DEPARTMENT OF ECONOMICS

AHMADU BELLO UNIVERSITY, ZARIA

The undersigned certify that they have recommended to the Faculty Board of Arts and Social Sciences for acceptance, a thesis titled:

"ACADEMIC MANPOWER REQUIREMENT IN NIGERIAN UNIVERSITIES: A CASE STUDY OF AHMADU BELLO UNIVERSITY, ZARIA."

Submitted by

RACHEL UWA AGHEYISI

in partial fulfilment of the requirements for the degree of Master of Science in Economics•

INTERNAL EXAMINER & SUPERVISOR

DATE 17/6/81

EXTERNAL EXAMINER

DATE 17/6/81

HEAD OF DEPARTMENT

DATE 17/6/81

TO

JASON

BECKY

&

PAT

ACKNOWLEDGEMENT

This research was partly financed by the Ahmadu Bello University. For this, the author feels greatly indebted.

We also benefited greatly from the kind assistance of numerous persons in the preparation of the dissertation. We especially wish to thank the staff of the University Registry who were so helpful during the initial phase of data collection. In this regard, we were particularly impressed by the remarkable interest shown in the project by the Development Secretary, Mrs. L.S.Osori, and by Mrs. Oyedipe, and Messrs Ekwenalor and Ishmael. We also appreciate the effort put in by Anthony Agekamhe who shouldered responsibility for typing the end-pfoduct.

The positive influence of my friends and my sisters, Becky and Pat, which was a great asset during this difficult period is very highly appreciated. So too was the congenial atmosphere which prevailed in the Economics Department. Colleagues spurred me on. Dr. J.S. Odama and

Dr. A.O. Nwani were particularly interested in the project. Their occasional "hard" word provided the required impetus.

In all, however, my supervisor, Mr.Om'te Diatchavbo occupied a special position. From the beginning to the end, he was such an admirable source of inspiration. He provided a thorough and painstaking supervision throughout all phases of the project. His help and guidance are highly appreciated. In spite of all this, however, whatever short-comings the thesis may contain are my responsibility.

RACHEL UWA AGHEYISI

1981.

TABLE OF CONTENTS

		Page
LIST OF TABLES		vi.
LIST OF STATISTICAL APPENDICES		viii.
INTRODUCTION		1.
	OBJECTIVES AND SCOPE	1.
	JUSTIFICATION	2.
	RESEARCH METHODOLOGY AND SOURCES OF DATA	4.
CHAPTER 1	OBJECTIVES, SCOPE AND METHODOLOGY OF MANPOWER PLANNING	6.
1.1	OBJECTIVES AND SCOPE	6.
1.2	METHODOLOGY OF MANPOWER PLANNING	9.
1.3	CONCLUSION	26.
CHAPTER 2	ACADEMIC MANPOWER REQUIREMENTS, 1962 - 1980	27.
2.1	GENERAL TREND	27.
2.2	INTER-FACULTY DISTRIBUTION	31.
2.3	DISTRIBUTION BY RANK	34.
2.4	DISTRIBUTION BY NATIONALITY	38.
2.5	ACADEMIC MANPOWER TURNOVER AND WASTAGE ..	41.
2.6	CONCLUSION	45.

TABLE OF CONTENTS(CONTD.)

		Page
CHAPTER 3	ACADEMIC MANPOWER ESTIMATES 1980 - 1990	46
3.1	MODEL SPECIFICATION	46
3.2	MODEL APPLICATION	47
3.3	ESTABLISHMENT SURVEY	51
3.4	NET ESTIMATES	53
3.5	CONCLUSION	55
CHAPTER 4	SUPPLY OF ACADEMIC MANPOWER IN THE 1980s	56
4.1	DOMESTIC SOURCES	57
4.2	FOREIGN SOURCES	58
4.3	INTERNAL EFFORT	60
4.4	ROLE OF GOVERNMENT	62
4.5	OTHER SOURCES	63
4.6	IMPORTANCE OF THE MARKET	65
4.7	CONCLUSION	69
CHAPTER 5	SUMMARY AND CONCLUSION	70
5.1	SUMMARY	70
5.2	RECOMMENDATIONS	72

TABLE OF CONTENTS (CONTD.)

	Page
5.3 FUTURE RESEARCH	75
5.4 CONCLUSION	76
BIBLIOGRAPHY	77
STATISTICAL APPENDICES	80
QUESTIONNAIRE	88

LIST OF TABLES

NUMBER		PAGE
I	ACADEMIC STAFF DEMAND 1963/63-1979/80 -	28
II	DISTRIBUTION OF ACADEMIC STAFF BY FACULTY/CENTRE 1969/70 - 1979/80 (in percentage) -	32
III	DISTRIBUTION OF TEACHING STAFF BY RANK, 1964/65 - 1978/80 (in percentage)-	35
IV	DISTRIBUTION OF TEACHING STAFF BY RANK AND FACULTY, 1978/79 -	37
V	DISTRIBUTION OF ACADEMIC STAFF BY NATIONALITY AND FACULTY, 1976/77 -	39
VI	DISTRIBUTION OF ACADEMIC VACANCIES BY RANK, 1969/70 - 1976/77 (in percentage)-	41
VII	ACADEMIC MANPOWER TURNOVER AND WASTAGE 1976/77 - 1979/80 -	43
VIII	STUDENTS ENROLMENT AND TEACHING STAFF 1969/70 - 1979/80 -	48

LIST OF TABLES (CONTD.)

NUMBER		PAGE
IX	REGRESSION ESTIMATES OF TEACHING STAFF 1984/85 AND 1989/90 -	50
X	ESTABLISHMENT SURVEY ESTIMATES OF ACADEMIC STAFF, 1984/85 AND 1989/90 -	52
XI	GROSS ESTIMATES OF ACADEMIC STAFF 1984/85 AND 1989/90 -	53
XII	NET ESTIMATES OF ACADEMIC STAFF BY FACULTY/CENTRE, 1984/85 AND 1989/90 -	54
XIII	NET ESTIMATES OF TEACHING STAFF BY RANK, 1984/85 AND 1989/90 -	55

LIST OF STATISTICAL APPENDICES

NUMBER		PAGE
I	DISTRIBUTION OF ACADEMIC STAFF BY FACULTY/CENTRE 1969/70 - 1979/80 -	80
II	DISTRIBUTION OF TEACHING STAFF BY RANK 1964/65 - 1979/80 -	81
III	DISTRIBUTION OF VACANCIES BY RANK, 1969/70 - 1976/77 -	82
IV	STUDENTS' ENROLMENT, 1962/63 - 1979/80 -	83
V	TREND ANALYSIS OF STUDENTS' ENROLMENT 1979/80 - 1989/90 -	84
VI	ESTABLISHMENT SURVEY ESTIMATES OF ACADEMIC STAFF BY FACULTY/CENTRE, 1985 -	86
VII	DISTRIBUTION OF STUDY FELLOWS AND GRADUATE ASSISTANTS AS AT MARCH 1979 -	87

INTRODUCTION

OBJECTIVES AND SCOPE

This research aims to identify and analyse the academic manpower requirements in Nigerian Universities. It focuses on Ahmadu Bello University (A.B.U.), as a case study.

One of the major manpower problems confronting A.B.U. like most other Nigerian Universities, is the recruitment and retention of adequate academic staff.[1] Normally, academics are recruited from among the pool of first degree and higher degree graduates. But these graduates also constitute the available pool for recruitment in various other areas of national needs e.g. civil services, private commercial and research establishments, educational institutions, (such as Advanced Teachers' Training Colleges, Polytechnics) and for political offices.

Recurring staff vacancies in many disciplines during the past years, the expansion of these disciplines in the older universities to cater for larger student enrolments and the creation of the

---

1. Academic staff refers to teaching staff and research staff. The former also carry out some research to supplement their teaching.

same disciplines in the newer universities, are some of the major factors responsible for the increased demand for academic staff. But, over the years, Nigerian Universities have continued to face difficulties in meeting their demand from the output of the local higher educational institutions. Shortages abound; the heavy dependence on expatriate staff is one obvious indicator of these shoftages. Essentially therefore, the study will identify and quantify the academic manpower shortages in A.B.U. and propose stategies for eliminating or reducing them. This will involve making estimates of future requirements for a period of about 10 years.

JUSTIFICATION

Academic staff is one of the most important factors determining the quality of a university's performance and to a great extent, its contribution to the social and economic development of the country. Therefore, proper planning, recruitment, management, and utilization of academic staff should be accorded top priority among the tasks undertaken by a university.

Inadequacies of academic staff, whether in numbers or quality, invariably produce adverse effects. Vacancies, for example, may mean that present academic staff are probably being over-worked, consequently lowering morale and efficiency. It may also mean that some relevant and perhaps important programs may not be implemented. For instance, academic staff shortages have been the one notable factor subverting a massive program of local post-graduate training. Faced by these shortages, most Nigerian Universities indeed lack any worthwhile post-graduate programs. Surely, therefore, academic manpower shortages may, and do, inhibit the optimal functioning of existing academic programs in a university as well as the introduction of new ones. It is therefore desirable, indeed imperative, to examine and quantify these shortages and seek ways and means of minimizing or possibly eliminating them. The result of such an investigation, using A.B.U. as case study will, hopefully, be useful not only to A.B.U. but also to other Nigerian, if not other African, Universities.

RESEARCH METHODOLOGY AND SOURCES OF DATA

Two main sources of data are employed. First, are relevant publications of A.B.U., the National Universities Commission and the National Manpower Board. Second, are primary data derived from questionnaires administered to all the academic departments and Research Centres/Units of the main campus of the University.

Based on time series data, the projection method is used in estimating the future requirements for teaching staff, supplemented by an establishment survey. Some obvious factors influence the demand for teaching staff in a university as for example, students' intake and expansion programs. Correlation and regression analyses are employed to determine the strength and direction of the relationship among the quantifiable variables and estimates of future teaching staff requirements made through extrapolation. However, since research programs are not easily quantifiable, the establishment survey technique is employed in estimating the future requirements for researchers. The aim of the exercise is to project and not forecast or predict what the future

requirements will actually be. It is difficult, if not impossible, to forecast the future. However, it is possible to say either what needs to be done if certain objectives are to be achieved or what will happen if certain objectives are in fact achieved (Beckerman, 1962).

A major initial problem was the chaotic state of records of the University. Though academic staff are copiously documented on arrival, no comprehensive list of such staff could be obtained; we had to resort to sending questionnaires to each department. Surprisingly, even the Registry or the Development Office adopts a similar technique to obtain information on staff and student numbers! The need to set up a proper and adequate records system in the university can therefore hardly be over-stressed. The collation and consolidation of data and information on teaching and research (as well as other areas) are fundamental and essential and would, no doubt, broaden the scope and possibilities for planning and research in the institution.

CHAPTER I

OBJECTIVES, SCOPE AND METHODOLOGY OF MANPOWER PLANNING

This Chapter appraises three important aspects of manpower planning, namely, its aims or objectives, its scope, and its methodology. It integrates the existing literature and relates, where appropriate, to Nigeria.

1.1 OBJECTIVES AND SCOPE

A major prerequisite for the formulation and implementation of a national manpower program is the existence of a well phased-out, clearly defined and comprehensive plan for over-all development. Tobias (1964) asserts that the absence of an economic development plan makes a manpower program isolated and indefinite and may even lead the labour force in the wrong direction. Yesufu (1964) corroborates this when he stated that an estimate of manpower requirements is meaningful only in the context of the economic structure for which it is intended. Where a comprehensive development plan already exists, this aspect of the problem is

minimized since the resultant manpower budget must take into account the manpower components required to implement the Plan, as well as the structure of of the economy which is likely to materialize from the implementation of the Plan itself. Fapohunda (1977) expressed similar views, stressing the importance of the manpower factor in economic development and the need to plan human resources, in combination with other resources, to achieve stipulated national goals and objectives.

Harbison (1964) summarises all this by pointing out that the central objective of manpower planning is to construct a strategy of human resource development which is consistent with a country's broader aim of social, political and economic development. Construction of such a human resource development strategy, he stressed, involves striking an effective balance in critical areas of choice in policy objectives. In a partially planned and developing economy like Nigeria, he indentified these areas of choice as the following:

(a) In all areas of formal education, the relative emphasis on quality versus quantity.

(b) In secondary and higher education, the stressing of science and technical subjects versus law, arts and humanities.

(c) In skill development, the relative reliance on pre-employment formal training versus in-service or on-the-job training.

(d) In building incentives, the conscious manipulation of wage and salary structures versus dependence on market forces.

(e) In the general rationale of human resource development, consideration of the desires of individual versus the needs of the country.

In Nigeria, the essense of national manpower planning has been identified as the need to determine the desirable direction in which the national economy shall evolve, and then to take steps to ensure the proper training, distribution or redistribution of labour to make this possible (Manpower Studies, No.1, 1963).

A manpower program, if it is to achieve the above objectives, must be comprehensive. Accordingly, Tobias, (1964), Harbison, (1964, 1970), Hughes, (1971), among others, have variously tried to delinit the scope of a comprehensive manpower plan. In their view, such a plan should contain detailed analysis of manpower requirements, the formal and informal system of education, the structure of incentives and the utilization of available manpower. Essentially, therefore, manpower planning aims at co-ordinating the requirements for, and the availability of, different types of employee and the adjustments of the requirements and the available supply (Bowey, 1974). It aims to identify areas of manpower shortages and areas of manpower surpluses, and to device strategies to minimize or eliminate them.

.2 METHODOLOGY OF MANPOWER PLANNING

One crucial aspect in formulating a manpower development strategy is the detailed assessment of manpower requirements. This involves not only a comprehensive appraisal of the current manpower

situation, but also estimation of future (short -, medium - or long-term) requirements. The method for obtaining an inventory of current manpower is fairly straight-forward using the establishment survey technique, but there is as yet no universally accepted methodology for obtaining future requirements. As Yesufu,(1964) aptly noted, the actual method or combination of methods used is of great statistical and economic significance, because of the dangers in both over - and under-estimation. Each technique has its own limitations and constraints. In this section therefore, we discuss the techniques currently used in general, and in the next section, those that have been employed specifically in manpower plans, surveys and studies in Nigeria.

One common method of estimating future manpower requirements is to ask existing establishments to specify them. This technique involves the use of the questionnaire (sometimes supplemented by interviews). Usually, the establishments are asked to give an inventory of their present manpower requirements and anticipated short-term needs based upon expectations of market trends, as well as their current or proposed plans for

expansion or contraction. Adjustments are then made for wastage due to deaths, or retirements. Many manpower surveys conducted in Nigeria have been based on the establishment survey approach. In a situation where employers are knowledgeable, willing and co-operative, this method is particularly useful. But it also has serious shortcomings. For example, establishments existing today may be compl.tely different from those which may exist tomorrow. Furthermore, many employers may be unable or totally unwilling to make future estimates. Besides, estimates obtained through this method, almost generally lack a consistent overall assumption about the future state of the economy since the employers will invariably base their estimates on varying criteria. However, the establishment survey method is a useful approach in estimating short-term requirements, but should be used in combination with other methods in making longer-term estimates.

Another method is to extrapolate past trends into the future. The procedure is to correlate the number of persons in a particular occupation, with total employment, production, population, G.N.P., or some combination of these variables. The result of the

regression is then used to estimate future requirements. The estimates are then related to supply calculated on the basis of the current stock, and outflows from the educational institutions. Prospective shortages or surpluses are then identified. A modification of this approach has been in used in Nigeria since its introduction by Professor Harbison in 1960. Referred to as the "Harbison's rule of thumb", the approach assumes a relationship between growth in the employment of senior and intermediate manpower and the G.N.P. The projection method has the advantage of simplicity and has been found especially useful in the estimation of high-level scientific, teaching, and engineering manpower in a number of advanced countries (Harbison, 1964). The major flaw in the method, however is that in a dynamic world, observed past relationships may not infact hold for the future. The method, for example, does not consider possible changes in manpower productivity nor the possibilities of manpower substitution. Above all, especially in the circumstances of underdevelopment, time series required for making projections may not be available. Nevertheless, intra- and inter-country comparisions may be employed to corroborate or modify estimates arrived at by the projection method.

A third method of estimating future manpower requirements is the "manpower requirements approach to educational planning". The names of Herbert Parnes (1962) and Wilfred Beckerman (1962) are usually linked with this approach. Other contributors to the development of this approach are M. Debeauvais, (1962), S.Doos, (1962).[1] The steps involved in estimating manpower requirements and supplies using this method can be outlined as follows:

(a) Prepare an inventory of manpower for the current year.

(b) Estimate the size of the labour force for the forecast year. This constitutes the total supply of manpower.

(c) Estimate total employment in each sector and branch of the economy for the forecast year. Within each sector and branch, allocate total employment for the forecast year among the various occupational categories.

---

1. All these authors were members of the O.E.C.D. Mediterranean Regional Project team. See H. Parnes, (Ed.), Planning Education for Economic and Social Development, Italy, O.E.C.D., 1962, especially Part Two.

(d) Convert the data on requirements by occupational categories into data on requirements by educational qualification.

(e) Estimate the anticipated supply of manpower with each major type of educational requirement for the forecast year taking into account present stocks, anticipated outflows from the educational system, and losses due to death or retirement.

(f) Compute the required changes in annual outflow from the various levels and branches of the educational system to strike a balance , in the forecast year, between projected requirements and projected supplies.

(g) Calculate the enrolments in each level and branch of the educational system to achieve the required annual outflows.

Rather complicated, this approach also involves making assumptions about changes in productivity. Besides the asual difficulty in obtaining empirical data on which to base such assumptions, there is also the problem of translating occupational requirements into educational requirements. Finally, though it may

be possible to calculate productivity changes in say manufacturing and construction, this is a highly complex and sometimes impossible exercise for many service industries as health, education and transportation. Nevertheless, many countries of the O.E.C.D. Mediterranean Project (e.g. Turkey, Italy, Portugal, Spain, Yugoslavia) have used this approach, or its variants, in their planning. It appeals strongly to economic planners mainly because it links manpower requirements to important economic considerations such as productivity.

Another estimation technique is the "social objectives method" which is another brain-child of the O.E.C.D. Meditterranean Regional Project. This approach rests on the premise that education serves both economic and social objectives and concentrates on identifying deficiencies in the current educational system in the light of these objectives. Parnes (1962:74) succinctly puts this when he asserts that "the role of education in moulding the human resources of an economy to fit the requirements of its productive resources is quite obvious. But no less important is the contribution of education in providing the citizenry with an understanding of the technological, economic, social and

political forces that influence their lives. Such understanding is a necessary condition for a viable political democracy, and may also make a contribution to economic development that is quite independent of specific vocational preparation."

Several other mathematical and econometric techniques for estimating future manpower and educational requirements have also been developed as, for instance, the linear-programming approach, and the Tinbergen-Correa model.

The linear-programming approach consists essentially of maximizing or minimizing some linear objective function of decision variables subject to certain linear constraints which limit the range of choice. This approach was applied to educational planning for Northern Nigeria by S. Bowles in 1967. The educational activities considered in Bowles' model included primary, secondary, technical and vocational and various types of teacher training. Enrolments to these activities were the decision variables and since each activity extends over a number of years, enrolment in each year, in each activity was regarded as a separate variable. The objective function in Bowles' model was the national income. The contribution of the educational activities

to future national income was measured by the net present value of the output of these variables, i.e. by the increments in discounted life-time earnings attributable to additional student years of education, net the costs of education. Hence the expression to be maximized was the weighted sum of the enrolments in each activity in each period; the weights being the corresponding discounted present value of additional earnings net educational costs. The constraints on enrolment were set by the availability of teachers, students (depending on completion of earlier stages of education), inputs coming from outside the educational system (total expenditure on education) and by some boundary conditions reflecting the political and administrative feasibility.

The solution to a linear programming problem directly gives the optimum values of the decision variables which, in this case, were the enrolments to the various types of education in each year of the plan period, satisfying the given constraints. By comparing these with the prevailing pattern of enrolment, Bowles concluded that Northern Nigeria would gain by increasing the rate of enrolment in primary education and decreasing the rate at higher levels.

The model now popularly referred to as the Tinbergen-Correa model, is the approach to educational planning developed by Professor Jan Tinbergen, (1962) with the assistance of Hector Correa. The simple version of the model is of the input-output type and it seeks to answer three main questions:

(a) What structure of the educational system is needed for the economy to grow at a given rate, and how does it change with that growth rate?

(b) What foreign assistance is needed if the growth of the economy has to be accelerated without changing the technical co-efficients of either the economy or the educational system?

(c) What adaptations are needed if the same acceleration is to be obtained without foreign assistance?

The Tinbergen-Correa model is predicated on a number of assumptions. It is assumed that adequate supplies of primarily educated people are already available and that the required stock of persons with secondary education is proportional to the national income. It is further assumed that the people with

tertiary-level education are needed not only for production of national income but also to supply teachers for both secondary and tertiary-level education. The number needed in production is again assumed to be proportional to national income; while that required for teaching at each level is proportional to the corresponding number of students. The authors then attempted to derive the required stock of educated manpower directly from targets of national income without calculating the requirements for particular occupations. By comparing the manpower requirements with supplies presently available after allowing for withdrawals, the appropriate increases in educational output are then derived.

Other simulation models include Leicester's econometric model (1971), and the demographic and ecological models for national manpower planning expounded by Young, (1971). The purpose of Leicester's simulation model is to provide many of the calculations needed for manpower planning at the macro-economic level, though his model was verbal rather than in algebraic form. He drew a number of economic relationships representing how, in an economy, the demands for various commodities are generated and met through various alternative supplies.

He identified five types of demand, viz: private consumption, exports, government expenditures, investment and intermediate demands. He went further to allocate these demands among alternative supplies; those that can be met by "home" output and those that can be met from abroad. He drew a set of demographic relationships whose major purpose was to ensure that the needs for manpower neither exceed nor fall below the availabilities of manpower.

Young's demographic model is the lognormal law[1] of staff wastage which can be used to estimate in advance, the numbers of staff needed to replace leavers. The ecological model is concerned with 'predicting' the movement of staff through an establishment and it is based on the assumption that patterns of recruitment, promotion and wastage remain constant over appreciable periods of time.

The above analysis of models is by no means exhaustive, but is sufficiently representative of models

---

1. The lognormal law states that the proportion of people in a particular group who leave after a given length of service (i.e. tenure) follows a certain pattern. The propoftion leaving increases to a peak early in service and then decreases. The curve of leaving is described by the lornormal curve (Young, 1971).

generally used. The field of model-building for application in manpower and educational planning is relatively new and there is therefore the need for continuous testing and evaluation.

A review of the manpower planning experience in Nigeria shows that the above statement is particularly true for Nigeria where manpower planning could be said to have started only in the 1960s. In 1959, the Ashby Commission was set up to conduct an investigation into Nigeria's needs in the field of post-school certificate and higher education over a period of twenty years. Incorporated in the Report was Professor Harbison's estimates of Nigeria's needs for high-level manpower up till 1970. The estimation method used was the "Harbison's rule of thumb" approach. He assumed that if the national economy was to achieve a 4 percent annual growth rate, then senior and intermediate manpower should grow at 8 percent and 13 percent respectively. Accordingly, the expansion of the different levels of the educational system in the country was recommended.

The National Manpower Board (N.M.B. or the Board) was established in 1962 as a result of the Ashby Commission's recommendation; and has since been charged

with responsibility for assessing manpower needs and formulating programs for effective manpower development throughout the country on a continuous basis. Though initially hampered by organizational problems and inadequate staffing, the Board and its Secretariat have made significant contribution by organizing surveys and studies into the manpower situation both at the macro- and micro-economic levels; and participated in drawing up manpower programs incorporated into National Development Plans. Some of the studies and surveys have been published in a "Manpower Studies" series but some of the data collected are kept for internal use by official bodies engaged in policy-making or program implementation.

In 1963, the Board directed its Secretariat to undertake a comprehensive survey to determine the high-level manpower needs of the country for the period 1963-1970, which would provide a basis for forecasting national manpower requirements. The survey covered institutions and establishments employing 10 persons or more and altogether, a total of 530,167 employees of which 113,297 were teaching and research staff, were covered. Detailed results of this survey were published

as Manpower Study No. 2. Of immediate relevance to us here is the methodology of this survey.

The establishment survey technique based on the questionnaire was adopted. But many employers expressed inability or unwillingness to forecast their manpower requirements. Other establishments appeared to have no definite plans for the future while those who attempted forecasts were rather cautious. In analysing the returns, the level of employment in establishments which failed to make forecasts was assumed to be constant over the forecast period.

However, the degree of non-response, the differences in forecasting methods and the need to make provision for new industries, all combined to compel the Secretariat to consider some other methods. The Secretariat decided to envisage an economic structure for the forecast year which it considered realistic in the context of the prevailing conditions in Nigeria. Among the important conditions considered was the existence of the First National Development Plan and also the growing unemployment in Nigeria. The full employment assumption for the terminal year was used as the basis for making the forecasts. Estimates arrived at were then presented to an International

Manpower Seminar (Lagos, 1964). The Seminar considered the full employment assumption as unrealistic, and recommended that the estimates might better be based on the expected rate of growth of the wage-earning population. Evidence in other countries showed that growth in wage-earning employment was approximately equal to half the growth rate of national income; and the growth rates in demand for senior and intermediate personnel were generally twice and thrice that of the national income respectively.

In arriving at the revised estimates, a 4 percent annual growth rate of the national income stated in the development plan was used. At that rate, total employment would be expected to grow at an annual rate of 2 percent while the demand for senior and intermediate personnel would expand at an annual rate of 8 percent and 12 percent respectively. An additional 3 percent per annum allowance for wastage in the existing employment level was made. A comparison of the annual average growth rates based on the returns of employers and the Seminar recommendation showed positive cofrelation, though the overall forecasts of the employers were slightly higher than those based on the Seminar's formula. The Seminar's formula was

adopted and used as basis for determining the manpower targets for 1968 and 1970. Essentially therefore, manpower planning in Nigeria in the 1960s was based on the "Harbison's rule of thumb".

In the 1970s, however, some new and rather impressive developments occurred. In setting the manpower targets for the Second National Development Plan (1970-74), for example, the establishment survey technique, though still used, was now combined with the more sophisticated Beckerman-Parnes manpower approach. Projected changes in the volume of output together with expected changes in productivity were used to determine future manpower requirements. To arrive at the occupational requirements, occupational ratios from the "1965 Survey of Labour Requirements"[1] were employed.

The Third National Development Plan (1975-80) also contains an elaborate Manpower Budget. Here, the labour force projections were predicated on some assumptions about the relationship between trends in employment and G.D.P. Estimates of the various manpower categories

---

1. National Manpower Board, 1965 Survey of Labour Requirements, Lagos, 1968.

again were based on a hybrid of techniques, being basically the establishment survey in combination with the Beckerman-Parnes OECD method.

1.3 CONCLUSION

This chapter examined the objectives and scope of manpower planning, as well as the methodology. It reviewed the Nigerian manpower planning experience. One crucial point that emerges is the need, whatever the manpower planning methodology, for basic data on which to predicate estimates of future requirements. The next chapter therefore analyses the data base for this research which, among other things, projects the academic manpower needs of Ahmadu Bello University for the 1980-90 decade.

CHAPTER 2

ACADEMIC MANPOWER REQUIREMENTS, 1962-80

This chapter is a statistical description of the academic manpower requirements of Ahmadu Bello University for the period 1962-1980. It provides the data base for the next chapter which is a projection of the academic manpower needs of the University up to 1990. The chapter analyses the general trend in the demand for academic staff during the period, and examines the academic manpower structure in terms of distribution by faculty, rank, and nationality. It identifies the factors responsible for the observed distribution, and discusses the academic manpower turnover and wastage rates.

2.1 GENERAL TREND

Table I below summarizes the general trend in the demand for adademic manpower by Ahmadu Bello University for the period 1962/63 - 1979/80. It shows that the number of academic staff employed by the Univefsity has increased tremendously from 95 in 1962/63 to about 914 in 1979/80, an increase

TABLE I: ACADEMIC STAFF DEMAND 1962/63 - 1979/80

YEAR	TEACHING STAFF	RESEARCH STAFF	TOTAL ACADEMIC STAFF	ANNUAL % INCREASE	ACADEMIC VACANCIES	TOTAL DEMAND
1962/63	-	-	95	-	n.a	95
1963/64	-	-	124	30.5	n.a	124
1964/65	-	-	181	46.0	7	188
1965/66	-	-	196	8.3	26	222
1966/67	-	-	173	-11.7	n.a	173
1967/68	-	-	219	26.6	n.a	219
1968/69	-	-	227	3.7	n.a	227
1969/70	222	65	289	26.4	9	296
1970/71	257	66	323	12.5	11	334
1971/72	276	76	352	9.0	32	384
1972/73	342	103	445	24.4	32	477
1973/74	439	97	536	20.4	74	610
1974/75	524	120	644	20.1	61	705
1975/76	591	125	716	11.2	70	786
1976/77	696	105	801	11.9	20	821
1977/78	699	139	838	4.6	n.a	838
1978/79	735	157	892	6.4	n.a	892
1979/80	759	155	914	2.5	n.a	914

SEE NOTES AND SOURCES ON PAGE 28a.

NOTES:

(i) 1962/63 - 1968/69 statistics are for all the Units of A.B.U. and were not disaggregated.

(ii) 1969/70 - 1979/80 statistics are for the 9 faculties on the main campus, Centre for Nigerian Cultural Studies (CNCS) and Centre for Social and Economics Research (CSER).

SOURCES:

(i) A.B.U. Digest of Statistics, Vol. 1, pp. 5 and 25.

(ii) Returns from Faculties and Centres.

(iii) A.B.U. Calender, 1969/70 - 1978/79.

of 862°/o. The increases were particularly rapid in the earlier years of the University (1962/63 - 1964/65), and between 1972/73 and 1974/75. Several factors accounted for this increasing demand for academic staff, among which have been the increasing students' enrolment at both the undergraduate and graduate levels and the overall expansion of the University. In the past ten years alone, a total of 20 new depaftments have been created within the faculties and a new faculty has emerged. Student enrolment rose from 425 in 1962/63 to 6,670 in 1979/80. Periods of high percentage increases in student enrolment corresponded with those of increased demand for academic staff.

This pattern has not been peculiar to A.B.U. For instance, the number of academic staff employed in the University of Ibadan grew steadily over the same period, rising from 311 in 1969/70 to a total of 740 in 1978/79, an increase of about 138°/o. The same was true for the newer Universities, as for example, the University of Ilorin which had about 41 members on its academic staff list in 1976/77, a yeab after its establishment. By 1978/79, this figure

had risen to 150, an overall increase of 266°/o.

However, in spite of the overall steady expansion of the A.B.U. academic personnel, wide fluctuations in the annual growth rates have occurred (column 5, Table I), ranging from 46°/o in 1964/65 to -11.7°/o in 1966/67. The mean annual increase was 13.5°/o. The rate of growth has been dropping steadily since 1972/73.

Several factors have been responsible for the observed fluctuations and declining growth rates. For example, a number of new faculties were created between 1967 and 1970. This meant recruitment of more academic staff, hence the accelerated growth rate of 1972/73. The 1975/76 decline was due largely to the large-scale retrnnchment exercise of the Murtala regime which affected many academics. There has also been an acute shortage of funds in the University since its take-over by the Federal Government in 1975. These two events respectively led to a higher wastage rate in 1975 and reduced recruitment since 1975.

2.2. INTER-FACULTY DISTRIBUTION

Table I presents the percentage distribution of academic staff by faculty between 1969/70 and 1979/80. Most Faculties showed a remarkable stability in their relative share of academic staff employment. All through the period, the faculty of Arts and Social Sciences had the highest percentage share of teaching staff, recording a yearly share of over one-fifth of total number of teaching staff except in the 1979/80 session when it fell slightly below that figure. The Faculties of Science and Medicine ranked second and third, followed by Engineering and Veterinary Medicine respectively.

The observed fluctuations in the relative shares of some of the Faculties are partly consequences of inter-faculty movements of departments and the creation of new ones. For instance, the shares of the faculties of Medicine, and Arts and Social Sciences have been on the decline since 1977/78, while those of Environmental Design and Science have shown some increases since that year. In 1977/78, the Fine Arts department was pulled out of the Faculty

TABLE II: DISTRIBUTION OF ACADEMIC STAFF BY FACULTY/CENTRE, 1969/70 - 1979/80 (in percentage)

FACULTY/CENTRE	1969/70	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80
(A) TEACHING STAFF											
AGRIC.	4	6	6	4	8	4	5	9	6	5	8
ARTS & SOC. SC.	23	21	23	26	23	26	26	25	22	20	19.6
EDUCATION	8	6	7	7	9	10	10	8	9	11	10
ENGINEERING	14	16	13	10	11	11	11	9	13	13	12
ENVI. DESIGN	3	3	3	3	5	5	5	5	9	8	9
MEDICINE	18	20	19	20	18	19	17	18	12	11	10.4
PHARM. SC.	-	-	-	-	-	-	-	-	4	4	5
SCIENCE	21	19	20	20	16	16	19	18	18	19	18
VET. MEDICINE	10	10	9	11	10	9	8	7	7	9	8
(B) RESEARCH STAFF											
AGRIC.	90.7	91	89.5	90.3	77.3	77	69.5	62	62.6	67	67.7
ARTS & SOC.SC.	6.2	4.5	6.6	-	-	-	-	1	3.6	-	-
ENGINEERING	1.5	1.5	1.3	-	-	4.2	-	-	3.6	3.2	3.2
ENVI. DESIGN	-	-	-	-	-	-	0.8	2	0.7	0.6	0.6
MEDICINE	1.5	3	2.6	-	-	0.8	0.8	-	-	0.6	0.6
PHARM. SC.	-	-	-	-	-	-	-	-	0.1	0.6	0.6
SCIENCE	-	-	-	-	-	1.7	1.6	-	-	0.6	0.6
C.N.C.S.	-	-	-	9.7	18.6	15.8	16.8	22	15.1	17.2	17.4
C.S.E.R.	-	-	-	-	4.1	2.5	10.4	13.3	13.7	10.2	9

SOURCE: Statistical Appendix I

of Arts and Social Sciences and merged with the Faculty of Environmental Design as two departments namely, the department of Fine Arts, and the Department of Glass/Industrial Design; thus boosting the number of teaching staff [illegible] in the latter faculty and deflating the former's. In the same year, the department of Pharmaceutical Sciences moved out of the faculty of Medicine to become a new faculty with two departments; while the Microbiology department also left the faculty of Medicine for the Science faculty. The faculty of Agriculture, though one of the oldest faculties in A.B.U., records relatively small proportions of teaching staff over the period. This is because the bulk of its academic staff are researchers.

The distribution of researchers showed a concentration in the faculty of Agriculture and the two Research Centres. Apart from the faculty of Arts and Social Sciences which employed about 4°/o - 6°/o of total researchers between 1969/70 and 1971/72, most other faculties recorded less than 4°/O share, with Veterinary Medicine and Education having none at all. However, a closer look reveals that the propor-

tion of researchers employed in the Agriculture faculty has been on a decline since 1973/74 while those in the centres have been fluctuating. The main factor responsible for these decline and fluctuations has been fluctuations in the availability of research funds.

2.3 DISTRIBUTION BY RANK

The teaching staff hierarchy of the University is divided into five grades: assistant lecturer, lecturer, senior lecturer, reader and professor. Over the period, the most populous grade was the lecturer grade which accounted for between 39°/o and 55.5°/o of all teaching staff (Table III). Two factors explain this distribution. First, the lecturer cadre is a merger of two categories i.e. lecturers I and II. The distinction between lecturer I and lecturer II was not specified in the data sources. Second is the fact that most newly recruited staff join the University at the lecturer level. Over the period, there was a steady increase in the number of staff in this category except for the last three years. This drop is not unrelated to the previously discussed general fall in recruitment rate caused by the shortage

TABLE III: DISTRIBUTION OF TEACHING STAFF BY RANK, 1964/65 - 1979/80 (in percentage)[1]

YEAR	ASSISTANT LECTURER	LECTURER	SENIOR LECTURER	READER	PROFESSOR
1964/65	5.1	55.5	19.2	4.0	16.2
65/66	5.6	43.2	20.8	4.8	25.6
69/70	6.3	48.6	17.1	5.4	22.5
70/71	5.8	51.8	18.3	4.7	19.5
71/72	5.8	53.8	17.6	4.7	19.9
72/73	11.4	48.0	17.3	4.7	18.7
73/74	9.3	53.1	18.9	4.1	14.6
74/75	9.0	52.0	22.0	4.4	12.0
75/76	8.0	52.5	24.5	4.4	10.7
76/77	7.2	55.5	23.1	5.2	9.1
77/78	8.6	51.9	27.0	5.9	6.6
78/79	9.7	48.2	29.4	6.3	6.5
79/80	19.8	39.1	26.6	8.8	5.7

SOURCE: Statistical Appendix II.

---

1. Data were not available for 1966/67 - 1968/69.

of funds. The least populous grade over the years, was the reader grade which on the average accounted for only 5.2%/o of teaching staff. Very few recruits enter the system at this level. The bulk of the readers get to that grade through promotion from the senior lecturer grade. Furthermore, for senior lecturers already within the system, the reader's grade has very little attraction especially as the salary level is only slightly higher than that of the senior lecturer. Most senior lecturers would rather consolidate their work and move directly to professorship rather than go via readership. However, the share of readers in the University has shown a steady increase over the period. The shares of other grades also showed consistent increases except for the professorial level whose share has been declining since 1974/75.

Table IV below, places the 1978/79 A.B.U. situation within the national context as recommended by the National Universities' Commission (N.U.C.). The table shows that in that year, the proportion of senior academic staff[1] in total academic staff ranged from

---

1. Senior academic staff refers to the ranks of senior lecturer and above (Lupton, Appendix IV, p.1).

TABLE IV DISTRIBUTION OF TEACHING STAFF BY RANK AND FACULTY 1978/79.

FACULTY	(1) PROF.	(2) READER	(3) SNR. LECT.	(4) (1+2+3) SUB-TOTAL	(5) LECT.	(6) ASST. LECT.	(7) (5+6) SUB-TOTAL	(8) (4+7) GRAND TOTAL	(9) (4) as °/o of (8).
AGRIC.	3	4	14	21	12	6	18	39	54
ARTS & SOC.SC.	5	-	37	42	59	49	108	150	28
EDUCATION	4	2	22	28	40	11	51	79	35
ENGINEERING	4	11	22	37	33	24	57	94	39
ENVI. DESIGN.	4	4	24	32	25	3	28	60	53
MEDICINE	9	10	32	51	29	1	30	81	63
PHARM. SC.	1	2	9	12	18	2	20	32	38
SCIENCE	13	8	31	52	51	33	84	136	38
VET. MED.	2	5	20	27	36	1	37	64	42
TOTAL:	45	46	211	302	303	130	433	735	
°/o OF TOTAL TEACHING STAFF	12°/o		29%	41%	59%				
N.U.C.RECOM-MENDED %	15%		25%	40%	60%				

NOTE: Column 9 shows the proportion of senior academic staff in total staff.

SOURCES: (i) A.B.U. Calendar, 1978/79.
(ii) N.U.C. Guidelines to the Universities for preparation of the 1980/85 development plan.

28% in Arts and Social Sciences, to 63% in Medicine. This implies for instance, that in the former faculty, over 70% of the academic staff were below the senior lecturer cadre. The N.U.C.'s recommended rank-mix is that 15% of total academic staff should fall within the professor/feader ranks, 25% within the senior lecturer rank, and 60% within the lecturer/assistant lecturer ranks.[1] Overall, the A.B.U. ratios are quite close to these targets, as 12% of total academic staff as at 1978/79 were professors and readers, 29% senior lecturers and 59% lecturers and assistant lecturers.

2.4 DISTRIBUTION BY NATIONALITY

As stated in an earlier chapter, in assessing academic manpower shortages, it is necessary to take into account staff vacancies and the shortages that might arise from the gradual withdrawal of expatriate staff. The proportion of expatriates in

---

1. N.U.C. Guidelines to the Universities for preparation of the 1980/85 national development plan.

TABLE V DISTRIBUTION OF ACADEMIC STAFF BY NATIONALITY AND FACULTY, 1976/77.

FACULTY	NIGERIANS	NON-NIGERIANS	TOTAL	PERCENTAGE OF NON-NIGERIANS
AGRICULTURE	71	56	127	44
ARTS & SOC.SC.	91	87	178	49
EDUCATION	26	30	56	54
ENGINEERING	31	32	63	51
ENVI. DESIGN	7	29	36	81
MEDICINE	47	78	125	62
SCIENCE	63	65	128	51
VET. MED.	40	11	51	22
C.N.C.S.	13	10	23	43
C.S.E.R.	5	9	14	64
TOTAL	394	407	801	51

SOURCE: A.B.U. 1976/77 Senior Staff List.

total academic staff
A.B.U./was as high as 90°/o in 1966/67! By 1979/80 it was still as high as 51%.[1] Table V gives the dependency ratios[2] in A.B.U. during the 1976/77 session. Most faculties had dependency ratios above 50% with Environmental Design recording an all-time high of 81%. This

1. Development Office source.
2. Dependency ratio is the ratio of non-Nigerian academic staff to total academic staff.

meant that in that year, for every Nigerian academic staff found in that faculty, there were 4 expatriates. It is desirable for a University to have an international image in terms of staffing so as to enhance its standards and acceptability of its products elsewhere. However, to keep in line with Nigeria's indigenization policy, a preponderance of expatriate manpower at the apex of the nation's educational system need to be reviewed. Expatriates on one to three yearly contract appointment may not possess any deep sense of commitment to the overall development of the University as indigenes would. This therefore calls for careful planning for the gradual replacement of some of these expatriates.

Due to scantiness of data, shortages in terms of academic vacancies could not be adequately quantified and analysed. However, Table VI shows the percentage distribution of academic vacancies by rank between 1969/70 and 1976/77. The assistant lecturer's category accounted for the least number of vacancies recording between 5.4% and 7.1% of total vacancies over the period. On the other hand, the senior lecturer cadre and researchers had the highest proportions of vacancies ranging between 9% and 55.5%.

TABLE VI DISTRIBUTION OF ACADEMIC VACANCIES BY RANK 1969/70 - 1976/77 (in percentage)

RANK	69/70	70/71	71/72	72/73	73/74	74/75	75/76	76/77
ASST. LECT	-	-	6.3	6.3	5.4	-	7.1	--
LECTURER	-	27.2	18.7	18.7	25.7	21.3	11.4	20.0
SNR.LECT.	-	9.1	31.3	25.0	27.0	29.5	21.4	-
READER	22.2	9.1	6.3	6.3	16.2	4.9	25.7	-
PROFESSOR	22.2	27.2	21.9	3.1	8.1	8.2	17.1	-
RESEARCHER	55.5	27.2	15.6	40.6	17.6	36.1	15.7	80.0

SOURCE: Statistical Appendix III.

2.5 ACADEMIC MANPOWER TURNOVER AND WASTAGE

Labour turnover index measures both the withdrawals from and additions to the workforce over a specified period. Such an index is indispensable to the proper management of any organization because, for example, an analysis of the factors contributing to labour wastage (a component of labour turnover) is necessary both for controlling wastage and for predicting future wastage rates (Bowey, 1974). In this study, labour turnover and labour wastage are defined as follows:

$$ALT = \frac{R + W}{\frac{1}{2}(E_o + E_1)} \times 100$$

$$ALW = \frac{W}{\frac{1}{2}(E_o + E_1)} \times 100$$

where:

ALT = Annual labour turnover

ALW = Annual labour wastage

R = Recruitment

W = Withdrawal

E_o = Size of employment at the start of period

E_1 = Size of employment at the end of period.

Over the period 1976/77 - 1979/80, a total of 653 academic staff were recruited into A.B.U. while 350 withdrew. Table VII shows the yearly inflow which has been downward and the annual outflow which has been on the increase except for 1977/78. Column 4 of the table gives the annual labour turnover (ALT) index. Though the figure shows a downward trend, the average turnover rate ($\overline{ALT}$) over the period is about 30%. Reynolds and Gregory (1965) suggest that a firm's workforce could be classified into three groups, using the annual labour turnover index:

Stable workforce:	0 - 40 percent
Moderately stable:	41 - 75 percent
Unstable:	over 75 percent

If this classification is applied to A.B.U., its academic workforce may be rated as stable and the exhibited turnover desirable.

It is worthwhile focusing some attention on the labour wastage over this period. Causes for withdrawal include resignation, transfer of service, end of contract, retirement, termination of appointment/ contract, and death. However, we are unable to assign weights to each of these components because of data constraint. Nevertheless, column 5 of

TABLE VII: ACADEMIC MANPOWER TURNOVER AND WASTAGE 1976/77 - 1979/80

YEAR	RECRUITMENT	WITHDRAWAL	ALT RATE (%)	ALW RATE (%)
1976/77	216	87	40.0	11.5
1977/78	171	70	29.4	8.5
1978/79	143	91	27.0	10.5
1979/80	123	102	25.0	11.3
TOTAL	653	350	$\overline{ALT}$ = 304	$\overline{ALW}$ = 10.5

SOURCES: (i) A.B.U. Gazette, V l.VII, No.4, 1976/77; Vol.VIII, No.5, 1977/78.

(ii) A.B.U. Weekly Bulletin, 1978/79, 1979/80.

Table VII shows the annual wastage rates as ranging between 8.5% and 11.5% giving an average annual wastage rate of 10.5% for the period.[1]

A number of factors account for these high wastage rates. First, this period coincided with the opening of six new Universities (at Ilorin, Port-Harcourt, Maiduguri, Kano, Calabar, Sokoto), and the recruitment of staff into these institutions drained the older Universities, A.B.U. inclusive. Also, the year immediately preceding the survey period witnessed a massive 'purging' of Universities and other government establishments by the Murtala regime and the sledge fell on a number of University staff. The adverse impact of this on the morale of staying staff may have been the cause of the high wastage rate in 1976/77 and subsequently. The revival of politics in the country and the resultant political appointments with their attendent offers of attractive working conditions also contributed to the drain of staff from A.B.U. since 1978. A good proportion of expatriate staff who withdrew their services

1. The N.U.C. considers a 3% annual wastage rate appropriate for the Nigerian University system (Guobadia 1979).

have done so, it seems, because of the "Nigerianization process currently in force in A.B.U. Several such staff have either terminated their contracts prematurely, or declined renewing them after expiration. The stringent financial condition that has faced A.B.U. since 1975 also contributed to the high labour wastage rates. The shortage of funds curtailed research activities, placed embargo on fellowship awards, the provision or improvement of physical facilities, thus leading to lowered morale among the academic staff and culminating in the withdrawal of some to the private sector.

2.6 CONCLUSION

In this chapter, we analysed the trend and structure of academic manpower in Ahmadu Bello University for the period 1962-1980. We also discussed the determinants of academic manpower requirements in the University. These include the political environment, the expansion program of the University, the N.U.C's recommended staff-cadre mix, availability of funds, students intake and research projects. In the next chapter, we present these factors formally in an estimation model and estimate the academic manpower requirements of the University for the period 1980-1990.

CHAPTER 3

ACADEMIC MANPOWER ESTIMATES, 1980-1990

This chapter estimates the academic manpower requirements of Ahmadu Bello University up to 1990. It specifies a linear estimation model and applies statistical data from the previous chapter to obtain estimates of teaching staff. The estimates are combined with results of an establishment survey to obtain minimum and maximum gross estimates of academic manpower requirements. The latter are netted of present stock, academic staff in the training pipe-line, and envisaged withdrawals. The net estimates are then disaggregated by rank and faculty.

3.1 MODEL SPECIFICATION

In this study, we adopt a linear estimation model of the form:

$$Y_t = \alpha_t + \beta X_t + \emptyset Z_t + U_t$$

where Y_t is the vector of dependent variable or regressand whose values we wish to estimate; X_t is a vector of quantifiable explanatory variables as for example, students' enrolment figures, while Z_t is a vector of unquantifiable explanatory variables as for

example, research projects and political environment. U_t is a vector of stochastic, unobservable disturbance or error term. α , β . ϕ are all coefficient matrices whose values can be estimated statistically using time series data. In this study, the ordinary least-squares method is used to estimate the parameter values.

3.2 MODEL APPLICATION

The model described above was employed in estimating the number of teaching staff that will be required by A.B.U. in 1985 and 1990. On *a priori* grounds, it is expected that as students' enrolment increases, the number of teaching staff employed should also increase. Table VIII shows the trend in students' enrolment and teaching staff employed for the period 1969/70 to 1979/80. Years of high students'enrolment correspond with those of high employment of teaching staff. Indeed, as the University Development Office explained, varied as the factors which influence the employment of teaching staff are, they all hinge on students' enrolment. Not surprisingly, therefore, a correlation analysis designed to test this assumed

TABLE VIII: STUDENTS ENROLMENT AND TEACHING STAFF 1969/70 - 1979/80

YEAR	STUDENT(X)	TEACHING STAFF (Y)
1969/70	1,765	222
1970/71	1,897	257
1971/72	2,252	276
1972/73	2,627	342
1973/74	3,247	439
1974/75	3,904	524
1975/76	4,724	591
1976/77	5,054	696
1977/78	5,420	699
1978/79	5,557	735
1979/80	6,670	759

SOURCES: (i) Statistical Appendix IV.
(ii) Table I.

relationship yielded a highly significant correlation coefficient of 0.99, thus confirming the high degree of covariance between the two variables. Based on this strong association, we ran a regression of the form

$$Y_t = a + b X_t + U_t$$

where Y_t = number of teaching staff required in time t

X_t = number of students enrolled in time t

U_t = error term

$\underline{a}$ and $\underline{b}$ = estimates of the parameters α and β respectively.

Using the least-squares criterion, we obtained the following results:

$$Y_t = -21.03 + 0.138X_t$$

$$S = (22.07) \quad (0.00017)$$

$$R^2 = 0.9918$$

The results show that if students' enrolment rises by 100 in period t, the number of teaching staff required in the same period will increase by about 14. The estimate of α (i.e. $\underline{a}$) takes a negative sign indicating that when there are no students (i.e. when X = 0), there will be no lecturers since a negative quantity does not make sense in this case. To verify the statistical significance of these estimated parameters, we computed their standard errors (recorded directly below the $\underline{a}$ and $\underline{b}$ values) and found that $\underline{a}$ had a standard error far greater than its own value unlike $\underline{b}$. This indicates that only the value of $\underline{b}$ is statistically significant and

this is expected a priori. To check the overall 'predictive' power of the model, we computed the ocefficient of determination R^2 which was found to be 0.9918. This means that the model explains 99% of the changes in the dependent variable.

Statistical Appendix V contains trend analysis of students' enrolment. The students trend values for 1985 and 1990 which the University Development Office confirmed to be reasonable were substituted into the regression equation above to obtain estimates of teaching staff that will be requifed in 1985 and 1990. The results areshown in TableIX below:

TABLE IX: REGRESSION ESTIMATES OF TEACHING STAFF 1984/85 AND 1989/90

YEAR	1979/80	1984/85	1989/90
TEACHING STAFF	759	1210	1555

3.3 ESTABLISHMENT SURVEY:

Responses to questionnaires asking departments to specify their estimates of academic staff requirements ten years hence were very poor. Two major factors were responsible. First was the total lack or scantiness of records at departmental and faculty levels. Second was the unwillingness of some of the faculties to spare the time required in cases where these were available. There were no responses from the faculties of Agriculture and Veterinary Medicine while responses from other faculties ranged from 15% to 33% with the exception of Arts and Social Sciences (75%), Pharmaceutical Sciences (100%) and the two Research Centres (100%). On the whole, the percentage of respondents was only 31%. In the light of this poor response, other sources of information were sought and heavy reliance was placed on proposals submitted by departments/faculties/centres to the Academic Planning and Development Committees for the preparation of the University's 4th Quinquennial Development Plan (1980/85).

The results are summarized in Table X:[1]

TABLE X: ESTABLISHMENT SURVEY ESTIMATES OF ACADEMIC STAFF, 1984/85 AND 1989/90

YEAR	1979/80	1984/85	1989/90
Teaching Staff:	759	1671	2200
Research Staff:	155	257	350
TOTAL:	914	1928	2550

NOTE: The figures for 1989/90 are guesstimates by the University Registry.

According to the Development Office, however, the results of the establishment survey for teaching staff are on the optimistic side. Constraints posed by physical infrastructure and finance are likely to render the estimates unattainable. But in the view of the office, the actual position in 1985 and 1990 is likely to lie between the results of the regression analysis and those of the establishment survey. Thus the former are considered as minimum estimates whereas the latter as maximum. Table XI contains a summary of the minimum and maximum gross estimates.

---

1. See also Statistical Appendix VI.

TABLE XI : GROSS ESTIMATES OF ACADEMIC STAFF 1984/85 AND 1989/90

	1984/85		1989/90	
	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM
Teaching Staff	1210	1671	1555	2200
Research Staff	257		350	
TOTAL	1467	1928	1905	2550

3.4. NET ESTIMATES

To obtain net estimates of academic manpower requifements, we add to the gross estimates envisaged withdrawals, and subtract existing stock of academic staff and those currently on training. A 10.5% rate of withdrawal was adopted.[1] The Establishment Office estimates that about 150 of A.B.U. academic staff from the faculties covered are currently (1980) on training.[2]

The net estimates for academic staff are then disaggregated by faculty/centre, and for teaching

---

1. See Table VII and the discussion on labour turnover and wastage.

2. Detailed breakdown of A.B.U. academic staff in training for 1979 is contained in statistical appendix VII.

staff further by rank. Disaggregation by faculty/ centre is based on the average shares of the faculties/ centres for the 1969/70 - 1979/80 period,[1] and that of teaching staff by rank on the N.U C recommended rank-mix indicated in Table IV. Results of the computations are shown in Tables XII and XIII below:

TABLE XII . NET ESTIMATES OF ACADEMIC STAFF BY FACULTY/CENTRE 1984/85 AND 1989/90

FACULTY/ CENTRE	Average % Share	1984/85		1989/90	
		minimum	maximum	minimum	maximum
(A) TEACHING STAFF					
AGRICULTURE	6	24	53	46	87
ARTS & SOC.SC.	23	93	205	177	333
EDUCATION	8.6	35	76.5	66	124
ENGINEERING	12	49	107	92	174
ENVI. DESIGN	5	20	44.5	38	72
MEDICINE	16.6	67	148	127	240
PHARM. SC.	1.2	5	11	9	17
SCIENCE	18.6	75	165.5	143	269
VET.MEDICINE	9	36	80	69	130
TOTAL		404	890.5	767	1446
(B) RESEARCH STAFF					
AGRICULTURE	76.8	95		170.5	
ARTS & SOC.SC.	2	2.5		4.4	
ENGINEERING	1.7	2		4	
ENVI. DESIGN	0.4	0.5		1	
MEDICINE	1	1.3		2	
PHARM.SC.	0.1	0.1		0.2	
SCIENCE	0.4	0.5		3	
C.N.C.S.	12	15		26.6	
C.N.E.R.	5.7	7		12.7	
TOTAL:		124		224.4	

1. See Table II.

TABLE XIII: NET ESTIMATES OF TEACHING STAFF BY RANK, 1984/85 AND 1989/90

TEACHING STAFF CATEGORY	1984/85		1989/90	
	Minimum	Maximum	Minimum	Maximum
Professor/Reader (15%)	61	135.5	115	217
Senior Lecturer (25%)	101	225.5	192	361.5
Lect./Asst.Lecturer (60%)	242	534	460	867.6

3.5 CONCLUSION:

In this chapter, we adopted a linear estimation model and the establishment survey technique to estimate the academic manpower requirements of Ahmadu Bello University for the 1980/90 decade. This, essentially, is the demand aspect of the academic manpower problem. In the next chapter, we examine the supply, namely the sources of academic manpower supply for Nigerian Universities in general and A.B.U. in particular during the 1980s.

CHAPTER 4

SUPPLY OF ACADEMIC MANPOWER IN THE 1980s

Sources of academic manpower supply to Nigerian universities are either domestic or foreign. For each university, the sources are either through internal effort of the University or through reliance on sources external to the university. Sources which are external to the universities are either domestic or foreign. The entire university system competes for the sources external to the universities and the latter are therefore less reliable from the point of view of each university.

Applying the above analytical frame of reference, in what follows, we discuss the academic manpower supply to Nigerian universities in general, and specifically to A.B.U. in the 1980s. We argue that both in the long-run and the short-run, the supply of academic manpower to Nigerian universities during the decade could be greatly raised and the net estimates for A.B.U. met, if certain supply preconditions are satisfied. Notable among these preconditions is the role of market forces which include the salaries paid to University academic staff and the conditions

under which they teach and research. Stated differently, the basic hypothesis of the chapter is that unless the wages and conditions of work of Nigerian university academic staff are greatly improved, acute shortages of academic manpower will continue to plague Nigerian universities.

4.1 DOMESTIC SOURCES

Most academic manpower recruited from within Nigeria come from among the higher degrees output of the country's universities. The vast majority, if not all, of these are Nigerians. A good case can be made both for and against the indigenization of academic manpower in Nigerian universities. There is no doubt, for example, that Nigerian academics would be far more committed to Nigerian national objectives and far more conversant with the realities of Nigeria than expatriates would. It is also relatively less expensive to recruit Nigerian academics domestically than to recruit their expatriate counterparts from abroad. Nevertheless, the excessive competition by all the universities as well as by the public and private sectors of the economy for the

limited domestic supply[1] precludes exclusive reliance by each university on the domestic source. For example, Guobadia estimates an output of 2,637 higher degrees graduates by Nigeria's entire university system by 1985. Our net estimates show that A.B.U. alone would require a minimum of 528 academic staff by that year. It is therefore obvious that Nigerian universities must continue to look abroad for some of their academic manpower in the 1980s.

4.2 FOREIGN SOURCES

Since their inception, most Nigerian universities have looked largely to Britain and the U.S. for their overseas recruitment.[2] In recent times, however, Nigerian universities are beginning to look further afield to other parts of the Commonwealth, Eastern Europe and Asia for the much-needed academic skills especially in the areas of engineering, architecture, building, medicine, surveying and other professional

---

1. See for example, A.B.U. V-C's Convocation Speech: December 1976, U-I. V-C's Convocation Speech 1979, and O.Teriba's presidential address to the 1977 Nigerian Economic Society's Annual Conference.

2. This may have been partly due to the partial or full financial support from British and American agencies and schemes e.g. the British Expatriates Supplementation Scheme (BESS), Ford Foundation, Rockefeller Foundation and various other staff supplementation schemes run by American Universities.

disciplines. This international character of staffing is extremetly desireable as it makes for the infusion of new ideas and international interaction, all of which are most essential at these higher levels of education. However, continued heavy reliance on foreign staff, as in A.B.U. which depended on foreign sources for 51% of its academic staff in 1979/80, negates the spirit of self-feliance and indigenization which the Nigerian government has been striving to translate into reality over the past decade. This is not a call for indiscriminate replacement of foreigners by Nigerians. Rather we are merely emphasizing the need for Nigerian universities to take more definite and sustained measures towards a fuller development and utilization of internal manpower sources before turning to external sources. In depending on external sources, future prospects should be considered, bearing in mind the stiff competition for academic manpower the world over. These skills are in short supply everywhere compared to the increasing demand for them.

4.3 INTERNAL EFFORT

Nigerian universities organize internal staff development programs. These involve awards of fellowships, study leaves, sabbatical leaves and assistantships. Given the poor prospects of recruiting academic staff from domestic and foreign sources chiefly because of the stiff competition aforementioned, Nigerian Universities have to intensify their internal staff development efforts. A.B.U. currently has about 150 staff enjoying study fellowships. If all these staff return to the institution within the next five years, our gross estimates show that they will not be enough to meet A.B.U's needs for academic staff during that period. This calls for an increase in the number of academic staff enjoying study fellowships during the next decade.

The current practise of appointing graduate assistants is highly commendable. The post is usually for Nigerians with good first degrees and it is essentially a trainee position whereby the assistants concentrate on supervised learning and research geared towards a higher degree while at the same

time they are required to take on some teaching/ tutorial duties. The system therefore offers an avenue for acquiring and retaining higher degree students - potential academics - within the universities. A.B.U. should explore ways of systematically increasing its number of graduate assistants especially in the faculties of engineering, medicine, agriculture, and environmental design, as a positive step towards training Nigerians for higher positions in these desciplines and thus reducing the high dependence on expatriate manpower. Infact, one way of effectively attracting these budding professionals is to offer them jobs with good career prospects; and the graduate assistantship post is one such program.

However, a precondition for the successful implementation of the above suggestions, is the existence of a sufficiently broad-based and viable graduate studies program. But regretably, inadequacies of academic staff and physical facilities have hindered the take-off of any meaningful and sustained graduate training schemes in many Nigerian universities. The lack of basic materials, chemicals,

and tools in some of the physical sciences' laboratories in A.B.U. makes graduate training cumbersome to both staff and students and unattractive to potential students. A.B.U. has therefore to develop a viable graduate studies program and provide essential equipment and materials to facilitate teaching and learning, if it is to be able to provide a substantial proportion of its academic staff requirements from internal sources, during the decade.

4.4 ROLE OF GOVERNMENT

Active participation of the Federal and State governments in manpower development in this country is a long standing one. For instance, all the present thirteen universities are Federal institutions; and since the return to civil administration in 1979, there have been promises and plans to establish more Federal and also State universities. These are all laudable goals. But we would like to join in the on-going, severally expressed pleas that the Federal government needs to urgently send more money to the

existing universities to rescue them from crumbling. Funds are needed to finance staff development schemes, to erect new and permanent physical structures (offices, housing, laboratories, classrooms etc) and for the purchase and maintenance of equipment.

Another way the Federal and State governments have been helpful and should intensify their effort is in the area of graduate scholarship awards. Finance has always been a major obstacle in the way of prospective graduate students. The governments should endeavour to award more graduate scholarships in order to induce people to go for graduate training and, hopefully, some of the products may end up in university classrooms.

4.5 OTHER SOURCES

In the areas of critical shoftages as in architecture, engineering, building and medicine, there are a number of experienced, practising or retired indigenous professionals who may be willing to give part-time lectures in those subjects. With their wealth of practical experience, they can help

to offer students the opportunity of blending theoretical knowledge with what obtains in practice. Though A.B.U. is located in a comparatively rural setting, it can still tap such resources from Kaduna, Kano, and Jos where there are various private enterprises and consultancies.

One other way to help ease the acute shortages of academic manpower in Nigerian universities is to reverse the situation whereby study fellows and those on sabbaticals spend their leaves in overseas' institutions. Their periods of absence constitute a loss to the universities. In the face of acute manpower shortages, efforts should be made during the next decade to encourage more of these beneficiaries to undertake their studies/research in Nigerian universities where possible. In this way, their services will not be lost to Nigerian universities. Furthermore, such a policy would tend to stimulate greater interaction among the universities. Perhaps one way of making this proposal attractive is to ensure that whatever conditions that now apply to overseas studies/sabbaticals are also made applicable to local studies/sabbaticals. A.B.U. should prepare

to tap from this source by ensuring that study fellows and visiting scholars who come to the institution are provided with comfortable accommodation and transport, among other things.

4.6 IMPORTANCE OF THE MARKET

Given the now notorious financial and physical constraints facing Nigerian universities, it may not be possible for A.B.U. to produce senior lecturers, readers, and professors in the required numbers within a period of five to ten years; but it is possible, and infact imperative, that the present stock, especially Nigerians, should be retained within the university, for as long as possible. The ability of A.B.U., or any other Nigerian university, to retain its academic staff and recruit more, is greatly dependent on the prevailing conditions in the labour market; i.e. the wages, incentives and conditions of work.

As King (1972) rightly points out, the problems of labour supply are intricate and multi-dimensional. They involve individuals making decisions about whether to work or not, how long to work, what sort of work to do and for whom. The decisions whether to work and

for how long are short-run manpower supply decisions; while in the long-run, decisions involving education, occupational choice, migration etc. are formed (Fleisher, 1970). Assuming that work and leisure are the only ways of spending one's time, the individual must in the short-run, choose between work and leisure; the opportunity cost of leisure being the wage foregone. A wage increase means a rise in the relative price of leisure and it has two effects on labour supply namely, an income effect and a substitution effect. The income effect may be positive, negative or zero whereas the substitution effect is always positive. The actual amount of labour supplied as wage increases in the short-run depends on the resultant of those two effects.[1] The observation that a number of lecturers are willing to supply extra teaching services at their institutions (e.g. in various extra-mural programs) and institutions other than their own, when financial rewards are offered, is an empirical evidence substantiating the hypothesis that the

---

1. For a fuller discussion on the use of indifference curve analysis on labour supply decisions, see King (1972), Fleisher (1970), Perlman (1969). See also Robbins (1930), Ryan and Pearce (1977).

decisions by academics to supply their labour services in the short-run is a positive function of the wage and other 'marginal' rates of pay.

In the long-run, decisions to invest in education, or occupational change or migration are undertaken only if the difference in wages and associated non-pecuniary advantages are sufficiently large and of sufficiently long duration to compensate individuals for giving up alternative uses of invested resources (Fleisher). The types of skills required in the universities are usually not job- or location-specific, hence academic staff have the strong potential for mobility and may change their jobs for others that offer higher wages and non-pecuniary benefits. All these boil down to the fact that, to recruit more of a particular type of labour, an employer must be ready to pay 'slightly' more. This is the reality that the universities must face.

The present wages and conditions of service of academics are not attractive. To cite a few commonplace examples, it is not unusual for two or more lecturers to share a small, and therefore conjested office accommodation, nor is it unusual for lecturers to

'shout' their lectures in huge, shoddy lecture theatres without microphones. The conduct of research is rendered unattractive and excessively cumbersome in the face of inadequate funds and supporting staff. Add to this the heavy workload some academics have to shoulder because of understaffing in their departments. Many academic staff are forced to live in uncomfortable and often unsafe houses because of the acute shortages of housing accommodation. Above all, the salaries are not attractive enough to compensate for all these other deplorable conditions. These call for an urgent attention of the Federal government to provide basic academic and social facilities which are essential to shholarship. If the increasing aspirants of university education are to be catered for, the present stock of academic manpower must be motivated to stay on in the universities. Perhaps, the recently constituted Presidential Commission will come up with a more attractive package for the universities which will greatly enhance their ability to retain their staff and recruit new ones.

4.7 CONCLUSION

In the light of the above, the provision of favourable and attractive wages and conditions of service may be the major determinant of whether or not A.B.U. or any other Nigerian university will be able to retain and recruit the required academic manpower in the 1980s. The reality of the situation is that the pfivate sector and other government establishments pose strong areas of attraction not only to present, but also potential, academics. Therefore, unless a suitable package of incentives is worked out for the universities, a situation may arise where, though the people are trained, they may refuse university jobs and take up employment in other sectors.

CHAPTER 5

SUMMARY AND CONCLUSION

5.1 SUMMARY

This research aimed to identify and analyze the academic manpower requifements of Nigerian universities, taking Ahmadu Bello University as a case study. Chapter one reviewed the existing literature on the objectives, scope and methodology of manpower planning, and related them, where appropriate, to the Nigerian manpower planning experience. A major point that emerged from this review is the need for a reliable data-base for estimation of future manpower requirements because realistic manpower planning, irrespective of the methodology chosen, requires a sound knowledge of the employment characteristics in the recent past and the present.

Based on this premise, Chapter two provided a statistical description of the academic manpower requirements of A.B.U. since its inception in 1962 up to 1980, highlighting the general trend and structure. It identified the country's

political environment, the University's expansion programs, funds and students' intake, as important determinants of the observed trend and structure.

In the third chapter, estimates of academic manpower requirements of the university for the 1980 - 1990 decade were made, using a linear estimation model and statistical data from the previous chapter. The estimates were combined with results of an establishment survey to obtain minimum and maximum gross estimates which were then netted of present stock, trainees and envisaged withdrawals. The results were disaggregated by rank, faculty and centre.

Chapter four examined the supply sources for meeting the estimated demand. It revealed that though internal staff development efforts of the universities as well as government assistance may be important, the role of the market is decisive for the recruitment and retention of adequate and qualified academic staff. The present chapter is a conclusion. It provides some policy recommendations, and suggests areas for future research.

5.2 RECOMMENDATIONS

This research may be regarded as preliminary to investigations into several other areas of manpower planning within the Nigerian university system. On the basis of our experience during this study, one formidable obstacle would be the lack of systematically collected and stored data. One approach to solving this information bottle-neck would be to set out a framework of points of information on staff, students and other areas on which collection and maintenance of data will be done on a systematic and continuous basis. Below is an illustration of the points of information to be gathered on a continuing, say yearly, basis on the characteristics of students and academic staff:

(i) Students

- Total students intake.
- Breakdown of intake by sex, faculty, department and subject for each year of study.
- Yearly examination results, by grades and subject.
- Placement of graduates.

(ii) Academic Staff

- Total academic staff employed.
- Breakdown by qualification, department, sex, nationality, and rank.
- In-service training programs, by qualification and location of study.
- Annual turnover figures.
- On-going research, publications and community service.
- Teaching load of each member, by contact hours per session, size and frequency of groups taught.

The above task may not be easy; it calls for experienced and dedicated statistically oriented personnel. In this respect, the recent efforts of the A.B.U. Development Office at starting a "Digest of Statistics" is highly commendable. However, the office needs to build up some more information on the background of A.B.U. and look into the possibility of developing a framework as suggested above. Such 'Digests' should be made available at the beginning of each academic session.

Another area in which a policy decision needs to be clearly marked out is that of a "management

principle" for the university. In other words, in planning the development of the institution, what should determine what? The university administration should clearly map out those vital decision parameters as for example, recurrent subvention, available academic and adminstrative staff, students intake etc. and determine how these influence one another. For instance, does the expected subvention determine academic staff recruitment and then student enrolment? Or is it the other way round ? Is there a limit to the expansion of A.B.U.? When will that limit be reached? Need all the departments increase their demand for staff each year as has been the case over the past 17 years? With a defined management principle, not only will the direction of the affairs of the university be clear, adjustments in times of crisis - as in cases of acute staff shortages or students' admission explosion - will be relatively easier to make.

The number of universities in Nigeria is likely to increase to about 20 within the next decade, a situation that will further compound the staffing

problems of the institutions. It is no doubt politically attractive that each State in Nigeria should have a university of its own; but should political expediency be allowed to overcloud economic realities In our view, planning for these academic institutions, both new and old, should not stop at just acquiring land for permanent structures or compiling costs in millions of naira. A well thought-out plan of providing the requifed manpower to set in motion all these other 'plans' must be made. Infact, such a plan should occupy priority position because it is of vital importance.

5.3 FUTURE RESEARCH

The subject of manpower planning within the university system is as broad as it is exciting. In this study, we examined only A.B.U's academic manpower requirements. Future studies may be directed at Nigeria's entire university staffing requirements.

In the study, we touched briefly on the subject of academic manpower turnover in A.B.U. A useful purppse would be served if such a study is carried

out on a more detailed and comprehensive scale. Also, it would be interesting to test the applicability of some of the complex statistical manpower planning models described in chapter one to some areas of the University.

5.4 CONCLUSION

In conclusion, we would reiterate that manpower projections into the future, as have been done in this research, may not be completely accurate. However, even in their imperfections, they offer valuable insights into the future manpower situation. We hope that what has been done here will offer meaningful guidance to policy decisions and will stimulate research into other areas of manpower planning in A.B.U. and the Nigerian university system as a whole.

BIBLIOGRAPHY

BOOKS

Bartholomew, D.J. & Morris, B.R. (Eds.), Aspects of Manpower Planning, New York: American Elsevier Publ. Coy., 1971.

Bowey, A.M., A Guide to Manpower Planning, London: Macmillan Press Ltd., 1977.

Clough, D.J., et al (Eds), Manpower Planning Models, London: The English Universities Press Ltd., 1974.

Cohn, E., The Economics of Education, Cambridge: Ballinger Pub. Coy. 1979.

Damachi, U.G. & Diejomaoh, V.P., (Eds), Human Resources and African Development, New York: Praeger Pub., 1978.

Fleisher, B.M., Labour Economics, Theory and Evidence, New Jersey: Prentice-Hall Inc., 1970.

Ginzberg, E., The Development of Human Resources, New York: Mc-graw-Hill Book Coy., 1966.

Harbison, F.H., Human Resources as the Wealth of Nations, New York: Oxford University Press, 1973.

Kelejian, H. & Oates, W., Introduction to Econometrics, Principles and Applications, New York: Harper & Row, 1974.

King, J.E. Labour Economics, London: Macmillan Press Ltd. 1972.

Kumo, S. & Nze, K. (Eds), Perspectives in Human Resource Development and Utilization in Nigeria, Zaria: Institute of Administration, 1976.

Mcbeath, M.M., Manpower Planning and Control, London: Business Books, 1978.

National Bureau of Economic Research, Human Resources, New York: Columbia University Press, 1972.

Parnes, H.S. (Ed), Planning Education for Economic and Social Development, Italy: OECD, 1962.

Perlman, R. Labor Theory, New York: John Wiley & Sons Inc., 1969.

Reynolds, L. & Gregory, P., Wages, Productivity and Industrialization in Puerto Rico, Unwin, 1965.

Robbins, L., "On the Elasticity of Demand for Income in Terms of Effort", in Readings in the Theory of Income Distribution, Philadelphia: Blakiston, 1951.

Smith, A.R. (Ed), Models of Manpower Systems, London: The English Universities Press Ltd., 1970.

UNESCO, Manpower Aspects of Educational Planning, Paris: IIEP, 1968.

United States Department of Labor, The Forecasting of Manpower Requirements, Washington: Bureau of Labor Statistics, 1963.

Wabe, J.S. (Ed), Problems in Manpower Forecasting, England: Saxon House, D.C. Heath Ltd., 1974

Yesufu, T.M. (Ed), Manpower Problems and Economic Development in Nigeria, Ibadan: Oxford University Press, 1969.

GOVERNMENT AND UNIVERSITY PUBLICATIONS

Ahmadu Bello University, Calendar, 1964-1978

_____ Endowment Appeal Fund Brochure, December 1979.

_____ Weekly Bulletin, 1978/79, 1979/80.

_____ Digest of Statistics, Vol. 1, 1979.

_____ Gazette, Vol. III, No.4, 30/4/77; Vol. VIII, No. 5, 30/4/78.

Committee of Vice-Chancellors, The Nigerian Universities and the Udoji Commission, 1973.

Federal Government of Nigeria, Second National Development Plan (1970/74), Federal Ministry of Economic Development and Reconstruction, Lagos.

———— Third National Development Plan (1975/80). Lagos.

National Manpower Board, Manpower Situation in Nigeria (Preliminary Report), Lagos: 1963

———— Nigeria's High-Level Manpower (1963/70), Lagos: 1964.

———— Labour Force Sample Survey (1966/67), Vol. I, Lagos, 1973.

———— Survey of Manpower Shortages and Surpluses (1968/69), Lagos: 1973.

University of Ibadan, Calendar, 1969/70, 1978/79.

OTHER SOURCES

Fapohunda, O., "Manpower Development in Nigeria's Economic Planning" (mimeo), paper presented at a National Workshop on Planning Strategy for the 1980's, Ibadan December, 1977.

Guobadia, A., "Providing Adequate Staff for Nigerian Universities by 1985", (mimeo), Background paper presented at a National Manpower Conference, organized by the Human Resources Research Unit, University of Lagos and the National Manpower Board, February, 1979.

Luption, K., "Guidelines on Appointments and Promotion of Senior Staff" (Mimeo) Part I, A.B.U., 1974.

Udo, F.E. "Labour Turnover and Wastage in Kaduna Textile Industry, 1963-1978" (Unpublished M.Sc thesis), A.B.U., 1979.

STATISTICAL APPENDIX I
DISTRIBUTION OF ACADEMIC STAFF BY FACULTY/CENTRE, 1969/70 - 1979/80

FACULTIES	1969/70		1970/71		1971/72		1972/73		1973/74		1974/75		1975/76		1976/77		1977/78		1978/79		1979/80	
	LECT.	RES.	LECT.	RES.	LECT.	RES.	LECT.	RES.	LECT.	RES.	LECT.	RES.	LECT.	RES.	LECT.	RES.	LECT.	RES.	LECT.	RES.	LECT.	RES.
AGRICULTURE	5	59	15	60	16	68	12	93	36	75	19	90	27	87	62	65	43	87	39	105	62	105
ARTS & SOC.SC.	50	4	54	3	64	5	89	-	103	-	136	-	152	-	177	1	154	5	150	-	146	-
EDUCATION	18	-	15	-	18	-	23	-	39	-	52	-	57	-	56	-	62	-	79	-	76	-
ENGINEERING	31	1	40	1	35	1	35	-	46	-	58	5	68	-	63	-	92	5	94	5	91	5
ENVI.DESIGN	6	-	7	-	9	-	10	-	23	-	27	-	30	1	34	2	66	1	60	1	68	1
MEDICINE	40	1	52	2	52	2	68	-	79	-	101	1	98	1	125	-	81	-	81	1	79	1
PHARM. SC.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	1	32	1	38	1
SCIENCE	47	-	49	-	56	-	68	-	71	-	83	2	114	2	128	-	124	-	136	1	137	1
VET.MED.	22	-	25	-	26	-	37	-	42	-	48	-	47	-	51	-	51	-	64	-	62	-
SUB-TOTAL (i)	222	65	257	66	276	76	342	93	439	75	524	98	591	91	696	68	699	99	735	114	759	114
(ii)	287		323		352		435		514		622		682		764		798		849		873	
C.N.C.S.		-		-		-		10		18		19		21		23		21		27		27
C.S.E.R.		-		-		-		-		4		3		13		14		19		16		14
GRAND TOTAL:	287		323		352		445		536		644		716		801		838		892		914	

SOURCES: (i) Returns from departments and centres.
(ii) A.B.U. Calendar, 1969/70 - 1978/79.
(iii) A.B.U. Development Office files.

STATISTICAL APPENDIX II

DISTRIBUTION OF TEACHING STAFF BY RANK
1964/65 - 1979/80

YEAR	ASST. LECTURER	LECTURER	SNR. LECTURER	READER	PROFESSOR	TOTAL
1964/65	5	55	19	4	16	99
1965/66	7	54	26	6	32	125
1969/70	14	108	38	12	50	222
1970/71	15	133	47	12	50	257
1971/72	16	143	49	13	55	276
1972/73	39	164	59	16	64	342
1973/74	41	233	83	18	64	439
1974/75	47	272	115	23	67	524
1975/76	47	310	145	26	63	591
1976/77	50	386	161	36	63	696
1977/78	60	363	189	41	46	699
1978/79	71	354	216	46	48	735
1979/80	150	297	202	67	43	759

SOURCES (i) A.B.U. Calendar, 1964/65 - 1965/66, 1969/70 - 1978/79.

(ii) 1973/74 statistics were extracted from K. Lupton, "Guidelines on Appointments and Promotion of Senior staff", (mimeo) Part I, Appendix IV.

(iii) Development Office files.

STATISTICAL APPENDIX III

DISTRIBUTION OF VACANCIES BY RANK

1969/70 - 1976/77

RANK	69/70	70/71	71/72	72/73	73/74	74/75	75/76	76/77
ASST-LECTURER	-	-	2	2	4	-	5	-
LECTURER	-	3	6	6	19	13	8	4
SNR-LECTURER	-	1	10	8	20	18	15	-
READER	2	1	2	2	12	3	18	-
PROFESSOR	2	3	7	1	6	5	12	-
RESEARCHERS	5	3	5	13	13	22	11	16
TOTAL:	9	11	32	32	74	61	70	20

SOURCES: (i) A.B.U. Calendar, 1969/70 - 1975/76.

(ii) 1976/77 Senior Staff List.

STATISTICAL APPENDIX IV

STUDENTS' ENROLMENT, 1962/63 - 1979/80

YEAR	STUDENT	PERCENTAGE INCREASE
1962/63	377	-
63/64	431	14.3
64/65	543	26
65/66	736	35.5
66/67	685	-7
67/68	1057	54.3
68/69	1391	31.6
69/70	1765	27
70/71	1897	7.5
71/72	2252	18.7
72/73	2627	16.6
73/74	3247	23.6
74/75	3904	20.2
75/76	4724	21.0
76/77	5054	7.0
77/78	5420	7.2
78/79	5557	2.5
79/80	6670	20

SOURCES: (i) A.B.U. Digest of Statistics, Vol.I, 1979, pp. 1-2.

(ii) A.B.U. Development Office Source.

STATISTICAL APPENDIX V

TREND ANALYSIS OF STUDENTS' ENROLMENT 1979/80 - 1989/90

YEAR	X	Y	$(X - \overline{X})$	$(Y - \overline{Y})$	xy	X^2
1969/70	0	1965	-5	-2154.7	10773.5	25
70/71	1	1897	-4	-2022.7	8090.8	16
71/72	2	2252	-3	-1667.7	5003.1	9
72/73	3	2627	-2	-1292.7	2585.4	4
73/74	4	3247	-1	-672.7	672.7	1
74/75	5	3904	0	-15.7	0	0
75/76	6	4724	1	804.3	804.3	1
75/77	7	5054	2	1134.3	2268.6	4
77/78	8	5420	3	1500.3	4500.9	9
78/79	9	5557	4	1637.3	6549.2	16
79/80	10	6670	5	2750.3	13751.5	25
	$\Sigma X=55$	$\Sigma Y=43117$			$\Sigma xy =$	$\Sigma x^2 =$
	$\overline{X} = 5$	$\overline{Y} = 3919.7$			55000	110

$$y = Y - \overline{Y} = \left(\frac{\Sigma xy}{\Sigma x^2}\right)x$$

$$Y = \overline{Y} + y \qquad x = X - \overline{x}$$

Substituting values from the table,

$$y = \left(\frac{55000}{110}\right)x = 500\,x$$

STATISTICAL APPENDIX V (CONTD)

$Y = 3919.7 + 500\,x$

$Y = 3919.7 + 500\,(X - 5)$

This gives the trend equation:

$Y = \underline{\underline{1419.7 + 500\,X}}$

In 1985, $X = 15$

$\therefore\ Y = 1419.7 + 7500$

$= 8919.7$

$Y \simeq \underline{8920}$, i.e the estimate of student enrolment for 1985.

In 1990, $X = 20$

$\therefore\ Y = 1419.7 + 10000 = 11419.7$

$Y \simeq \underline{11420}$, i.e the estimate of student enrolment for 1990.

STATISTICAL APPENDIX VI

ESTABLISHMENT SURVEY ESTIMATES OF ACADEMIC STAFF BY FACULTY/CENTRE, 1985

FACULTY/CENTRE	1979/80	1984/85	PERCENTAGE INCREASE
AGRICULTURE	62	98	58
ARTS & SOC.SC.	146	303	107.5
EDUCATION	76	212	186.6
ENGINEERING	91	135	48.4
ENVI. DESIGN	68	181	166.2
MEDICINE	79	294	272.2
PHARM. SC.	38	63	65.8
SCIENCE	137	269	96.4
VET. MED.	62	116	87.1
(SUB-TOTAL (i)	759	1671	120
FACULTY RES.	114	150	31.6
CNCS	27	67	148
CSER	14	40	207.7
SUB-TOTAL (ii)	155	257	66
GRAND-TOTAL (i) + (ii)	914	1928	111

SOURCES: (i) Returns from some faculties.
(ii) 1980/85 Development Plan.

STATISTICAL APPENDIX VII

DISTRIBUTION OF STUDY FELLOWS AND GRADUATE ASSISTANTS AS AT MARCH 1979, BY FACULTY/CENTRE

FACULTY/ CENTRE	STUDY FELLOWS TYPES OF COURSES					Grad. Assts Courses M.A/M.Sc
	Ph.d	M.A/ M.SC.	B.A/ B.Sc.	Certi-ficate	Total	
AGRICULTURE	26	10	-	5	41	13
ARTS & SOC. SC	4	3	-	-	7	23
EDUCATION	-	1	1	-	2	7
ENGINEERING	4	1	-	2	7	4
ENVI. DESIGN	5	4	1	1	11	3
MEDICINE	7	3	1	1	12	5
PHARM. SC.	4	-	-	-	4	8
SCIENCE	9	4	1	3	17	12
VET. MED.	4	1	-	4	9	-
CNCS	1	5	1	1	8	-
TOTAL:	54	32	5	17	118	75
% of TOTAL:	54.2	27.1	4.2	14.4		

OVERSEAS FELLOWSHIP COURSES - 112 (95%)

LOCAL FELLOWSHIP COURSES - 6 (5%)

SOURCE: A.B.U. Establishment Office files

ACADEMIC MANPOWER REQUIREMENTS

IN A.B.U.

This survey is being conducted into the academic manpower requirements of Ahmadu Bello University, Zaria. Kindly complete the following questionnaire. Thank you for your cooperation.

QUESTIONNAIRE I: TEACHING DEPARTMENTS

1. Department _____

2. When was the department created? _____

3. Please give the sessional breakdown of the academic staff (teaching staff and research staff) that have been employed in the department since its inception to date.

SESSIONS	TEACHING STAFF		RESEARCH STAFF	
	Nigerians	Expatriates	Nigerians	Expatriates
1962/63				

4. Please attempt an estimate of your future academic staff requirements for the period 1980/81 - 1989/90.

YEAR	ESTIMATES	
	Teaching Staff	Research Staff
1980/81		
1981/82		
1982/83		
1983/84		
1984/85		
1985/86		
1986/87		
1987/88		
1988/89		
1989/90		

5. List the factors you considered in making the above estimates in their order of relative importance:

(i) .....

(ii) .....

(iii) .....

(iv) .....

(v) .....

ACADEMIC MANPOWER REQUIREMENTS

IN A.B.U.

This survey is being conducted into the academic manpower requirements of Ahmadu Bello University, Zaria. Please complete the following questionnaire. Thank you for your cooperation.

QUESTIONNAIRE II: RESEARCH CENTRES/UNITS

1. Research Unit/Centre _____
2. When was the Unit/Centre created? _____
3. Please give the sessional breakdown of the research staff that have been employed in the Unit/Centre since its inception to date.

SESSIONS	RESEARCH STAFF	
	Nigerians	Expatriates
1970/71		
1971/72		
1972/73		
1973/74		
1974/75		
1975/76		
1976/77		
1977/78		
1978/79		

4. Please attempt an estimate of your future requirements for research staff for the period 1980/81 - 1989/90.

SESSION	ESTIMATES
1980/81	
1981/82	
1982/83	
1983/84	
1984/85	
1985/86	
1986/87	
1987/88	
1988/89	
1989/90	

5. List the factors you considered in making the above estimates in their order of relative importance:

(i) .....

(ii) .....

(iii) .....

(iv) .....

(v) .....