of Development Terminology, New York, McGraw-Hill Book Company 1977, p. 78.

6. Louis J. Goodman and Ralph N. Love, Project Planning and Management, An Integrated Approach, London, Pergamon Press, 1980, p. 3.

b) that there is equal employment opportunities for all. In the political sense, it denotes a state of stable government which is not characterized by coups and labour unrests and where majority participate in government.

In essence, development embraces socio-economic and political factors. It denotes the total economic growth of the nation and an improved social life for the people.

Implementation - Is the total, interrelated action that makes possible and facilitates the achievement of the goals set and objectives laid down in a plan.[7]

The University is an example of an institution of higher learning and therefore could be referred to in this thesis as a higher institution.

AIM OF THE STUDY

Development is a dynamic function and that is why countries that are considered to be 'developed' continue to generate new ideas in order to sustain and improve on their socio-economic standing. A nation can successfully move towards improving its economy if the organizations within it make conscious and deliberate attempts towards employing those development strategies which will gear the nation into attaining its goals and objectives.

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7. Saul M. Katz, Guide to Modernizing Administration for National Development, Pittsburgh Graduate School of International Affairs, Pittsburgh 1965 p. 2.

The Universities in Nigeria like all other organizations within the country and elsewhere in the world are contributing in no small measures to the overall development of the nation. In the past, developments have proceeded without taking employment needs of the individual and the nation into consideration when planning courses, but in the third National Development Plan, it appeared that the whole system had been overhauled to take care of those short-comings. The major objectives with regards to education in the third National Development Plan are:-

i) To expand facilities for education aimed at realizing access to education throughout the country.

ii) To reform the content of general education to make it more responsible to the socio-economic needs of the country.

iii) To consolidate and develop the nations system of higher education in response to manpower needs.

iv) To rationalize and strengthen the machinery for educational development in the country.

v) To rationalize the financing of education with a view to making the educational system adequate and more efficient.

vi) To make an impact in the area of technological education so as to meet the growing needs of

the economy.[8]

In summary, the objectives of the third National Development Plan for higher educational institutions are to produce the required high level manpower by deliberately increasing the number of students intake per year and by introducing such courses which are relevant to the fields of industrial and technological development of the nation. Another objective as shown in (i) above is "to expand facilities for education....." meaning that facilities such as buildings (lecture theatres, residential buildings for staff, hostels for students, sport centres, University Health Services, libraries etc), and equipments should be expanded alongside academic programmes. These physical structures are no luxiries in an academic environment but are necessities without which academic progress would be impaired. The researcher therefore feels that physical structures/buildings are important academic requirements and therefore the aim is to look at the problems associated with such physical developments in Ahmadu Bello University from the following angles:

1. Ahmadu Bello University's policy on physical developments.

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8. Federal Government of Nigeria Third National Development Plan 1975-1980, Lagos, Government Printers, 1975, p. 245.

2. The role of the faculty, estate department, Development Office (which services various committees that handles physical projects) in the procurement of building projects.

3. The Administrative problems associated with building construction.

4. The effect of inadequate physical structures on academic programmes.

DEFINITION OF THE PROBLEM.

While it cannot be disputed that a University cannot exist without buildings, it is also true that the construction of such buildings have their attendant problems. A lot of the buildings are specially designed to take care of the requirement of the courses which would be conducted in them. The buildings are usually big and complicated in nature that a huge amount of money from University's subventions are allocated to them. Bearing in mind the importance of the building projects, the researcher decided to investigate the problems of Unthe University administration in the construction of buildings. It is an open secret that building projects are rarely ever completed on schedule because there are usually one form of delays or the other during the process of construction. Delays could either be broadly categorized as being caused by the contractor or by the employer (in this case the University authority).

The problems normally associated with the latter include: selection of contractors, entering into agreements with the contractors and surveyors, selecting appropriate sites, issuance of licences, approval of foreign exchange, acquisition of land and payment of compensation, making of payments and dealing with political forces. The results of all these are that:

a) Much time is lost between the expected time of completion of the projects and the time the department starts using the buildings.

b) The quality of work becomes low because poor quality materials are used in place of the recommended ones.

The researcher therefore hopes to investigate those problems with a view to finding out reasons for those problems and suggest ways of curbing delays in the execution of projects in Ahmadu Bello University

METHODOLOGY OF STUDY

The methods adopted in any social research should be those which are generally accepted in any social science research endeavours; more importantly, they should be those which would help the researcher in the course of her own investigations.

In this study primary and secondary data were used. Primary data were collected by the researcher in the

course of her investigation which was done by -

a) personal observation;

b) administering questionnaires; and

c) conducting interviews.

Both b and c were carried out on Head of Departments, the Director of Works, the Clerks of Works, and the officials of the Development Office. These staff members are directly involved in the implementation of physical projects. [See copies of the questionnaire at Appendix A]

In sending out a questionnaire a covering note was attached explaining to the respondent the purpose of the study. The questions were pertinent to the research in view and were answered by the oificers mentioned above. The interview was a face-to-face interpersonal relationship between the interviewer (the researcher) and the respondent. It was conducted after the questionnaires.had been collected. This aspect was considered to be important because it afforded the researcher an opportunity of explaining those questions which the respondent had problems in answering. It also afforded the respondent an opportunity to expantiate on some of the answers given in the questionnaire. Secondary data were collected from published materials, official records, newsletter reports, magazines, journals, text books, seminar papers and unpublished works.

Analysis of Data

In this study, the data collected are analyzed by means of finding the various percentages of the positive, negative or neutral responses on each question and the adducing reasons for the percentages so obtained.

The percentages are calculated by finding the total number of positive, negative or neutral responses received divided by the total number of questionnaires received and then multiplying this fraction by a hundred. Where more than one answer is chosen in a particular question, each answer is treated as a separate question.

The percentage form of presenting the answers is more preferred in the sense that it allows for a comparative analysis from which meaningful inferences could be drawn.

LIMITATION OF STUDY

For the purpose of this study, attention was focused on the construction work in Ahmadu Bello University. The researcher chose this institution because she had studied here as a student and being presently in the University administration. She is already aware and familiar with some of the problems often encountered in project construction in the University.

The problems encountered in the course of this investigation were those that researchers in these areas normally experience. The main one being the lukewarm attitude of the officers and their reluctance to give out

information for fear that this might be used against them. By and large the responses to questionnaires sent out were quite encouraging and provided enough data for the researcher to be able to analyze the problems and offer ways of solving or at least minimizing them. This is the first study on physical development at Ahmadu Bello University and we hope this will be the bases for further indepth study in this area in the near future.

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CONCLUSION

It is in accordance with national objectives that physical structures in the University should expand along side academic programmes because it is only when this is so that the right kind of academic atmosphere can be provided in the University.[9] It is observed however that this trend does not hold as the lecture rooms are often over-crowded and there is always a general shortage of hostel accommodation for students etc. In the chapters that follow, the researcher will review the physical development of higher institutions in various parts of the world down to the historical perspective of Ahmadu Bello University. Thereafter its development policies would be discussed and the problems encountered in the construction of buildings will also be highlighted.

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9. Federal Government of Nigeria, Third National Development Plan, Lagos, Government Printers 1975, p. 245

CHAPTER TWO

REVIEW OF LITERATURE ON PHYSICAL DEVELOPMENTS AT THE HIGHER INSTITUTIONS

INTRODUCTION:

An institution of higher learning must be an effective instrument of change in the society and in order to achieve this, it has to plan in such a way as to reflect national needs and objectives.

In the planning process, three broad objectives must have to be considered

1. Institutional objective i.e. the raison d'etre for the establishment of the Institution.
2. The available fiscal resources i.e. the sources of funds and the amount would have to be known.
3. Physical facilities which would be needed should be related to the needs of the academic programme, such as
   a) land acquisition and land use;
   b) new construction;
   c) remodeling
   d) renovation and rehabilitation.[1]

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1. Harold L. Goyette: Organization for Planning in Handbook of College and University Administration, New York, McGraw-Hill, 1966, p. 4.

This study concerns itself with the establishment of physical facilities at the higher Institutions where building construction is determined by the academic requirements of the various faculties in that institution. The faculty academic planning committee is responsible for setting out academic plan for its faculty. The plan normally includes changes in the academic framework such as the research methods to be used, the proposed new areas of research and curricula, the anticipated work-loads of the affected department, the number of students required and the staff strength to cope with these changes. The recommendation of the academic planning committee of each faculty are passed on to the university physical planning Committee which interpretes the University's needs and objectives in terms of specific designs for buildings and other physical facilities. For a small campus consultants can be hired to do the construction work as the need arises but for a larger campus, there should be a permanent planning office to perform this function.[2]

In this chapter two, therefore, attempts would be made to review some of the physical developments that have taken place in the world in both developed and

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2. Harold L. Goyette: Physical Planning in Handbook of College and University Administration, New York McGraw-Hill 1966, p. 64.

developing countries as it relates to building constructions in higher institutions of learning. Building construction in the primary and secondary schools for which informations are available would be examined since the planning process in any of these educational institutions is identical with those of higher institutions in most countries.

DEVELOPED COUNTRIES

In France, the ministere de l'education nationale wrote a brochure[3] in three parts in which the first part discussed the laws, regulations and circulars concerning school buildings and materials. The second discussed technical regulations concerning the quality and form of construction materials and furniture, while the third dealt with the financial regulations for school buildings containing all laws, instructions and circulars on this subject. The same ministere made mention in another publication[4] the desirable standards for the construction of classrooms for primary schools and classrooms and dormitories for secondary day and boarding schools. These standards are aimed at in an

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3. Ministere de l'education nationale. Fascicules de documentation administrative premiere partie. Titre VII: Batiment et materiel, Paris Centre nationale de decumentation pedagogiqie, 1956. Various paginations (Brochure No. 12F.D).

4. Ministere de l'education nationale. Direction de L'administration generate. Sous direction des construction scolaires et universitaires. Locaux Ssolaires, normes de construction. Paris, centre nationale de documentation pe'dagogique 1952 p. 22.

attempt to get maximum benefit from the money voted for the project while at the same time obtaining maximum fulfilment of scholastic needs. There are detailed plans of classrooms designed for one teacher and also many classrooms, schools and suggestions are likewise made for the arrangement of such rooms.

In Germany 1953, Behrendt Fritz[5] wrote a book which describes all the steps which should be taken in the construction of a new school building. It follows each step in logical order from planning the location of the new school building in the community, planning the new school building itself to the actual construction of the building. A section is devoted to the work of the teacher in the new school and its effect upon the planning of the new building. The book is illustrated with photographs and a few plans show classroom arrangement and construction methods.

Another study was carried out on new school buildings in Germany[6] in which the minister of education

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5. Fritz Behrendt, Die neue Schule im Bau Stuttgart, Ernst Klett Verlag 1953 p. 133.

6. Der neue schulbau in Hessen. Heraus gegeben Vom Hessischen minister fur Erziehung and Volksbuildung in Verbindung mit dem Hessischen minister der Finanzen (Staatsbauver Waltung) Darmstadt, Verkehrs - und wirtschaft sarchiv Verlagsgese ll. Schaft 1954 p. 279.

emphasized that schools should be related to the community in which they are built and the actual construction of such schools should be the concern of the community, be it a small rural school or a big urban school.

In the United Kingdom, where the development projects in Workingham School was carried out in 1952[7], it was stated that in spite of the many merits of post war school building, much of it was too expensive, it was not always educationally suitable and in many areas, largely owing to the shortage of site labour, it took far too long to complete. From the findings, it became obvious that there was a need therefore, not only for more financial economy and a better appreciation of the recent trend in teaching but for the development of methods of construction which needed as little of the scarce resources, lands and labour as possible. In view of the preoccupation the local education authorities had the initial tasks of ensuring that schools were built, this essential work of research and development was entrusted to a small group of educationists, architects. and administrators at the ministry of education.

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7. H.M.S.O., Development Projects, Workingham School London (Building Bulletin No. 8), 1952, p. 104.

Another body, "New Colleges of Further Education in 1951 published a bulletin[8] in which it suggested to the local educational authorities the ways of planning and building new colleges for further education to meet the wide and growing demands in this field. It stated that each college had its own problems and must be capable of dealing with the variety and standard of courses needed. It said that many of the colleges would be built in instalments. A section of the bulletin dealt with how to cost the building based on space availability and how to make a flexible design to allow for changes and efficiency. The design it said must have to be flexible to allow for changes, and efficiency would be guaranteed if buildings are 'zoned' (i.e. division of the accommodation into three - administrative, communal and teaching with the teaching zone sub-divided and related to each other and to the other zones).

Still in the United Kingdom, the Organization for Economic Cooperation and Development wrote the first in its series "School Building Today and Tomorrow" in 1973.[9]

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8. H.M.S.O., New Colleges of Further Education, London, (Building Bulletin No. 5) 1951, p. 87.

9. Organization for Economic Cooperation and Development. School Building Today and Tomorrow Programme on Educational Building 1, Paris May, 1973, p. 27.

It was designed for the dissemination of information on school buildings. This publication described and summarized the broad issues and problems as those of planning and integration of schools and community facilities also, the need for flexibility and adaptibility and evolution of educational and building technology.

Still in 1973 Maiden Erlegh[10] wrote on an English Secondary School development project which was the second in the series of leaflets designed for the dissemination of information on school buildings. This publication described the activities of the development group of the department of Education and Science and suggested solutions to the space problem of a secondary school in England. It stated that the school architects, educationists and other experts assumed responsibility for expansion of the school by designing and constructing the building for the clients who are local educational authorities. It also suggested that the project mentioned should expand the school to 1,200 sections for students aged between 11-16 of which 240 sections would be for those over 16. The design as stated would divide the school into eight centres with a school library.

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10. Maiden Erlegh. An English Secondary Development Project programme on Educational Buildings. Organization for Economic Cooperation and Development, Paris 1973, p. 22.

It explained the common characteristics of the centres and that the floor plan of each centre should be used for humanity courses. He illustrated how these ideas could be expressed in actual practice.

More work on physical development in Higher Institutions has been documented more in the United States of America than in any other country in the world.

The American Association of School Administrators in 1949 published the 27th Yearbook which was meant to assist school administrators, school boards and architects in establishing sound policies and procedures for planning, designing and constructing school plants and buildings. It suggested that such policies should be established by staff members, lay citizens and consultants and stressed that buildings, facilities and sites be planned to suit children.and youth and fit school and community programmes. The publication articulated the past and current experiences and made the judgement for planning for the future educational buildings. It outlined some of the major financial considerations, that should be made and called attention to unanswered questions in school plant research and concluded with a check list for educational and architectural planning.

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11. American Association of School Administrators, American School Buildings (27th Year Book) Washington DC, 1949, p. 363.

In 1952 the New Hamshire State Department of Education published a Guide for planning the construction of school buildings.[12] The publication was designed to help school administrators, school boards, school committees in planning and construction of school buildings. It began with the process of planning and design by local school board suprintendent and architect and included such subject as presenting the project to the public and awarding the contract. It was designed as a guide for planning and construction of school buildings rather than as a code or set of requirements which must be met by the local community.

Another author, Caudill, in his book Towards Better School Design in 1954[13] gave an approach to planning and designing school buildings of all types, primary through college with full considerations of some specific problems prompting the proposed construction. The book began with the discussion of children who were the real clients, then discussed the three main and inter-dependent factors: education, environment and economy. Also a chapter is devoted to the planners,

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12. New Hamshire State Department of Education, Guide for planning the construction of School Buildings, New Hamshire, Concord 1952, p. 118.

13. William W. Caulill, Toward Better School Design, New York, F.W. Dodge 1954, p. 271.

how to think of schools as integral parts of the neighbourhood and city then followed by a rapid survey of the problems of space arrangements and finally a summary of the principles of a rational approach to planning.

Engelhardt, N.L.[14] in 1953 wrote the article Planning Elementary School Buildings in which he explained the principles and practices of modern education in terms of architectural design. The book showed how to plan a school around the curriculum it would serve. The important topics treated included the problem of vision, light and colour, the community use of school buildings, the procedure necessary in developing school buildings and the criteria for site selection.

In 1954, the State Department of Education School Building Services[15] in Virginia prepared a manual in which it outlined the duties and responsibilities of the local school authority's State Department of Education, the architect and the engineer. It contained data for planning and developing the educational and architectural programme; and factors to be considered in site selection, development and planning. It covered procedures for submissions and approval of preliminary and final drawings and specifications. The manual outlined detailed

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14. N.L. Engelhardt and Stanton Leggett: Planning Elementary School Buildings, New York F.W. Dodge 1953, p. 268.

information needed for developing housing and instructional and other school programmes extending to purpose, scope, location, number of rooms, sizes, arranging auxilliary spaces, equipment suggestions and drawings. It dealt with construction type, sanitary facilities, water supply, sewage disposal, fenestration room proportion, electrical work, heating ventilation, acoustic treatment, fire protection and construction details. It also included bibliography, statutes, laws and regulation educational programme, charts, table and contract forms.

Engelhardt, N.L. and Stanton Leggett jointly published a book in 1956 - School Planning and Building Handbook. The handbook was a product of the experience of many authors in extensive service in the development of school buildings throughout the United States and beyond its boundaries. It would help school board members, school executives and architects to understand many problems and procedures associated with the planning of school buildings. The forty chapters began with a school building survey of the community and gave emphasis to each step in planning, financing and building, to the point of final dedication. Public relations authorities

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15. State Department of Education School Building Service Virginia, School Planning Manual, Richmond 1954, A dissertation in 298 pages.

superintendent of schools, land planners and engineers, architects and legal advicers, business managers and University professors have all collaborated on each of the chapters. The documents needed at all stages of the school building process have been reproduced and they included valuable cost data and their interpretation.

In the same year a group of authors: John H. Herrich, Ralph D. McLeary, Wilfred F. Clapp and Walter F. Bogner[17] wrote a joint book intended for graduate students in educational administration and as a guide for practicing administrators and school plant consultants. The first ten chapters dealt with the process by which a school plant was planned, erected and put into use, including the survey, the preparation of educational specifications, architectural planning, construction, equipping and opening the building. The remaining thirteen chapters discussed the important features of the building site and the various types of facilities. Much attention was given to health and safety aspects including visual and auditory factors, heating and ventilating, and sanitation while the final chapter dealt with the economy in producing school plants. Throughout the book, emphasis

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16. N.L. Engelhardt and Stanton Leggette, School Planning and Building Handbook, New York F.W. Dodge, 1956, A dessertation in 626 pages.

17. John H. Herrich, Ralph D. Mcleary, Wilfred F. Clapp and Walter F. Bogner, From School Programme to School Plant, New York 1956, A dessertation in 482 pages.

was placed on the basic role of the school programme in determining the character of the school plant.

Later in 1968, the Idaho State Department of Education revised the "Manual of Regulations and Recommendations for School Building Planning and Construction".[18] The revised form included the necessary changes brought about by new building methods, changes in concepts of lightening and heating and the general modernization of all phases of education. The manual was intended to be useful to those involved in the construction of school buildings and those who do the original planning and those who completed the final details of construction. The manual offered recommendations and suggestions as well as statutory provisions and state board regulations regarding school building construction.

The New Hamshire State Department of Education followed this by writing a Guide for Planning the construction of School Building in 1971.[19] The guide stated that those who were concerned with the planning and implementation of school plant, should realize the great changes that had taken place in the whole process.

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18. Idaho State Department of Education: Manual of Regulations and Recommendations for School Building Planning and Construction", March, 1968.

19. New Hamshire State Department of Education, Guide for Planning the Construction of School Building, New Hampshire Concord 1971, p. 104.

It pointed out that rapid developing technology, new insights about human behaviour and a growing social conscience demanded change in educational methodology, this it continued would lead to a requirement for different spatial relationships and altered or new facilities to accommodate the new processes. The manual also pointed out that there was an obvious need for educational space and equipment that can be easily and economically adjusted to adapt to the educational changes. It said that construction of school buildings today should not be so permanent that the buildings determine the programmes indefinitely, thereby leaving few opportunity for newer methods. The manual keeps such flexibility as a fundamental objective and contains suggestions, recommendations and minimum requirements with regard to school facility planning.

In 1973, New Jessey State Department of Education[20], Trenton Bureau of Facility Planning wrote an article to show that school sites are integral parts of educational facilities. It stated that modern educational programmes emphasized the discovery approach to learning where pupils did more than just reading about the world

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20. New Jersey State Department of Education School Sites: Selection Development and Utilization. Educational Facilities Senes. A Guide to Planning New Jersey, Trenton 1973, p. 30.

around them. Also that for example, they became active explorers and participated in discovering nature and how best to enjoy it. This showed that there was a curricula use for a site. It therefore went on to say that any consideration of a need for and design of educational facilities, must, by necessity, include a careful analysis of the site, including its selection, development and planned utilization.

The bulletin was written to assist school administrators, local boards of education, planning consultants and school architects in that process. It offered specific guidelines with regards to desirable sites and their characteristic size, shape, topography, sub-surface conditions, surrounding conditions and locations. It also offered suggestions to alleviate the limitations of inadequate sites, where the financial problems of land purchase required alternate solutions. It cited the importance of planning to protect and enhance the environment. Several types and sources of information useful in site selection were listed and selected bibliography was provided.

Still in the same year of the above research, Woehr, Wilhan Stewart[21] studied the factors and procedures

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21. Woehr, Stewart William, A Study of the factors and procedure used for school site Selection, site development and site utilization, Pennsylvania, Philadelphia, Temple University, May 1973. (Dissertation Abstract 35 pages).

used for school site selection, site development and site utilization. The study attempted to determine the factors and procedures used by school administrators and school boards in Bucks and Montgomery counties, Pennsylvania where sites were selected and developed as well as to find the extent to which these sites were being utilized by school and community groups. Specifically the study strove to determine which of the twenty five pre-established site selection factors an administrator would use when considering a site for purchase. Some of the factors included are:

1. educational specification concerning future site utilization;
2. local citizen participation in site selection and development;
3. Plans for site development;
4. various sources of funds for initial site development;
5. the use of sites for the daily instructional program, school recreational and athletic program and its community.

Sites included in the study were identified by a thorough search of non-taxable property records located in each country court house. Site selection factors found to be most important included location accessibility, utilities availability, cost of land, site development,

public services and topography.

DEVELOPING COUNTRIES

In the developing countries, not much publications are available on the physical developments as a whole i.e. including Nigeria; however this could be attributed to very little research work done in this area. The available works that are easily accessible are as follows:-

Between 1953-1954 some British architects wrote on Tropical Architecture.[22] The work served as an introduction to tropical design followed by an illustrated account of buildings in hot/dry and warm/humid climates including colleges in Ghana and the University College of West Indies.

In 1955, Fry, Drew, Drake and Lasdun[23] did some work in West Africa and came out with an illustrated account of schools and teacher training colleges in Ghana and at University College Ibadan in Nigeria.

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22. Tropical architecture by British Architects Parts I and II. Architectural Design, London, October 1953, pp. 264-294, January 1954 pp. 1-20.

23. Fry, Drew, Drake et al., The Work of Fry, Drew, and Partners and Fry, Drew, Drake and Lasdun in West Africa, London, Architectural Design Batsford, May 1955.

I In 1956, Fry Maxwell carried out more studies on "Tropical Architecture in the humid zone"[24] and he wrote an article based on his experiences in building in West Africa and India. These included some schools and the University College Ibadan in Nigeria. There was a chapter on educational building which was a more general discussion on some aspects of school buildings in the tropics than a detailed guide of planning and execution of construction work in an institution of higher learning. A small portion was written on primary schools, a portion on secondary schools and teachers' training colleges and also universities with respect to siting of teaching, dining and service rooms as well as dormitories, halls, chapels, and libraries. Water supply and sanitation were also discussed. There were some chapters on climates and home designs and a series of technical appendices were provided.

REVIEW OF PHYSICAL DEVELOPMENT AT AHMADU BELLO UNIVERSITY

In Ahmadu Bello University there are no written records on physical development therefore personal interviews were conducted to obtain information on the physical development of Ahmadu Bello University.

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24. Maxwell, Fry and Jane Drew, Tropical Architecture in the Humid Zone, London Batsford, 1956, p. 320.

Initially there was no planned campus for the University. The present campus was inherited from the former Nigerian College of Arts, Science and Technology and as the inherited Faculties of Arts and Science grew in staff and student population extentions of all the existing departments within these faculties were carried out. It was not surprising then that the whole place began to get choked up.

As time went on, a master plan was worked out for the University. Using this plan, the new faculties of Engineering, Human Medicine, Environmental Design, Pharmacy and Veterinary Medicine were constructed. Projects were constructed using the standard procedure laid down by the National Universities Commission (NUC). Construction projects handled by both internal and external consultants who saw to the designing of buildings, and the surveying and selection of sites. They, together with the Heads of Departments and the Director of Works should supervise the projects from the initial stage to the final stage.

In view of limited literature on physical developments in higher institutions of learning in developing countries, this project was embarked upon to fill the gap. The physical developments in institutions of higher learning in other countries was undertaken in order to highlight some of the major considerations and problems involved in

such projects and to relate it to the Nigerian situation. On the whole, it is observed that there is a need for planning in higher institutions all over. Even though there is an obvious relationship between academic programmes, programmes, the physical facilities available and the immediate community and an obvious disparity between the climatic conditions and the soil types. All these conditions are important parameters which must be critically considered when planning. It is the belief of the researcher that some of the considerations and problems highlighted in some of the references cited are applicable to Nigeria hence the need to review them.

CHAPTER THREE

HISTORICAL PERSPECTIVE OF AHMADU BELLO UNIVERSITY

INTRODUCTION

The Ahmadu Bello University was the first university to be established in the northern part of Nigeria. Before then, there were only two other universities in the country, the University College Ibadan which was established in 1948 in the western part of Nigeria and affiliated to the University of London, and the University of Nigeria, Nsukka which was established in 1960 in the Eastern part of Nigeria.[1]

The Ahmadu Bello University was established in 1962 on the recommendation of the Ashby Commission on Post-School Certificate on Higher Education that there was a need for the Northern part of the country to have a University which would be situated in Zaria. It further recommended that overseas advice should be sought as to the scope and activities of the university.[2] In 1961, the Inter-University Council for Higher Education Overseas sent a delegation to Nigeria under the chairmanship of Sir Alexander Carr - Saunders to work out the scope and

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1. V.K. Chukwuemeka Ike: University Development in Africa, The Nigerian Experience, Oxford 1976 pp. 5-12.

2. Ahmadu Bello University, University Calender 1965-66 Kaduna Baraka Press, 1966, p. 17.

activities of the new University. This led to the establishment of a provisional council for the university under the Chairmanship of Hon. Shettima Kashim now known as Sir Kashim Ibrahim KCMG, CBE, the former governor of Northern Nigeria. The provisional council then worked out a constitution which was later passed into the university law in June 1962.[3]

On the 4th of October, 1962, the University was officially opened and named after Sir Ahmadu Bello, the Sardauna of Sokoto who was then the Premier of Northern Nigeria and who became the first Chancellor of the University, while Dr. Norman S. Alexander became the first Vice Chancellor as from 1961 to 1966. The objectives of the University are:-[4]

1. To provide regular and liberal courses of instruction in the humanities, the sciences and other spheres of learning required and expected of a University of the highest standing.

2. To promote research and advancement of science and learning.

3. To secure the diffusion of knowledge throughout Northern Nigeria.....

KASHIM IBRAHIM LIBRARY
AHMADU BELLO UNIVERSITY
ZARIA, NIGERIA.

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3. Ahmadu Bello University, University Calender 1965-1966, Kaduna, Baraka Press 1966, pp. 102.

4. Ahmadu Bello University: Ten Years, the first Decade of Ahmadu Bello University, October 1962 - October, 1972, Zaria, 1972, p. 3.

Membership shall be opened to both sexes and no discrimination shall be made or test imposed on the ground of religious belief, political views, racial or tribal origin, place of birth or residence.

The University inherited its present site from the former Nigerian College of Arts, Science and Technology which was founded in 1952. It meant that the University could take off using the inherited buildings and staff of the College, while the first students were those transferred from the old Nigerian College. Teaching therefore commenced on the 10th of October 1962 with 400 students.[5] Among the subjects taught to a high professional level were Fine Arts, Education, Architecture and Engineering. Infact the College was already turning out graduates in Engineering while the remaining three were simply upgraded to degree level. A lot of the staff were recruited or transferred from the institutions absorbed by the University while the first students were those transferred from the old Nigerian College.

Other institutions were also incorporated into the University at the time of its inception. These included

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5. Ahmadu Bello University: A.B.U. Calender 1980/81, Zaria, Information and Publications Office, A.B.U., 1981, p. 18.

the former Ahmadu Bello College, Kano which was later called Abdullahi Bayero College and is now being referred to as Bayero University Kano. Then there were also the Institute of Administration Zaria and the Research and Special Services Station of the Ministry of Agriculture (now Institute of Agricultural Research). Both were set up to supply the needs of the then northern Nigeria and both were semi-autonomous under the protection of the University.[6]

THE FACULTIES

At the inception of the University in 1962 there were only five faculties[7] - Arts, Science, Architecture, Engineering and Law which were established out of the old Nigerian College. Among the subjects which were taught to a high professional level were Fine Arts, Education, Architecture and Engineering. Infact the college was already turning out graduates in Engineering while the remaining three were simply upgraded to degree level. Other faculties which were subsequently established are faculties of of Veterinary Medicine in 1965 (formerly part of agriculture), the faculties of Arts and Social Sciences in 1963, Arts and Islamic Studies (Kano) in 1966. In 1967 the faculties of

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6. Ibid.

7. Ibid, 1983, p. 20.

Education and Human Medicine were established and later in 1977 the faculty of Pharmaceutical Sciences came into being. Up-to-date there are eleven faculties and over seventy departments.

THE INSTITUTES[8]

There are four University Institutes which are semi autonomous units. They are directly under the control of the University Council; this makes them different from faculties which are directly under the Senate except in cases of courses leading to degree or diplomas of the university. Apart from the academic aspect, their programmes are usually those of extension works to the States and are normally governed by Advisory Boards which consists mostly of government representatives. They provide research and consultancy services to the states in a more direct way than the faculties and they also have important responsibilities for the In-Service training programmes of the ten northern states.

1. The Institute of Administration - was established in accordance to statute 12 of the University law. It was founded in 1954 and incorporated into Ahmadu Bello University on the 4th of October 1962. It serves as an Institution for teaching undergraduates and post graduate courses in law, Administration and Accounting

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8. Ahmadu Bello University - Ahmadu Bello University Calender 1982/83 A.B.U., Zaria, 1983, pp. 196-235.

and also serves as an in-service centre. It consists of the faculties of law and Administration, a Centre for Islamic Legal Studies and the President Kennedy Library, which stocks 36,000 periodicals and journals and 6,468 microfilms mainly in Administration, Law and the Social Sciences.

The Institute has corporate membership with a number of international organizations associated with the teaching of law, administration and problems of local governments.

2. The Institute of Education - was established by statute 14 and in accordance to the Northern Nigerian Law Number 10 of 1965. The headquarters is on the main campus while the affiliated colleges include the two Advanced Teachers Colleges in Zaria and Kano. Other colleges which are affiliated for the purpose of certificates only include the Colleges of Education in Kafanchan, Azare, Maiduguri, Minna, Jalingo and Gindiri, Kaduna Polytechnic (NCE Technical), The Federal Advanced Teachers College, Yola, Plateau State Polytechnic (NCE Technical) in Barkin Ladi, Ramat Polytechnic, Department of Education, Maiduguri and the N.T.T.C., Gombe.

The Institute also has divisions of primary and secondary education which serves as advisory units to the Ministry of Education in all matters concerning

primary and secondary education and the Institute runs in-service courses for primary and secondary school teachers and administrators. Other divisions in the institute are - The Division of Teacher Education, Division of Art and Material Development, Division of Languages, and the Research Test and Measurement Division.

3. The Institute of Health

It was established in 1967 according to Statute 15 with its Headquarters in Zaria. Its functions are - Providing courses of instructions in a number of medical disciplines. It operates the University Hospitals, Clinics and Dispensaries. It offers programmes for the training of doctors, medical students, nurses and persons in the medical health fields. It also conducts researches in all aspects of medical and health fields and promotes health services in the States.

To carry out the above functions it has a number of institutions:

a) The Ahmadu Bello University Teaching Hospitals at Zaria, Kaduna and Malumfashi. Clinics at the Main Campus, Institute of Administration, I.A.R. and the Advanced Teachers College Zaria and Kano.

b) The Ahmadu Bello University School of Nursing at Zaria.

c) The Ahmadu Bello University School of Hygiene at Kano; and

d) The School of Medical Laboratory Technology, Ahmadu Bello University, Zaria and Kaduna.

The Institute has a Board of Governor which formulates its policies and also the Professional and Academic Board which directs all its academic affairs.

4. The Institute of Agricultural Research

It was established in accordance to Statute 13 from the former Research and Specialists Services Division of the Northern Nigeria, Ministry of Agriculture. The Institute is responsible for carrying out research programmes for the northern states in cooperation with other Ministries of Natural Resources of each state and with other Agricultural Research stations in Nigeria. Its affairs are directed by its Board of Governors which meets twice a year to discuss the research policy of the Institute while its professional and academic Board help in the implementation of such policies.

The headquarters is the Institute at Samaru and under it are four subsidiary research stations which are at Shika near Samaru, Mokwa in Niger State, Ngala in Sokoto State and Kano in Kano State.

The Agricultural Complex

The complex is made up of the Division of Agricultural Colleges (D.A.C.), the Agricultural Extension and Research

Liaison Services (A.E.R.L.S), the faculties of Agriculture and Veterinary Medicine, the Institute for Agricultural Research (I.A.R). The activities of the various units are being coordinated by the provost who liaises between the units and states and conveys state problems to the complex. Because of this relationship, it is pertinent that there is coordination in the research and teaching programmes of the different units of the complex.

Other sections of the complex not discussed earlier are D.A.C., and A.E.R.L.S. These will now be considered.

5. Division of Agricultural Colleges (DAC)

It was founded in 1922 when the administrative headquarters of the former department of agriculture was established. Research work started in 1927 with studying the breeding and management problems of a herd of cattle. Later in 1933, it became a training ground for Nigerian staff in fields of Agricultural Extension, Home Economics and farm mechanics. It remained part of the Ministry of Agriculture until 1968 when the states were created and the responsibilities of the Schools of Agriculture Samaru and Kabba were handed over to the Ahmadu Bello University. In 1969, the Livestock Services Training Centre (now known as the College of Agriculture and Animal Science) in Kaduna was established and only in 1971 the College of Irrigation Agronomy Bakura was also established.

All four colleges became known as the Division of Agricultural Colleges with its headquarters in Samaru, Zaria.

It is primarily responsible for providing technical training in Agriculture, Animal Health and Husbandry and Home Economics for intermediate level manpower for the extension services in the northern states of Nigeria. The policies which guide the Division are formulated by its Board of Governors while the Director sees to policy implementation.

6. The Agricultural Extension and Research Liaison Services (AERLS)

In 1947, the administrative headquarters of the Department of Agriculture for the northern region was moved to Kaduna from Zaria but in 1957, because of the political upheavals, the department in Samaru became the Ministry of Agriculture and Samaru became the headquarters of Extension Research and Specialist Services Division. In 1963, the regional Ministry of Agriculture was dissolved while the regional research station was transferred to Ahmadu Bello University and merged with the Institute for Agricultural Research under the name of the Institute for Agricultural Research and Special Services. In 1968, there was total mergence when the staff of the Ministry were transferred to the University.

In 1975, the University Council in accordance to Statute 19 made Extension Research Liaison specialists Services autonomous by separating it from I.A.R. and giving it the name of Agricultural Extension and Research Liaison Services (AERLS).

National Animal Production Research Institute (NAPRI)

The Institute was established by Ahmadu Bello University Statute 20 in accordance with the Federal Government decree number 35 of 27th August, 1973. Its functions include:-

1. To conduct research into animal production and animal products.
2. To cooperate with other bodies in the dissemination of knowledge of matters concerning animal production and of results of research conducted by the Institute.
3. To arrange for such conferences of government officers and other persons and for such courses and lectures as may be considered to further the above.
4. To participate in the teaching function of the University at all levels.

Its affairs are governed by its Board of Governors and policies implemented by the Director.

THE CENTRES[9]

The centres are distinct from the faculties and Institutes. They are directly under the council and Senate and they provide extension studies in areas not covered by the Institutes and faculties.

1. Centre for Adult Education and Extension Services

The centre was established in June 1971 on the recommendation of a firm of Consultants that was commissioned to look into and report on the University and its community. It is an autonomous unit which works in cooperation with all other units of the University. It is directly responsible to the General Extension Services Board, the General Extension Consultative Committee and the Centre, Staff meeting. Its academic programme of teaching and research are supervised by the faculty of Education.

The main objectives of the Centre is the provision of courses leading to the G.C.E. 'O' and 'A' level certificates to the general public and in the provision of teaching, research and experiment in adult education.

2. Centre for Social and Economic Research

It was first proposed in 1966 but established in 1974. It forms an integral part of the Faculty of Arts and Social

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10. Ibid, p. 240.

Sciences and exists within it as a separate unit. It aims to conduct research on projects generated from within and on projects requested by state governments. The research areas include:

1. Problems of the Nigerian economy
2. Nigeria development planning
3. Conducting conferences, seminars, workshop etc. which may contribute to the above functions.

3. Centre for Islamic Legal Studies - was established in 1971 to help researchers on Shariah and other Islamic subjects.

4. Centre for Educational Technology

The Centre was established in order to provide various forms of media to improve educational communication. The activities are organized into 5 units namely:

1. Circulation
2. Production
3. Maintenance
4. Resource development and Training
5. Innovation control and Research Technology.

A coordinator is assigned to each unit to coordinate its activities. The overall head is the Director who is responsible for the implementation of policy issues.

Other University Services[10]

Apart from the above mentioned areas there are other service units which have formed an essential part of the academic environment and without which the smooth running of the University would not have been achieved. They include:

1. The Estate Department - which is responsible for the maintenance of the physical facilities of the university such as buildings, roads, water supply, electricity, telephone services etc.

2. The University Health Services: which caters for the health problems of both staff and students of the University. There are other smaller clinics apart from the one on the main campus situated at the Institute of Administration, Institute of Agricultural Research and the Advanced Teachers College, Zaria.

3. The University Libraries: The library complex comprises of a) The Kashim Ibrahim Library, b) The Agricultural Library, c) The School of Basic Studies Library, d) The President Kennedy Library, e) The Medical Library, f) Centre for Islamic Legal Studies Library, g) Institute of Education Library, h) Colleges of Education Libraries at Kano and Zaria, i) Division of Agricultural Colleges Library, j) Veterinary Medicine Library, k) The Samaru Public Library. These libraries

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10. Ibid, p. 145.

serve the study and research needs of all the various sections of the university.

4. The University Press: was established in 1974 and became a liability company wholly owned by the University in July 1978. The objective of the press is to publish scholarly journals, books, textbooks and other publications. Policies on publications are formulated by the University Press Board and implemented by a managing Director.

5. The School of Basic Studies: was established by Statute 18 in accordance with the Federal Government policy of balanced educational development throughout the Federation". The School was opened in January 1970 and runs a four term course leading to the award of I.J.M.B. certificate for subjects passed which is equivalent to G.C.E. 'A' level certificate. Admission is subject to passing a written test and obtaining a minimum of five credits at 'O' level. The School prepares students with the requisite qualifications for the various degree programmes. The policy issues of the school are formulated by a Board of Basic Studies while the Principal sees to policy implementation.

6. A.B.U. Demonstration Secondary School and A.B.U. Staff School

Both schools have been established primarily to cater for the primary and secondary educational needs of

the children of staff members. The former was established only recently in October 1981 while the later had been in existence since January 1967. The schools are well equipped with qualified teachers and library facilities while the medium of instruction is English.

Conclusion

The University had experienced a rapid development within the first ten years which was not guided by any general development plan. Departments were also sited at the nearest available space without paying any specific attention to the overall development and spacing on the campus. This trend in development continued until 1973 when the Development Committee emphasized the need to have a long term master plan. It is hoped that with the production of a master plan in 1981, the congestion at the core would eventually be relieved and there would be an even distribution of both students and physical facilities. This study sets out to find out among other things just how these two objectives could be achieved.

CHAPTER FOUR

IMPLEMENTATION OF PHYSICAL DEVELOPMENT PROJECTS IN AHMADU BELLO UNIVERSITY

Introduction

Planning is an important and essential tool in the development of any University. Planning gives a good sense of direction for development and it helps to sort out priorities from a number of proposals where financial resources is a major constraint. At the early stage of the development at Ahmadu Bello University, no definite development plan was developed. The need to have more buildings in addition to the ones inherited from the former Nigerian College of Arts, Science and Technology was identified and those buildings were hurriedly constructed without any prior feasibility study as to why a building should be built at a particular place. It was apparent too that at that time money was not a problem to the University as it used to be well financed by the then six northern states which jointly formed the Interim Common Services Agency (ICSA). The financial boom continued for the University until 1975 when the Federal Military Government took over all Universities and funded them through the National Universities Commission.

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1. Akin Akindoyeni: The problems of Physical Planning being a paper presented at the CORNU Workshop on University Administration, September 1982 p. 10.

After 1975, the financial resources of the University started to dwindle and it became difficult for the Federal Military Government to cater for all the needs of the thirteen Universities which were in existence at that time, because the same amount of money which the Federal Government used to expend on only three Universities namely Lagos, Ibadan and Nsukka would now be spread over thirteen Universities. The University (Ahmadu Bello) had to formulate a master plan showing what structures were available and what additional expansions would be made in future. The master plan then acted as a point of reference on which further developments were based and from which only priority plans were considered.

The Planning Machinery:

The University operates through the committee system.[2] Programmes are planned by the committees and major decisions are taken at the committee levels. It is therefore necessary that consideration should be given to those committees which are important in the planning of physical development projects in Ahmadu Bello University.

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2. Ahmadu Bello University: University Calender 1982-83 Kaduna, Baraka Press, 1983, p. 152.

The University Council.[3]

It is the highest policy making and decision taking body of the University and because its schedule is so wide and covers all the arms of the University, sub-committees were set up to deal with certain areas and make recommendations to the council. These committees act within the limits of their terms of reference.

The University Senate:[4]

This committee deals with the academic affairs of the University and in conjunction with the Council, manages the University's finances.

The Senate Estimates Committee:[5] Is a sub-committee of Senate. Its terms of reference are:

i) to receive the annual requests for staff establishments and funds submitted by departments and other units within the University, except the Institutes.

ii) to prepare estimates based on the requests after consultation with Heads of Departments having regard to any directions given by council or the Finance and General Purposes Committee and to take decisions on behalf of the Senate priorities for academic activities.

iii) to submit the estimates as prepared by Senate and Council;

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3. Ibid, p. 10.

4. Ibid, 1981/82 p. 150

5. Ibid 1981/82 p. 150.

iv) to allocate funds provided by Council for special expenditure, other than funds provided separately for Institutes, or other units; and

v) to examine requests for supplementary recurrent financial provision.

The Finance and General Purposes Committee[6] - is a committee constituted by council according to Statute 4. It acts for and on behalf of the Council in such matters as enumerated below:

i) authorize or ratify payments of all accounts due from the University.

ii) supervise the collection and receipts of all debts and monies due to the University.

iii) direct the deposit and investment of all donations, subscription and other monies paid to the University.

iv) Cause proper account to be kept and audited

v) examine draft annual estimates of revenue and expenditure of the University and make r recommendations to Council.

vi) consider and make recommendations to council on proposal for capital expenditure

vii) make recommendations to Council concerning the condition of employment of the staff of the University

viii) may make recommendations to the council concerning fees and other monies payable to the University

ix) deal with any matter urgently requiring decision during the intervals between meetings of the council and report any such decisions to the council at its next meeting.

x) perform such duties as the council may delegate to it. to.

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6. Ibid, 1981/82 p. 137.

The Academic Planning Committee:[7] - Is a sub-committee of the Senate and its terms of reference include:

i) to frame plans for the academic development of the University

ii) to consider proposals submitted or referred to the committee for academic development

iii) to make recommendations to Senate on (i) and (ii) above.

The Development Committee:[8] It is a sub-committee of Council and it acts within the financial policy of Council and the academic priorities as decided by Senate. Its terms of reference are:-

i) to make recommendations to Council and Senate on the guidelines for framing plans for the development of the University including the requirements of both academic and non-academic departments and the Institutes covering both capital and aggregate recurrent costs.

ii) to examine development plans submitted to it and submit recommendations on them to Council and Senate.

iii) to constitute and instruct sub-committees as necessary (which may be composed of members of the committee and/or other persons) to plan the siting, design and equipping of buildings or service facilities (other than those within the competence of the minor works committee), and to approve the recommendations of such sub-committees provided they fulfil the financial and other requirements approved by council.

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7. Ibid, p. 145.

8. Ibid, p. 143.

iv) where appropriate to authorize an Institute, or college or other unit to proceed with the functions set out in (ii) above with any conditions set by the committee;

v) to submit recommendations to Council and Senate on the allocation to individual projects of funds provided for capital expenditure;

vi) to receive reports from the minor works committee where necessary to over-rule that committees decisions if they are inconsistent with the development committee's decisions or recommendations.

vii) tc receive and consider reports from the administration on the progress of development for which funds have been allocated by Council.

Physical Planning Committee:[9] because it is a technical committee, it is chaired by a technical expert i.e. the Professor and Head of the Department of Architecture. The following are its terms of reference. It recommends to Development Committee:

i) what University staff and/or consultants should be appointed to work on site plans;

ii) the methods for which site plans for the various campuses of the University can best be prepared and submitted for approval.

iii) the required characteristics of campuses site plans;

iv) whether the committee as constituted was a suitable body to continue with this work and to supervise preparations of site plans.

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9. R/COM/73/II (A Registry File).

The last two committees are committees serviced by the Development Office are directly concerned with project policy and implementation. The first four indirectly concerns itself with physical planning and that is why they are not directly serviced by the Development Office.

Policies On Physical Development

Universities all over the country are directly under the National Universities Commission for the purposes of funding and setting standards guidelines for the physical and academic development of these Universities.[10] This means that the mode of operation are basically the same and the minor differences observed arose only by virtue of their geographical locations which in turn accounts for some architectural designs and courses offered.

The physical development policies of Ahmadu Bello University are essentially the same as laid down by the National Universities Commission which are enumerated below:

1. Establishing priority of capital projects relative to the primary functions of the University.

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10. Akin Akindoyeni: The Problems of Physical Planning CORNU Workshop paper, Kaduna, 1982 p. 12.

11. Ibid. p. 11.

2. Relating the execution of capital programs to the level of available funds from the Federal Government.

3. Following established guidelines and informed procedures in project management.

4. Following the advice of the professional officers and consultants.

5. Employing capable and efficient staff to monitor and coordinate development plans and project.

6. Using only those of their number who are knowledgeable to formulate development policy.

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Evaluation

The above policies were implemented using the evaluation research criteria of effort, effectiveness and efficiency to analyze the implementation procedure. The evaluation process would be carried out to show the success/failure of the implementation.

In using the effort criteria the amount of work done to produce the desired result is measured. The amount of effort answers the questions "what did you do?" and "How well did you do it"? It therefore measures the quantity and quality of activity that has taken place. The effort of the University is therefore measured interms of the various committees which have been set up to establish the priorities of capital projects relative to the primary functions of the University and the level of available funds. The effort is also measured in terms of how well the planners can plan the projects to be executed.

The effectiveness is the ability to bring about the intended results and it measures the speed with which objectives

are being implemented. It answers the questions "How good is the project?" and "Is the program working as expected?".

In the University, the effectiveness of performance is measured by the level of supervision of the projects by the Site Engineers/Architects and the Clerk of Works. The efficiency compares with the amount of policy input necessary for a desired output with the amount or of effort expended to produce the expected result. It is the ability to perform functions well in order to produce satisfactory result. It answers the questions "Does it work?". "Is there a better way to attain the same result?" i.e. interms of money, time, personnel and public convenience. The efficiency of implementation of capital projects in the university is measured by how well the consultants have prepared the working diagrams and also how well the contractors have carried out the desired work, without necessarily altering the earlier quotation approved for the job.

Physical development is highly influenced by the manpower requirement at both the national and local levels. It is observed that while both is highly complementary to one another, they both depend heavily on the available financial resources. In Ahmadu Bello University, finance has always been a major factor in the effective planning and execution of physical development projects and decisions made in the planning process is always with a constant awareness of the cost consequences. For this reason, one observes that a

'budget' is first of all prepared. The budget is the financial plan. It bears both the recurrent funds (funds required for servicing administrative and academic functions) and capital funds (funds for the provision of real asset goods and services) and it is only those capital projects which have been approved in the budget that can be implemented.

The Planning Mechanism

Academic Planning

Planning originates from the various units/departments of the University. Each of these discrete unit draws up its own academic programmes for the year based on the 'need' of the nation and the immediate environment of the University. Obviously if a new course is to be introduced it may call for the expansion of the department in form of physical structures, increase in number of student and staff, increase in infrastructures and equipment. The details of course work drawn by the Head of Department is then sent to the Academic Planning Committee (sub-committee of Senate) for screening and which in turn makes recommendations to Senate. Once Senate approves the recommendation is sent to the Development Committee.

Physical Planning

At the time the academic proposals are being scrutinized by both the Academic Planning Committee and the Senate, the Head of Department starts to prepare his own paper on technical requirements of the buildings needed. This paper otherwise known as 'Briefs' includes a rough sketch of the

building, a narrative description of the details of the building i.e. what the building should be used for, whether it was going to be a laboratory, a lecture theatre, staff room, or a library, a description of the land required and the facilities such as books, equipments and furniture needed. The Brief is then submitted to the Director of Works who is the Head of the Estate Department of the University.

The Estate Department

The Estate Department[12] is the Works Department of the University and headed by the Director of Works. It maintains the University property such as buildings, infrastructures (water, roads, sewage, drainage). It runs a transport pool, it has a mechanical workshop and it advices and partakes in the planning, execution and maintenance of minor and major projects. With all these functions, the Director of Works has to be consulted on project development.

The Director of Works, on receiving the Brief goes through it and makes necessary amendments if any, otherwise the brief is accepted. He passes it to the Campus Planner who confirms that the request is in line with the University's Master Plan. The brief now goes to the next stage which is that of 'Design'. This is handled by the Project Office of the Estate Department.

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12. D. B. Usman: The Role of the Estate in the Planning, Design, Execution and Maintenance of Projects (being a paper presented at the Seminar for the A.B.U. Quinquinnial Plan., 1975.

Design Stage:

The Director of Works appoints designers who are expert consultants and who may or may not be employees of the University. They consist of Architects, Engineers, and Quantity Surveyors. The Estate Architect/Engineer becomes the Project Architect/Engineer for the particular project in question. The following routines are thereafter followed.

Step I: The designers study the Brief

Step II: The designers draw up the programme of design and execution thus:

i)	Preliminary stage of design (Stage I)	.....	Weeks
ii)	Acceptance of Stage I	.....	"
iii)	Working Drawings or Stage II	.....	"
iv)	Bills of Quantities	.....	"
v)	Tender Period	.....	"
vi)	Construction Period	.....	"
vii)	Commissioning Period	.....	"

Step III

The designers prepare preliminary drawings and submit to the Director of Works. At this stage, the Head of Department can decide to make further additions or remove some details provided the cost of construction is not exceeded. On completion to the satisfaction of the Director of Works the designers may claim the first

part of their fees.

Step IV: The designers incorporate any changes that might have been made in Step III. They finalise the working drawings and hold discussions with the Head of Department on the real concept of the project. The process of design is completed here and the designers can then made claims for the 2nd stage payment.

After the working drawings have been accepted by the Director of Works, the Quantity Surveyors are then asked to prepare the Bills of Quantities for the purpose of Tender.

When all these documents are ready, the Director of Works and the Campus Planner both arrange and plan the siting of the proposed building. This is for the purpose of coordination and harmonization of the proposed project with the Master Plan for the overall physical development of the University.

The Director of Works returns all documents to the Head of Department who now makes his submission to the Physical Planning and the Development Committees. The description includes:

1. A concise statement of what the Development Committee is being requested to approve by the Dean of Faculty/ Head of Department.

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13. R/COM/46 (A Registry File)

2. A brief narrative description of the project
3. Sketches of the project
4. Estimated cost of the project with an attached letter from the Director of Works
5. A letter from the Campus Planner verifying the siting arrangements.
6. A letter from the Bursar confirming that there is fund.

When all these documents are complete, the chairman of the physical planning committee attaches a letter approving the structure and siting of the project for onward transmission to the Development Committee. The Development Committee on its part scrutinizes all the details ensuring that procedures have been carefully followed, that the project is in alignment with the University's master plan and that funds are available. The project is approved only if all these conditions have been satisfied. The Secretary to the Development Committee conveys approval in writing within forty-eight hours after approval while copies of the same letter are then sent to the Bursar and the Director of Works for further action. The next stage is that of project implementation.

Project Implementation

As soon as the Director of Works receives his copy of the letter of approval, he contacts the Vice Chancellor

for permission to tender the contract. An external advertisement is made in which is stated details of buildings and time of completion. But the cost is not stated. 3 - 4 weeks are normally allowed for submission of Tenders to the Registrar's Office. A day after the expiry date, the Tender Board Sub-Committee consisting of the Registrar, the Bursar, the Director of Works or their representatives convene a meeting at which Tender envelopes are opened, Tenders tabulated and numbered and selection made based on the following criteria.

1. The contractor must be registered with the University under category "C" i.e. construction.
2. He must have a good reputation
3. He must be very experienced
4. The cost of construction quoted by the contractor should almost tally with that estimated by the University Quantity Surveyors.

The Director of Works after being adviced by a copy of the award letter to the winner of the contract, instruct the Quantity Surveyors to prepare four copies of the Bills of Quantities and General condition. Under the conditions, the contractor signs an undertaking to carry out and complete the job within the contract time and in accordance to the specification of the drawing. Also, the University undertakes to pay the contractor in

the manner specified by the agreement. The agreement is then sealed by the signature of both the contractor and the Vice Chancellor.

As soon as this stage is completed, the contractor is shown the working drawings and the site and the Director of Works then appoints the Project Architect who is an officer within the Estate to supervise the project. The project Architect together with the contractor then fix a date when the project is expected to commence.

On the whole the Estate Department supervises, controls and manages the execution of the project. The Project Architect represent the Director of Works on site. He supervises the work, controls site progress and manages the contractor. The Clerk of Works is solely an officer under the directives of the Project Architect/ Engineer. He ensures that the instructions of the later are carried out and makes brief weekly reports on the project. This system of supervision continues until project is completed. At the end of project construction, only 50% of the contract fee is paid to the contractor the rest which is withheld and treated as retention fees is paid at the end of the defect and liability period.

However the end of project construction could be taken as the date of expiration of the defect and liability period which is usually six months including a full rainny season after practical completion of works.

The defect and liability period starts from the day the project is handed over to the Project Architect/Engineer from whom the Head of Department takes over. During this period, the Head of Department keeps noting any defects and reports to the contractor who also comes round occasionally to take note and make repairs accordingly. The Estate ensures that such repairs are carried out during or after this period. In the event that the contractor fails to effect repairs, then the Estate can make charges on his retention fees.

After the period of defect and liability and in the event that the job has been performed to satisfaction, the Estate authorizes the payment of the contract fees i.e. the remaining 50% of the total fees charged.

CHAPTER FIVE

ANALYSIS OF DATA

Introduction

The last chapter shows that the development of buildings at Ahmadu Bello University is carried out by the joint efforts of the Heads of Departments concerned, the Estate Department and the Development Office of the Registry Department. Based upon the number of courses taught in the departments with the student/staff population, the Heads of Departments put up their proposal for additional buildings. The Development Office [services] the various committees that formulate development policies for the award of physical development projects while the Estate Department concerns itself with the implementation of those policies. The Head of Department and the Director of Works or his representatives, jointly certify a building project as being satisfactorily completed before the building is taken over from the contractors.

In this chapter efforts will be made to analyze the various problem encountered by the different arms in the process of putting up buildings.

On the whole, two different types of questionnaires were administered. A set of questionnaires went to the Heads of Departments who constitute the users while the

other set sent to the officers of the Estate Department and Development Office who are the formulators and implementators.

A total number of 35 questionnaires were administered to the various Heads of Departments out of which only 23 were returned constituting about 65% of the total questionnaires. In the case of questionnaires administered to the Estate Department and the Development Office, only those staff members who had direct dealings with the handling of physical projects were contacted. Out of the 20 questionnaires administered, 13 were returned. This also constituted 65% of the total questionnaires. On the whole 50% of the total responses could be considered as average while 60% response is considered good. Anything 70% and above is very good.

The research intends to analyze the results of the questionnaires as well as the interviews conducted.

Accommodation Requirement and Finances

When the Heads of Departments were asked whether the present physical structures in their departments were adequate for the needs of their departments, out of the 23 Heads of Departments who responded to these questions, 22 of them said that the present physical structures are inadequate for their use. Nearly all the departments in the University therefore need additional buildings to perform their duties of teaching and research effectively.

In determining the consequence of the inadequate structures for teaching and research, the author in an interview sounded the opinion of the Heads of Departments. In their responses 86.9% of them strongly expressed the inconveniences encountered in teaching some of the courses while 13.1% of the same sample expressed the fear that if the situation is not corrected, there would be a decline in the expected standard of academic attainment. To attest these complimentary views, the author took time to go round the faculties. She observed that inadequate lecture theatres and rooms have necessitated duplication of efforts on the part of lecturers who had to repeat a particular lecture to many groups of students that could have been taught once.

The author went further to ask the Heads of Departments why they would want their departments extended. 60.5% of the respondents explained that their student population had increased considerably and the amount of space available was usually not big enough to accommodate this increase including that of the staff.

From the authors interaction with the Heads of Departments, observation and personal investigation into the records one can rightly conclude that increase in staff and student population had created inadequacy in accommodation and consequently a lot of inconveniences

is suffered in the areas of teaching and research. Records made available to the author also revealed that increase in student and staff population came as a result of the introduction of new courses to meet the real needs of the nation and the socio-psychological wishes of individuals.

Unfortunately all efforts to put up buildings here and there cannot meet up with the demands for them. The reasons are obvious as revealed by the authors investigation. The University was founded to cater for the interest of the then Northern Nigeria which now consist of the ten Northern States when educational awareness in the North was at its lowest ebb. Initially there were no problems of accommodation as the buildings in existence then were quite adequate to cater for the needs of the educationally less priviledged north. The various departments and ofcourse, the University at that time was receiving enough funds from its funding fathers i.e. the 10 Northern States until 1975 when all the Universities in the country were taken over by the Federal Government. At this time, national needs superceded the interest of the ten Northern States and as such the Universities were asked to increase students intake and also to increase the scope of courses offered to reflect national needs. Coupled with this, there was

also a tremendous academic awareness throughout northern region and the nation at large. All these were mounted to the detriment of the University as the funds made available were not proportionate to goals the nation wants her to fulfil in terms of funds available for capital projects. Infact from available records, the amount received has kept decreasing as the staff/student ratio kept increasing, (see tables 1 and 2 below).[1]

TABLE 1

SUMMARY OF THE CAPITAL FUNDS REQUIRED TO AMOUNT RECEIVED FROM THE NATIONAL UNIVERSITIES COMMISSION (NUC)

YEAR	AMOUNT REQUIRED	SUBVENTION RECEIVED
1975/76	34,412,000	13,887,000
1976/77	38,810,000	15,242,000
1977/78	37,142,000	10,000,000
1978/79	28,109,200	*10,350,000

* Include a special capital grant of ₦3 million towards the completion of the Faculty of Medicine buildings.

1. Abdullahi Ango, Towards a coordinated and purposeful planning for Ahmadu Bello University (A Seminar paper delivered at the Third Quinquennial Capital Development Plan 1975/80 held on 16th and 17th May, 1979.

TABLE 2

STAFF DISPOSITION, STUDENT ENROLMENT, AND STAFF ESTABLISHMENT FOR THE FOUR SESSIONS

YEAR	ACTUAL NO. OF ACADEMIC STAFF IN POST	NO. OF STUDENTS	STAFF/ STUDENT RATIO	NO IN ESTABLISHMENT
1975/76	668	6,911	1:10.3	957
1976/77	773	7,321	1: 9.5	1,160
1977/78	830	7,327	1: 8.8	1,539
1978/79	812	8,010	1: 9.8	1,820

The reason being that the Federal Government having taken over the 13 Universities which were in existence at that time, decided to create 7 other Universities of Technology. All these were done at a time when the nation's public spending lack proper accountability and economic justification. Invariably the Federal Government ran into austere time that it was not prepared for and became impossible for her to effectively and adequately fund all these universities and at the same time cater for the needs of the other sectors of the economy such as Health and Agriculture. As a way of revamping the nations economy, the subsidy to Universities were slashed and a corresponding cut in capital funds was imposed.

Inspite of the financial position of the University, the authorities have been able to put up some buildings. When asked how it had been possible for the University to put up so many buildings despite the dwindling financial resources, the Development Secretary explained that the University had adopted some ways of getting extra funds outside the National Universities Commission (NUC) grants for example through the Endowment Funds, from its alumni Association, through the University Press by printing materials such as books, pamphlets cards and also from the various consultancy services rendered by the departments to the outside bodies. One-third of such funds is paid into the coffers of the University.

The Nature of the Soil

During an interview with the Estate Engineer, he said that it was necessary to take soil samples in order to be able to determine some other technical details when constructing a building. To buttress this point 8 out of the 13 respondents (constituting 61.5%) confirmed that the nature of soil would affect the durability of the buildings. Some of the respondents pointed out that where the ground was very swampy or too hilly, a lot of money would be needed to prepare the land for the foundation. Such land if possible should be avoided in order to cut down on the overall cost of construction.

They explained that if the land is too much water logged, the long time durability of the building is affected because eventually the building would sink.

Acquisition of Land

The next problem area is in the acquisition of land. 100% respondents said that it was easier for the University to acquire land in the rural areas than in the urban areas. In the former, there is land in abundance with less competition for it but in the urban area land for further development would have to be acquired and payment of compensation to the inhabitants of the land to be acquired is usually a very sensitive issue which requires careful handling.

In the case of Ahmadu Bello University land had been acquired both in the rural and urban areas. In case of rural area development we have for example the College of Agriculture Bakura, the Teaching Hospital at Malumfashi, the Agricultural Stations at Kadawa and Mokwa, the College of Agriculture Kabba. Little or nothing was paid in terms of getting the land for development. Where the land was acquired in the urban area, there had been a lot of problems in the payment of compensation for example land acquired at the Banzazzau area of the Institute of Administration, Ahmadu Bello University Zaria and also the piece of land adjacent to the Industrial Development Centre Zaria which were

acquired for the construction of some Intermediate and Junior Staff Quarters. Even though it had become difficult acquiring land in Samaru, the expansion of the Samaru Campus had only been to the advantage of the village which had expanded considerably since the inception of the University, not only that, the socio-economic status of the village and the general condition of life of the people had improved considerably by providing employment opportunities for them.

Payment of Compensation:

On whether the University had to pay compensation for acquired land, 10 out of the 13 people who answered the question were sure that the University normally paid compensation on acquired land. This number constitutes 76.9% of the respondents.

There were two phases for consideration in the payment of compensation. The first one was the compensation paid on economic trees and the second was the compensation paid on the land itself. The problem here was that which everyway one looks at the issue one is bound to reach the conclusion that the Local Government staff are out to cheat. The amount paid on economic trees depended on the number and the sizes of the trees. The Local Government staff therefore inflated the number and size so that faulty figures were recorded to get more money. The second problem was that of compensation

paid on already settled area. Landowners usually cause a lot of trouble because compensation fees was usually paid to the coffers of the Local Government in which the land was situated. The Local Government, instead of paying these fees to the landowners directly because they know them better, decided to keep a substantial part of the money. Trouble brewed up when landowners refused to vacate the land because the amount paid was not acceptable to them. In the case of the acquired land at Banzazzau for the Institute of Administration Intermediate and Junior Staff Quarters, (bought in 1972) compensation had to be paid twice because at the time the land was bought and paid for, the University had not enough money to fence the land, so landowners went back and settled on the land. At the time the Institute was ready to use the land the inhabitants refused moving out on grounds that they had never been paid compensation and that unless they get paid they would not move.

Siting of Buildings

Siting of buildings or the location of a building is an important point for consideration when taking about academic buildings. About 77% of the respondents who answered the question on whether there was a need to determine the site for a particular building pointed out that siting was very important. About 80% of them

said that departments which conduct courses relevant to a particular field of study (related department) should as much as possible be sited near each other. For like example students in the fields of the applied sciences like Engineering, Medicine and Pharmaceutical Sciences had to be taking some courses in the pure sciences. It was desirable for the faculties to be within walking distances to each other. Subjecting students to very long treks in between lectures cause lateness in reaching lecture halls as well as tiring out the students and rendering them incapable of assimilating properly the contents of their lectures. In Ahmadu Bello University, it is observed that even though student hostels are not too far away from lecture halls, some related disciplines mentioned above are unnecessarily too far apart from each other. This arrangement is not desirable because students movement to and from their lecture halls are minimized and much time and energy are exerted.

In one of the authors discussion with the Estate Engineer she gathered that when siting buildings factors such as light orientation should be taken into consideration. A building should be sited in such a way that it allows proper illumination by the sun's rays during the day. It should also be in a direction where plenty of fresh air can be obtained. This factor is important when constructing laboratories where plenty of fresh air is required for the efficient performance of equipments.

also unwanted gases which could be harmful to human health would easily flushed out. He went further to say that in the construction of libraries, proper ventilation and illumination were necessary and that such factors when taken into consideration reduced the strain on the brain and eyes thereby preventing the library user from being easily fatigued.

Selection and payment of contractors

In the selection of contractors, there is a fifty/fifty chance that either indegenous or foreign contractors are used depending on the nature of the job to be performed. Results of questionnaire showed that of the 13 people who answered the question which asked the type of contractor preferred, 7 confirmed that both indegenous and foreign contractors are used in the construction of buildings, this constitutes about 53%. Even though in 1977, there was the Indegenization Decree compelling all establishments to employ more of the services of the indegenes in preference to foreigners. It is observed that this is not totally possible because our indegenous contractors lack the experience and the qualification required to construct some complicated structures. However there are some problems inherent in employing either of them as contractors.

Foreign contractors, although a lot of them have the experience, qualification and equipments to carry out their work, they are noted for their high charges and their

insistance on importing all the materials for building: fittings, furniture, equipments and all that goes into completing the building. In the process of transporting all these materials, a lot of time is wasted and obviously the target date set for completing the building cannot be met. In the case of project AB/235/1[2] i.e. the 105 bungalows and the 20 professorial houses built by Belag Construction Company, the project suffered an initial set back lasting over twelve months because the University cannot meet up with the company's demand for more money to pay its workers so the progress of the work was slowed down. The same was affecting project AB/101[3] i.e. the new Ahmadu Bello University Teaching Hospital near Shika, where the progress of the work has been slowed down. Transportation of building materials and equipments and their installation have also been mentioned as major sources of delay for example project 241 B/4[4] i.e. laundry, kitchen and the general wards of the present Ahmadu Bello University Teaching Hospital is suffering from these problems.

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2. EST/162, Progress Report on Capital Projects from Estate to Tenders Board, p. 8.

3. Op. Cit., p. 8.

4. Op. Cit., p. 11.

The problems posed by the indegenous contractors are even more serious. This is because they are inexperienced and incompetent. It was explained that some of our indegenous contractors are not contractors in the real sense of the word, they are simply rich men who see the winning of a contract as another avenue for making more money. These rich men with their money make the necessary contacts to win a contract and on securing it sell the contract to the experienced and qualified foreign contractor. Meanwhile the indegenous contractor sells the contract in such a way as to make enough profit and at the same time insist the foreign contractor should pay all the money to him before releasing the job. No sooner has the foreign contractor started the job than he finds that he has not got enough money to continue and by the time he is able to get the University to pay him anything, the cost of the building materials would have increased. So he too abandons the work until the University can give him some money.

There are some of them who are actually very competent and well organized and they always manage to complete their work on schedule. However there are others too who, though are capable of doing the work divert part of the money into their own business instead of using it all on the proposed project. The result is that they abscond especially if their own business is

not the kind that can easily earn them enough money to finish up their projects for which they have already received some mobilization fees. Usually when these indegenous contractors abscond, foreign contractors are called in to complete the jobs. The cases of projects 1) AB 228/1 i.e. The Students Hostel, Institute of Administration, Ahmadu Bello University Zaria and 2) AB/222 i.e. The Centre for Social and Economic Research which are both initially awarded to Messrs Adewale Bello Construction Company were reallocated to E.M. Michaletti and Messrs B. Stabilini and Co.[5] respectively.

Apart from these foreign contractors who by the various problems encountered cause delay in constructing the buildings, there are also some professionals employed to monitor the work of the consultants and contractors. Ideally, internal consultants are preferred to external ones but over the years, it has been difficult to retain some of these consultants as University staff because they make more money when they come as external consultants. It has been found that because the University cannot retain some of these consultants, it relies more on the services of less qualified and inexperienced staff, where the University

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5. EST/162, Op. cit. p. 8.

has to employ external consultants invariably it runs into problems. These consultants take the advantage of the absence of a qualified internal consultant to lure the less qualified staff into accepting their own terms and also abuse the trust reposed in them by creating loopholes through which contract prices are inflated. Where also the University relies only on the services of its less qualified professionals it stands the risk of not getting an objective assessment of the progress of the work.

While talking about contractors, the Heads of Departments have their own comments to make on how project works are generally handled. 78% of the responses (from Heads) indicated that Heads of Departments are generally not pleased with the way projects are being handled because according to them contractors owe total allegiance to the Estate Department. They feel that as long as they can satisfy Estate Department, they are covered. This assertion was proved true when over 80% of the Heads of Department who had their departments extended of recent claimed that they were not asked whether the work done was satisfactory to them before Estate signed off the contractors. This meant that as long as Estate alone certifies that a building project has been successfully completed, the contractor gets his pay. This line of action is quite contrary to laid

down procedures which requires that both the Director of Works and the Head of Department should jointly agree that a building project has been satisfactorily completed before payment is effected. The procedure whereby a Head of Department is side tracked leaves a lot of loopholes for inefficiency and suspicions. Very poor quality materials would be used and the finishings would not be thorough. By paying off contractors immediately after completing the building, the period of defect and liability is evaded. Any repairs detected after the contractors have been paid would have to be given out again on contract. There is no doubt that this amounts to pure waste of time and funds.

The Heads of Department in their responses further condemned Estate for their inefficiency and ineffectiveness. They claimed that most of the projects are not properly supervised. Instead of the site Engineer monitoring progress, a lot of the work is left to the Clerks of Works who write a daily progress report on the project being executed for onward transmission to the Development Committee. Because progress of work is not usually closely followed, a lot of the mistakes are detected only after the work has progressed far. In order to cover up this fault, the contractors and the Estate representatives come to an agreement thereby leaving out completely the Head of Department.

Apart from the supervision of work, they condemned the procedure whereby a contractor abandons a project after he has collected all the contract sum without doing 50% of the contract work.

Apart from the reasons mentioned above, there are other factors which the Clerks of Works[6] enumerated as sources of delay. They are:

a) The prevailing weather conditions: sometimes excessive rainfall can prolong the time of completion of a building e.g. Project AB/192, the new Crop Protection building and Project AB/249[7] the Agronomy building were both initially scheduled for completion in July 1980 but were not completed until November/ December 1980.

b) Another factor for consideration is that sometimes there are changes made by the user Department in the working drawings, such changes cause delay especially when work has progressed considerably. The changes could be major or minor and the extent too could determine how early or how late the project would be completed.

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6. Interview with the Clerk of Works held on 23rd June, 1983.

7. EST/162 Op. cit., p. 13.

c) Labour problem: It is possible sometimes for labour force from the immediate locality to suddenly desert the construction site in order to do some farming. (Such experiences are encountered during the rainy season). Such were the experiences during the construction of project AB/DAC/1 i.e. the 60 bed Hostel Blocks, Temporary Class-rooms, Offices and laboratories of the School of Agriculture Bakura.

d) Administrative Delay: Invariably all projects conceived go through a lot of administrative formalities before it is finally allocated to a particular contractor. Before the proposal is to be approved, the working drawings must be scrutinized and approved. The formalities of selecting contractors would have to be done and the mobilization fees has to be paid. All these consume time. Sometimes loss of money is incurred because by the time the contractor finally settles down to start the work, the amount quoted in the Bills of Quantities have changed - prices of building materials have increased.

Conclusion

From the above, it is seen that there are quite a number of problems involved in the construction of the physical structures in Ahmadu Bello University. It should be appreciated that while some of these problems

can be averted by choosing the site and contractors judiciously and by evading the payment of compensation there are others which cannot sometimes be avoided for example the unavailability of experienced and qualified personnel to supervise the project under execution, the prevailing weather conditions and of course all the necessary administrative procedures which have to be followed.

In the next chapter, attempt will be made to recommend ways of curbing these problems.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary and Conclusions

In the authors effort to explore the problems of Physical Development at Ahmadu Bello University Zaria, she divided the project into six chapters. Chapter one was an introduction to the study. In it, the author discussed the aim of the study and carefully narrated the problems. The methodology for research and how the data collected would be analyzed were stated. It was discovered that while it was necessary to increase University intake to meet national needs, ironically the necessary buildings that should house the teaching and research activities of the University are grossly inadequate.

In chapter two, the researcher had attempted to review the literature on the physical development at higher institutions of the world. Literature review exposed the emphasis placed on planning. This included planning the curricula, the personnel and of course the building requirements. It was shown that whether the building was for a higher institution or for primary and secondary schools, abroad or in Nigeria, the planning process was primarily the same in the sense that a relationship existed between the academic programme and the immediate environment of the institution. Also in

all these areas, climatic conditions, nature of soil and light orientation are important factors taken into consideration when putting up buildings.

Chapter three was the historical perspective of Ahmadu Bello University. It described how the University emerged from the former Nigerian Collegeof of Arts, Science and Technology into a full university namely the Ahmadu Bello University. The emergence of the faculties, institutes and other units were also discussed.

Chapter four reviewed the activities of those committees that are directly concerned with the development of buildings at Ahmadu Bello University (both the policy making and the policy implementation committees). Attempt was also made to appraise the planning process from the time a project is conceived to the stage of completion and handover.

In Chapter Five the various problems encountered during the process of building were investigated with a hope of making recommendations on how to avert these problems in future. The problems include: Inadequate finances for required accommodation, improper study of the nature of soil, the ambiguous land tenure system and the consequent problem of compensation for acquired land. We also have the problem of siting the building, selecting the right contractor to execute the project and paying them on completion.

Apart from these problems, there are also problems due to forces beyond the control of the University, the contractors and consultants asenumerated in the last paragraph of chapter five.

RECOMMENDATIONS

Accommodation: On accommodation, it was observed that accommodation problems were not tackled along side increase in student and staff ratio. Getting accommodation outside the campus could be a better alternative but for the fact that some of these houses are either too far from the campus or too expensive and therefore far beyond the reach of an average student. The University can alleviate the suffering of the student by borrowing a leaf from what obtains in other Universities like the University of Lagos and Obafemi Awolowo University, Ado Ekiti. In the former all the houses that are close to the University are rented by students. The University merely serves as an intermediary between students and landlords to ensure that a uniform price is agreed upon so that students feel fairly treated and also to ensure that students pay regularly to landlords. In the latter, the University provided eligible contractors with University land for the building of University approved hostels for students. The University then collects rentage on land provided to contractors while students in turn pay contractors rentage on hostel

accommodation. The University merely serves purely as a middleman between the students and the contractors. The University should adopt similar measures for the convenience of staff, students and the University administration.

Finances: The issue of finances is the most crucial and the only way out is not to rely on the subventions that the University receives from the National Universities Commission but also to look for ways of consolidating its consultancy services with a view to formulating more viable projects. Apart from those being currently carried out, other suggestions include setting up a University profit-making bakery as operated in University of Ilorin where the University's bakery supply bread to all interested retailers and consumers who register with them. Apart from this, the University farm could be made more viable so that farm produce could be made readily available at reduced price to interested people. The Faculty of Environmental Design could go commercial by way of utilizing the ceramic division to produce household utensils like cups, plates, mugs, casseroles and also designing materials for the public. The Faculty of Pharmaceutical Sciences could also involve itself in the manufacture of some commonly used drugs like analgesics, antimalerial tablets and some injections. These ventures could be avenues for generating huge sums of money for the University.

Nature of Soil: It is very important to carry out adequate soil survey before starting the construction so that water logged or areas that are too rocky are completely avoided. This way a substantial amount of money can be saved for future developments.

On acquisition of land, the State Government could be of great help if it could come out with a clear policy stating a minimum amount to be paid on a specific size of land acquired for institutional purposes only rather than allowing local Governments to arbitrarily demand for any amount they so wish. By this arrangement, compensation on land would be paid to the State or Local Government and the later in particular would be responsible for paying compensation to land owners and also seeing to it that the land is duely vacated at the appropriate time. On the whole, the author believes that a better arrangement could be achieved if land is solicited from State Governments rather than from individuals.

Another area for consideration is siting of buildings. This has been found to be determined by factors like -

1. nearness to related departments;
2. nearness to students hostels; and
3. the nature of soil.

Where the first two factors are uppermost in determining the position of a building than (3) becomes less important but where it is not necessary for any two buildings to be near each other, then it becomes important to consider the nature of soil. This helps to minimize the cost of construction.

Coming to working drawings, as much as possible, preliminary studies should be done by direct labour using the University's internal consultants. The University has adequately qualified consultants in the relevant faculties who can be used without necessarily hiring external consultants. The departments of Architecture and Quantity Survey can design and prepare bills of quantities respectively while the Faculty of Engineering with all its various departments can supervise all the different stages of building construction. As much as possible preliminary drawings should be carefully prepared so that changes after its completion is completely avoided. This helps to cut down on extra expenses which would have been incurred in the process of alterations.

It is recommended also that in the award of contract, there should be a way of eliminating those administrative bottle-necks which unnecessarily delay the award of contracts. This can be done by attending to problems promptly, it should be ascertained that

enough money is available for a project before it is commenced, that way the cost of building materials would not be overtaken by events, thereby causing an increase in the prices of these materials.

On the issue of selection of contractors it is advocated that only competent ones be chosen to embark on contract work. Under no circumstances should contractors sublet their contract work to another contractor, such should be the prerogative of the University. While it is worth pursueing the indegenization policy for the award of contract, it is recommended that only the competent ones be encouraged by giving them more contract work while incompetent ones be blacklisted. Contracts should not be awarded on basis of tribe, politics or favouritism of any sort but on how technically competent the contractor is.

For very small projects direct labour using internal human resources from Estate is recommended. It is a common practice to allocate small projects and even some maintenance work on houses to contractors. These jobs could have been easily tackled by direct labour. One finds that when such jobs are given out on contract, the contractors turn round to use Estate labourers to perform the work.

It is important to consider the payment of contractors with all seriousness. If payment is well

regulated, it controls to a large extent, the urge by some contractors to cheat. It is recommended that all concerned that is the Clerk of Works, the Consultants and the Heads of Departments should as a matter of routine follow up the progress of work. This would ensure that specifications are followed and problems are handled and tackled on time. Contractors should be paid instalmentally as work progresses. The present arrangement whereby some contractors get all their money before ever completing the job is quite unsatisfactory. This procedure encourages contractors to abandon their work without bothering to finish them up. Contractors should be paid their final dues only after the period of defect and liability. It should be ensured that contractors do their work thoroughly and should be made to pay for any lapses on their part. At the end of the contract period, the Head of Department should duly certify that a contractor has completed his work to his satisfaction before the Director of Works recommends the payment of his fees. This would help minimize the suspicion that the Estate is making some shady deals with the contractors.

Having made the above recommendations, it is worthwhile for the University to take the following hints:

1. The working drawings should be carefully prepared in order to avoid constant changes, these changes if allowed cause inflation in contract prices and delay in completion.

2. Sometimes there are some inconsistencies and indecisiveness in the selection of some building materials. Departments should be quite clear on what they want, contractors on their part should order building materials well ahead of time if they are not locally available. These would help minimize time lost and cost.
3. As much as possible consultants should be employed within the locality of the project. This cuts down on travelling expenses and last minute disappointments.
4. The Bursar should ensure that all the necessary documents have been duly signed and that a contractors work has been satisfactorily done before payment is made.

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Dear Respondent,

This questionnaire is designed to highlight the problems that are often associated with the development of physical structures in Ahmadu Bello University. It is thought that the result of such an investigation would help in the formulation of solutions to those problems so that the University can fulfil its primary role of providing the necessary manpower requirements in various fields for the overall development of the country. It is not designed to find fault with anybody or officer and any information provided would be treated as strictly confidential.

Please feel free to answer the attached questionnaire You will be doing Ahmadu Bello University a lot of good if you so do.

Thanks for your anticipated cooperation.

Yours faithfully,

(SGD)

(M. S. OLATUNJI (MRS)

PLEASE ANSWER THESE QUESTIONS

1. Are you working in the University?

   Answer 'Yes' or 'No'.

   Ans:-

2. Where do you work in the University?

   Ans:-

3. What post do you hold?

   Ans:-

4. How long have you been in your present post?

   Ans:-

5. Do you belong to any of the University Committee which handles physical projects?

   Ans:-

6. If the answer to 5 is 'Yes', what is the name of the Committee?

   Ans:-

Please circle all the correct answers in a question where more than one answer is correct.

THESE QUESTIONS ARE TO BE ANSWERED BY OFFICERS OF THE DEVELOPMENT OFFICE AND ESTATE DEPARTMENT

Please circle the letters corresponding to the right answers.

Example:

University education is necessary for any nation to develop technologically

a. Agree

b. Disagree

c. Undecided

d. Don't know

Q U E S T I O N S

1. For easy acquisition of land, Universities must be cited in -
   a) Urban area
   b) Rural Area
2. Does the University pay compensation on such land?
   a) Yes
   b) No
   c) Occasionally
   d) Don't know
3. On an average, how much does the University pay on an acre of land
   a) ₦100 - ₦1,000
   b) ₦1,000 - ₦10,000
   c) ₦10,000 - ₦100,000
   d) Above ₦100,000.
4. Does the University find it easy to obtain the customary Right of Occupancy (C of O) from the states and local governments?
   a) Yes
   b) No
   c) Don't know.
5. If the answer to 4 above is No, what is responsible for this?
   a) Failure to pay the required fees
   b) Failure to tip the officers who are concerned with the issuance of certificates.

c) Administrative bureaucracy

d) Don't know.

6. What factors determine the site to be used for an academic building?

a) Nature of the soil

b) Nearness to student hostel

c) Nearness to related departments

d) An area where people can appreciate the beauty of the building

e) Don't know.

7. Does the nature of soil affect the stability and durability of the building?

a) Yes

b) No

c) Sometimes

d) Don't know

8. Does the nature of soil affect the duration for the construction of building?

a) Yes

b) No

c) Sometimes

d) Don't know

9. In the selection of contractors, does the University set criteria for contract awards?

a) Yes

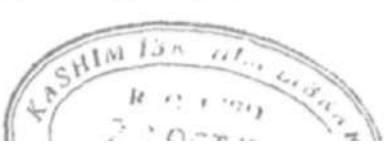
b) No

c) Sometimes

d) Don't know

10. Does the University enter into agreements with them?
    a) Yes
    B) No
    c) Sometimes
    d) Don't know.
11. Do the contractors ever default?
    a) Yes
    b) Never
    c) Sometimes
    d) Don't know
12. In the award of building contracts by the University, which contractor is preferred.
    a) Indegenous
    b) Foreign
    c) Most of the time foreign
    d) Most of the time indegenous
    e) None of the above.
13. What reasons could you adduce for the University's choice?
    a) Always completes job on time
    b) Always uses good quality materials
    c) Charges are moderate
    d) Contractors are influential
    e) None of the above
14. How are the contractors paid by the University?
    a) By periodic instalment
    b) In lump sum before the execution of the project
    d) A little sum before and then the rest after the execution of the project
    e) Don't know

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15. Does the value of the contract work change after the construction work has started?

    a) Yes

    b) No

    c) Sometimes

    d) Don't know

16. If the answer to question 15 is Yes, what are the reasons for this change?

    a) Increase in the cost of building materials

    b) Increase in labourers wages as a result of inflation

    c) Contractors want to make more profit

    d) The work was initially undervalued

    e) Don't know.

17. Are the University's building projects always completed on schedule?

    a) Yes

    b) No

    c) Sometimes

    d) Don't know

18. If the answer to question 14 is 'No', what reasons are generally responsible for such delays?

    a) The U iversity introducing changes in the building plan after contract work had started.

    b) Inadequate supervision of work

    c) Frequent workers strike

    d) Too many public holidays

e) The University frequently runs short of money.

f) Don't know.

19. Which committee(s) or section(s) of the University deal with the award of contracts for building projects?

a) Development Office (name the committee)

b) Estate Department

c) Tenders Board

d) Vice Chancellor

e) Don't know

20. Does the decision of the committee have to be ratified by the Vice-Chancellor or other highly placed officials or body before the execution of the project?

a) Yes

b) No

c) Sometimes

d) Don't know

21. Is the University concerned with the issuance of licence and approval of foreign exchange for contractors?

a) Yes

b) No

c) Sometimes

d) Don't know

22. Please state any other relevant information that you think could be useful to this study but which you think the questions above did not cover.

QUESTIONNAIRE TO HEADS OF DEPARTMENTS

1. Are the present physical structures in your department adequate for the needs •f your department?
   a) Yes
   b) No
   •) Not sure
2. If the answer to question 1 is 'No', what is the effect of this on your academic programmes?
   a) No effect
   b) Students unable to learn anything
   c) Standard generally low
   d) Not all courses could be conveniently taught.
   e) Don't knew
3. What reason(s) would you give to suppert the extension of your department?
   a) Other departments are being extended.
   b) Increase in the number of students
   c) Increase in the number of new programmes
   d) Increase in the number of staff
   e) Size of the present department is too small.
   f) No reason.
4. Has your department been extended of recent?
   a) Yes
   b) No
   c) Can't remember
5. If the answer to question 4 is 'Yes' who handled the construction of the project?
   a) A Contractor

b) The Estate Department (by using its internal resources)

c) Can't remember.

6. If the answer to question 5 is 'a', who do the contractors handover to when the job is completed?

a) Head of Department

b) Estate Department

c) Committee who awards contracts

d) Don't know

7. Were you satisfied with the finished work?

a) Yes

b) No

c) Undecided

8. If the answer to question 7 is 'No', what in your view is responsible for the poor execution of the job?

a) Contractors are 'big' men who could not be bothered with too many details

b) Use of poor quality materials

c) Inadequate funds

d) Dimension of the buildings have been reduced

e) Don't Know

9. Who pays the contractor his fees

a) Head of Department

b) Estate Department

c) The Bursary

d) Don't know.

10. If the answer to 9 is not 'a', do you have to give the contractor a signed letter certifying that his job is satisfactory before he gets paid?
    a) Yes
    b) No
    c) Sometimes
    d) Don't know.
11. Do you think that the present procedure of implementing a physical project is adequate?
    a) Yes
    b) No
    c) Can't be bothered
    d) Don't know
12. If the answer to 11 is 'b', what would you recommend as a solution to the problem?
    a) Use internal resources to construct the building
    b) Refuse to pay the contractors until the job is done to the satisfaction of the Head of Department.
    c) Adequate supervision by an officer of the Estate Department
    d) Buy all that is needed for the building and hand them over to the contractor.
    e) Pay the contractor all the money charged before the commencement of the work
    f) Don't know.
13. Please state any other relevant information that you think could be useful in this study but which you think the question did not adequately cover.

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