BIBLICMETRIC AND DOCUMENTATION CHARACTERISTICS OF GEOGRAPHICAL LITERATURE ON NIGERIA, 1901 -1970

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ABSTRACT

Part I of tho study comprises a classified, annotated bibliography of geographical publications on Nigeria, 1901-1970, using the classification schedulo devised by the Association of American Geographers. This bibliography constitutes the main data source (Appendix A) for the analyses presented in Part II of the study (Chapters One to Six).

Chapter One outlines the objectives and methodology of the thesis within the framework of a comprehensive review of previous studies that share some of tho characteristics of the present study; tho assumption and hypotheses proposed are stated and the statistical measures used in some of the analyses are explained.

Chapter Two describes and interprets the distribution of geographical literature on Nigeria according to time, space, authorship, and subdivisions of geography; problems in tho application of Bradford's law to the productivity of authors are discussed.

Chapter Three describes the format and publishers of the literature; the patterns and implications of title and subject dispersion are discussed and compared with similar studies in science and social science.

Chapter Four analyzes coverage of Nigeria's geographical literature by five indexing and four abstracting services; differences in indexing coverage by form, publisher, and place of publication are described; the degree of duplication, consistency, and exhaustivity of indexing coverage among the nine bibliographic services is 3hown; and a list of the most

effective indexing and abstracting services with regards to Nigeria's geographical literature is presented.

Chapter Five describes trends in the methodology and subdivisions of geographical research that are discernible in the geographical literature on Nigeria; the pattern of relationship between the literature and indicators of socio-economic growth in Nigeria is suggested and discussed.

Chapter Six summarizes the conclusions reached in the study, suggests their implications for more effective organization and use of geographical collections, and suggests, with reasons, five areas requiring further research.

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Mr J.O. Babalola, of the Department of Library Studies, typed the final draft.

* * *

DEDICATED TO ALL NIGERIANS WHO ARE

DEVOTED TO RESEARCH IN

LIBRARY & INFORMATION STUDIES

* * *

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BIBLIOMETRIC AND DOCUMENTATION CHARACTERISTICS OF GEOGRAPHICAL LITERATURE ON NIGERIA, 1901-1970

CHAPTER ONE

INTRODUCTION AND METHODOLOGY

.....if knowledge, once acquired, is to be transmitted with high reliability and used efficiently, it is necessary not only that information shall be recorded, but also that it shall be analyzed in such a way that either simple retrieval may make it available for direct use, or new correlation may be investigated and established. (J.W. Perry, The Characteristics of Recorded Knowledge. In 'Documentation in Action,' ed. by J.H. Shera, and others, 1956, p.77).

1.1 TYPES OF BIBLIOGRAPHIC RESEARCH

'Compiling a bibliography' has long been one of the activities with which the librarian has been generally identified. The bibliography continues to hold its own either as a form of current awareness service or as a tool for recording what has already been done in a particular field or region. Bibliographic research, however, has not always been associated with librarianship and for a long time it meant only one type of research activity that was dominated by workers in English literature. Other types of bibliographic research have since evolved, each distinct from the other in its methodology and objectives. The initial portion of this Chapter describes various types of bibliographic research and emphasizes those aspects that have bearing on the present study.

1.11 Analytical or Historical Bibliography

involves analyzing a book as minutely as possible in all its physical ramifications—the layout of its contents pages, the orientation of the title in relation to other entries on the title page, arrangement of the lines of text and illustrations, quality of paper used,and similar facts about the book as a physical object so that when all these facets are described they present a unique identification of the true edition of a work. As Creg (1966)* puts it, "the task of textual criticism (analytical bibliography) is not only to establish the true original text, but likewise to trace throughout the history of the transmission."

Willoughby's (1932) dissertation is a typical example and was one of the earliest in the field of librarianship. This work summarizes ten years' research on the first Shakespeare Folio, gives the order in which the quires of six leaves (of which the Folio is largely composed) were printed, and suggests reasons for the irregular quires. It distinguishes quires printed on one press from those printed on two by identifying various labour-saving devices employed by the printers. Finally, it shows that the printing was done at two times: the first run (August-October 1621) produced all the comedies except The Winter's Tale, King John, and the first two pages of Richard II while the second run, a year and a half later, produced the remaining history plays, the tragedies, the preliminary matter, Troilus and Cressida, and The Winter's Tale.

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*Two symbols are used to indicate references. Round brackets ( ) refer to references at the end of each Chapter. Square brackets [ ] refer to items in Appendix A, with their appropriate numbers.

This is the oldest, and for a long time the only, type of bibliographic research. The present study is not this type of research.

1.12 Enumerative/Descriptive

bibliography has been familiar ground to librarians for a long time. Contributions by Bergen (1966), and Shipman (1966) on bibliographic organization in the social sciences and in the physical sciences respectively are two fine reviews of descriptive bibliography. In order to compile a bibliography, monographs, periodicals, newspapers and other forms of graphic communication are scanned for entries that are appropriate to the topic of the bibliography. Each entry usually has more or less the following facets: full names of author(s), full title, place of publication, publishers (monographs only), date of publication (year for monographs, month and year for periodical articles), full or abbreviated title of periodical, volume statement for journal articles (and for monographs of more than one volume), number of the issue in the volume, series note, annotation, and location statement particularly for rare books. Again, the objective here is to identify each entry. All entries are then arranged in some logical, systematic order to facilitate consultation and this step almost invariably involves classification of some sort.

Although this type of bibliography has not been universally accepted as 'complete' research most of the theses presented for the award of the Fellowhips of the (British) Library Association are of this type. The annotated bibliography in Appendix A fulfils all the conditions of a descriptive bibliography.

1.13 Content Analysis

is the sort of carefully structured (objective, systematic, quantitative) analysis of the "manifest" content of some media of communication, the book, film, movie, television, etc. In the literature of librarianship, studies of this nature usually emphasize trends and developments in scholarship (McCarthy 1940, Delougaz 1949), comparative analyses of the structures of different types of media (Asheim 1949, Harvey 1949), the differences in the effects of the same media in different parts of the world (Martin 1934 and 1936), or of the same media as observed in different media (Hargrave 1948).

Content analysis in the form described by Berelson (1952) and applied in the studies just cited is not the objective of the present study. Content is considered here only insofar as it relates to subject content of publications analyzed. However, the discussion of trends in Chapter Five is in the true tradition of similar discussions by McCarthy and Delougaz.

1.14 Concept of Social Epistemology

In a joint article, Egan and Shera (1952) first propounded the idea of a 'new discipline' which they christened, for want of more appropriate words, 'social epistemology', a discipline that would be concerned with:

> ...the analysis of the production, distribution, and utilization of intellectual products in much the same fashion as that in which the production, distribution, and utilization of material products have long been investigated ... (Egan and Shera 1952, p.135).

In subsequent papers, Shera alone (1956, 1961 and 1965) restated and redefined his ideas about this proposed new field of knowledge that he anticipated might take root in "a decade, twenty years, or even a century," taking particular care to define its theoretical basis, methodology, scope, and purpose.

This thinking appeared to be completely novel although Egan and Shera referred to Hulme's work (1923) as a pioneer in the envisaged discipline. More than twenty years have passed and the discipline of social epistemology does not seem to have advanced beyond the pages of Shera's articles. Although a considerable body of knowledge has accumulated concerning the bibliographic characteristics and the use patterns of the literatures in the sciences, the social sciences, and the humanities, these investigations have been made without reference to Shera's ideas. The concept of social epistemology, however, offers so much academic food for thought that it could not forever be ignored. At last, an information scientist, Kochen (1969), delivering the first Distinguished Lecture of the American Society for Information Science to the Cleveland, Columbus, Dayton, Chicago, Los Angeles, and Boston Chapters of the Society outlined, in mathematical garb, the concepts, methods and problems of "a new discipline" that would give priority to stabilizing the growth of knowledge through evaluation and synthesis rather than

concentrate on access alone. In setting forth his ideas, he freely used words like "epistemology" and "episto-dynamics," but neither in his text nor in his references does he give any evidence of being aware of Shera's considerable previous contribution to the subject. The present study does not claim to be one in social epistemology as defined by Shera or Kochen. But as the field of social epistemology is further delimited and elaborated, it seems likely that bibliometrical investigations such as this one will be considered to fall within its scope. Indeed, bibliometrics may very well come to form an essential core if social epistemology does finally emerge as a discrete discipline with a distinct body of knowledge.

1.15 Bibliometrics and the Formulation of Laws.

Pritchard (1968[a]) formulated a definition for the word 'bibliometrics' that has been slightly adapted for use in this study. Bibliometrics is defined as:

> the application of statistical and graphical methods to books and other media of graphic communication to shed light on the process of written communication and of the nature and course of development of a discipline (insofar as these are displayed through graphic records).

'Statistical bibliography' has been used by Cole and Eales (1917), Hulme (1925), Gosnell (1943 and 1944), and by Pritchard (1969[b]) himself. Raisig (1962) also used the term but with a slightly different meaning that emphasizes analyses based on use studies. The term 'bibliometrics' is preferable because, as Pritchard (1968) noted, 'statistical bibliography' has frequently been confused with such well-established words as 'statistics' or 'bibliographies on statistics.' Moreover, 'bibliometrics'

is a hard indexing word and has very close links with the accepted and analogous 'biometrics', 'econometrics,' and 'scientometrics.'

Bradford's works (1934, 1943 and 1948) are now generally considered to be the modern basis of bibliometrics. Although controversies still rage over the mathematical formulations of some of the existing laws in bibliometrics, the value of these laws is generally acknowledged in library and information science. Consequently, efforts have recently been concentrated on applying them to library situations (Goffman and Harris 1970, Donohue 1972). Bradford's Law of Scattering and Zipf's (1949) Principle of Least Effort are now combined in the Bradford - Zipf distribution (Brookes 1969) in analyses of the productivity of periodicals. Similarly, Lotka's (1926) Inverse Square Law or Bradford's Law can now be applied in analyses of authors' productivity. Considerable progress has also been reported in the development of mathematical models for analyzing the spread of ideas as observed in published literatures (Goffman and Newill 1964, Goffman 1966, Kochen 1969).

One significant result of these efforts is that the predictive and cumulative values of bibliometric research have been greatly enhanced. Reports of conformities or non-conformities with these laws are increasing as the literatures of subjects are analyzed. Such reports help to build up that vital body of theoretical knowledge which any discipline needs to stand on its own. And the literature on bibliometrics is already impressive as Pritchard's (1969) bibliography, which lists more than 800 entries, shows.

The 'Methodology' part of this Chapter contains a full discussion of the laws that have been applied in the present study.

1.2 REVIEW OF RESEARCH INTO SUBJECT LITERATURES

None of the five types of bibliographic research described above aims at in-depth analysis of the literature characteristics of particular subject fields although analytical bibliography has been traditionally associated with English literature, as is bibliometrics with science generally. The exponential growth of information in all fields, first recognized in the sciences and now more or less appreciated in the social sciences and humanities as well, has forced serious - minded researchers to increase their attention to the problem of keeping up with published and unpublished literatures even in relatively narrow fields of specialization. The advent of the computer has increased rather than reduced the flood of 'information' that the subject specialist has to scan, and more and more scientists began to focus on the science of science or the documentation of science.

The first group of investigators to attack the newly acute problem of literature growth were the scientists actively engaged in research in the subject fields themselves. Only later did librarians and information scientists begin to take the leading role that they now occupy in these investigations. In the first comprehensive review article concerning research efforts directed at a better understanding of the characteristics of subject literatures produced and used by researchers, Stevens (1953) indentified two broad categories of what he called "statistical studies of research literature:"

(a) The first is a more or less comprehensive count and analysis of "the number of publications in a given field... for the purpose of comparing the amount of research in different countries, the amount produced during different periods, or the amount produced in different subdivisions of the field" (p.10). The data base is usually a bibliography.

(b) The second type involves study of the literature used by research workers in a given field, usually by means of citation analyses of references in selected journals, in indexing and abstracting services, or in library holdings.

Studies by Cole and Eales (1917), Hulme (1923), Bradford (1934 and 1948), Henkle (1938), and Crane (1944) firmly established the foundation of the first type of study described by Stevens. Later investigators like Hopp (1956), Warren and Newill (1967), Vaillancourt (1968), Leith (1969), and Lawani (1972) built on this growing body of knowledge and refined its methodology considerably in the process.

The second type of study that analyzes the use of research literatures has attracted even more investigators in science and technology. But, significantly, this type of study has produced important works in the social sciences and in the humanities as well. A representative list will suffice. Gross and Gross (1927) in chemistry, Voigt (1947) in engineering and agriculture, Fussler (1949 a, b) in chemistry, biology and physics, Laosunthara (1956) in geology, Littleton (1968) in agricultural economics, and Vaillancourt (1968) in medicine. There exist a host of studies in science generally (Price 1970), or with emphasis on use in a particular region or country, for example, those

by Barker (1966) for Russia, and Wood (1967) for the United Kingdom. In the social sciences one may cite such important works as those by McAnally (1951) and Jones, Chapman and Woods (1972) in history, Maddox (1958) in the field of library science, Broadus (1967 and 1971) and Lin and Nelson (1969) in sociology, Wood and Bower (1969) and Earle and Vickery (1969) in social science literature use in the United Kingdom. The important publications concerning Information Requirements of the Social Sciences (INFROSS) under the direction of Maurice Line (1971) are also worth noting. The humanities is still to attract a comparative number of workers; Simonton's (1960) study in the field of fine arts is a leading example.

Three journals deserve special mention as the leading English-language periodicals reporting original research into the literature characteristics of subjects. Journal of Documentation (London) has been published quarterly by Aslib since 1945. Its sub-title: "devoted to the recording, organization and dissemination of specialized knowledge" provides some indication of its coverage. Besides the impressive papers it carries on the literatures of science and technology, social science, and the humanities, it has a special feature: "Progress in Documentation" devoted to state-of-the-art reviews of research efforts in the documentation of individual subjects.

The American counterpart of Journal of Documentation is Journal of the American Society for Information Science, known until 1970 as American Documentation. Although the emphasis of this journal has increasingly shifted to investigation of mechanized storage and retrieval of information, it still publishes a considerable number of papers on the bibliographic and documentation characteristics of subject fields.

The Library Quarterly, published quarterly by the Graduate School of Library Science at the University of Chicago since 1931, is a leading journal in all fields of librarianship. It continues to publish important investigations into the characteristics of subject literatures. The studies by Hunt (1937), and Fussler (1949 a, b) are typical examples.

All of these publications are steadily building up a vital body of knowledge about such phenomena as: the format and languages of research literatures, their title and subject dispersion, the productivity of authors contributing to a particular field, the trends in individual subjects as reflected in their literatures over time, indexing and abstracting coverage by form, language, and place of publication, and the whole question of accessibility to relevant information generally. While these types of knowledge are almost complete for a subject like chemistry, for instance, they are still fragmentary or almost non-existent for many subjects in the social sciences, and in the humanities in particular. There is also still a certain amount of confusion in the use of 'citation analyses' and studies based on 'reference countings.'

As Jones, Chapman and Woods (1972) point out:

> A distinction has to be drawn between the terms 'reference' and 'citation.' Citation literally means each occasion upon which a work is cited in the footnotes, whereas a reference is the actual work cited. Thus in a citation analysis each citation must be recorded, while in a reference analysis each work cited is recorded only once. Most citation studies have not made this distinction clear and some errors may have been introduced as a result. (p.138).

1.3 RESEARCH INTO THE LITERATURE OF GEOGRAPHY

Geography is one of the subjects that have suffered comparative neglect as far as serious investigations into subject literatures are concerned. One curious fact that emerges in going through researches on the literatures of subjects is that geography has always somehow been excluded in discussing the literatures of the sciences or the social sciences. Somewhat vaguely, it is assumed to share the characteristics of both science and social science subjects but exactly how has never been determined. Only one study (Stoddart 1967) has attempted to show in what respects the collective literature of geography differs from, or is similar to, that of the social sciences or sciences generally.

Chauncy Harris, for a long time a Professor of Geography at the University of Chicago, has devoted a life-long interest to improving graphic communication among professional geographers. He published three papers (1950, 1959, and 1961) on the periodical literature of geography, two of them (1950 and 1961) in collaboration with Jerome Fellman, another professional geographer. The 1950 paper was a historical breakdown and description of the distribution of geographical serials published since 1723 by region, country, language, duration of individual titles, growth in their numbers, major developments, and a description of geographical serials in major libraries in the Americas and in Europe.

Harris's 1959 paper examined the language problem as it affected communication among geographers, particularly with the coming of age of geography in Asia where important geographical serials were appearing

in languages other than English, French, German, and Russian, by that time the international languages of presenting geographical information. He suggested that these new serials initiate supplementary use of one or more of the international languages as a means of making the contents of their publications accessible to a world audience. A broad review by country of geographical serials that were already using at least one international language to supplement publications in their local languages was then presented. Harris's and Fellman's 1961 paper was a brief description of a list of the 420 then current geographical serials taken from their previous publication (1960). Features described include the country of origin and founders of the new serials launched in the 1950-1960 period, language distribution, and progress in the adoption of international languages to supplement geographical periodical articles in the local languages.

In Britain, Steel (1961), the first editor of Papers and Transactions of the Institute of British Geographers, reviewed papers published in the journal within the 1946-60 period by subject field, date, regional coverage, authorship, and use of maps and diagrams, noting developments and trends in the field. Stoddart's (1967) study was slightly different and more comprehensive. He described such features as the growth rate in the numbers of professional geographers and their rate of productivity, the format of what they publish, and was particularly concerned to compare these features with similar features in the literatures of science and social science. In this largely exploratory study, Stoddart restricted his conclusions to broad generalizations as to whether geography could be classified as a science or as a social science subject on the basis of its characteristics that he had described.

Stallings (1971) analyzed in some detail the characteristics of the research literature contained in five leading geographical journals published in the United States of America. He described the concentration of articles appearing in each journal by time and on areas of the world, the subdivisions of geography in which articles in each journal appeared, and major trends in geography as revealed by the analysis.

One significant point to note about these studies is that they were all done by geographers actively engaged in teaching and research. And with the exception of Stoddart's paper, the emphasis is on the periodical literature. Realizing the wide gaps left by these studies and recognizing the need to start providing both geographers and librarians with systematic knowledge about the characteristic features of all forms of geographical literatures, the present writer (Aiyepeku 1972 and 1973) investigated the languages, format, and periodical literature of geography on a world-wide basis. The present study analyzes, in a far more detailed and rigorous way, significant bibliographic and documentation characteristics of geography in respect to one country, Nigeria. Further studies will be required to determine whether conclusions drawn here apply to the whole of geography.

1.4 NATURE OF THE PRESENT STUDY

This study differs from earlier ones in that the data base of literature references being analyzed was constructed from original sources. Others have simply accepted an existing bibliography as adequately representative of the whole literature of the subject matter under study. Still others have constructed this adequate representation from among the citations appearing in books and periodicals.

On the other hand, this study started by seeking to compile a complete bibliography of published works that fit certain philosophically and procedurally defined criteria (p.17). This approach was adopted largely because no prior bibliography existed on the subject of study and also becuase it is my belief that compilation of the bibliographic data-base is a crucial step in a bibliometric analysis of this nature. Conclusions reached in a study are the inevitable products of the character of the data—inadequate data produce inadequate conclusions. Acceptance of citations from only certain defined sources as an adequate representation of the literature of a subject without going further to use all other sources in order to locate all relevant entries (or as near as possible) seems an inadequate basis for conprehensive analyses.

This study then is clearly in the tradition of the first type of research described by Stevens (1953)—a conprehensive analysis of the geographical literature concerning Nigeria based on the annotated bibliography in Appendix A. The method of investigation combines some of the techniques of the bibliometrician with that of the geographer (graphical presentation) as is fully described below.

1.41 Statement of Purpose of Thesis

The objectives of the thesis may be divided into two parts and summarized as follows:

Part I aims at compiling a comprehensive, annotated bibliography of Nigeria's geographical literature from 1901 to 1970, subject to the criteria explained in section 1.42 of this Chapter. This bibliography constitutes the main data base of the analyses in Part II of the study.

The more specific objectives of Part II of the thesis are described as follows:

(a) to classify, by subject, all the geographical publications on Nigeria within the specific period, plot the subdivisions of geography on a time continuum, and delineate trends through analysis of content vis à vis the major trends within the field of geography;

(b) to describe the publishers and media of publishing Nigeria's geographical literature, analyze its format and the extent to which the literature is indexed and abstracted in selected bibliographic services, and compare indexing/abstracting coverage by form, source, and place of publication;

(c) to show the distribution of geographical literature within Nigeria and discuss the implications of such distribution;

(d) to examine the characteristics of authors and periodicals contributing to Nigeria's geographical literature and discuss these characteristics as they relate to the question of bibliographic scattering, authors' productivity, and their general implications for libraries;

(e) to determine the relative roles of Nigerians and non-Nigerians in the production and bibliographic control of Nigeria's geographical literature;

(f) to analyze the growth of the literature and suggest that such growth is generally related to the socio-economic growth of Nigeria; and

(g) to suggest, on the basis of this study, what further research is necessary in order to find answers to unresolved questions.

Part II of the study rests on the generalized assumption:

> that the structure and growth of literary activities about any country reflect the socio-economic character and growth of that country, and that individual subjects similarly reflect the trends in the larger society, more or less depending upon the discipline.

Three hypotheses are proposed and tested:

(a) that the growth of geographical literature concerning Nigeria is an aspect of the socio-economic growth of Nigeria;

(b) that Nigeria's geographical literature is heavily concentrated on the human aspects of the subject and the trend is to perpetuate this situation; and

(c) that indexing/abstracting coverage of Nigeria's geographical literature is proportional to the growth of the country's geographical literature, and that variations in indexing/abstracting are found according to form, publisher, and place of publication.

1.42 Scope of Study

Besides the date and areal limitations that are obvious from the title of this thesis, three significant, and three relatively minor, limitations determine its scope. Each one is described below:

1.42(a) Definition of What is Geographical. A crucial problem of this study is to present a logical definition of geography and, from this definition, to delineate certain clear-out characteristics of the discipline that help to determine when a publication is geographical.

Geographers have differed widely among themselves as to the proper definition of their field of study. Representative of one common approach is the statement prepared during World War II by the United States of America Manpower Commission:

> The geographer studies the nature and use of areas and is trained to interpret the distributions, interrelationships, and interactions of physical and cultural phenomena on the earth's surface. He is concerned, for example, not only with the nature of the land surface, vegetation, climate, mineral resources, soil and water supplies, but also with the people and the ways in which they live together and utilize land and other resources. Geography, therefore, is considered both a physical and social science.
>
> Geographers analyze the significance of location and distribution in the study of physical and cultural phenomena, and interpret these distributions in terms of their influence on economic, social and political development. For example, studying an industry, a geographer may find that in spite of rapidly expanding competition elsewhere, the industry in question is so located that it will maintain advantages over competitors because of proximity to essential raw materials of low unit value coupled with historical development of special skills in the labor populations and favorably located consuming markets.

A definition of this sort has its uses but, by defining the field of geography as essentially whatever geographers do, it fails to confront the crucial issues of scope and limitation. Of those who have sought to clarify issues of this nature, no one has written more extensively nor with greater influence in the present day than Richard Hartshorne. His definition (1939, p.636) states that:

> ...geography studies the world seeking to describe and to interpret the differences among its different parts, as seen at any one time, commonly the present time. This field it shares with no other branch of science.

For the purpose of this study, we have chosen a form of statement close to Hartshorne's definition:

> Geography is concerned with the description and explanation of the areal differentiation and interrelation of the earth's surface (Harvey 1969, p.1).

There are two parts to this definition—the how (methodology) of geography, that is, "description and explanation." This study is not primarily concerned with that aspect of the definition. The second part of the definition considers what geographers should study, that is, the substantive objectives of geographical investigations that should produce what could be regarded as germane to geographical literature. In consequence, three criteria in this definition are of vital, practical significance in the selection of material for this study:

(a) the interrelation of different kinds of phenomena that are directly or indirectly tied to the earth. (The words "directly and indirectly" are important because geography is involved in the study of processes underneath and above the earth's surface that help to explain such interrelationships as can be directly observed on the surface of the earth),

(b) the differential character of those phenomena and the complexes they form in different areas of the earth, and

(c) the areal expression of these phenomena and complexes.

It is important to note that a different definition of geography might produce a different outcome. The writer has, however, carefully and conscientiously sought to adhere to the definition described here in collecting data that make up Appendix A.

1.42(b) Only Published Sources are included in the data. The major reason is that published works enjoy a significantly higher measure of bibliographical control, and have generally been subjected to more critical assessment, than unpublished works. Ziman (1968) argues that published 'information' does not become 'knowledge' until it has been "subjected to review, tested, validated, and finally incorporated into the corpus of human knowledge." This process may take as long as ten years, depending on a number of variables like the subject involved and the state of bibliographic control for that subject. Coblans (1971) also stresses the necessity of process in "the transmutation of information into that recorded knowledge which is continually re-appraised and slowly matures into the consensus which is scientific thought at any given moment."

This distinction between 'information' and 'knowledge' is important because this study assumes that the literature of a subject comprises the kind of knowledge that Ziman and Coblans speak about. Unpublished works are less likely to contribute to 'knowledge' than published works. Thus, in order for a work to be considered part of the literature of a given subject, it is assumed that it must have been published. No further attempt is made to determine whether such a publication has been "subjected to review..." In other words, no quality criteria are considered once a work is published and judged geographical within the context of the definition described above.

Masters and doctoral theses and dissertations are an exception to this general rule. They have been included because of their undoubted significance in the geographical knowledge concerning any country.

1.42(c) Only English-Language Publications are included. In a work that lays much emphasis on subject content as this one does, the major reason for this limitation is that of practicability. Since each entry in Appendix A had to be read and annotated, it became necessary to deal only with those publications appearing in English. It was also assumed that English-language sources would constitute a preponderant majority of Nigeria's geographical literature during the study-period. This assumption has been confirmed by the results of a study by the present writer (Aiyepeku 1973) showing that about 95 percent of all geographical publications concerning any country are overwhelmingly in the official language(s) of that country although English assumes a more international position than any other language.

1.42(d) Other points that determine the scope of this study are the treatment of analyticals, newspaper articles, and maps. Analyticals* are included only if they demonstrate evidence of originality. Brief, and usually copied 'geographical backgrounds' to non-geographical studies have not been included. On the other hand, every effort has been made to trace and include original analyticals from books, conference proceedings, seminars, and symposia. Although newspaper articles were systematically excluded because they did not meet the established criteria, a single exception was made for Prothero's outstanding article [1316] published in West Africa Magazine. Maps, undoubtedly an important group of geographical publications, are excluded.

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* An analytical is the composite part of a monograph, usually a chapter, whose author(s) is the same as, or different from, that of the whole monograph.

1.43 Procedure for Collecting Data.

Secondary sources—bibliographies of bibliographies, bibliographies, printed catalogues—that might produce relevant references were collected and scanned. (A list of the major bibliographical sources consulted is presented in Appendix C.) Every publication that appeared relevant was sought and read before a decision was made to include or exclude it on the basis of the criteria already described. References or citations appearing with each item read in this way were followed up and read. The only exceptions were some theses and dissertations submitted to Departments of Geography that were included even though it was not possible to locate them before the decision on inclusion had to be made. Such entries, of course, remain unannotated.

As this process continued, a list of journal titles that had contributed at least one publication was gradually being compiled. Each title was regarded as a potential source for more relevant entries and was scanned accordingly. In effect, every journal title appearing in Appendix B was scanned for more possible references. A considerable number of publications that were neither listed in the separate bibliographies nor in the references in books and periodical articles were located in this way.

Despite this rather rigorous approach, it is virtually certain that some relevant publications, particularly for the last few years of the study-period, were missed. Nevertheless, this method appears to be a much surer way of locating the totality of the relevant literature than any hitherto used.

1.44 Methodology

This section presents a detailed description and discussion of the formulae employed in the analyses that constitute the bulk of this study. Classification of geographical material and the classification scheme adapted for the present purpose are discussed at some length because of the emphasis on subject content throughout this work. Cartographic techniques are explained as they occur in the analyses.

1.44(a) Classification of Data. There are a number of possible ways to arrange bibliographic data. Some bibliographies are arranged chronologically, giving the user an historical perspective. If one is interested in the development or progress of some field, he can follow through from the earliest known work to the most recent. On the other hand, if he is already acquainted with past developments and only wishes to locate quickly material so recent that he may have overlooked it, he can start with the latest and go back in time concentrating on the recent items and merely scanning the older works.

Another obvious way of arranging bibliographic material is alphabetically by author. But, this arrangement is of limited usefulness particularly since it does not bring together works of the same kind, age, or subject unless, by chance, the same author happens to have written several works on the same subject. Such occasions are normally taken care of by means of an author index, if necessary.

The third and most useful way of arranging bibliographic data, as librarians have discovered, is by subject. A vast amount of time and effort is expended by librarians and bibliographers in devising or

revizing existing classification schemes for arrangement by subject. The ultimate aim of such efforts is to associate all materials of a kind in close proximity. But since the sum of the world's literature forms a continuous spectrum rather than discrete classes and categories, the elaboration or application of a really rational scheme of arrangement seems almost hopeless.

Geographers and librarians (Boggs 1937, Meyer 1947, Meynen 1956, Porter 1964) have long recognized the need for a more logical, systematic, and unified method of classifying geographical material than can be accommodated in general schedules. Although librarians have been generally content to make the best of a pretty bad situation, geographers (Boggs 1937, Meyer 1947, Porter 1964) have made several attempts to provide an entirely new nomenclature independent of the present standard hierarchical structures of library classifications. The most comprehensive and most up-to-date effort, however, is the one by the Association of American Geographers (1966) and it is the one that has been adapted to classify data presented in Appendix A. Since the primary objective is to group related works under as many specific headings as possible, following the principle of literary warrant, six classes have been added and two modified. These additions and modifications are briefly explained.

Additions: (a) 'Settlement geography' is carved out of 'population geography' in order to bring together publications that describe and analyze populations in essentially rural areas. (b) 'Land-use and management' studies could be grouped with 'conservation and resource management' as the original classification scheme has done. They have

been separated in order to group studies on land-use and land-tenure together (both still important in the geographical literature concerning Nigeria), and because land-use studies are essentially human geography while conservation studies properly belong to the physical aspects of the discipline. (c) 'Nature of geography in Nigeria' brings together essays and review articles that focus on the role of geography in Nigeria's development, and on the structure of geography in Nigeria. Most of the entries here are Presidential Addresses delivered at the Annual Meetings of the Nigerian Geographical Association. (d) 'Geomorphology' is separated from general studies in 'physical geography' while 'landforms' are restricted to studies on specific types of landforms, for example, inselbergs. (e) 'Exploration and travel' has been classified independently here because, not only are such accounts not limited to the historical, but also because their significance in the history and human geography of Nigeria makes it useful to focus special attention on them. (f) 'Forest resources and utilization' includes publications on the exploitation of generally uncultivated forest-based economic trees, such as rubber, timber, and palm oil. Cultivated tree crops like cocoa and kola nut are classified under 'agricultural geography' with similar studies of other cultivated crops. Studies of forests as physical phenomena are classified under 'biogeography'.

Modifications:(a) 'Industrial geography' replaces 'manufacturing geography' because the former heading caters for local, hand-operated industries involving no on-line mass production that the term 'manufacturing geography' connotes. (b) 'Marketing geography' becomes 'commercial

geography' because the latter is more all-embracing. Particularly, it readily accommodates inter-regional trade and studies on traditional markets that constitute an important aspect of this subdivision.

1.44(b) Statistical Analyses employed in this study derive from four formulae each of which is described below with particular emphasis on their appropriateness for the situations in which they are used.

Bradford's Law of Bibliographic Scatter was developed by Dr Samuel Bradford who had shown an early interest in the problems of documentation in science and technology. His first statement on the 'Law of Scattering' had been made as early as 1934. That statement appeared in various modified forms in his subsequent papers read at learned conferences (1937, 1943 and 1946 a, b). It was not until shortly before his death in 1948, however, that he evolved a verbal formulation of what has since been widely known as 'Bradford's Law of Scattering'. On the basis of data collected from his study of the literature of applied geophysics and lubrication, he proposed that:

> the aggregate number of articles in a given subject, apart from those produced by the first group of large producers, is proportional to the logarithm of the number of producers concerned, when these (the periodicals) are arranged in order of decreasing productivity. (Bradford 1953, p.152).

One of Bradford's earliest critics, Vickery (1948), demonstrated the discrepancy between Bradford's verbal and graphical formulations. Vickery was followed by other contributors whose publications on the subject show that they are basically not controversies on the validity but alternative mathematical formulations of an accepted empirical law. Fortunately, it

is not necessary to wait for complete agreement on the law's mathematical minutae before we make use of this empirical law. And significantly enough for this study, all contributors are unanimous that the law provides useful application in library operations and in the design of more rational and more economic information systems. Brooke's (1969a) modification of the original formula:

$$R(n) = an^b \quad (1 \leq n \leq c) \qquad (1)$$
$$= N \log n/s \quad (c \leq n \leq N)$$

has been applied in the analysis of the periodical literature in this study. The symbols of the formula have the following meanings:

n = the rank order of periodicals arranged in decreasing order of the number of articles they contribute to a specified subject

$R(n)$ = the cumulative sum of articles contributed by all periodicals of rank 1 to n

a = the number of articles contributed by the most productive periodical (that is, the periodical of rank 1)

N = the total number of periodicals that would be expected to publish papers on the subject. It is given by the shape of the linear portion of the Bradford-Zipf Bibliograph* (see Fig. 10)

c = the value of n at the intersection of the straight portion of the bibliograph with the log n axis.

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* Zipf (1949) had proposed his 'Principle of Least Effort' whose graphical expression is a straight line. Combination of Bradford's curved, initial portion with Zipf's straight line portion produces a curvilinear graph called a 'bibliograph', the 'Bradford-Zipf Bibliograph.'

c = the value of n at the point where the curve runs smoothly into the straight line portion of the Bibliograph (see Fig. 10). Periodicals ranked 1 - c constitute the 'nucleus' of periodicals publishing on a given subject.

b = constant if the publications considered cover only a short time-span.

This formula has also been employed to analyze the productivity of authors by simply substituting 'author(s)' in the parameters described above. Traditionally, Lotka's (1926) Inverse Square Law, and Mantell's (1966) modification of it, have been used to analyse the productivity of authors. Both, however, have certain limitations that are eliminated with the application of Bradford's Law. Moreover, Fairthorne (1969) had stressed the essential unity underlining distributions similar to Bradford's, Lotka's, and Mantell's thereby making it unnecessary to apply two similar formulae in analyzing identical types of behaviour. In Fairthorne's words:

> Almost all of them, [i.e., distributions similar to Bradford's] whatever their starting point, end with some kind of hyperbolic distribution in which the product of fixed powers of the variables is constant. In its simplest discreet manifestation an input increasing geometrically produces a yield increasing arithmetically. This is the empirical relation between stimulus and response ... and between periodicals scanned and articles retrieved observed by Bradford. (Fairthorne 1969, p.22).

~~The Spearman Rank Correlation Coefficient. In Chapter Two, an attempt is made to determine whether any significant positive or negative correlations exist between the following pairs of variables:~~

~~(i) population of provinces and geographical publications concerning those provinces.~~

~~(ii) population density of provinces and publications,~~

~~(iii) areas of provinces and publications,~~

~~(iv) size of individual towns and number of publications concerning them.~~

~~The measure of correlation used is the Spearman's Rank Correlation Coefficient, represented by the fomula:~~

$$r_s = 1 - \frac{6 \sum D^2}{n(n^2-1)} \qquad (2)$$

~~where~~

~~n = total number of units ranked~~

~~D = rank difference~~

Robinson's Coefficient of Agreement: In Chapter Five, the growth rates of certain socio-economic indicators are compared with the growth rate of geographical publications in an attempt to find out if any association exists between the two sets of variables. In order to guarantee reasonable accuracy, data for each socio-economic indicator are derived from at least two different sources, and to determine how identical the two sets of data are in each case, Robinson's Coefficient of Agreement formula, represented by the equation (3) is applied.

$$A = 1 - \frac{\sum(X_{1j} - \bar{X}_j)^2 + \sum(X_{2j} - X_j)^2}{\sum(X_{1j} - \bar{X})^2 + \sum(X_{2j} - \bar{X})^2} \qquad (3)$$

where A = Agreement

X_{1j} = the value of X_1 for the j-th pair

X_{2j} = the value of X_2 for the j-th pair

$\bar{X}_j$ = the mean of X_1 and X_2 for the j-th pair

Regression Analyses: In Chapter Five, it is hypothesized "that the growth of Nigeria's geographical literature is an aspect of Nigeria's socio-economic growth." The basis for this hypothesis is provided in the text. In order to test whether threre is a positive and statistically significant relationship between the geographical literature on Nigeria and the country's socio-economic development, four kinds of ~~positive regression relations~~ correlations are explored in this study. Since the problem of linear prediction reduces to that of fitting a straight line to a set of points using the least - squares method, the equation of a straight line is written in the form:

$$Y = a + bX \qquad (4)$$

where

Y = the dependent variable

a = the intercept or point where a line crosses the Y - axis

b = the slope of the line, also called the regression coefficient

X = the independent variable.

The three other positive relationships are represented by the equations:

$Y = a+b \log X$ (semi-log relation)

$\log Y = a+b \log X$ (double-log relation)

$\log Y = \frac{a-b}{X}$ (log-inverse relation)

A computer programme was prepared to give all four types of regression results.

1.45 The Questionnaire. A simple questionnaire was designed to find out the subject combinations of physical geographers up to university level (Appendix F). After a pre-test and consultation with geographers, the questionnaire was mailed to eleven professional geographers in Nigerian universities who were known to have specialized in physical geography by the end of 1970. Of the eleven mailed out seven were returned and analyzed. The analysis of the questionnaire is reported in Chapter Five.

1.5 SUMMARY

Chapter One presents the purpose and methodology of this thesis within the framework of a comprehensive review of previous studies that share some of the characteristics of the present study. The assumption and hypotheses proposed in the study are stated. Very broadly, the thesis has four objectives: (1) to compile an annotated bibliography ~~that satisfies a philosophical definition~~ of the geographical literature of Nigeria; (2) to describe the characteristics of the literature of geography by analyzing a large population of publications published between 1901 and 1970 concerning the geography of Nigeria; (3) to analyze the extent to which Nigeria's geographical literature is indexed and abstracted in existing bibliographic services and to compare indexing coverage by form, publisher, and place of publication; and (4) to determine whether the growth of Nigeria's geographical literature is generally related to Nigeria's socio-economic development.

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CHAPTER TWO

DISTRIBUTION OF NIGERIA'S GEOGRAPHICAL LITERATURE IN RELATION TO TIME, SPACE, SUBJECT, AND AUTHORS

> Probably the most effective developments in head counting have been measuring the volume of scientific literature and determining its distribution by country, by field, by date, and by authors. (de Solla Price: Quantitative Measures of the Development of Science 1951).

This Chapter analyzes data presented in Appendix A under four headings: Time - Period, Subject, Area, and Personalia analyses, in that order. It is, of course, not realistic to discuss these headings in isolation: analysis of period and subject together is sometimes revealing while comparison of period, subject and personalia facets may be the only effective way of illustrating a significant point in the study. An attempt has, therefore, been made in this Chapter and throughout this work to relate topics that, for the sake of convenience, have been treated separately in order to present the work as a unified, closely integrated study. Information in this Chapter is largely in the form of maps, diagrams, and tables; patterns revealed by these illustrations will be described and their implications discussed.

2.1 TIME-PERIOD ANALYSIS

Fig. 1 shows the distribution of geographical publications concerning Nigeria for the period 1901-1970. Altogether, 1,441 entries were identified during this period. Two features are apparent in Fig. 1: (a) the wide fluctuations up to about 1951, and (b) concentration of most publications within the last 20 years. Indeed, publications in the last 10 years, 1961-1970, amount to 736 or about 51 percent of all publications.

Generally, it may be assumed that the increasing volume of publications from 1901 through 1970 is a direct reflection of an increasing number of contributors to the geographical literature of Nigeria. The reduced totals for the last three years probably mean that all publications for that period have not been located owing to the usual time lag of some 2-3 years between the publication of a work and its appearance in bibliographic control media (Glass 1955). But, it appears there are some significant factors that can be advanced to explain rather sharp increases in publications during specific periods.

From 1901 to 1951 total publications for any given year reached 20 four times and exceeded this figure only once in 1949. Beginning from 1952, however, one notices an appreciable rise in totals for individual years: 29, 33, 28, 39, 35, etc. even though the period marks the termination of Farm and Forest, one of the most productive periodicals in the study (see Appendix B). This situation is accounted for by three magazines: Nigeria Magazine, Nigeria Trade Journal, and Research Notes, two of which started publishing during the period.

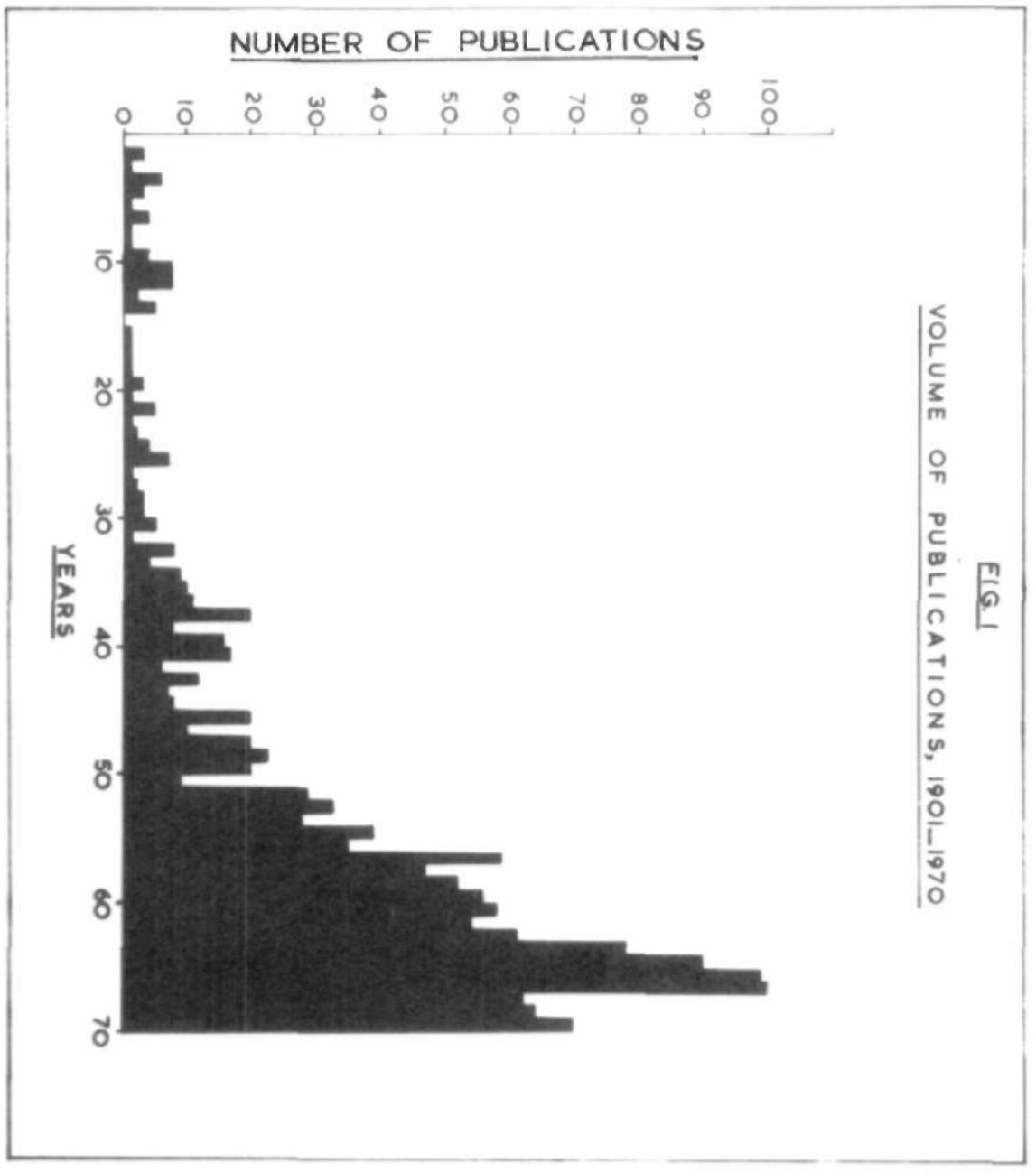


FIG.1
VOLUME OF PUBLICATIONS, 1901–1970

Nigeria Magazine, published under several different names during the course of its history since 1927, is a general medium of communication on cultural topics and carries relatively few items of a geographical nature. Nigeria Trade Journal, which started to publish in 1953, regularly carries articles of geographical significance, particularly on economic geography. Lastly, and perhaps most significant of all, Research Notes, an irregular, mimeographed publication of the Department of Geography at the University of Ibadan, started publication in 1952 with the sole objective of circulating the research studies being done on the geography of Nigeria by the academic staff of the Department. A picture of the impact of these three serials during the 1952-56 period is demonstrated in Fig. 2. Among them, these three serials account for more than half of the total contributions from periodical sources for each year up to 1956, and they contribute almost 30 percent of all entries during the 1950-59 period. (A similar explanation for the sudden rise of contributions from other journals within the 1957-59 period is given below).

The significance of Fig. 2 is not so much in the totals contributed in each year by the three serials as in the stabilizing effect of their few but regular publications on the increasing literature of the geography of Nigeria. For the first time beginning in 1952/53 there were three serials regularly publishing articles on the geography of Nigeria, one of them specifically devoted to reporting geographical investigations concerning Nigeria. It is important to note that other periodicals, particularly those published outside Nigeria, such as Geographical Journal, may carry more numerous articles concerning Nigeria for a given year than

any of these three serials. But, such contributions are not regular and cannot, therefore, account for the appreciably rising increases that Fig. 1. so clearly depicts. Beginning in 1957, the stabilizing role of these titles is lost on account of increased contributions from other sources including, in particular, the newly-launched Nigerian Geographical Journal.

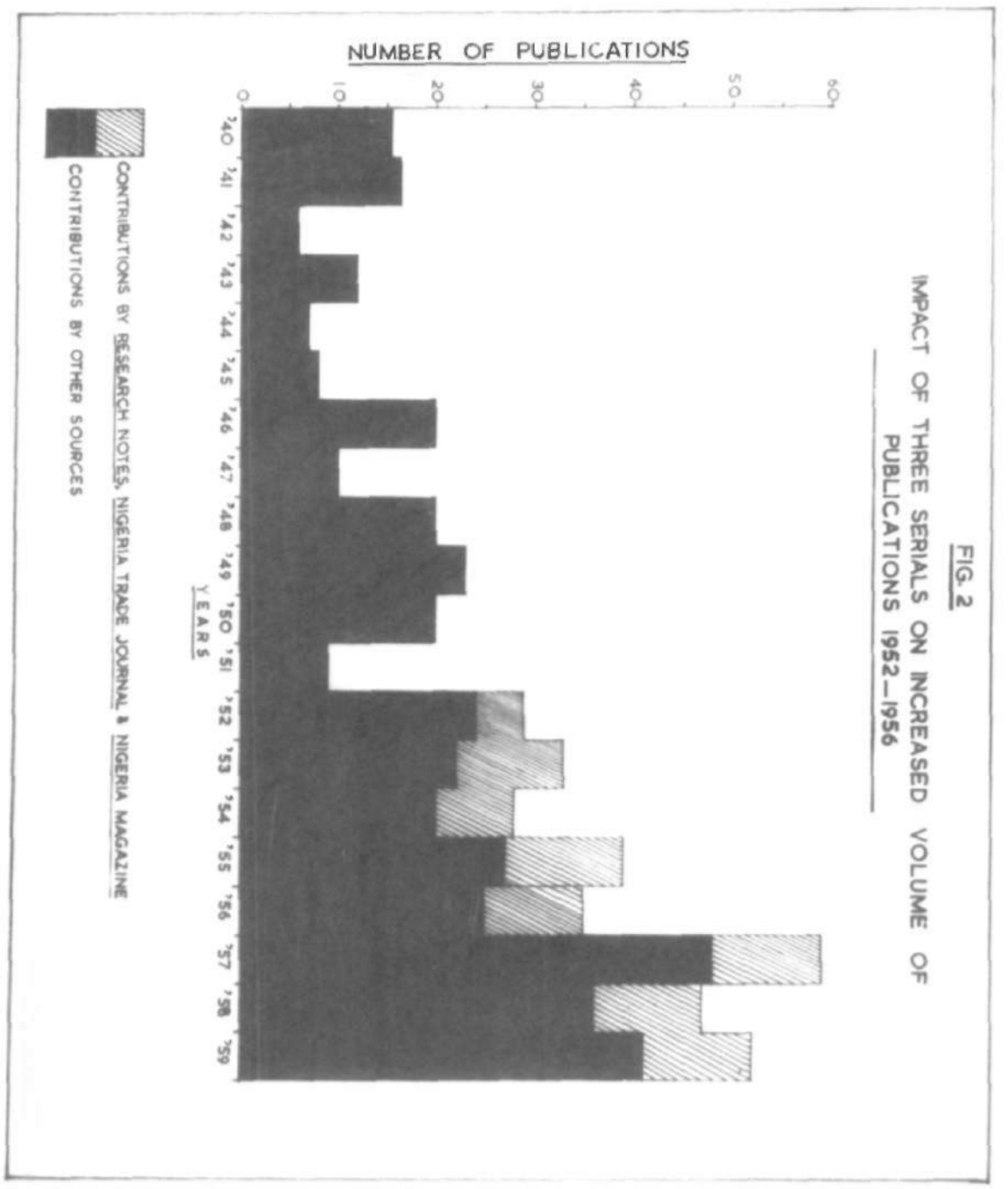
A considerable rise in the graph is easily noticeable from 1957 onwards. For the first time totals for any year reached and exceeded 40, a leap not apparently explained by the normal rate of increase from year to year.

The largest single factor contibuting to the leap is the birth in 1957 of Nigerian Geographical Journal to serve as the official journal of the Nigerian Geographical Association founded the previous year. Although, as had occurred in the years 1952-56, other journal and monographic publications continued to increase from year to year, the contribution of Nigerian Geographical Journal became a commanding proportion of the total, ranging from 13 to 33.3 percent for journal articles and from 8.3 to 25 percent for all publications.

No entirely satisfactory reasons can be given at present for the unusually large volume of publications during the 1964-67 period. One may note that it was a period of increased contributions from the new Nigerian universities at Zaria and Nsukka in particular. Also, the number of geographical theses concerning Nigeria reached an all-time high in 1966, and two books with numerous contributors were published in 1967. Generally, 1964-67 would seem to be a period of maximum productivity

FIG. 2

IMPACT OF THREE SERIALS ON INCREASED VOLUME OF PUBLICATIONS 1952—1956



both in journal articles and in monographic materials. But, quite obviously, until the sharp drop in the 1968-70 period can be fully accounted for complete explanation of the 1964-67 high cannot be seen in its true perspective. It may be useful to note that the early periods of relative highs—1910-14, 1936-39, 1946-50—correspond with periods of active literary activities by certain key writers during such periods, such as Falconer (1910-14), and Ronald Miller (1936-39). One cannot yet tell whether the same will prove true of the 1968-70 period.

Significant decreases in total publications during the 1915-23, and 1942-47 periods are most likely the result of the two World Wars. Several articles (The Association of American Geographers 1941, Crane 1944, and Harris 1947) have reported that literary activities were significantly reduced during both Wars in the field of geography and in other subjects. Similarly, it appears reasonable to attribute the 1967-70 drop in the volume of geographical literature to the disruptive effects of the 1967-70 civil war in Nigeria.

2.2 SUBJECT ANALYSIS

The hypothesis being tested in this part of the study is stated as follows:

> That Nigeria's geographical literature is concentrated more on the social, political and economic aspects of the subject than on the physical aspects, and that the trend is to perpetuate this situation.

Geography has traditionally been divided into two parts: human geography—embracing the social, political, and economic aspects of the subject, and physical geography—which basically includes the geographic study of

natural objects that may have received from minimal to maximum interference by man. Although the trend in geographic writings now is to de-emphasize this dichotomy, the two parts are still taught and studied more or less as different aspects of the same discipline. For the purpose of the discussion here, the two parts will be regarded as separate while bearing in mind that the degree of difference between one part and the other varies from one publication to another.

Fig. 3 illustrates the relationship between physical and human geographical publications during the 70-year period and appears to support the hypothesis. Human geographical publications on the whole exceed those on physical geography and this has always been the case except in some relatively unproductive years (1915-21, 1930, 1942); in other similarly unproductive years (1913, 1924, 1928, and 1947) physical and human geographical publications were equal.

Table I is designed to illustrate the concentration of publications among subdivisions of geography. The subdivisions are arranged as they appear in the classification schedule on which the work is based.

It shows that on the average, the ratio of publications on human geography to those on physical geography is higher than 2:1. Indeed, where a topic could apply to both aspects, the ratio is much higher as the first five subdivisions under human geography clearly show. Also, of the ten top-ranking subdivisions, seven come under human geography and contribute more than 40 percent of all publications.

Fig.3: RELATIONSHIP BETWEEN HUMAN AND PHYSICAL GEOGRAPHY IN NIGERIA

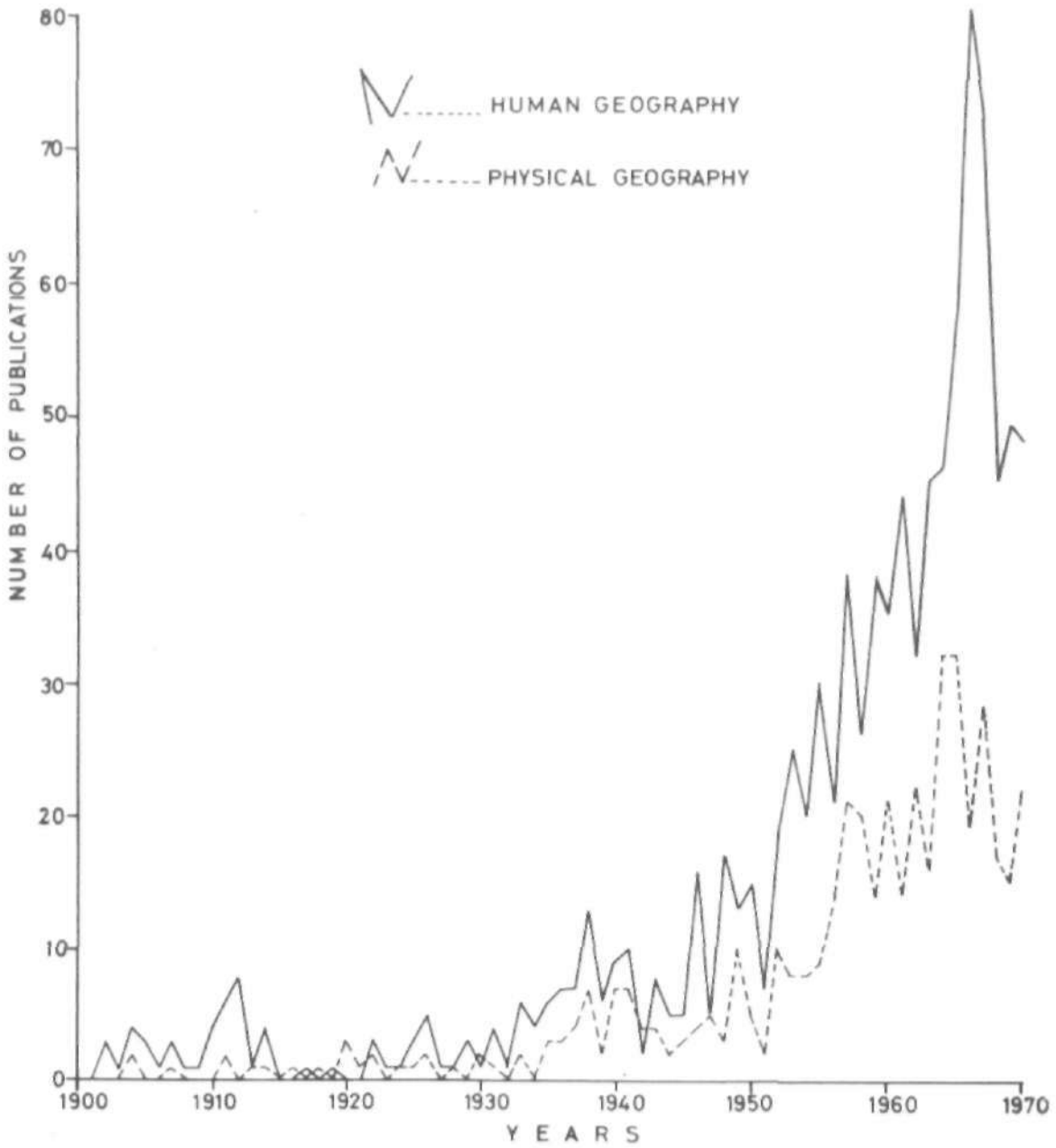


Table I is also illuminating from a slightly different point of view. Agricultural geography shares the first rank with urban geography, each contributing 9.58 percent of all publications analyzed. The position of agricultural geography is particularly commanding when it is realized that many of the entries in economic, transportation, commercial, and regional geography, and conservation and resource management all have strong agricultural underpinnings. It has been estimated that more than 70 percent of Nigeria's Gross Domestic Product is derived from agriculture (Helliner 1964). Although this percentage may not be so high now because of increasing earnings from the booming oil industry, it is true that from 60 to 70 percent of Nigerian male working population is still engaged in agriculture([1360], Nigeria. Annual Abstracts of Statistics 1970, U.N. Statistical Yearbook 1971).

Urban geography also ranks first with as many publications as agricultural geography. A country's degree of socio-economic development is frequently measured by its increasing rate of urbanization (Russett 1964). The long tradition of urbanization in Nigeria, particularly in the West, has long been recognized. Nigeria seems to have experienced an accelerated rate of urbanization in recent years; social scientists, including geographers, have described and analyzed this phenomenon. Although urbanization has not been considered as an indicator of socio-economic growth in the discussion presented in Chapter Five, the high ranking of urban geography and population geography may suggest that increasing urbanization is somewhat reflected in the high number of geographic publications concerning it. But perhaps most significant is

TABLE I: BREAKDOWN OF PUBLICATIONS INTO HUMAN AND PHYSICAL ASPECTS OF GEOGRAPHY

Subject	Number of Entries (N)	% of Entries $\frac{(N)}{(NN)} \times \frac{100}{1}$	Rank
Human Geography			
Bibliographies	3(1)*	0.22	37
Handbooks and Guides	5(1)	0.35	36
Philosophy & Methodology (of Geography)	9(4)	0.62	28
Regional Planning	9(5)	0.62	27
Teaching of Geography in Nigeria	14(3)	0.97	25
Nature of Geography in Nigeria	7	0.48	35
Historical Geography	38	2.77	16
Exploration and Travel	52	3.61	12
General Human Geography	53	3.67	11
Population Geography	61	4.24	7
Settlement Geography	28	1.94	20
Political Geography	42	2.92	13
Medical Geography	15	1.04	26
Energy and Mineral Resources	32	2.22	19
Economic Geography	64	4.44	6
Agricultural Geography	138	9.58	1
Transportation Geography	41	2.84	15
Industrial Geography	18	1.25	24
Commercial Geography	38	2.63	16
Urban Geography	138	9.58	1
Recreational Geography	2	0.13	38
Forest Resources and Utilization	22	1.53	23
Land Use and Management Studies	55	3.82	10
Cultural Geography	23	1.59	22
Regional Geography	92	6.38	3
Sub-Total	999	69.44	

the fact that Nigeria's first university is located in the most urbanized part of the country and that most Nigerian geographers originate from the area.

In Chapter Five, trends in individual subdivisions of the geography of Nigeria are described and the prospects of physical and human geography in Nigeria are discussed.

2.3 DISTRIBUTION OF GEOGRAPHICAL LITERATURE WITHIN NIGERIA

This part of the study is devoted to analyzing the distribution of Nigeria's geographical literature in space in the belief that the results would lead to a better understanding and appreciation of the significance of this aspect of documentation for geography. It is hoped that the analysis will enable both geographers and librarians to have an idea of what areas of Nigeria have not been covered by geographical research activities in the past, and which areas may still be comparatively neglected even now. The analysis involves the use of census figures and it may be appropriate at this point to make certain observations about Nigerian censuses generally.

Censuses were taken in Nigeria in 1866, 1868, 1871, and thereafter every ten years up to 1931. Before 1911, the census area was made up of Lagos island and small parts of the mainland. In 1911, 1921, and 1931 the census area was extended to cover the whole country but the figures obtained were based largely, as Kuczynski [272] has remarked, on estimates and guesses. The 1952-53, 1962, and 1963 censuses were the first attempts to obtain a truly national head count of the population. But, the results

of the 1962 census were rejected and never published and the introduction of political considerations into the 1963 count has made it difficult to derive any meaningful scientific results from the published data.

One is, therefore, left with only the 1952-53 census figures as the most reliable so far although the mid-year 1962 population estimates carried out at the defunct Centre for Population Studies, University of Ibadan, are claimed to be nearer the true position than either the 1962 or 1963 censuses [278]. It is considered more satisfactory to use data derived from actual head counts than those based on estimates. Thus the 1952-53 census figures form the basis of the calculations that follow.

Figs. 4 and 5 should be read together as they are designed to give a picture of publications that focus on areas not larger than provinces. Fig. 4 shows the distribution of publications on specific cities, towns and villages, as well as those publications on Kainji Dam and the Lake Chad Basin (see Appendix D). Fig. 5 combines data used for Fig. 4 with publications on groups of towns, divisions, and provinces to give a picture of the density of publications by provinces. It should be noted that publications on the Kainji Dam have not been included in data used for Fig. 5 because such data belong to Niger and Ilorin Provinces.

Generally, one can deduce from Fig. 4 that there are as yet relatively few geographical publications concerning specific villages, towns, and cities. But, the few are clearly concentrated in the Western, Midwestern, Kwara, East Central, and Kano States, and a general thinning off along a South—South East—North East axis up to Lake Chad Basin. A very broadly similar pattern is repeated in the density map (Fig. 5)

Fig. 4: GEOGRAPHICAL PUBLICATIONS ON SPECIFIC AREAS IN NIGERIA

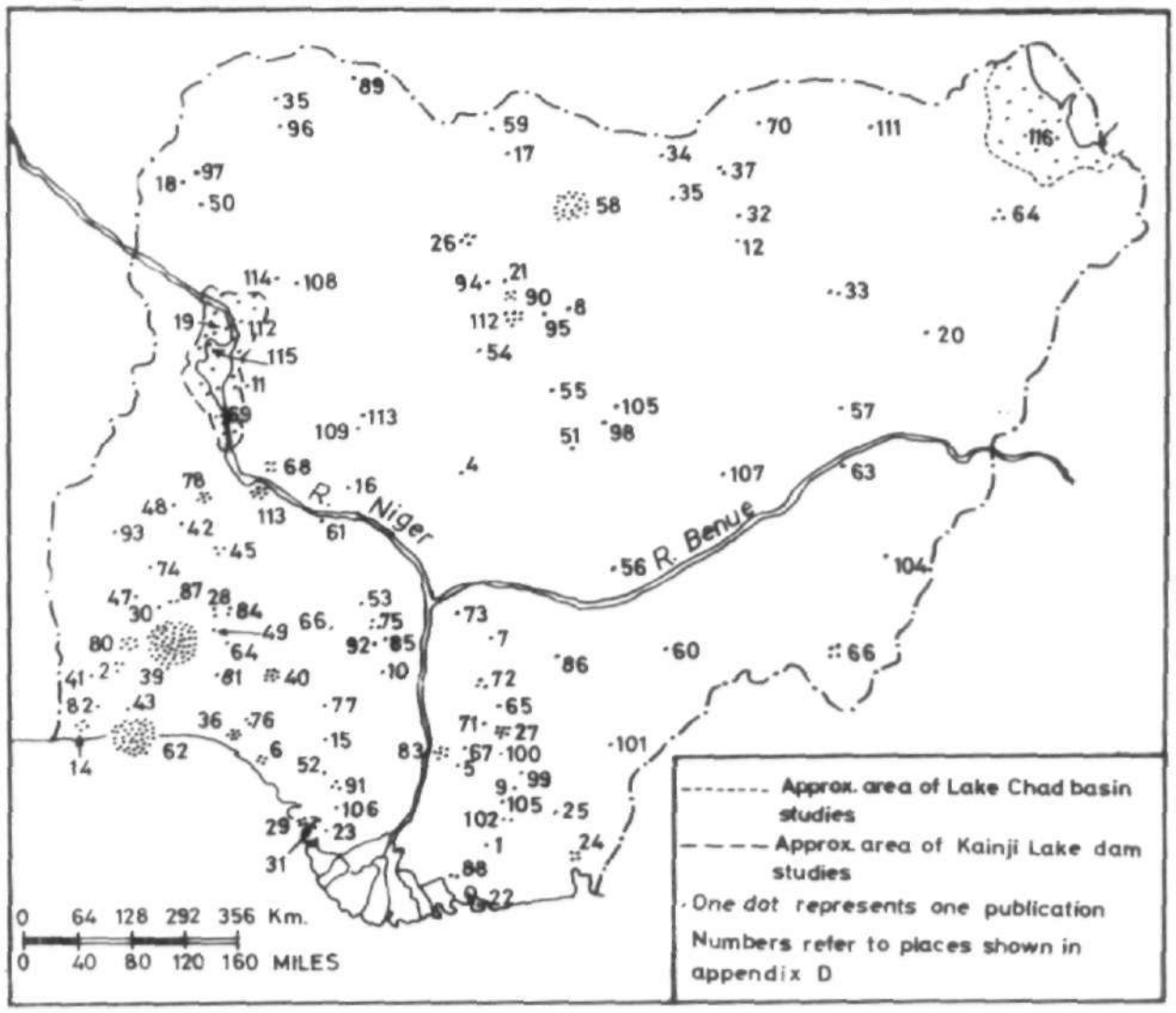
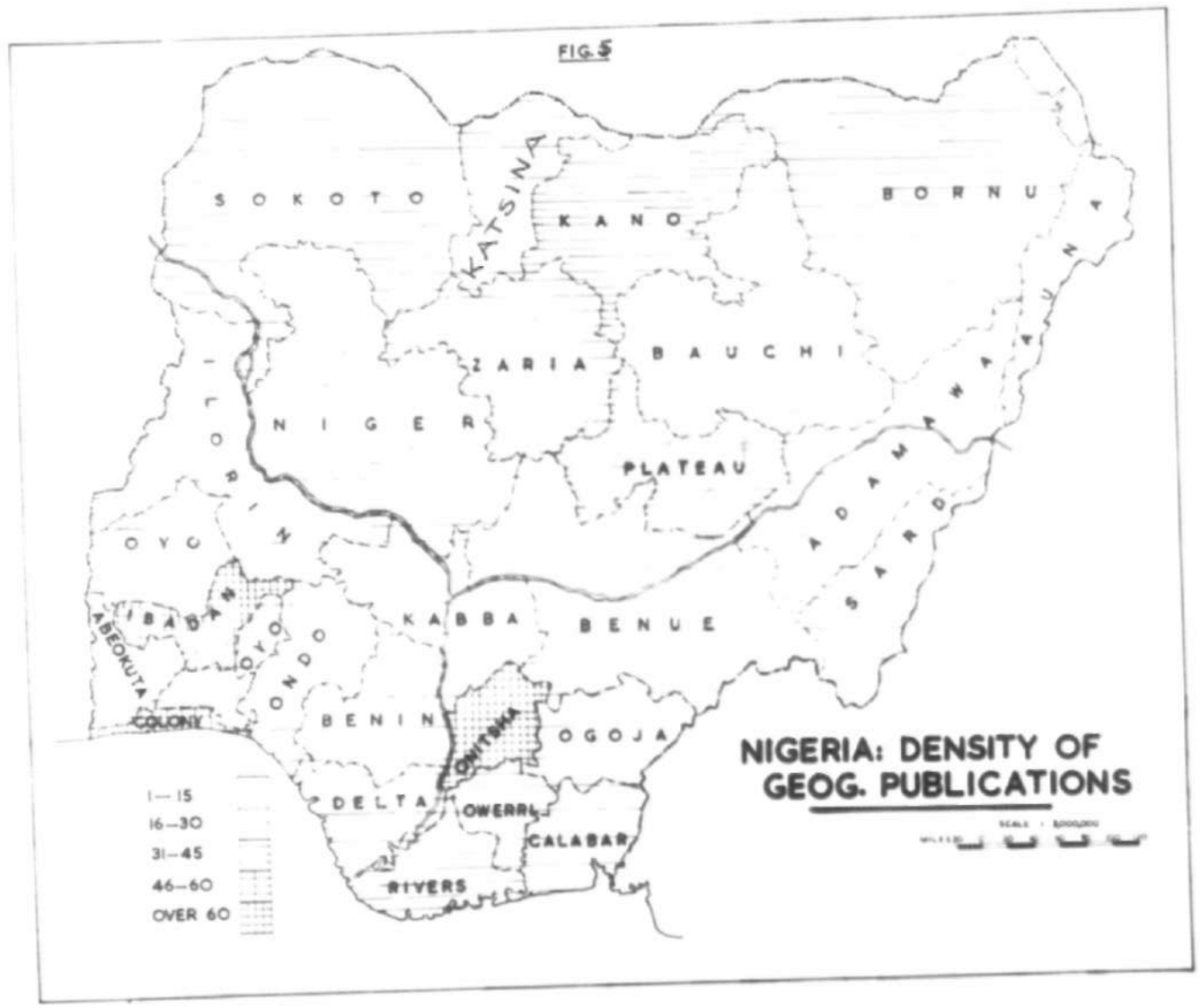


FIG.5


SOKOTO
KATSINA
KANO
BORNU
ZARIA
BAUCHI
NIGER
PLATEAU
ADAMAWA
OYO
IBADAN
ABEOKUTA
ONDO
KABBA
BENUE
BENIN
ONITSHA
OGOJA
DELTA
OWERRI
CALABAR
RIVERS
COLONY
1—15
16—30
31—45
46—60
OVER 60
NIGERIA: DENSITY OF
GEOG. PUBLICATIONS

except that Plateau Province comes out clearly here as an area with far more geographical publications at the provincial level than at the level of individual towns and villages. To a lesser extent, this pattern is also true of Sokoto, Niger, Delta, Katsina, and Rivers Provinces.

Publications concerning areas larger than provinces account for as much as 56.3 percent and are distributed as shown in Table II. While this Table may suggest that a high proportion of Nigeria's geographical literature are of a broad, generalized nature, the trend towards narrower and more intensive studies of smaller areal units is already discernable. (In Chapter Five, the trend towards increasing specialization in narrower subdivisions of geography is discussed in detail).

TABLE II: PUBLICATIONS CONCERNING AREAS LARGER THAN PROVINCES

Area	Publications	% of (T)[1]
Nigeria	419	29.1
Northern Nigeria[2]	127	11.7
Western Nigeria[3]	114	7.9
Eastern Nigeria[4]	64	4.5
River Niger and its Valley	32	2.3
River Benue and its Valley	10	0.8
TOTALS	766	56.3

1 (T) = 1,441 publications
2 Benue/Plateau, Kano, Kwara, North Central, North East, and North West States
3 West and Midwest States
4 East Central, Rivers, and South East States.

~~determined from the present analysis, the distribution of geographical literature within Nigeria seems to be determined by largely fortuitous factors such as the location of Nigerian universities, particularly the University of Ibadan, and the areas in which contributors to the literature did their field work (Bray in Ibeyin, Hopkins in Olokomeji, Prothero in Sokoto Province, Mabogunje in Ibadan and Lagos, Udo in Eastern Nigeria, etc.) Topographical complexity appears to be another factor that accounts for large numbers of publications concerning certain areas. It is certainly the case in respect of Plateau Province (which ranks 3rd in Table IV) where a great deal of geographical research has been carried out, particularly in the physical aspects of the subject. Similarly, a considerable proportion of publications on Owerri Province (8th in Table IV) concern the picturesque Enugu Escarpment and its environs. Clearly, further research would be required to determine if indeed a pattern is discernable in the areal distribution of geographical literatures. (The value and method of further research in this area are suggested in Chapter Six).~~

2.4 PRODUCTIVITY OF AUTHORS

Authors are central to the cumulative literature of any discipline. No matter what editors and publishers add to or subtract from manuscripts, the published results remain unequivocally the author's contributions. Any study that analyzes the characteristics of the literature of a subject would be incomplete without some consideration of the quantity and rates at which authors publish in the subject. There is an added significance to analysis of the productivity

TABLE III: DISTRIBUTION OF PUBLICATIONS AMONG AUTHORS

No. of Entries	No. of Authors	Cumulation of Authors (A)	Total No. of Entries by Authors in Column 2	Cumulation of Entries* (E)	Cumulative Fraction of Authors $\frac{(A)}{(AA)}$	Cumulative Fraction of Entries $\frac{(E)}{(EE)}$	Percentage of Authors $\frac{(A)}{(AA)} \times 100$	Percentag of Entries $\frac{(E)}{(EE)} \times 1$
30 and over	1	1	33	33	0.0016	0.0232	0.16	2.32
20 - 29	4	5	83	116	0.0080	0.0815	0.80	8.15
15 - 19	4	9	67	183	0.0145	0.1286	1.45	12.86
10 - 14	12	21	143	326	0.0338	0.2291	3.38	22.91
5 - 9	50	71	318	644	0.1146	0.4526	11.46	45.26
3 - 4	66	137	218	862	0.2206	0.6058	22.06	60.58
2	77	214	154	1,016	0.3446	0.7139	34.46	71.39
1	407	621(AA)	407	1,423(EE)	1.00	1.00	100.00	100.00

* Includes entries by joint authors

(AA) = 621 = Total number of authors producing 1,432 entries

(EE) = 1,432 = Total number of entries produced by all authors (+ joint authors).

the geographical literature of Nigeria from 1901-1970. It should be stressed that joint authors are given equal weighting in the computation as the authors with whom they collaborate. In other words, if three authors jointly published an article, each author is treated as having contributed one paper each. Joint authors treated in this way added 99 entries. Impossible to analyze in this connection were the anonymous entries.

The graph of R(n) against log n is derived from Table V and plotted on a semi-logarithm paper as shown in Fig. 6. The resulting bibliograph conforms completely with the linear ideal of the Bradford-Zipf bibliograph without the characteristic 'droop' that has been reported by earlier investigators who analyzed periodical literatures (Groos 1967, Brookes 1969). Using the formula:

$$R(n) = an^b \quad (1 \leq n \leq c)$$
$$= N \log n/s \quad (c \leq n \leq N)$$

that has already been described in Chapter One, and from Fig. 6, we find that N = 351. That is, 351 individual authors would have been expected to contribute at least 1 paper during the 70-year period analyzed. From Fig. 6 other values are graphically derived as follows:

s = 11

c = 50, that is, 50 authors constitute the 'core' authors for Nigeria's geographical literature.

Another method of computing the number of core authors is shown in Fig. 7. A straight line can be fitted to all but the most prolific authors. It is significant to note that here also the core authors

Fig. 6: THE BRADFORD-ZIPF BIBLIOGRAPH FOR AUTHORS AND THEIR CONTRIBUTIONS, 1901 - 1970

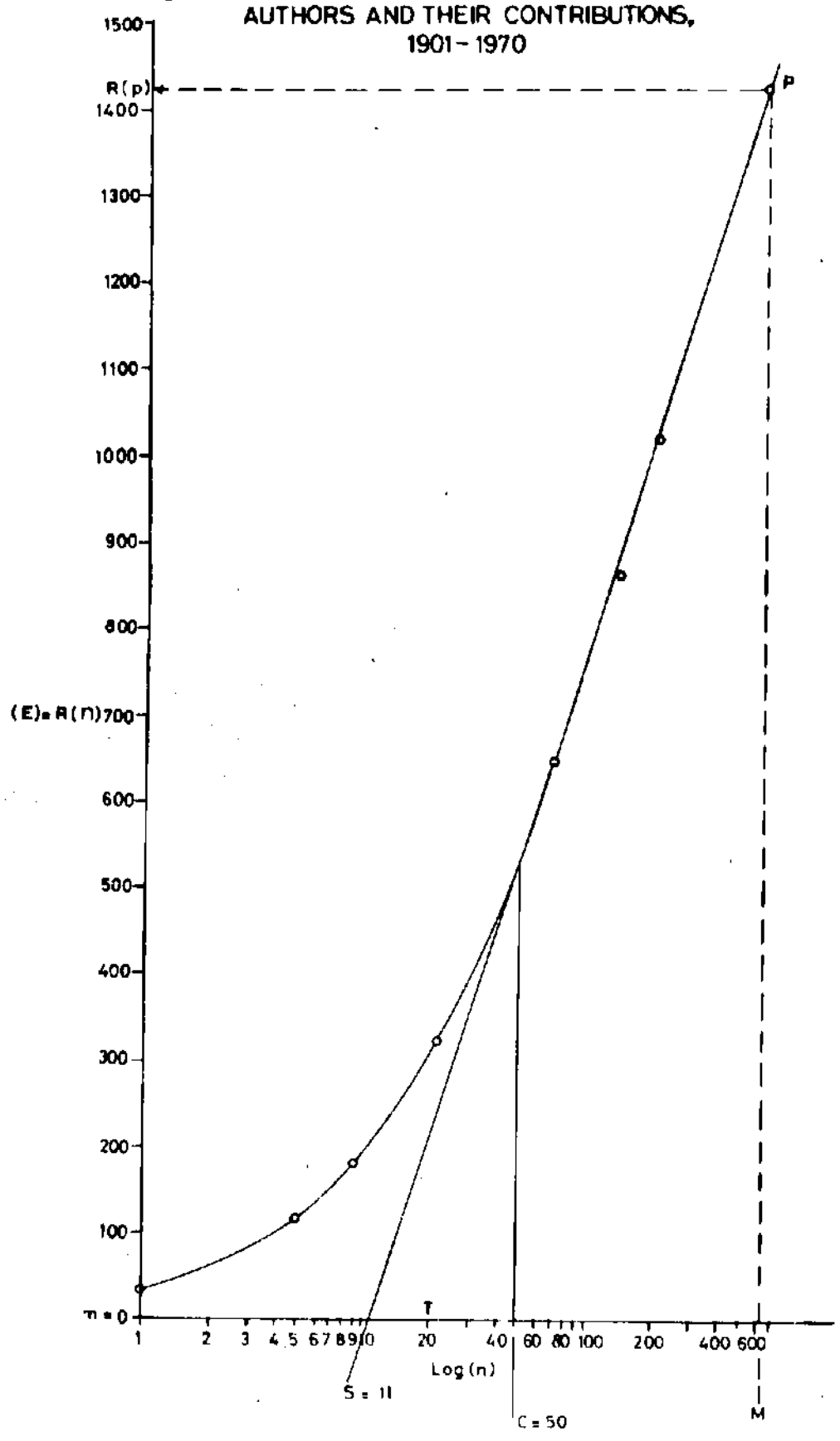


Fig.7: RANK DISTRIBUTION OF PAPERS PER AUTHOR

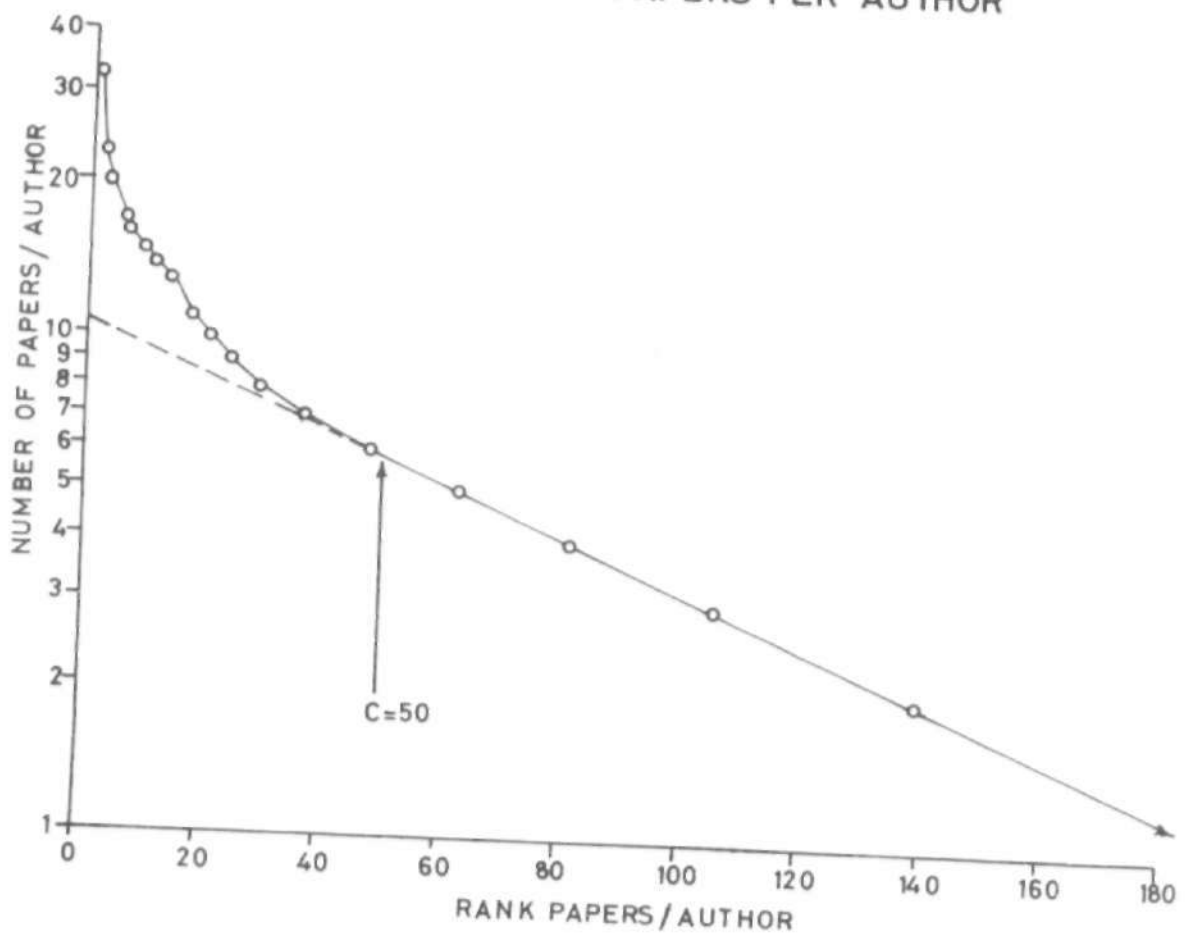
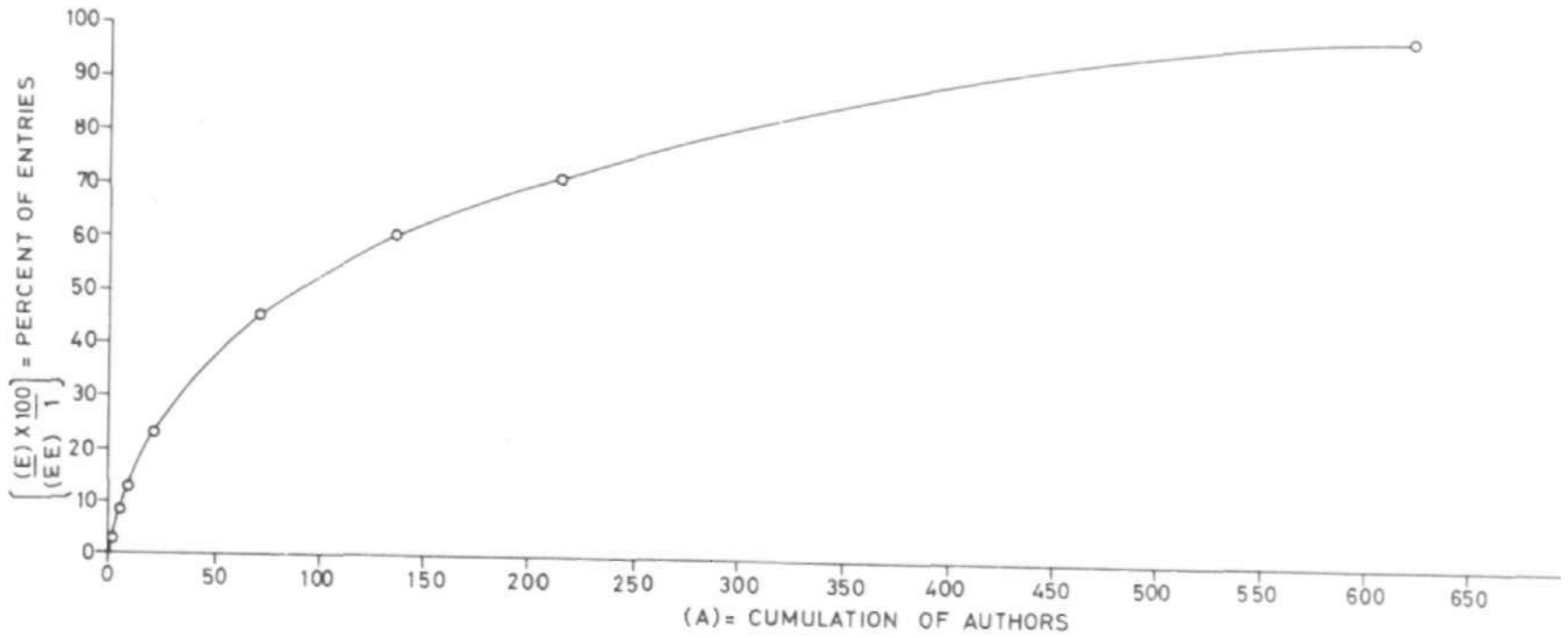


Fig.8: CONCENTRATION OF PUBLICATIONS AMONG AUTHORS



including some in the core zone. In addition, Bradford's law does not conceptually cover the case where one paper cannot be assigned to just one periodical title, one author, one publisher, etc. This means that the predictive value of N in such a situation as this one is somewhat limited and a correction factor that takes into consideration the time element and the character of multiple authorship to a given paper would have to be applied to restore its potential value.

The value of R(n). The theoretical estimate of R(n) is 1215 whereas actual observation produced 1441 individual entries. But, the actual number observed includes some 81 anonymous entries and about 68 multiple - edition copies of the same works. It appears then that application of the formula to the productivity of authors may be expected to produce results that conform closely to actual observations.

The value of b. This should be a constant provided the period covered by the data is only a short time-span. Brookes (1968) suggested three years for this period, and since our data cover a much longer period, it would not be expected to apply. The values of b for different values of n are shown above not to be a constant. But Lawani (1973), working on periodical data for tropical and sub-tropical agriculture, reported that the value of b varies even when dealing with data compiled over a one-year period. Similar variability has been noted for the periodical literatures of other subjects. Lawani also found that if the literature of tropical and sub-tropical agriculture for the four-year period, 1967-70 is used, it is found that b takes an initially high value and then decreases as n approaches c. He concluded from this observation that "this may be taken

to suggest that for a given subject, the value of b increases the longer the time-span considered." Lawani's conclusion has been found true here as shown above. In summary, one can say that the exact behaviour of b in the equation, particularly with respect to the time factor, is still to be resolved.

2.5 INCREASING CONTRIBUTION BY NIGERIANS TO NIGERIA'S GEOGRAPHICAL LITERATURE

The whole of Nigeria, or parts of it, was under British imperial rule for exactly one hundred years before she attained independence in 1960. Like all other colonies, her political and economic life, and to a large extent her social life also, was dominated or even dictated by the imperial power. History has shown that while political independence may be relatively easy to achieve, economic independence and social identity usually take a much longer period of time. It was reckoned that both domination and increasing liberation of a nation's socio-economic activities would be reflected in a similar pattern in the literary activities concerning that country. Put in the context of this study, we would expect increasing contribution by Nigerians to Nigeria's geographical literature as the country attains political independence and matures in nationhood. If this was the case, the content of that literature would also be expected to reflect the degree of that increasing contribution by Nigerians.

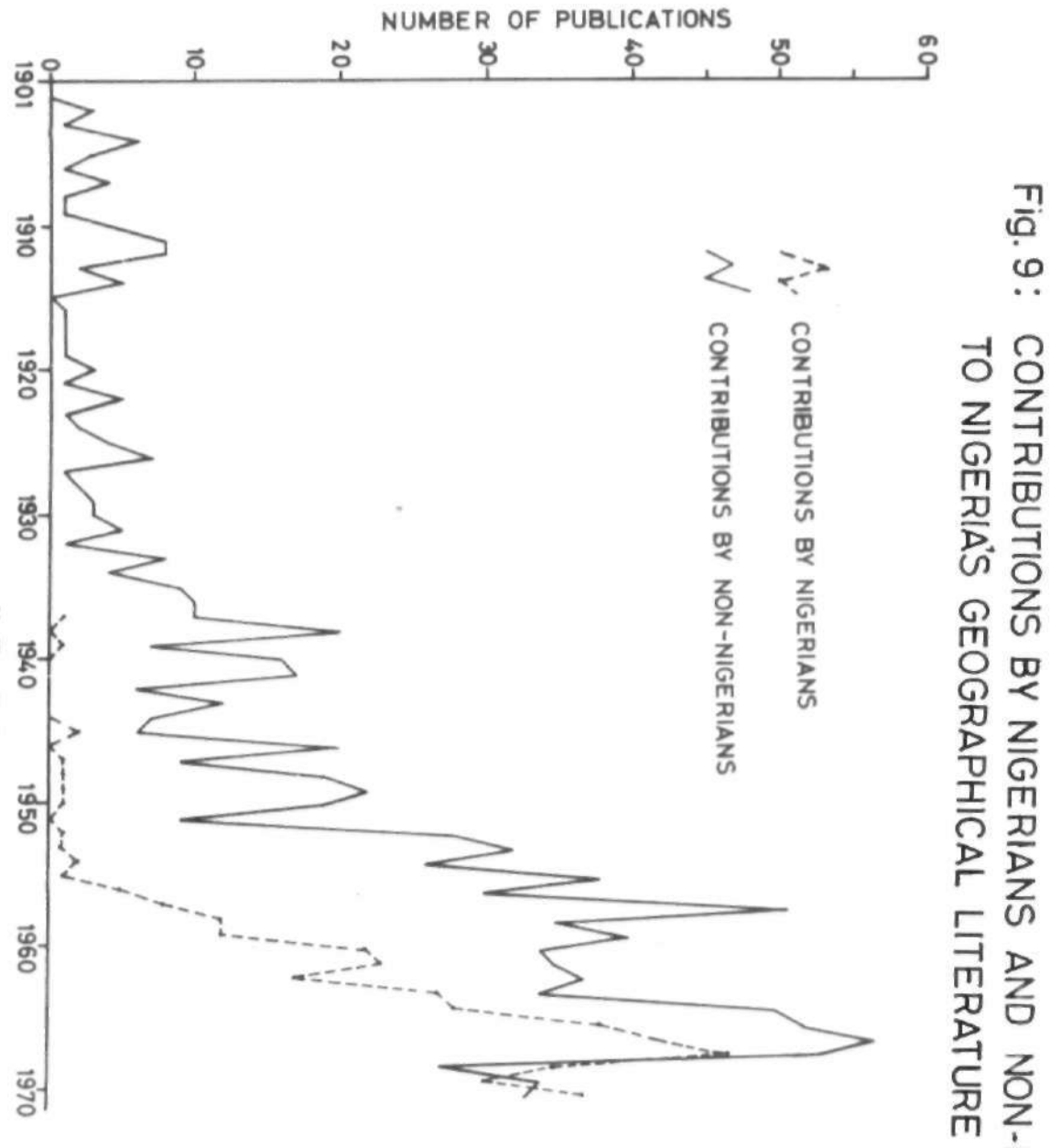
Several studies have measured the extent of nationalism in selected literatures of certain subjects. One of the earliest and best known in the field of librarianship was the one done by Martin (1934 and 1936) in

which she measured the degree of nationalism in children's literature on the basis of nationalistic 'symbols' found in 24 books selected from 17 nations. These symbols were words and phrases expressing the authors' relationship to the predominant social and political pattern of national life in each of the 17 countries. Her fascinating conclusions were more than of academic interests to publishers, librarians, and in particular, writers of children's literature. Similar studies, with slightly different objectives, have been done in other subjects, notably in sociology (for example, Oromaner 1970).

For the present purpose, however, we shall not be concerned with content analysis in the sense defined by Berelson (1952) and applied in the studies just cited. Rather, it is intended to demonstrate graphically the relationship between contributions by Nigerians and non-Nigerians to Nigeria's geographical literature throughout the 70-year period. Specific aspects of the literature that appear to relate to the pattern revealed by the graph will then be discussed.

Fig. 9 presents the total contributions by Nigerians and non-Nigerians. The pattern follows what had been expected: aliens completely dominated Nigeria's geographical literature up to 1945 except two relatively insignificant contributions by Nigerians in 1937 and 1939. It will be recalled that the reason for a significant increase in the total publications beginning from 1952 had been attributed largely to the combined contributions from Nigeria Magazine, Research Notes, and Nigeria Trade Journal which started publishing in 1927, 1952 and 1953 respectively (2.1). Not until 1956 did a fairly substantial contribution to the

Fig. 9: CONTRIBUTIONS BY NIGERIANS AND NON-NIGERIANS TO NIGERIA'S GEOGRAPHICAL LITERATURE 1901 1970



literature by Nigerians became noticeable although in that year the five contributions by Nigerians represented less than 17 percent of all publications. Since then, however, except for 1962, contributions by Nigerians have increased on the average at about one and a half times the rate of the totals by non-Nigerians. The relationship was even reversed in two of the last three years although, as has been noted, data are probably incomplete for this period. Thus, we may say that while accelerated growth of Nigeria's geographical literature started at about 1952, the structure of this literature had changed in one significant respect beginning in 1960 when Nigerians for the first time contributed about 40 percent of all publications. There is no other logical explanation for this striking phenomenon than to assume that this trend reflects the direct impact of Nigerians' increasing participation in their country's academic life. Evidence produced here leads to the conclusion that the coincidence of this increased participation with Nigeria's attainment of political independence could not have been accidental. Thus, 1960 may be regarded as the year in which Nigerians' contribution to the country's geographical literature experienced a major breakthrough.

A similar relationship has been observed before. Hulme (1923), analyzing British patents records from 1550 to 1921, found that a major breakthrough in the volume of patents recorded in the British Patents Library came in 1766 when, for the first time, totals for any single year exceeded 20. As a result, he was able to place the date of the Industrial Revolution at 1766, that is, four years earlier than the date usually assigned to it, viz. the year 1770.

In addition to indications that Nigerians themselves have taken a dominant place in the writing of geographical articles, there is considerable evidence that the subject matter has become ever more deeply involved in Nigeria's social, political, and economic life. Although purely scholarly investigations of geographical questions continue, there have been, in recent years, a noticeably increasing number of publications that specifically address themselves to the social, political, and economic problems of their day. A few examples are cited to illustrate this point.

On the human geography side one may note that the 1950s and 1960s were two decades of heightened political awareness preparatory to the granting of independence status for Nigeria and majority of black Africa. They were also times of intensive economic activities as Mabogunje [117, 118], among others, has observed. Papers contributed by geographers to the Third International West African Conference and similar conferences show quite clearly that their writers were influenced by the political aspirations of their age. Most of Prescott's [355-362] studies of Nigeria's internal and international boundaries were carried out before 1960. The timing of his works was significant in helping to focus attention on some of the serious problems of nationhood that Nigeria had inherited from colonially-imposed boundaries. Adejuyigbe's [334-338] similar studies on the problems posed by Nigeria's internal boundaries in post-independence years all suggest definite lines of solution. In 1964, the Institute of African Studies at the University of Ibadan organized a seminar appropriately titled 'Ibadan in the Changing Nigerian Scene.' Again, the contribution of Mabogunje [117] who participa-

ted along with other social scientists in that seminar shows that geography is not insulated from the socio-political problems of its time. The growing number of geographical studies based on the Kainji Dam is another testimony to this association of geographical studies with socio-economic activities. More recently, and on a national scale, have been Nigerian geographers' interests and active involvement in the Second National Development Plan (1970-1974) launched late in 1970. Geographers as well as workers in other disciplines have always stressed the need for integrated planning. Specifically concerning Nigeria, one may cite such pioneering articles by Mackay [130], a non-geographer, and by Prothero [33]. Just before the current four-year Development Plan was launched, Nigerian Opinion, a current affairs magazine published by the Nigerian Current Affairs Society, had carried nine articles in two consectutive issues, all of them written by the academic staff in the Department of Geography at Ibadan on different aspects of 'Regional Planning in Nigeria.' Their argument was familiar enough but, they presented it with a definite sense of urgency; that it was time to do away with the unrealistic sectoral planning that had characterized Nigeria's planning machinery for so long [53-54, 56, 59-60, 65-66]. Although much of their well-reasoned views seem to have gone unheeded, their strong concern in an issue of far-reaching national importance at least stands on record. Most publications in economic, political, agricultural, transportation, industrial, commercial, and urban geography of Nigeria not only reflect socio-economic conditions but are actually based on such conditions.

In contrast, the relationship between physical geographical publications and socio-economic situations or problems may not be apparent and has probably never been demonstrated. Professor Ojo (1972), in an important Presidential Address to the Nigerian Geographical Association, urged his colleagues, particularly those on the side of physical geography, to relate their researches more to the needs of society. In his own words:

> In bringing about the full effects of the changing nature of geography in Nigeria, geographers have to further scrutinize their studies, researches and teaching to see that both in content and methodology, they are geared to the benefit and welfare of man in a rapidly changing society. To those of us who have been too long on the physical side of our discipline, it must be said that our work must tilt towards bringing out constantly their relevance to the everyday needs of society. (Ojo 1972, p.10).

Yet, the literature of Nigeria's physical geography does contain a certain number of studies that are brought to bear on some social, political, and economic problems of their day. At the Institute for Agricultural Research in Zaria, rapid reconnaissance surveys conducted almost entirely by geographers are deliberately geared to agricultural research and development as reported in the Soil Survey Bulletin series of that Institute. In the words of a former Director of the Institute, each issue of the Bulletin contains

> "a final section on present and proposed land use; to include soil capability classes for each of the soils mapped. The system of capability classes employed is based on whether or not the soil is suitable for mechanical cultivation, and so takes into account the primary objective of the Ministry of Agriculture... (Darling 1963, p.1).

This statement would apply, more or less, to soil surveys in other agricultural research institutes throughout the country.

In climatology, Oguntoyinbo's [543-546] studies are almost entirely applied to the solution of Nigeria's agro-climatic problems. Garnier's [508-518] evapotranspiration studies are of tremendous agricultural significance particularly when they are discussed in relation to the water requirements of crops, irrigation, and water balance. Pugh's [553] calculation of double-maxima variations of rainfall throughout Nigeria clearly indicates its implications for agricultural development. We even have examples of studies undertaken specifically to facilitate certain social activities such as the description of climatic and weather conditions for each of the cities visited by Queen Elizabeth II during her tour of Nigeria in 1956 [488], and the description of October climatic and weather conditions to guide planners of Nigeria's Independence Celebrations in 1960 [492].

Most of the conservation and resource management studies analyzed for this study were carried out by geographers who were primarily concerned about improvements in agricultural land-use. Notable examples are publications on soil erosion by Ofomota [791-796], Stamp [803-805], as well as those by Grove [781-784] who on several occasions was commissioned by Nigerian governments to investigate serious soil erosion problems and make appropriate recommendations for their remedy.

Finally, in this section, it is pertinent to note that some purely theoretical propositions are based on actual economic situations and problems. One may cite in this respect Barbaur's [23] development of parameters for assessing the success and failure potential of rural development schemes, a study based on the Nigerian railway extension to Maiduguri, and Smith's and Hay's [1080] theory of spatial structure based on analysis of internal rail trade problems in Nigeria. There are thus strong evidences that the content of Nigeria's geographical literature has increasingly reflected Nigeria's socio-economic problems and development.

Despite the increasing attention by geographers to problems that imply direct action to make improvements in Nigeria, there is little evidence that the nations's decision-makers are aware of the geographical studies or of the potential contributions of geographers to development. Nigerian geographers have remarked that the practical usefulness of their findings have been overlooked. Some, such as Oguntoyinbo [856] limit their proposed actions to exhortations to essentially other geographers while others share with Professor Ojo [100] the conviction that geographers must organize themselves aggressively to ensure that the products of their research and the benefits of their knowledge are put to work in the society. Whatever line of action Nigerian geographers may eventually adopt in order to translate their knowledge into practical action, it is clear that the content of Nigeria's geographical literature in recent years has reflected the socio-economic aspirations and conditions of a young nation during the time they were written.

2.6 SUMMARY OF CONCLUSIONS

The major conclusions reached in Chapter Two may be summarized as follows:

(1) Most of Nigeria's geographical literature is concentrated within the last 20 years of the study-period with more than 50 percent within the last ten years. Four serials: Nigerian Geographical Journal, Nigeria Magazine, Nigeria Trade Journal, and Research Notes have been the principal vehicles of publication of this rapidly growing literature.

(2) The literature of human geography exceeds that of physical geography by a ratio of about 2:1 and the trend appears unchanged. Considering only topics that may be studied as human or physical geography, the emphasis on human geography is even greater than double.

(3) There is considerable variation by area, with some areas the subject of considerable attention and others totally neglected as shown in the maps and tables. The population density of an area does not appear to be related to the extent to which the area is studied. Factors such as accident of interest by some prolific authors, the location of active university centres of geographical study, and the topographical complexity of certain areas seem to have contributed most decisively to the selection of areas of study.

(4) Application of Bradford's law to analysis of the productivity of authors seems appropriate although certain interpretational problems as regards the values of N and b are still to be resolved. The core of contributors to the literature consists of 50 authors who produced at least six publications each.

(5) Nigeria's geographical literature reached an important turning point in 1960 when, for the first time, Nigerians contributed about 40 percent of all publications. Since that date, contributions by Nigerians have grown approximately one and a half times as fast as the growth rate of the total contributions by non-Nigerians.

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CHAPTER THREE

PUBLISHERS AND MEDIA FOR PUBLISHING NIGERIA'S GEOGRAPHICAL LITERATURE

3.1 SOME PRELIMINARY NOTES

Knowledge of the languages and format in which the literatures of subject fields are published has been shown to be valuable in documentation. For example, two studies have demonstrated what languages are significant in the literatures of food science and technology (Mann 1966), and of tropical and subtropical agriculture (Lawani 1972). Wood (1967) also investigated the foreign language problem facing scientists and technologists in the United Kingdom.

Relatively few studies have sought to analyze the format of published literature in any given discipline or groups of subjects. In the sciences, the periodical has been established as the most important medium of publishing new knowledge while the book is becoming less and less so. In the social sciences, on the other hand, it appears that published literature in book format is still at least as important as publications in the form of periodical articles (Guttsman 1966, Earle and Vickery 1969). And although geography shares some of the attributes of science and technology, it has been shown (Aiyepeku 1973) that the languages and format characteristics of geography are more nearly similar to those of social science than science and technology.

Despite Stodart's (1967) observation that it would be "particularly useful to have information on the relative importance of books and papers [journal articles] in geographical work," only the present writer's previous work (Aiyepeku 1973) has made any direct contribution to this topic. This chapter, therefore, aims at describing in some detail the relative significance and characteristics of books and journal articles concerning the geography of Nigeria, the publishers of both forms of literature, and the various subjects with which geography is closely associated in Nigeria. Although the conclusions reached may not be representative of the whole field of geography they will, nonetheless, provide the kind of information that should be valuable as a basis for more comprehensive investigations.

3.2 FORMAT OF PUBLICATIONS

Of a total of 1,441 items scanned for this study 982 are periodical articles representing approximately 65 percent of all publications (Table V[illegible]). Monographs account for 35 percent. These figures compare with the scores of 64.6 percent and 35.4 percent for journal articles and books* respectively reported in my earlier work (Aiyepeku 1973, p.58). These figures are somewhat misleading. It is worth noting that a substantial proportion of monographs recorded here are analyticals**(Table V[illegible]) although many of these analyticals are from books that would have qualified for separate counting in my previous

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* 'Book' in that study and in the present work is given the Unesco definition of "a non-periodical literary publication containing 49 or more pages, not counting the covers." Any monograph that has less than 49 pages automatically becomes a pamphlet.

** 'Analyticals' are composite chapters or separate contributions by authors in a monograph.

work. The data analyzed here are too limited to permit any generalizations for the whole field of geography.

Earle and Vickery (1969) analyzed a sample of citations made in 1965 of United Kingdom social science literature according to subject, bibliographic form, country of origin, language, and date and compared their results with citations from science and technology. Reproduced from page 131 of their publication are the figures in Table IV giving the relative distribution of the types of format among the three classes of subjects shown.

TABLE IV: RELATIVE DISTRIBUTION OF CITATIONS BY FORMAT AMONG SOCIAL SCIENCE, SCIENCE, AND TECHNOLOGY (Earle & Vickery).

FORMAT	SOCIAL SCIENCE	SCIENCE	TECHNOLOGY
Books	46	12	14
Journal Articles	29	82	70
Other Forms	25	6	16
Total	100%	100%	100%

Thus, compared with the social sciences as a whole, geography in the present study shows a low ratio of monographs to periodical articles. But, rather than interpret this to mean that the format approximates to that reported by Earle and Vickery (1969) for science and technology, it would appear more correct to say that the relatively low percentage

of monographs in Nigeria's geographical literature is a reflection of the country's overall low level of book production. In the United States of America, for example, where the level of books and periodical production is very high, the ratio of monographs to journal articles in geography is in the order of 3:2 and might be taken as close to the situation in the social sciences (Aiyepeku 1973). The situation in Nigeria should be regarded as a transient one; it will tend to approximate to the situation in the United States as the general level of production, and book production in particular, increases.

Table V[redacted] presents a breakdown of publications by form and type of publisher. Under a slightly different grouping from the one used here, many separate research reports in series would be books or pamphlets, depending on their sizes. An entry from a collection of conference and institute papers would be referred to as an analytical. However, whenever only parts of such reports are included for this study, they are classified as analyticals. The same applies to the publisher categories. Publications of the West African Science Association, for example, are classified under 'international or regional organizations' although the Association is also a learned one. Contributions from research institutes within universities, such as the Nigerian Institute of Social and Economic Research, are grouped with Research Institutes and Learned Societies. This approach has necessarily reduced entries under 'colleges and universities' but, it is preferred because all these institutions function as semi-autonomous components of their universities.

TABLE V■■: GEOGRAPHICAL PUBLICATIONS ON NIGERIA BY FORM-PUBLISHER CATEGORIES, 1901-1970

Form[b]	Publisher[a]														
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	TOTALS	%
1	7	2	-	53	-	17	7	8	3	1	2	2	-	102	7.08
2	6	2	2	5	-	2	5	5	8	2	4	2	-	43	2.98
3	10	9	-	95	-	17	13	5	1	4	-	2	1	157	10.90
4	1	3	-	16	-	-	12	9	3	15	43	9	-	111	7.69
5	3	-	-	2	-	-	6	2	3	14	11	1	-	42	2.92
6	10	50	-	-	-	-	-	-	-	-	-	-	-	60	4.16
7	24	48	-	14	-	5	54	-	3	11	182	272	3	616	42.76
8	1	-	-	15	-	-	154	2	10	1	10	24	42	259	17.98
9	50	1	-	-	-	-	-	-	-	-	-	-	-	51	3.53
TOTALS	113	114	2	200	-	41	251	31	31	48	252	312	46	1,441	100.0
%	7.85	7.91	0.13	13.88	-	2.84	17.43	2.14	2.14	3.33	17.50	21.66	3.19	100.0	

Publisher[a]

I Colleges & Universities (Nigeria)
II Colleges & Universities (Foreign)
III Commercial (Nigeria)
IV Commercial (Foreign)
V Commercial - University (Nigeria)
VI Commercial - University (Foreign)
VII Federal Govt. & its Agencies (Nigeria)
VIII State Govts. & their Agencies (Nigeria)
IX Foreign Govts. & their Agencies
X International & Regional Organizations (Foreign)
XI Research Institutes & Learned Societies (Nigeria)
XII Research Institutes & Learned Societies (Foreign)
XIII Miscellaneous

Form[b]

Monographs
1. Books
2. Pamphlets
3. Analyticals
4. Separate Research Reports in Series
5. Conference & Institute Papers

Periodicals
7. Research & Professional Journal Articles
8. Information & Trade Articles
9. Student Journal Articles

Joint publishers are classified under the first mentioned in the imprint. Commercial-university publishers are the large international conglomerates such as the presses associated with the universities at Cambridge, Oxford, and London. Although deeply rooted in universities, these presses also share all the trappings of full-fledged commercial publishing houses. A separate categorization of this group is considered more helpful than classifying it as university or commercial.

3.3 PUBLISHERS OF NIGERIA'S GEOGRAPHICAL LITERATURE

About 40 percent of all publications are contributed by Nigerian and foreign research institutes and learned societies: foreign sources contribute the higher percentage of 21.66. It is significant to note also that majority of these publications are in the form of research and professional journal articles. Learned societies in particular play a decisive role in this respect: the Nigerian Geographical Association publishes Nigerian Geographical Journal; the Royal Geographical Society publishes Geographical Journal and Geographical Magazine; the Royal African Society, and the Nigerian Field Society publish African Affairs and the Nigerian Field respectively. The Nigerian ~~Institute of Social and Economic Research in Ibadan,~~ Economic Society the Institute for Agricultural Research in Zaria, and the International African Institute in London respectively published such highly productive journals and series as: Nigerian Journal of Economic and Social Studies; Soil Survey Bulletin, and the 'Ethnographic Survey of Africa' series respectively (see Appendix 6).

Foreign commercial publishers contribute 13.88 percent largely in the form of books and analyticals. Longmans, G.G. Harrap, Faber and Faber, and Methuen—all based in London—are particularly important here. This picture contrasts sharply the negligible contribution of 0.13 percent by Nigerian commercial publishers although it may be noted that an increasing number of 'Geography for Nigerian Schools' series, not included for the present study, are being handled by local publishers. Similarly, foreign commercial - university publishers, notably the presses of Cambridge, Oxford, and London Universities, contribute all the major textbooks on the geography of Nigeria while no indigenous publisher in this category has yet managed to attract a single title. The observations here confirm the conclusions reached by Udoeyop (1972) and Dodson (1972) that scholarly publishing in Nigeria is still monopolized by foreign-based firms.

Total contributions by Nigerian and foreign colleges and universities are about equal but, their forms differ in certain respects. As expected, most of the thoses were presented to foreign universities, and to the University of London in particular (see Table VI■) although many of the candidates were actually resident, and largely supervized, at Ibadan. All but one of the eleven theses recorded for Nigerian colloges and universities were presented to the University of Ibadan. University Geographer, an annual publication by the Geographical Society of the University of Ibadan, contributed all but one of the 51 student journal articles recorded in Table V■. Research Notes, published by the Department of Geography at the University of Ibadan from 1952 to 1963, monograph publications by Ibadan University Press, and a book containing

eight articles contributed by the academic staff of the Geography Department at the University of Nigeria, Nsukka, account for most of the entries under Nigerian colleges and universities.

This dominance of the University of Ibadan stems from its position from 1948 to 1960 as the only university in the country. This period was used to build up a Department of Geography strong in staff, physical plant, and equipment. Its staff founded Research Notes and has supplied all but one of the Editors of Nigerian Geographical Journal since its inception in 1957, as well as contributed over 80 percent of all articles that appeared in the 1957-70 issues of the journal. As the leading university, Ibadan possesses the largest library in the country with notable collections, such as one of the best on Africana in the world, and a staff and facilities that permitted it to serve, until 1970, some of the functions customarily performed by a national library. Closely associated in Ibadan as a national centre for learning are institutes and other learned organizations such as the Nigerian Institute of Social and Economic Research whose interests are important to geography. Many of the academic staff of Ibadan's Department of Geography hold honorary research fellowships in this Institute and occasionally publish the results of their research in the Institute's Nigerian Journal of Economic and Social Studies.

TABLE VI■: GEOGRAPHICAL THESES AND DISSERTATIONS ON NIGERIA CONTRIBUTED BY NIGERIAN AND FOREIGN UNIVERSITIES, 1901-1970

University	B.A. or B.Sc.	M.A. or M.Sc.	Ph.D. or D.Phil.	Total
Nigeria - (Sub-Totals)	-	(8)	(3)	(11)
University of Ibadan	-	7	3	10
University of Lagos	-	1	-	1
Great Britain & Ireland (Sub-Totals)	(2)	(14)	(22)	(38)
University of London	-	4	15	19
University of Wales	-	3	-	3
Oxford University	2	-	1	3
Cambridge University	-	-	2	2
National University of Ireland	-	1	1	2
University of Liverpool	-	1	1	2
University of Edinburgh	-	-	1	1
University of Bristol	-	1	-	1
University of Durham	-	-	1	1
University of Belfast	-	1	-	1
University of Manchester	-	1	-	1
University of Birmingham	-	1	-	1
University of Waterloo	-	1	-	1
United States of America (Sub-Totals)	-	(4)	(6)	(10)
University of Wisconsin	-	2	1	3
University of California	-	1	1	2
Pennsylvania State University	-	-	1	1
Columbia University	-	1	-	1
University of Chicago	-	-	1	1
University of Indiana	-	-	1	1
Iowa State University	-	-	1	1
GRAND TOTALS	2	26	32	62

Although Ibadan has continued to dominate the university scene during the years since 1960 when universities have been founded elsewhere in the country, the future may see significant challenges to its position.

Quite commonly held at university campuses are the conferences, seminars, symposia, and workshops that form one of the most important means of communication in geography. Many of these are conducted for, or by, learned international, regional and national societies; a large number of the proceedings of conferences and seminars held among university staffs are also published. It is no surprise, therefore, that research institutes, learned societies, international and regional organizations among them share more than 80 percent of all conference papers in this study. Geographical papers on Nigeria were presented at the following typical conferences:

1. The West African Institute of Social and Economic Research, annual conferences up to 1956;
2. The 8th General Assembly and 17th International Congress of the International Geophysical Union (Washington, D.C. 1952);
3. 3^{e} and 5^{e} Conférences Internationales des Africanistes de l'Ouest (Lagos and Abidjan, 1949 and 1953);
4. 2nd and 3rd Inter-African Soils Conferences (Leopoldville and Dalaba, 1955 and 1959);
5. International Geophysical Union Symposia (Kampala, 1956);
6. Symposium on the Humid Tropics (Calcutta, 1968); and the
7. 1st African Population Conference (Ibadan, 1968).

In these cases, the proceedings were published separately. Some of the papers also formed the basis for journal articles, as also occurs with papers delivered at conferences whose proceedings were not published. In other instances, papers are reproduced only for participants in a meeting and never come into the formal literature where they would have been available for incorporation into the data for this study. Although some of these unpublished papers may be important contributions, the problems of their characteristics and of access to them are beyond the scope of this investigation.

Governments and their agencies published 313 or 23.81 percent of all entries. Not surprisingly, the Nigerian government itself is the most active; its 17.43 percent represents the second largest contribution of any of the publishers. These are largely in the form of trade and informational entries but, they also include a number of research journal articles. Farm and Forest, published irregularly from 1940 to 1952 by the Forest Department of the Nigerian government, contributed most (over 70 percent) of these journal articles, as well as a small proportion of the informational entries. Nigeria Magazine, published as Bulletin of Education, and now by the Cultural Division of the Federal Ministry of Information, contributed most of the informational articles and about 25 percent of the research and professional journal articles. Nigeria Trade Journal, published by the Department of Commerce and Industry (1953-55), the Federal Department of Commerce and Industry (1955-59), and since 1961 by the Federal Ministry of Information, contributed over 30 percent of the informational and trade entries, most of which are

anonymous. It did not contribute any of the research and professional journal articles. Books and pamphlets consist largely of reports almost always published by the Federal Government Printer. The separate research reports in series and the analyticals consist entirely of the bulletins of the Geological Survey of Nigeria and publications of the Nigerian Meteorological Service. The conference papers recorded here were contained in the proceedings of the 3^{e} Conférence Internationale des Africanistes published by the Nigerian Museum in Lagos.

Contributions of Nigerian state governments and their agencies consist of land-tenure reports published by the Government Printers of the former Regions. Other forms are books and pamphlets published by the various Ministries of Agriculture, Forestry, Natural Resources, and Rural Development several of which were written by geographers who were specifically commissioned by governments.

Foreign governments and their agencies as publishers are: Her Majesty's Stationery Office as an independent publisher and as the publisher of Corona, a general magazine that supplies some of the informational and trade entries. The Directorate of Overseas Surveys published several soil survey studies; the United States Department of State, the United States Agency for International Development, and the Office of Naval Research, Geography Branch of the United States Department of the Navy, contributed books, pamphlets, informational and trade entries in the areas of political and agricultural geography, and in climatology. The most comprehensive study to date of weather conditions in Nigeria

[518] was published by the Geography Branch of the United States Office of Naval Research. The Department of Agriculture and Forestry of the then Belgian Congo government published Bulletin Agricole du Congo Belge that contributed three articles to this study; the Ministry also published the conference papers presented at the 2nd Inter-African Soils Conference held in Leopoldville (now Kinshasha) in 1955.

Only 46 items, or 3.19 percent of the total population, were contributed by miscellaneous publishers, 22 of these by Nigerian Opinion. Other magazines in this category are: New Commonwealth, Africa Trade and Development, Ibadan, Nature Magazine, Africa Report, and African World; all but four of their contributions are trade and informational. Three research and professional journal articles come from Nature Magazine while the only analytical is from a work published by the author himself.

Broadly, publications in the total population may be classified into three categories by purpose as follows:

Research and Professional	75.51%
Research and professional journal articles	42.76
Separate research reports in series	7.69
Conference proceedings	2.92
Theses	4.16
Books and analyticals	17.98
Informational and Popular	20.96%
Trade and informational journal articles	17.98
Informational circulars and pamphlets	2.98
Miscellaneous	3.53%
Student journal articles	3.53

To summarize, more than three quarters (75.51 percent) of the publishing in the field is in the category of professional or research publications. One fifth (20.96 percent) can be classified as informational and popular written expressly for the layman or the averagely educated.

3.4 SUBJECT DISPERSION OF LITERATURE

An attempt is made in Table VII to indicate the broad subject interests of publishers of Nigeria's geographical literature. Classification has been made as specific as possible. For example, the 'Ethnographic Survey of Africa' series published by the International African Institute in London are classified as ethnography and anthropology even though it is known that the Institute has interests in African Studies generally. Similarly, in the case of general - purpose and commercial publishers, and university presses—such as Blackwell's, Longmans, and Oxford University Presses—whenever any of them publishes a monograph on a clearly-defined subject area, say, agriculture, this is classified as agriculture rather than as general even though it is known that such publishers have more varied interests than agriculture. Theses are classified according to the university departments to which they were presented; geomorphological entries are grouped with geography although one realizes that geomorphology is also a subdivision of geology. Contributions from publishers that do not specialize in any particular subject or area are classified as general.

TABLE VII: BROAD SUBJECT INTERESTS OF PUBLISHERS OF NIGERIA'S GEOGRAPHICAL LITERATURE BY FORM, 1901-1910

Form[b] \ Subject[a]	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	TOTALS	%
1	1	13	-	12	-	-	33	1	20	-	4	6	-	12	3	105	7.28
2	-	4	-	1	-	-	14	1	3	2	6	-	-	5	3	39	2.70
3	6	12	-	10	4	1	96	13	1	-	7	3	-	3	-	156	10.83
4	2	51	-	15	12	-	4	1	-	18	-	-	-	1	1	105	7.28
5	12	10	-	-	-	-	6	2	-	-	8	-	-	1	6	45	3.12
6	-	5	-	-	1	-	51	-	1	-	-	-	-	-	2	60	4.16
7	82	76	20	8	4	25	319	12	3	12	19	2	14	21	14	631	43.81
8	2	32	-	2	-	-	23	-	-	-	-	-	8	180	2	249	17.29
9	-	-	-	-	-	-	51	-	-	-	-	-	-	-	-	51	3.53
TOTALS	105	203	20	48	21	26	597	30	28	32	44	11	22	223	31	1,441	100.0
%	7.23	14.09	1.38	3.33	1.48	1.79	41.48	2.08	1.94	2.22	3.04	0.75	1.53	15.47	2.14	100.0	

Subject[a]

I	African Studies
II	Agriculture & Forestry
III	Botany
IV	Economics & Demography
V	Ethnography & Anthropology
VI	General Sciences
VII	Geography
VIII	Geology

Form[b]

Monographs

1. Books
2. Pamphlets
3. Analyticals
4. Separate Research Reports in Series
5. Conference & Institute Papers
6. Theses and Dissertations

IX History
X Meteorology
XI Social Sciences (General)
XII Town & Country Planning
XIII Wild Life Ecology
XIV General
XV Other Subjects (Archaeology 2, Education 3, Engineering 5, Medicine 2, Political Science 2, Sociology 9, Surveying 5, Zoology 3).

Periodicals

7. Research & Professional Journal Articles
8. Informational & Trade Articles
9. Student Journal Articles.

The most striking feature of Table VII is the wide range of subjects represented and which are almost exclusively confined to social science and science subjects. This revelation might seem to strengthen an earlier observation that "Geography.....shares this common characteristic with the social sciences that it draws very heavily from the sciences.... But it draws very little from the humanities and in this regard is quite different from the social sciences" (Aiyepeku 1971). In a different type of study Stoddart (1967) described the growth structure of geographical literature and noted that the bibliographic characteristics of geography display similar patterns to those of the literatures of science and, to a lesser extent, social science. He also observed that the literature of geography is more diverse in its subject requirements than the literature of most other subjects. It would appear then that this study and previous studies of the pattern of subject dispersion in geography are confirming the views that: (a) geography displays bibliographic characteristics that would make it more logical to group it with science than with social science, and (b) subject dispersion in geography is large, and possibly larger than that in any other subject. The eventual grouping of geography

with the other established science subjects, that is bibliographically, will, however, have to await more comprehensive and more widespread studies than are reported here.*

More than two fifths (41.48 percent) of all publications are contributed by publishers primarily interested in the field of geography and most of these contributions are in the form of articles in learned and professional journals. This is rather low when it is compared with over 90 percent reported for a similar category of publishers in the field of agricultural economics in the United States of America (Littleton 1969). Thus, almost 60 percent of publishers of Nigeria's geographical literature are primarily interested in subjects other than geography. Nonetheless, the figure shows that geography has its own specialized literature separate from general social sciences or general sciences. It also shows that geographical literature, at least in Nigeria, is strongly related to agriculture and forestry (14.72 percent) and that general - purpose publishers are responsible for a large number of the informational material. The implications of these observations for any bibliographic service designed to cover the geographical literature of Nigeria may be quite significant. They have immediate implications in the organization and use of libraries as illustrated in the next paragraph.

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* At present, geography is taught and researched as part of the sciences, social sciences, or the humanities, depending upon the institution involved. What one expects is that knowledge of the bibliographic characteristics of those traditional areas of knowledge may lead to a more rational classification of geography, and other subjects, under one or more of these three groups.

A variant of the problem of departmentation in major university libraries is the question of the internal arrangement of facilities in a single library. This study has made it clear, for example, that to ignore the relationships of geography to agriculture and forestry, African studies, economics and demography, geology, and meteorology will only serve to make the use of the library's facilities by geographers more difficult. Clearly, there is a very significant and intricate pattern of relationships that ought to be considered in the internal planning of a library, and the disposition of the materials of research should be related in some measure to the joint use of these materials. That the present network has characteristics that differ from those of library classification schemes is equally apparent. A library that provides open access, with its materials arranged in order of the classification scheme beginning, say, at the top or bottom of the library building, will prove rather discouraging to the investigator who would always prefer to have as much of his literature immediately surrounding him as space will permit. Librarians can probably do more than they have done to bring such materials together if they know and appreciate the significance of the type of subject relationships described here. As Fussler (1949) has noted, it is of course impossible to bring everything together unless the library is a very small one "but the judicious selection of the most useful materials, that will not conflict with the uses of other subject areas will serve the research scholar most satisfactorily." (Fussler 1949, p.141). But, it must also be recognized that research activities are becoming increasingly multi-disciplinary.

Geography, like other subjects, is multi-disciplinary; workers in the field must appreciate this and not expect that all their literature needs would be found in one room.

3.5 THE PERIODICAL LITERATURE

The characteristics of the periodical literatures of subjects have been subjected to far more penetrating studies than the characteristics of other forms of graphic communication. The review of research into the literature of geography (1.3) underlines this generalization. For many subjects, publications in periodical format far outnumber those in other forms. In this study, over 64 percent of all entries analyzed are periodical articles. In addition, periodicals seem better suited to statistical manipulation than monographs; their productivity rates, the degree of concentration or dispersion of articles among them, are some of the characteristics commonly determined.

The validity of applying Bradford's law to analysis of periodical literatures has been discussed in Chapter One. Possible practical applications of the law in rationalizing library and documentation work include, according to Lawani (1973):

(a) assessing the completeness of a bibliography compiled from periodical literatures, or ascertaining that an indexing/abstracting service that claims comprehensiveness for a subject is actually so. This is possible because the law enables one to estimate the total number of periodical titles that can be expected to contribute to a well-defined scientific or technical

subject, and the total number of papers these titles can be expected to contribute,

(b) determining the titles constituting the 'core' periodicals of a subject insofar as quantity (not quality) of papers is concerned,

(c) determining the number of periodicals required to cover a specified fraction of the total periodical literature of a given subject,

(d) ascertaining at what point substitution of photocopies of relevant papers in periodicals relating to a subject is cheaper than subscribing to the periodicals (Brookes 1970), and

(e) formulating a library's acquisitions policy concerning periodicals on the basis of regularly up-dated lists derived from application of the law (Lawani 1971), or planning the acquisition of periodicals within a hierarchical network of libraries (Goffman and Morris 1970).

In addition to these possible practical applications of the law, problems in the verbal and graphical formulations of the law will be discussed in the light of results obtained in this study. Because the data represent only one country, however, minimal attempts have been made to generalize the pattern that evolves for the whole of geography.

Table VIII illustrates the distribution of articles on the geography of Nigeria among periodicals. This is broadly typical of the pattern of scattering that has been observed for subjects in science and technology (Cole 1962, Groos 1967, and Brookes 1969). On a semi-logarithm paper,

TABLE VIII: DISTRIBUTION OF ARTICLES AMONG PERIODICAL TITLES.

No. of Articles	No. of Titles	Cumulation of Titles (T)	Total No. of Articles by Titles in Column 2	Cumulation of Articles (A)	Cumulative Fraction of Titles $\frac{(T)}{(TT)}$	Cumulative Fraction of Articles $\frac{(A)}{(AA)}$	Percentage of Titles $\frac{(T)}{(TT)} \times 100$	Percentage of Articles $\frac{(A)}{(AA)} \times 100$
100 and over	1	1	122	122	0.0064	0.1253	0.64	12.53
50-99	3	4	206	328	0.0256	0.3340	2.56	33.40
30-49	4	8	152	480	0.0512	0.4887	5.12	48.87
15-29	7	15	135	615	0.0961	0.6273	9.61	62.73
10-14	8	23	90	705	0.1474	0.7179	14.74	71.79
5-9	14	37	89	794	0.2371	0.8085	23.71	80.85
2-4	37	74	106	900	0.4743	0.9165	47.43	91.65
1	82	156(TT)	82	982(AA)	1.00	1.00	100.00	100.00

(TT) = 156 = Total number of periodical titles contributing geographical articles on Nigeria, 1901-1970.

(AA) = 982 = Total number of articles analyzed for the study

the values of R(n), or (A) in Table X, and of n, or (T) in the same Table, are plotted to produce Fig. 10. An identical curve will be obtained if the cumulative fraction of articles is plotted against the logarithm of the cumulative fraction of titles.

One might say that the resultant bibliography in Fig. 10 very broadly approximates to the Bradford - Zipf pattern although it is evident that the initial curved portion is only just bearly recognizable. Also, there is a large droop at the end of the bibliograph, and both of these phenomena would seem to require further comment.

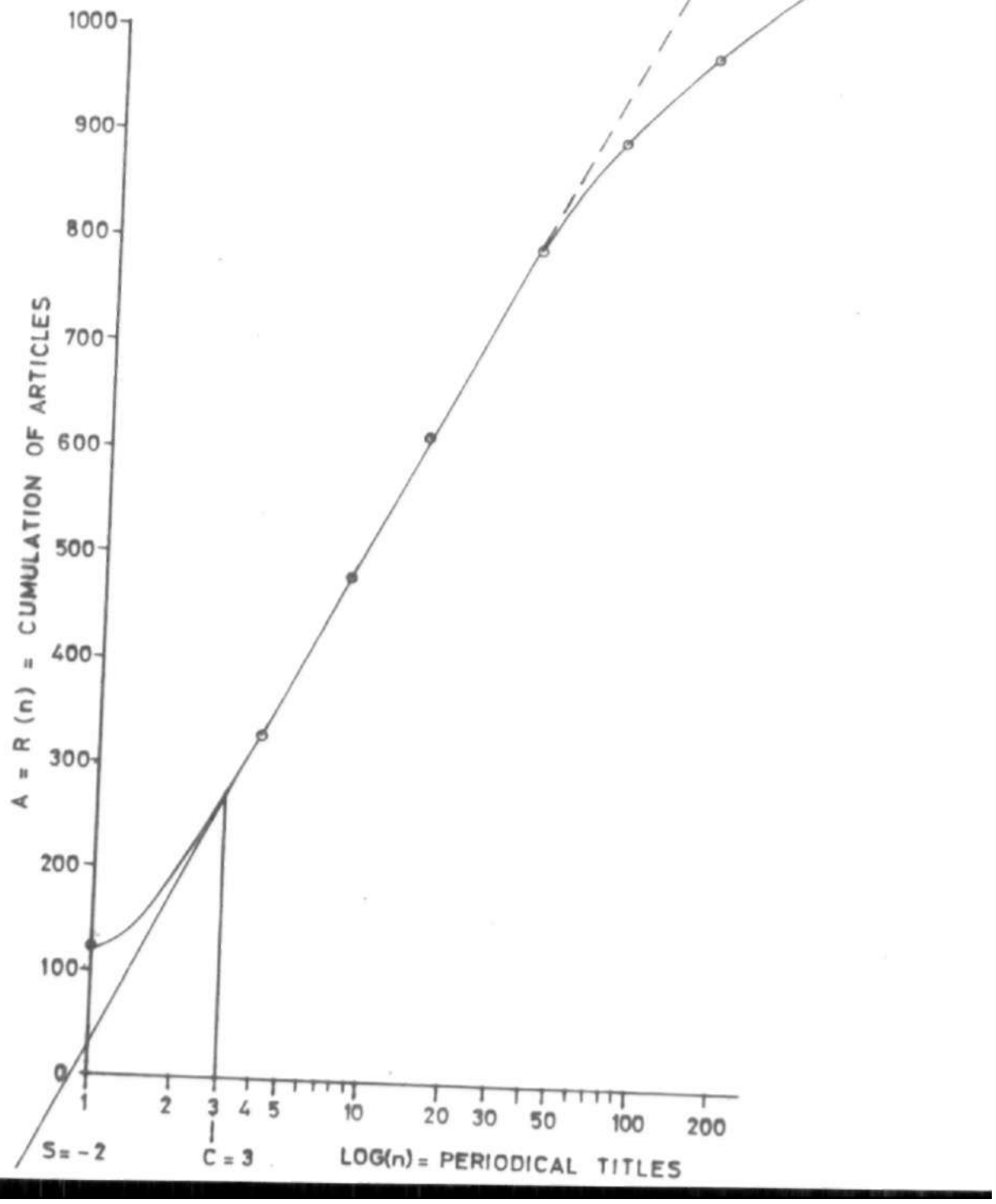
Groos (1967), working on Keenan-Atherton data for physics and data for other subjects, is credited as the first to report that the plotted points on a Bradford-type curve eventually form a curve that droops below the linear predictions of the Bradford law. Consequently, such a droop has since been called the 'Groos droop.' Two types of explanation that are usually given for this droop are:

(a) that all phenomena conform with simple mathematical laws and that the deviation of the plotted graph from the linear ideal indicates that the search was not complete, and that further searching would eventually restore the sagging empirical graph to strict linearity, or

(b) that Bradford's law is correct only 'as far as it goes' and that no matter how painstakingly and exhaustively one searches, the Groos' droop can never be completely eliminated. But, as Brookes (1968) stressed:

> Neither point of view can be validated. Even if complete coincidence of graph and line were achieved there would be no certainty that the end line had been attained, i.e., that no further relevant papers could be found in further journals. (Brookes 1968, p.252).

Fig.10. THE BRADFORD-ZIPF BIBLIOGRAPH FOR PERIODICALS AND THEIR CONTRIBUTIONS 1901 1970



As reported above (Chapter Two: 2.4) strict conformity with the linear ideal does not imply that all possible data have been found and incorporated into the bibliograph. In this study, the Bradford law is accepted as exact throughout, the empirical data are known to be incomplete and are used to estimate the totals that a completed search would provide. Thus, the values of s, c, R(n), and N are derived from Fig. 10 and from calculations resulting from the application of the law (see Chapter One) as follows:

s = -2

c = 3

a = 122

R(n) = ?

N = ?

b = not constant as the following figures show:

n	b
1	0.87
2	0.82
3(n=c)	0.78

Interpreting the value of s. In view of the meanings attached to the symbols of the Bradford formula (see 1.446), it is necessary to make some comments on the value of s which in Fig. 10 is less than 1 instead of being ≥ 1 as suggested in the formula.

Brookes (1969) suggested that the s value be taken to indicate the breadth of a subject although he did not specify what exactly this meant. Lawani (1972), on the contrary, argues that s "should be regarded more as a measure of the extent to which the literature of a subject is

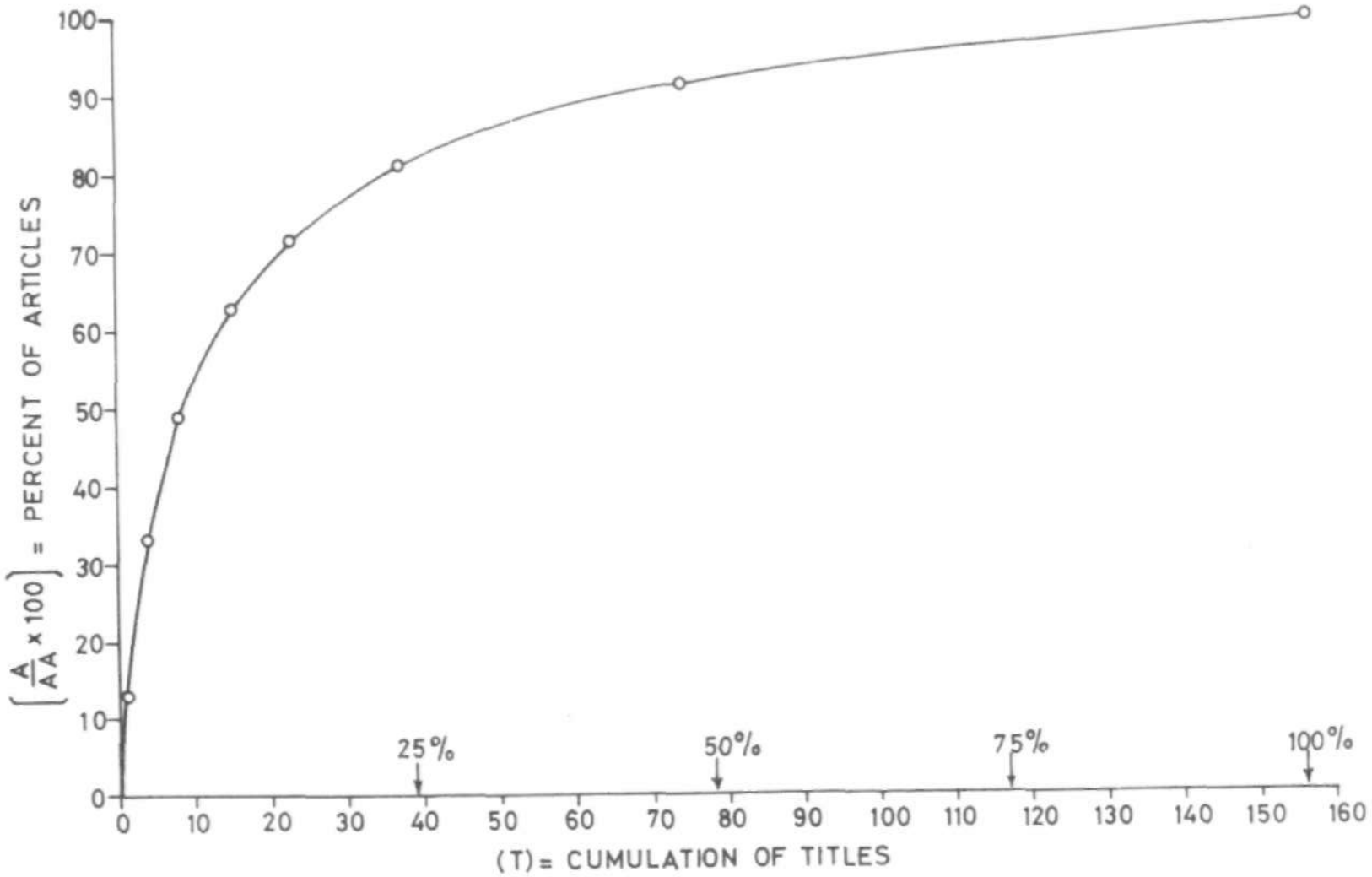
IBRAHIM LIBRARY ZARIA DATE

obtained by Cole (1962) for the literature of petroleum, and less than the value of 0.61 obtained by Lawani (1972) for the field of tropical and subtropical agriculture. The value of 0.58 obtained for this study implies that the periodical literature of geography is scattered to a considerable extent and corroborates our observation on subject dispersion above (3.3).

Fig. 11, derived from Table VIII, demonstrates the extent of this scatter. It shows, for instance, that roughly 50 percent of the periodical articles during the period analyzed for the study were contributed by the eight most productive titles, or by just 6 percent of all titles; 75 percent by about 28 periodicals or by roughly 16 percent of all titles; 90 percent by 68 periodicals or 42 percent of all periodicals. The implication of this is that any attempt at complete bibliographic control of the geographical literature of even a country of relatively low productivity such as Nigeria will involve a large number of periodical titles devoted primarily to various other subjects that at first sight might appear unrelated to geography. On the other hand, as few as the 68 most productive titles will provide 90 percentage of the entire periodical literature in the field. This may be the best that most libraries and documentation centres can ever hope to achieve.

Expressed differently, if a decision had been made to acquire only those periodicals that produced at least two references in the 70-year period covered by this study, the number of periodicals would have dropped from 156 to 74, or a decline of just over 54 percent of the total. This would have sacrificed only 82 references of a total of 982.

Fig.11: TITLE DISPERSION OF PERIODICAL LITERATURE



The necessity for including these 82 references would depend upon the ultimate objective. If the aim was to document all publications on the subject then perhaps their inclusion would be justified. If, on the other hand, the objective was to document only those published references pertinent for research purposes, then the probability is that the important references would appear in the first most productive periodicals. For, it is doubtful that many important, unique references will be found in periodicals in the peripheral or remote subject fields.

In summary, the distribution of the periodical literature as revealed in this study indicates that provision of a substantial proportion of the references in a subject field is possible through a small number of journals if they are carefully selected but, that the provision of the entire publications necessary to cover the literature of a subject will require a very large number of titles, many of which will be needed elsewhere, in, say, a university or in a large research organization.

Appendix B presents a ranked list of all periodical titles, each contributing one entry or more. The major advantage of such a list is that it constitutes an objective basis for a librarian or information officer to ascertain what journal titles are most important, in terms of quantity only, as far as Nigeria's geographical literature is concerned. It should be stressed, however, that this list is not very helpful in predicting productivity rates since it is based on a long period, 1901-1970. Many of the titles have now either ceased publication or have begun to yield a decreasing number of articles on the geography of

Nigeria, often because of radical changes in editorial policy. For example, Farm and Forest, Research Notes, and U.A.C. Statistical and Economic Review that rank third, thirteenth, and seventeenth respectively in Appendix B have all ceased to publish. Geographical Journal, African Affairs, Africa, and Scottish Geographical Magazine, that were among the most productive in the first fifty years of the study-period, have contributed less and less in the last twenty years as local titles devoted primarily to reporting geographical research concerning Nigeria take the lead. But, the list should be valuable in retrospective bibliographic searches and research involving Nigeria's geography.

A significant feature of the periodical titles analyzed here is the increasing tendency to establish new titles to cope with increasing specialization within the field. Economic geography and its subfields constitute one of the foundations of geography. It is, therefore, no surprise that Tijdschrift voor Economische en Sociale Geografie was one of the first geographical journals to specialize in any part of geography (Harris and Fellman 1950). Similar titles devoted to other parts of geography have since emerged, notably: Economic Geography, Zeitschrift für Geomorphologie, and Geographical Analysis, a journal devoted to theoretical geography and published, since 1969, by Ohio State University Press. The Journal of Tropical Geography and Pacific Viewpoint specialize on certain areas of the world in the same manner as national geographical journals like Nigerian Geographical Journal. One would expect that as the number of geographers and their rates of specialization and productivity increase, the present general - purpose

titles will gradually give way to titles devoted to narrower aspects of geography as has happened in several disciplines in the sciences, such as chemistry, for example (Todd 1967).

3.6 SUMMARY OF CONCLUSIONS

The major conclusions reached in Chapter Three are summarized as follows:

(1) The ratio of periodical articles to monographs in this study is greater than 2:1 which approximates more to the situation in science and technology than to social science. The low level of book production in Nigeria would seem to be the reason why the monographic literature is so comparatively small and may not be representative of the whole field of geography.

(2) Most of Nigeria's geographical literature is research and professional in character (75.51 percent) although there is a considerable proportion (20.96 percent) of informational and popular material that reports application of research. The very nature of this latter group of publications places upon libraries and bibliographic services a special problem of selectivity. Undoubtedly, many of them may not be of sufficient significance for inclusion in an information retrieval system.

(3) The largest publishers of the literature are research institutes and learned societies (39.16 percent), the Federal government of Nigeria and its agencies (17.43 percent), and foreign commercial firms (13.88 percent). The format of what they publish differs: research institutes and learned societies publish mainly in research and professional journals;

the Federal government an its agencies publish mostly informational and trade magazines; while foreign commercial firms publish books and pamphlets.

(4) The literature displays a wide subject dispersion although the field of geography contributes the largest proportion (41.48 percent) of all subjects contributing to the geographical literature of Nigeria. Agriculture, forestry, economics, and demography in particular, and the sciences and social sciences generally, are closely associated with geography. This suggests that bibliographic services in both the sciences and social sciences will cover most of the literature of geography. But, the wide scope of subject fields in which the literature is published means that in order to be comprehensive, a bibliographic service designed to cater specifically for the interests of geography must cover many publications in the sciences and social sciences, and even a few in the humanities.

(5) The title dispersion of the periodical literature is high with only 68 titles out of 156 providing 90 percent of all references and the rest 10 percent scattered among 88 titles. This phenomenon is reflected in a relatively high reference scattering coefficient of 0.58. Attempts at complete coverage of Nigeria's geographical literature would involve searching a large number of periodical titles that have only marginal interests to the field of geography.

(6) The periodical literature demonstrates similar characteristics to those reported for subjects in science and social science; data analyzed here are not representative enough to classify geography as

either a science or a social science. The negative value of s in the Bradford - type bibliograph is interpreted as a reflection of the spatial limitation of this study.

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CHAPTER FOUR

INDEXING AND ABSTRACTING COVERAGE OF THE LITERATURE

> .... much.... information is at present buried in the libraries of the very institutions in which people are as busy as bees repeating the same studies and spending precious years rediscovering established facts. (Maurice B. Visscher. The Interdependence of Knowledge and Information in the World Today, 1954).

There are detailed accounts of the history of bibliographic control* in a few subjects, particularly in science and technology. To cite a typical example, Frauendorfer (1966) wrote a detailed history of abstracting in the field of agricultural economics with particular emphasis on the role of individual abstracting services in the documentation of agricultural economics literature since 1923. Such knowledge facilitates comparison of the documentation characteristics of different subjects; it may also help librarians and information scientists to improve their services.

Neither professional geographers nor librarians and information scientists seem to have investigated the documentation characteristics of geography. Geography tends to be left out of studies dealing with either the social sciences or the sciences. Documentation of

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* 'Bibliographic control' is defined here as coverage of the literature of a subject by current indexing and abstracting services. The alternative word, as used in this study, is 'documentation.' Consequently, indexing and abstracting services are also referred to as 'bibliographic,' or 'documentation,' services.

geographical literature has never featured in such review publications as Progress in Geography or Advances in Documentation and Library Science. The detailed analyses presented here represent a beginning towards a comprehensive description of the documentation characteristics of geography.

4.1 CRITERIA FOR SELECTING SERVICES

Most journals have as their main purpose the publication of original articles; their book reviews, abstracts, and bibliographies are incidental. One repeatedly turns not to these journals, but to the very few large abstracting and indexing servvices in order to identify or locate specific segments of the literature that are relevant to the interests of a particular worker. As shown in Chapter Three (3.4), although geography has a strong body of literature of its own, it has important relationships with agriculture, forestry, and the social sciences generally. Documentation services in these fields would be expected, therefore, to cover a substantial proportion of geographical literature. However, several studies have shown that workers in any discipline turn first to services in their own field before they consider those catering primarily to the interests of other subjects. The top priority here then is to identify those services that geographers would consult first in order to keep up with the literature of their subject.

Proceeding after the manner of Gribbin (1958 and 1960), a list of all indexing and abstracting services whose titles have the word sten 'geo' (excluding 'geometry' and related words) was prepared. The

resulting list identified services catering primarily to the interests of the earth sciences. Upon examination, it was discovered that those services concentrating on geological literature, such as: Geological Society of America, Abstracts, Bibliography and Index of Geology, Geophysical Abstracts, and Geoscience Abstracts, contain very few entries of geographical interests and were eliminated. The remaining titles were:

1. Current Geographical Publications
2. New Geographical Literature and Maps
3. Geographical Abstracts (Parts A,B,C, and D)
4. Bibliographie Géographique Internationale
5. Meteorological and Geoastrophysical Abstracts.

In order for a service to be practically useful to geographers, it must provide a geographic approach to its contents. These five services fulfilled this need in one of two ways, (a) by arranging all entries on Nigeria (and on other countries, or regions) together, or (b) by providing a geographic index to a classified arrangement.

In addition to these services covering geography on a world-wide basis, it was reckoned that indexing and abstracting services covering Africa or its particular region would be likely to index a significant proportion of Nigerian geographical literature. A search for such services yielded: Tropical Abstracts, African Abstracts, and Theses and Dissertations Accepted for Higher Degrees in Nigerian Universities. Tropical Abstracts was eliminated because it neither arranges entries on Nigeria together nor provides a geographic index.

Finally, it was noted that only one of the services so far selected indexes theses and dissertations that constitute an important form of research literature. This reason, and Nigeria's long and continuing relation with Great Britain, suggested the following titles: United Kingdom Publications and Theses on Africa, and Index to Theses Accepted for Higher Degrees in the Universities of Great Britain and Ireland.

Each of the nine services selected as a result of these steps is briefly described below, beginning from the oldest to the most recent.

4.2 DESCRIPTION OF SELECTED SERVICES

Description of each service is divided into four short paragraphs: the first gives general information, on when it started publishing, frequency, publishers, and any title changes; the second paragraph describes the scope and arrangement, again noting any changes; the third lists special features as they relate to Nigeria's geographical literature; and the last paragraph presents a critique whenever it would help to assess each service adequately.

4.21 Bibliographie Géographique Internationale, published annually by l'Association de Géographie Française, is the oldest indexing or abstracting service in the field of geography. It started in 1891, and until 1914, as a regular issue of Annales de Géographie, the official journal of the Association. The title varied until 1928 when it assumed its present name and a more or less world-wide coverage.

All abstracts are in French. It attempts to cover the world's output of geographical literature by maintaining a system of close collaboration with the major national geographical associations in Europe and America. It is particularly strong on publications in French but abstracts those in English, German, Italian, and Scandinavian languages. Before 1935, entries under Nigeria were scattered under three different headings; between 1935 and 1946 they were all under the broad heading "Afrique l'Ouest." Since 1947, however, entries have been arranged under individual countries. Within each region or country, arrangement is alphabetical by author and all entries are numbered in one sequence.

Bibliographie Géographique Internationale is the only one of the nine services selected here that includes what appears to be a selected number of book reviews in each issue, giving full information about where reviews occur and the names of reviewers. It is also the only service that includes reviews of the first issues of new journals. More than any other service, it indexes geographical publications appearing in Statistical and Economic Review and Nigeria Trade Journal (see Appendix B). Land tenure studies by Cole [1287-88] and some of those by Rowling [1319, 1321] are indexed exclusively by this service.

Despite its comprehensiveness, this service contains too many errors of detail; some entries are absolutely misleading. To cite just one example, Harrison Church's article in the April, 1969 issue of Geographical Magazine [743] was indexed under the title "Deployment of the Federation's water, coal and natural gas resources" instead of the correct title "Power sources for a peaceful Nigeria." Apparently,

the former title was copied from either an abstract or an annotation of the original article; such instances have been noted several times in the service. Finally, its value as a current bibliographic service is severely limited because it is an annual publication and even then it is sometimes two years behind schedule. Moreover, many of the entries carry no abstracts at all.

4.22 Current Geographical Publications has been published ten times a year (monthly except July and August) by the American Geographical Society since 1938. Yearly cumulations are provided, each with subject, author, and regional indexes.

Books, pamphlets, periodical articles, maps, atlases, and photographs received by the Library of the Society are indexed. Arrangement follows the principle of spatial contiguity whereby entries concerning regions, countries and their subdivisions, are arranged in the order of their location on the surface of the earth. Thus, for example, under 'West Africa' publications concerning Togo would come after those on Ghana; those about Dahomey would come after Togo, in that West-East order. No separate entry was provided for Nigeria under the regional heading 'West Africa' until the April, 1958 issue.

This bibliographic service is particularly important for its comprehensive coverage of Farm and Forest, and Research Notes, two of the most productive journals in this study (see Appendix B). In addition it has exclusive coverage of many of the geographical reports issued by Nigerian governments and their agencies, particularly those by the

Geological Survey of Nigeria. Very significantly also, it indexes individual lectures, an important form of literature not covered by other services.

4.23 African Abstracts: a quarterly review of ethnological, social and linguistic studies appearing in current periodicals, has been published by the International African Institute in London since 1950.

As its sub-title clearly indicates, only the human aspects of geography fall within its scope. The service maintains a team of abstractors and translators drawn from all over the world; their names are given after what they contribute to any issue. Foreign - language titles have English-language equivalents and abstracts are almost always in English though sometimes French articles are abstracted in French. Arrangement is under regions and by individual countries under each region. Each subdivision is then arranged alphabetically.

It is particularly important in providing coverage for the trade and informational articles contained in such periodicals as: Nigeria Magazine, Crown Colonist, African World, West African Review, and Ibadan. Important journals in the field of African studies that are not picked up by other services selected here are regularly indexed by African Abstracts. Two good examples are Odu and African Notes. It has an 'Index to Periodicals Abstracted'——both abbreviated and full form——as well as separate author, and ethnic and linguistic indexes for each issue.

No journal is indexed on a permanent basis in this service. The user must, therefore, first turn to the list of periodicals abstracted in each issue to be sure that the journals he has in mind are included.

4.24 Index to Theses Accepted for Higher Degrees in the Universities of Great Britain and Ireland has been published annually by the Association of Special Libraries and Information Bureaux (Now simply known as Aslib) since 1950.

It records theses and dissertations accepted for higher degrees by the universities of Great Britain and Ireland and, since the 1968-69 edition, by the Council for National Academic Awards. It does not include: (a) higher degrees awarded solely in respect of published works, (b) dissertations submitted in partial fulfilment of the requirements for higher degrees in conjunction with written examinations, and (c) dissertations submitted by successful candidates for postgraduate diplomas. Entries are classified by subject and numbered in one sequence.

In order to obtain all geographical entries, one must search under 'Geography,' 'Geomorphology' (which includes geomorphology and general regional studies), and 'Meteorology,' all connected by cross-references. Beginning from volume 8, 1957-58, a regional subdivision was added to the 'Geography' section now subdivided under 'Great Britain and Ireland' and 'Overseas' where all theses concerning Nigeria will be found.

4.25 Meteorological and Geoastrophysical Abstracts has been published monthly by the American Meteorological Society since 1950. From 1950-59, it was published as Meteorological Abstracts and Bibliography.

It covers all forms of publications falling under the branch of geophysical science dealing with the atmosphere and its boundaries. Specifically, "applications of astrophysics, geophysics, mathematics, mechanics, oceanography, statistics and thermodynamics, applications of meteorology and climatology ... aeronautics, agriculture, aviation and commerce, forestry, hydrology, industry, insurance, medicine, teaching military science or naval science, etc..." are the areas covered. (The underlined fields are particularly relevant to geography.) Each issue is divided into four parts. Part I contains abstracts of current literature in the fields of meteorology and geoastrophysical sciences. Part II comprises an annotated bibliography of important publications on a special area or subject. Part III contains a list of translations and the contents of recent important publications received by the Society. Part IV is made up of author, subject, and geographical indexes for each issue, but only the contents of Parts I and II are included in these indexes and cumulated annually. All abstracts are in English. Titles are left in the original languages as far as possible; in a few cases, translations or transliterations are indicated. Materials are arranged using a modified form of the Universal Decimal Classification (U.D.C.) and all entries in any one issue are numbered in one sequence.

This abstracting service is unique in its many special features. Each abstract includes subject headings "to serve as an approach to standardized English terminology for use in filing and indexing, and to supplement the U.D.C." Other useful features include the use of

symbols to indicate quality of data and bibliography, and to indicate a library holding the publication indexed. Full addresses of many American and British authors are also given. From the point of view of the present study, however, its most important feature is that it indexes almost all the publications of the British West African Meteorological Service, and the Nigerian Meteorological Service.

It is clearly one of the most comprehensive, most consistent, and most accessible indexing services and an indispensable one for workers in the earth and physical sciences.

4.26 New Geographical Literature and Maps has been published twice a year (June and December) by the Royal Geographical Society of Britain since 1951.

Like Current Geographical Publications, it is an index of publications and maps received in the Library of its parent Society. But, unlike the American title, the index is highly selective: "All important new books, atlases and current maps, are included, together with all articles in twenty of the principal British and foreign geographical periodicals, and a selection from other publications." Each entry starts with the continent or country, subdivided by country, state or region, then the subdivision of geography it represents. All entries in any one issue are numbered in one sequence.

Although its selectivity implies valuable qualitative judgement, its value as a comprehensive current awareness service is correspondingly reduced.

4.27 United Kingdon Publications and Theses on Africa was first published as Theses on Africa from 1920-1963; it has since been published annually under its present title by the Standing Conference on Library Materials on Africa (SCOLMA).

The publication supplies a further contribution to the series of national bibliographies for African Studies for which the United States of America provided a nodel in United States and Canadian Publications on Africa in 1960, and was quickly followed by Germany in Afrika Bibliographie, 1960-61. Most of the entries in the British publication are drawn from the following five indexing services:

(a) British National Bibliography

(b) British Humanities Index

(c) British Technology Index

(d) British Education Index

(e) New Geographical Literature and Maps

Arrangenent provides, first, a 'Generalia' class which is then subdivided by subject, followed by entries under individual countries. All entries are numbered in one sequence and there is an author index.

This indexing service is particularly useful in picking up sone of the earliest geographical theses and publications concerning Nigeria. It is strong in the social sciences and humanities but appears dificient in the sciences and technology.

4.28 Geographical Abstracts started as Geomorphological Abstracts from 1960-65. Since 1966, it has been published binonthly in four parts by the Geo Abstracts Office in the London School of Economics and Political Science.

Geographical Abstracts comprise of A: Geomorphology; B: Biogeography and Climatology; C: Economic Geography; and D: Social Geography and Cartography. It is the only abstracting service other than Bibliographie Géographique Internationale that attempts to cover the world's geographical literature. Abstracts are long and fully indicative of content, but their quality varies considerably from one abstractor to another. The service maintains a team of abstractors who are mostly volunteers. Many authors provide their own abstracts while abstracts from other services are frequently copied. Non-English titles are given English-language equivalent translations and all abstracts are in English. Arrangement is under specific subdivisions of geography.

The Biogeography and Climatology (B) part of the publication is the only one of the nine services that indexes Soil Survey Bulletin and Samaru Miscellaneous Papers, both vital serials in the soils geography of Northern Nigeria.

Abstracts on a country or region are brought together only in the last issue of each volume. For purposes of current awareness services, therefore, this could be a time-consuming source to one who wants to see all relevant publications concerning the geography of a country together. This situation is regrettable especially since it has not always been so; each of the 1966-68 issues of the publication carried a regional index. Although consolidated indexes to the four sections have appeared for 1966 and 1967, the value of the service would be enhanced if regional indexes were restored to individual issues as was true up to 1968.

4.29 Theses and Dissertations Accepted for Higher Degrees in Nigerian Universities, which began in 1966, is an annual publication of the National Library of Nigeria with the assistance of Nigerian university libraries.

Theses written by students of the University College, Ibadan, for degrees of the University of London are adequately covered in United Kingdom Publications and Theses on Africa and the Index to Theses Accepted for Higher Degrees in the Universities of Great Britain and Ireland. Since the University of Ibadan attained autonomous status in 1963, however, no current indexing service covers this very important aspect of Nigeria's literary output. The 1966-67 issue of the publication covers some 1963-65 titles. Entries are classified by subject and by the institutions producing the theses. There is also a tabular breakdown showing masters' and doctors' contributions from each university.

This publication has several shortcomings. In addition to its lack of comprehensive coverage of theses written between 1963 and 1965, it has appeared in mimeographed, pamphlet format of different sizes that makes preservation and control difficult. As Nigerian universities produce more higher degrees, it would be desirable to improve its format as well as include theses and dissertations concerning Nigeria that are submitted to universities outside Nigeria. Meanwhile, one must rely on this fragile publication to find an incomplete listing of higher degrees accepted in Nigerian universities. It has been included here to demonstrate its potential (it exclusively indexes all the seven entries it contributes) rather than because of its significance in the bibliographic control of thesis literature during the 1901-70 period covered by this study.

4.3 GENERAL PATTERN OF INDEXING COVERAGE

Several methods have been employed to report indexing rates for different subjects. Littleton (1968) used sampling techniques to determine indexing rates for the literature of agricultural economics. Martyn (1967), on the other hand, presented in mostly graphical format, the results of his analysis of the extent to which certain abstracts journals cover the bibliographies of twelve subjects in science and technology. The most common method, however, is the tabular presentation based on straightforward frequency counts. This is the method used by Vaillancourt (1968 and 1969) in his study of bibliographic control for the literature of oncology; by Hopp (1956) in his work on complete documentation in the fields of chemistry, physics, biology, and mathematics; and by Gribbin (1958) in analyzing bibliographic control and control devices for chemistry, botany, and geology.

This part of the study combines the graphical and tabular techniques to test the third hypothesis which states:

> that indexing/abstracting coverage of Nigeria's geographical literature is proportional to the growth of the country's geographical literature, and that indexing/abstracting coverage varies according to form, publisher, and place of publication.

The assumption is that the forces that produce more publications produce more indexing* effort and, therefore, that indexing would keep up with increased publications.

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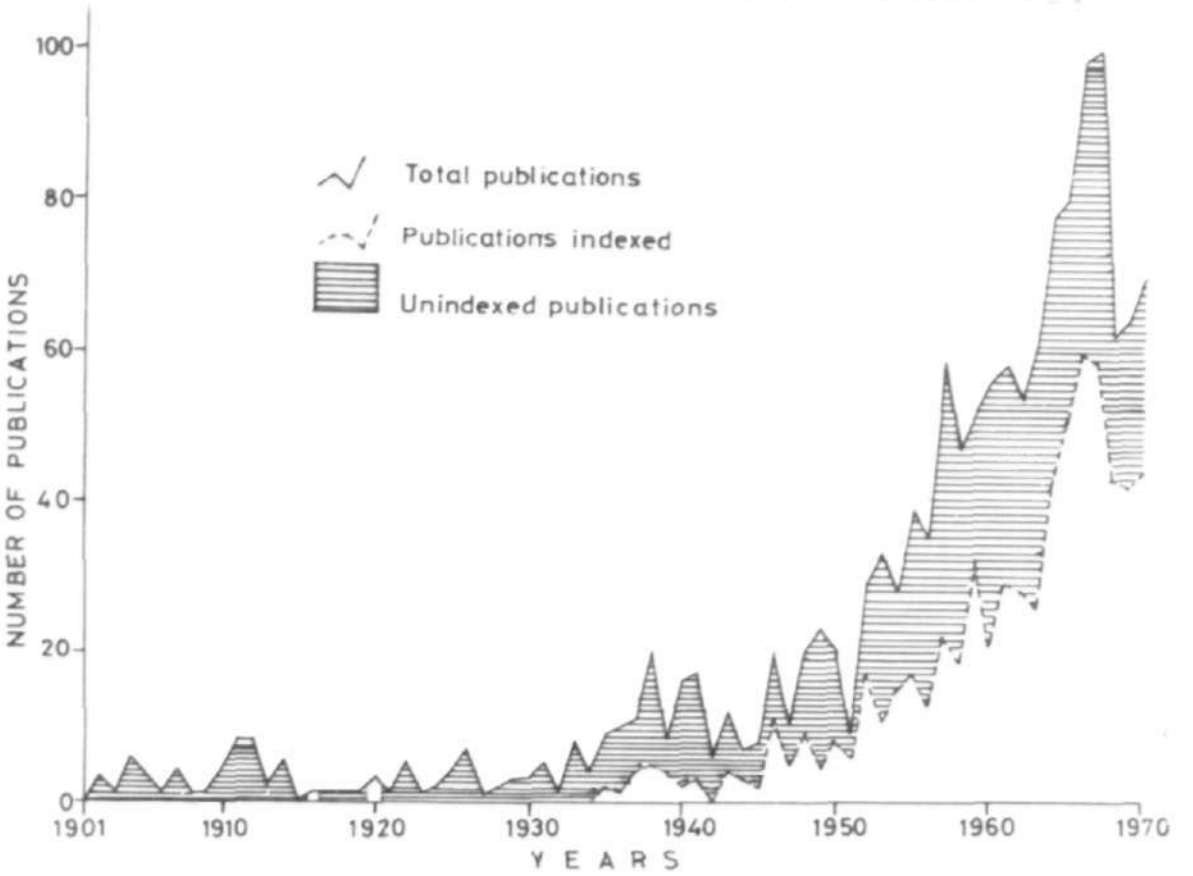
* 'indexing' will be used from now on to mean 'indexing and abstracting.'

Fig. 12 presents a picture of indexing coverage throughout the entire seventy-year study period. It shows quite clearly that indexing coverage has generally kept pace with the growth of total publications since consistent indexing coverage of Nigeria's geographical publications started around 1937. The inverse relations recorded in some individual years seem compensated for by this general picture of concurrent growth of publishing and indexing. The first portion of the hypothesis has, therefore, been supported by evidence provided here. ~~As shown in Fig. 13,~~ 46.4 percent of all publications analyzed for this study were indexed, most of them more than once. As might be expected, the multiple indexing tended strongly to involve articles published in such prestigious journals as Annals of the Association of American Geographers, Geographical Review, and Geographical Journal; scholarly textbooks that enjoy very wide circulation are frequently indexed at least twice as often as publications coming from other sources.

4.4 INDEXING COVERAGE BY FORM

The second part of the hypothesis states "that indexing/abstracting coverage varies according to form, publisher, and place of publication." Table XI classifies data into the seven forms of the literature used throughout this study. Bradford (1948) had observed that bibliographic services concentrate mainly upon periodicals devoted to their particular subject, and that they generally ignore large groups of publications that are not in periodical or serial form, such as books, separate research monographs, lectures, and conference papers.

Fig.12: NIGERIA'S GEOGRAPHICAL LITERATURE INDEXING COVERAGE 1901-1970



Many writers who have analyzed the literatures of science, technology, and social science have reported similar findings to Bradford's. This study gives an idea of the extent to which geographical literature agrees with, or deviates from, this generalized pattern described by Bradford and later investigators.

Research Publications. It is clear from Table IX that research publications in periodicals have the highest chance of being indexed (61.5 percent) thus confirming Bradford's observation and the observations of subsequent writers, such as Hopp (1956) and Littleton (1968). Theses score a relatively high percentage also and suggests that theses may be more intensively indexed than other forms of research monograph publications. The score of 36.9 percent for separate research reports does not quite fit into this category of relatively high scores for research publications. The score appears to depend more on where they were published than the fact that they are separate research reports in series. Thus, generally, one can say that research journal articles, research monographs in series, theses and dissertations, are indexed to a much greater extent than any other forms of publications.

Monographs. With 47.0 percent indexing coverage, this group ranks relatively high in Table VII. This group, however, includes a rather large number of analyticals (see Table IV), all separately counted as indexed. For example, a monograph containing six separately indexed analyticals would be counted six times. Thus, if the procedure were modified to include only those entries that are indexed as books, the percentage indexed for monographs would be substantially reduced, possibly

TABLE XX: NUMBER AND PERCENTAGE OF PUBLICATIONS INDEXED ONCE OR MORE BY FORM

Form Category	N	Publications Indexed Once or More: No. Indexed	% Indexed	Number of Times Indexed: 1	2	3	4	5
Research & Professional Journal Articles	616	378	61.5	150	99	81	41	7
Monographs (Books, Pamphlets, Analyticals)	302	142	47.0	63	45	19	11	4
Separate Research Reports in Series	111	41	36.9	29	7	5	-	-
Proceedings of Conferences, Symposia, Seminars	42	9	21.4	5	3	1	-	-
Theses and Dissertations	60	35	58.3	19	16	-	-	-
Informational & Trade Entries	259	62	24.3	47	15	-	-	-
Student Journal Articles	51	1	1.9	1	-	-	-	-
TOTAL POPULATION	1441(TT)	668(T)	46.4	314	185	106	52	11
PERCENTAGE OF (T)				47.0	27.7	15.9	7.8	1.6

N = Total Number of Publications in Each Category.

to a figure lower than that for separate research reports in series. The figure for monographs contrasts sharply with Littleton's (1968) finding in the field of agricultural economics where he reported that 70 percent of publications in this category are indexed.

Proceedings of Conferences, Symposia, Seminars. Most publications in this category are of the learned type and could have been discussed as part of research publications. Considered separately, however, conference proceedings have been known to exhibit distinct documentation characteristics that are markedly different from books, journal articles, and separate research reports in series.

In this study, conference proceedings are among the two least indexed forms (21.4 percent). The low indexing coverage of conference papers is unfortunate because they constitute an important body of geographical literature. Yet, studies have shown that in a number of fields, conference proceedings are indexed inadequately. For example, Hanson and Jones (1961) attempted to discover the extent to which the reports of conferences, and particularly the individual papers contained in them,were abstracted in selected English - language services. They reported that "over two-thirds of the papers published in the reports of ten conferences were not individually abstracted in the services searched, and nearly half were neither abstracted nor listed and indexed."

Findings such as the one reported here are perhaps of little import to the mature specialist who is likely to know of conferences devoted to his subject, to see their programmes, to know some of the authors of papers, and to obtain copies of the reports even if he does not himself

attend. Poor coverage of the reports of these conferences by abstracting services may not matter greatly to him personally, until his memory of them fades. For others, the position is different. Those outside the elite communication circle, such as the young specialist unfamiliar with much of the past literature in his subject, the geographer whose research leads him into fields unfamiliar to him, the librarian who may be called upon to locate information in any field, need to be able to find, through appropriate indexing journals, the information contained in papers presented at conferences. To make matters worse, an increasing number of conference proceedings seem to be published without author or subject indexes. A few of them were noted in this study, and Hanson and Jones (1960) reported the same practice in respect of the proceedings of conferences held by chemists.

Informational and Trade Entries, as expected, constitute one of the least indexed groups in the series. A large proportion of publications in this category may not be considered worthy of inclusion in a bibliographic service catering to the needs of researchers in geography. Discriminating selectivity would be required here in deciding what should go into an information system that includes geography.

Student Journal Articles are virtually unindexed; the only indexed entry was published outside Nigeria. Compilers of indexing services may have difficulty in discovering their existence. Although some of them are of slight importance, enough make significant contributions that their existence should be recorded.

This discussion and the accompanying Tables provide enough evidence to support the suggestion that differences in indexing coverage do exist

between forms of geographical literature. Additional evidence must be examined to judge whether similar differences exist in regard to publishers and places of publication.

4.5 INDEXING COVERAGE BY PUBLISHER/PLACE CATEGORIES

Table X[redacted] combines two related groups of information: seven types of publishers are distinguished all but one of which are further broken down by their location. The pattern that emerges shares some of the characteristics of Table X[redacted]: publications by colleges and learned societies are in the form of research and professional journal articles, research reports, and theses, and they stand the greatest chance of being indexed. They are also the most frequently covered by two or more services.

As might be expected, publishers with miscellaneous subject interests stand the least chance of having their publications covered by indexing services catering primarily to the interests of geography. Publications by international or regional organizations tend to be in the form of conference proceedings that are little indexed.

The most striking revelation in Table X[redacted] is the sharp contrast in indexing scores between items published in Nigeria and those published elsewhere. The ratio is roughly 1:2 in all but one of the paired categories of publishers, that is, an item published outside Nigeria stands twice the chance of being indexed as one published in Nigeria. The location of publishers is thus an important consideration in determining whether a work will be indexed or not.

TABLE X■■: NUMBER AND PERCENTAGE OF PUBLICATIONS INDEXED ONCE OR MORE BY PUBLISHER/PLACE CATEGORIES

Publisher/Place Category	N	Publications Indexed Once or More: No. Indexed	% Indexed	Number of Times Indexed: 1	2	3	4	5
Colleges & Universities (Nigeria)	113	36	31.8	17	11	7	1	-
Colleges & Universities (Foreign)	114	82	71.9	29	30	17	4	2
Commercial (Nigeria)	2	0	0.0	-	-	-	-	-
Commercial (Foreign)	200	101	50.5	50	34	11	2	4
Commercial - University (Nigeria)*	-	-	-	-	-	-	-	-
Commercial - University (Foreign)	41	31	75.6	5	12	5	9	-
Nigerian Federal Govt. & its Agencies	251	59	23.5	43	15	1	-	-
Nigerian State Govts. & their Agencies	31	12	38.7	9	-	3	-	-
Foreign Govts. & their Agencies	31	20	64.5	12	6	2	-	-
International/Regional Organizations**	48	18	37.5	11	5	2	-	-
Research Institutes & Learned Societies (Nigeria)	252	129	51.2	43	37	24	24	1
Research Institutes & Learned Societies (Foreign)	312	174	55.8	89	35	34	12	4
Miscellaneous (Nigeria)	25	2	8.0	2	-	-	-	-
Miscellaneous (Foreign)	21	4	19.1	4	-	-	-	-
TOTAL POPULATION	1441(TT)	668(T)	46.4	314	185	106	52	11
PERCENTAGE OF (T)				47.0	27.7	15.9	7.8	1.6

Table X■ (cont'd).

N = Total Number of Publications in Each Category

* = Two Publications by the Ibadan Branch of Oxford University Press are Incorporated into the Next Line

** = Nigeria is a Member of Most of Them but All of their Publications are Issued Outside of Nigeria.

The significance of location of publishers in the bibliographic control of subject literatures has not been given the full attention it would appear to warrant. Visscher (1954), like many other writers, raised this point in a somewhat indirect manner while discussing the necessity for scientific knowledge and information to thrive across national, language, and political barriers. In a brief analysis of the areal coverage of Biological Abstracts, he demonstrated that a large number of first-rate English-language publications that are published outside the United States of America and Europe were not covered in Biological Abstracts. Although the present study deals with the geographical literature of only one country, it will not be surprising if the situation revealed here is found to be basically the same for other subjects in other countries of the developing world. This is an area worthy of more extensive studies because its implications for making knowledge available to a world audience, and for putting that knowledge to work, may be quite crucial.

In contrast to the general tendency for items published within Nigeria to be indexed less frequently than items published elsewhere, the publications of research institutes and learned societies prove, as shown in Table X[redacted], to be indexed with nearly equal frequency whether they were published within Nigeria or elsewhere. A publication by a learned society in Nigeria has an equal chance of being indexed as one by a similar society in, say, Great Britain, Thus, publications in Nigerian Geographical Journal will be expected to stand an equal chance of being indexed, at least once, as publications in Geographical Review, and Annals of the Association of American Geographers. However, for works accepted by publishers affliated in one way or another with universities, the situation is different. Works published in affiliation with Nigerian universities stand substantially less chance of being indexed internationally than works published in affiliation with foreign universities. On this basis then, researchers on the geography of Nigeria who are seeking maximum exposure for their works may be wise to get their works accepted by foreign publishers affiliated in one way or another with foreign universities. But, it would make little difference whether they submit their works to publishing houses supported by local or foreign research institutes and learned societies insofar as such works continue to be indexed in services known and used internationally.

In the light of discussion presented in this part of the study, it would be necessary to re-examine the hypothesis upon which it was based. The graphical analysis of indexing from 1901 through 1970 shows that indexing is generally keeping pace with the increasing volume of

publications. Four services: African Abstracts, Index to Theses Accepted for Higher Degrees in the Universities of Great Britain and Ireland, Meteorological and Geoastrophysical Abstracts, and New Geographical Literature and Maps started publishing in the early 1950s when Nigeria's geographical literature was increasing rapidly; Geographical Abstracts came in in the mid 1960s when the peak of productivity was reached. The suggestion is made, therefore, that the forces producing more publications may also be responsible for more indexing effort since it is self-evident that indexing would not have been able to keep pace with the increased volume of publications without the combined contributions of these five services. A tabular analysis of the second part of the hypothesis suggests that considerable variations do occur in indexing and abstracting coverage according to form, publisher, and particularly according to place of publication. It is found that whenever research institutes and learned societies are the publishers of the literature, no considerable variation exists in indexing coverage according to publishers.

4.6 DUPLICATION, CONSISTENCY, AND EXAUSTIVITY OF INDEXING COVERAGE

More than half, 53 percent, of all indexed publications are indexed twice or more (see Tables IX and X). The figure reported here compares with that of Martyn (1967) who, in a study of the extent of coverage, overlap, and indexing of eight science and technology bibliographies in selected English-language abstracting journals, reported the following figures:

Total references	3,093
Not covered	647 (21%)
Covered once only	828 (27%)
Covered more than once	1,618 (52%)

Having made due allowance for the limitation of his choice of abstracts journals and bibliographies, Martyn concluded that:

> it remains true that in general, about a fifth of such literature as a bibliographer deems worthy of mention is not covered at all by abstracting and indexing services, and about half of all literature is covered more than once (p.46).

Occasionally, by error, a publication is indexed more than once by the same service. Unfortunate though this waste of effort may be, it is not a factor of great weight and such errors are not counted in the report of duplication. The more common type of duplication is a publication that is indexed by two or more services. Previous investigators like Martyn (1967) in his study of indexing coverage for certain science and technology subjects, and Subramanian (1967) who studied the specificity and exhaustivity of indexing coverage for the literature of magnetic resonance, have also reported this kind of duplication. It occurs typically in connection with articles appearing in the more prestigious journals and books published by universities and learned societies.

Presented here is a picture of what is called 'coupling rates'* among individual services. Although no rigorous statistical analysis is attempted, it soon becomes clear that certain bibliographic services

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* 'coupling rates' is defined as the frequency with which two or more indexing/abstracting services index the same publications.

are almost always found together to be indexing the 354 publications that are indexed twice or more. Coupled services in descending order of frequency are:

(1) CGP + BGI
(2) CGP + BGI + GA
(3) CGP + BGI + NGLM
(4) NGLM + AA
(5) NGLM + GA

CGP : Current Geographical Publications (10x a year)

BGI : Bibliographic Géographique Internationale (Annual)

NGLM: New Geographical Literature and Maps (2x a year)

AA : African Abstracts (Bimonthly)

GA : Geographical Abstracts (Bimonthly)

Knowledge of their frequencies of publication alone enables one to guess fairly accurately what service in each group may be depending on which for its material. For example, in the first group, Bibliographic Géographique Internationale, published annually, would be expected (as it does) to derive a substantial proportion of its entries from Current Geographical Publications, published ten times a year. In the second group, Geographical Abstracts, published six times a year, derives a good deal of its material from Current Geographical Publications, while Bibliographie Géographie Internationale in turn derives a few more from Geographical Abstracts. Generally, this has been the pattern of association as observed in all of the bibliographic services selected for this study. On this basis, a librarian may have a rough yardstick for

selecting his most useful indexing and abstracting services and still keep well within his budget. Most librarians will, of course, need to consider also how much of the literature a service is covering, how regularly the service is published, and how comprehensive and consistent its indexes are.

Consistency of Indexing

In order for an indexing service to be most useful, it ought to cover publications within its policy and scope consistently and regularly, year by year. Only in that way can the user of such a service be assured that he is indeed being kept abreast of the literature that a service purports to cover. Important changes should be promptly reported by a service to its users. An examination of Appendix A, however, shows how far from this ideal are the various bibliographic services. All too often, only one or two editions out of as many as six editions of a book are indexed [596-598; 1354-58; 1361-67; 1368-71]. For series as important as Soil Survey Bulletin, Bulletin of the Geological Survey of Nigeria, and the publications of the Netherlands Engineering Consultants (NEDECO) concerning the Niger and Benue rivers, only a few numbers are indexed, apparently almost at random. [722-727]. Journals that appear regularly in parts are indexed erratically, with the result that a service may cover certain parts during one year and quite different parts the next year [compare 81 with 70-82].

These inconsistent and erratic results sometimes arise from well-known causes. Current Geographical Publications and New Geographical Literature and Maps index only materials that come to hand in their parent libraries. African Abstracts is known for its constant revision of its policies of selecting journals to be included. Even services that claim to be comprehensive and consistent, however, such as Geographical Abstracts and Bibliographie Géographique Internationale, achieve results that are little better.

Exhaustivity of Indexing.

Adding to the problem of coverage is the highly selective nature of the indexing to be found in most services. Even when a service purports to index a particular journal, it usually provides references only to the principal articles appearing there. No service was found to index letters to the editor, announcements of lectures and meetings, other items of current news, or abstracts of papers read at conferences. Only Bibliographie Géographique Internationale indexed book reviews. Of particular importance for Nigerian geographical literature is the omission of any indexing for "Teachers' Notes" and the "Landscape Examples from Nigeria" parts of Nigerian Geographical Journal. The failure to provide references to any of these valuable sources of information may well reflect necessary economic or management decisions, but users of bibliographic services should beware that they are receiving only highly selective coverage even of the journals that the services claim to index.

4.7 COVERAGE BY INDIVIDUAL BIBLIOGRAPHIC SERVICES

Table XI illustrates the distribution of indexed publications among nine indexing and abstracting services. As regards exclusiveness of indexing coverage alone, it is evident that Current Geographical Publications, African Abstracts, Meteorological and Geoastrophysical Abstracts, and Theses and Dissertations Accepted for Higher Degrees in Nigerian Universities are the services that would be expected to index most of Nigeria's geographical literature that are not covered by other indexing and abstracting services. The percentage of publications exclusively indexed by each of these four services ranges from 32 percent for Current Geographical Publications to 100 percent for Theses and Dissertations Accepted for Higher Degrees in Nigerian Universities in contrast to the other five services whose percentage of exclusive indexing coverage ranges from only 8 percent for New Geographical Literature and Maps to 30 percent for Index to Theses Accepted for Higher Degrees in the Universities of Great Britain and Ireland.

It is important to bear in mind that the scope of these services varies enormously. Current Geographical Publications aims at covering all subdivisions of geography and all forms of geographical literature except theses while African Abstracts, Meteorological and Geoastrophysical Abstracts, and Theses and Dissertations Accepted for Higher Degrees in Nigerian Universities cover human geography, climatology, and Nigerian dissertations literatures respectively. The extent to which Bibliographie Géographique Internationale, New Geographical Literature and Maps, and

TABLE XI■: PUBLICATIONS INDEXED BY NINE BIBLIOGRAPHIC SERVICES BY NUMBER OF SERVICES INDEXING EACH PUBLICATION

Service	No. of Times Indexed* 1	2	3	4	5	TOTALS
Current Geographical Publications	140	138	101	50	11	440
Bibliographie Géographique Internationale	51	83	78	46	10	268
New Geographical Literature & Maps	16	47	73	51	11	198
Geographical Abstracts	25	32	37	30	11	135
African Abstracts	45	37	19	27	6	127
United Kingdom Publications and Theses on Africa	12	22	6	4	6	50
Index to Theses Accepted for Higher Degrees in the Universities of Great Britain and Ireland	7	16	-	-	-	23
Meteorological & Geoastrophysical Abstracts	14	2	4	2	-	22
Theses and Dissertations Accepted for Higher Degrees in Nigerian Universities	7	-	-	-	-	7
TOTALS	317	377	318	210	55	
PERCENT OF TOTAL(T)**	47.4	56.4	47.4	31.4	8.2	

* 1 = Indexed exclusively
2 = Indexed with 1 other service
3 = Indexed with 2 other services
4 = Indexed with 3 other services
5 = Indexed with 4 other services

**(T) = 668 = Total number of publications indexed.

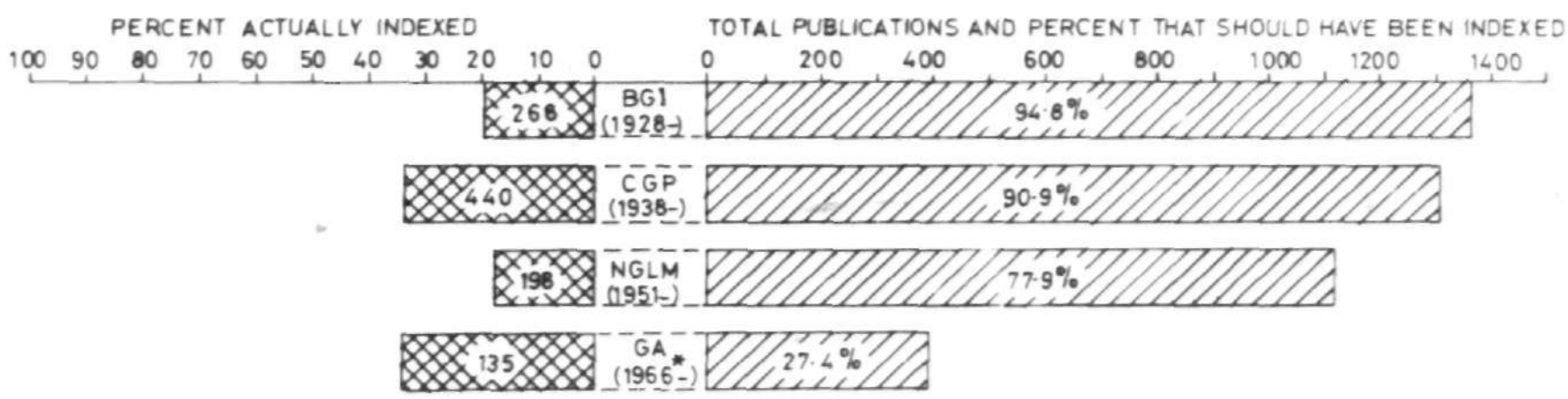
Geographical Abstracts are dependent on Current Geographical Publications for their material is reflected in the third to sixth vertical columns in Table XI■; this corroborates our earlier observation on the coupling rates of these services. Thus, if it were the objective to select bibliographic services that would index most of Nigeria's geographical literature not likely to be indexed anywhere else, the choice would almost certainly have to include Current Geographical Publications, African Abstracts, Meteorological and Geoastrophysical Abstracts, and Theses and Dissertations Accepted for Higher Degrees in Nigerian Universities; complete bibliographic control of the literature would involve scanning at least each of the nine services.

A librarian may wish to know which bibliographic service is covering the literature of a subject most comprehensively. Put in the context of this study, a librarian may wish to know how much taking out a subscription for a particular bibliographic service would contribute to helping a researcher who wanted to be kept aware of geographical literature concerning Nigeria. Of the 1441 publications identified as having been published between 1901 and 1970, 668 were found to have been indexed at least once. As shown in Table XI■, Current Geographical Publications contributed 440 index entries, Bibliographie Géographie Internationale contributed 268, New Geographical Literature and Maps 198, Geographical Abstracts 135, African Abstracts 127, and all other services each contributed 50 or fewer. These findings, however, do not necessarily indicate the quality of the services or their ranking as current bibliographic tools on a regular basis. Among the other factors that must be taken into consideration

are the total number of years a service has been in operation, and the total number of publications and theses that were available and therefore were appropriate for a particular service to index within its defined scope. In Fig. [redacted], the contribution of four services that cover all aspects of geographical literature is related to the number of years that each service has been published; it is a matter of sheer coincidence that two are indexing and two are abstracting services. Bibliographie Géographique Internationale actually started publishing in 1891 and as such should have been expected to cover 100 percent of the publications analyzed for this study. The year 1928 was chosen because that was when it began, for the first time, to cover "geographical publications throughout the world." (Preface to the 1928 edition). On this basis, Geographical Abstracts, with 34 percent, ranks first in total indexing coverage of publications that were available during its period of operation. Current Geographical Publications ranks a very close second with a score of 33.5 percent; that is, it indexed 33.5 percent of all publications made available to it for indexing during its period of operation. Bibliographie Géographie International and New Geographical Literature and Maps are third and fourth with scores of 19.5 percent and 18 percent respectively.

Thus, in terms of comprehensiveness of coverage, Geographical Abstracts and Current Geographical Publications are the leading abstracting and indexing services for the geographical literature concerning Nigeria. It is perhaps no coincidence that these two are the most frequently published of the nine services. In order to cover theses and dissertations as well, United Kingdom Publications and Theses on Africa and Theses and

Fig. 13 COVERAGE OF TOTAL PUBLICATIONS BY GENERAL SERVICES



* One of its four parts started publishing in 1960

BGI Bibliographie Géographique Internationale

CGP Current Geographical Publications

NGLM New Geographical Literature & Maps

GA Geographical Abstracts (Parts A, B, C & D)

Dissertations Accepted for Higher Degrees in Nigerian Universities will have to be added. The climatologist would almost certainly add Meteorological and Geoastrophysical Abstracts to this list. African Abstracts will probably be added for the specialist in human geography or aspects of it. By arranging entries under regions, subdivided by individual countries, African Abstracts has an edge over the equivalent human geography parts of Geographical Abstracts.

Finally, it is necessary to caution that our findings relating to indexing coverage by form, publisher, and place of publication are regarded as more reliable than those about individual indexing and abstracting services because of the changing policies of individual bibliographic services. Indexing coverage for a given period of time for any given service may change radically in future years if the policies and organization of the service change. In this study, it was observed that these kinds of changes have in fact occurred in respect of Bibliographie Géographique Internationale and Geographical Abstracts. The conclusions for individual services cannot, therefore, be generalized for succeeding years unless the policies and organizations remain as they were when the analysis was done.

4.8 SUMMARY OF CONCLUSIONS

The major conclusions of analyses presented in Chapter Four may be summarized as follows:

(1) Although less than half (46.4 percent) of geographical literature on Nigeria is indexed, indexing coverage appears to be keeping pace, generally, with the growth of the literature.

(2) There are substantial differences in indexing coverage among forms of publications, among publishers, and particularly among places of publication. The forms with the highest indexing coverage are the research and professional journal articles, theses, and books; the forms with the lowest indexing coverage are proceedings of conferences, informational and trade material, and student journal articles. The publishers with the highest indexing coverage are colleges and universities, foreign commercial publishers, and foreign governments and their agencies. Except for research institutes and learned societies, all publishers located outside Nigeria (or Africa), have their publications indexed to a much greater extent than similar publishers operating in Nigeria.

(3) There is considerable duplication of coverage among the nine indexing and abstracting services selected. More than half (53 percent) of all indexed publications are indexed at least twice and some as many as five times each.

(4) Bibliographic services appear to follow a pragmatic approach in their selection of items rather than a consistent programme of indexing. Indexing and abstracting services may be highly selective in coverage and do not, generally, include book reviews, review articles, abstracts of unpublished conference papers, and news items. Some important and regular features of journals are also unindexed.

(5) Comprehensive coverage of Nigeria's geographical literature must include Geographical Abstracts and Current Geographical Publications, the two most comprehensive abstracting and indexing services respectively. In order to cover all forms of geographical literature, United Kingdon

Publications and Theses on Africa, Theses and Dissertations Accepted for Higher Degrees in Nigerian Universities, and possibly African Abstracts will have to be added. The user of these services must, however, keep in mind that he is being provided access only to the principal articles in the journals indexed.

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CHAPTER FIVE

TRENDS IN NIGERIA'S GEOGRAPHICAL LITERATURE

> If literature furnishes us with the best mirror of the human mind, then the changes in the intellectual attitude of mankind at different periods are best studied in its literary counterpart. (Wyndhan Hulme. Statistical Bibliography in Relation to the Growth of Modern Civilization, 1923).

Since Hulme's (1923) pioneering study showed how the growth of scientific literatures and the growth of modern civilization are closely related, many investigators have explored this kind of relationship by analyzing the literatures of other subjects. For example, McCarthy (1940) examined developments in higher education and the subject matter of non-fiction books reviewed between 1880 and 1890 as a measure of the cultural and intellectual climate of the decade in the United States of America. His study, based on literature search and analysis of book reviews appearing in five periodicals, showed that the content and subject distribution of the reviews closely reflected the intellectual character of the 1880s. Similar studies by Maddox (1958) and Parker (1960) have been carried out in the fields of history and library science respectively.

Hulme's concept of the function of bibliometrics goes beyond what has been achieved either by himself or by later investigators. As he put it:

> ... statistical treatment [of subject literature] must show the existence of phases of activity and retardation in each science and might even indicate approximately the period when its ultimate boundaries would be reached (Hulme 1923, p.30).

In other words, appropriate statistical analysis of the literature of a subject should produce results that enable one to predict what the trend of the literature would be up to the points of maximum growth and ultimate decline. The limited scope of data used for this study precludes such detailed consideration here. Discussion of trends in this chapter touches some aspects of Hulme's concept and makes a general observation on the relationship between Nigeria's geographical literature and Nigeria's socio-economic growth.

5.1 METHODOLOGY OF GEOGRAPHICAL RESEARCH

Geographers have clearly distinguished themselves as prolific map makers and users; they seem to depend more on the language of the map than any other group of researchers for the presentation of their investigations. James (1934) sums up the situation when he declares:

> the most important contributions of geography to the world's knowledge have come from the application of the technique of map distributions, and of comparing and generalizing the patterns of distribution. (James 1934, p.85).

But, the methodology of any discipline is constantly being reviewed in response to stimuli from within and from outside the discipline. Probably the most important influence on methodological change for most disciplines in recent years has been mathematics, particularly as applied through the power of the computer. To be sure, mathematical geography

has been a recognized subdivision of geography for a considerable period of time but, probably never before has the mathematization of geographic methodology been as widespread as it is now. As in many subjects, geography now has its adherents to 'old geography' (using the language of maps generally), and to 'new geography' (using mathematical and statistical techniques) with one 'school' passing sometimes disparaging remarks about the other (Steel 1970).

Nigeria's geographical literature shares something of this trend. No one so far has analyzed this trend statistically for Nigeria as Stallings (1971) did for the literature of certain American geographical periodicals. Stallings' approach is limited by its inability to control three important variables: (a) the propensity of some individual authors to use more maps than others; (b) the subdivision of geography on which one is writing. For example, the geomorphologist may be expected to include more illustrations in his works than the theoretical geographer; and (c) the editorial policy of a journal or publishing house as regards what maximun number of illustrations are acceptable for any one publication. Cost considerations may be the crucial factor here. Thus, conclusions reached by using Stallings' approach may only be generalizeable for individual journals and publishers. This part of the present study illustrates trends by citing a few examples of what appear to be at least representative of the 'new school' of geographic methodology.

For a long time the physical geographers, possibly because of their close association with the physical and biological sciences, have been using mathematical and experimental techniques. In climatology, Garnier's [508-512, 514, 517] experiments on evapotranspiration, Davies' [504-507] calculations of solar radiation and evaporation estimates, Ojo's [547-549] calculations of energy and precipitation distributions, and Oguntoyinbo's [545-546] measurements of albedo over different agricultural surfaces may be cited as employing more or less traditional techniques. Similarly, the use of mathematical techniques in geomorphological investigations is not new although the pace may well have accelerated in recent years. In Nigeria's geographical literature one may cite Wigwe's [473] study of drainage basins, Usoroh's [472] calculation of the rate of headward and gully erosion, and Ologe's [440] detailed statistical analysis of morphogenetic characteristics of gully erosion in the Zaria area.

Perhaps the most remarkable development in geographic methodology in recent years has been the application of sophisticated statistical techniques to geographic analyses of human problems (Gould 1969). As Gould (1969) and Kohn (1970) demonstrate, the advent of the computer has been solely responsible for this development. To quote from Gould's later work on the same theme:

> In the last ten years, the electronic computer has changed the nature of a fundamental discipline whose historical roots go back more than two millenia... Dealing with the almost numbing complexity of patterns, structures, and processes of human spatial behaviour, the geographer today can investigate whole realms of intellectual endeavour that were formerly closed by sheer intractability of multivariate problems and the

> huge quantities of information that had to be handled... In many areas of human geographic research it is extremely difficult to measure such common, everyday notions as socio-economic health, modernization and accessibility—facts that appear quite simple until one is faced with the problem of trying to pin them down with a ruler. Often a large number of variables must be brought into the analysis, none of which are conceptually or mathematically independent of the others... The impact of the computer is not confined to the revitalization of classical questions. New problem areas, whose geographic pertinence was never suspected before, have been opened by statistical insight that is now feasible precisely because it is computable (Gould 1970, p.53-55).

In Nigeria, the leading exponent of the potentialities of the computer in human geography is Professor Mabogunje who in a recent paper [1180] quoted Ptolemy's statement that "He who would be a geographer, let him first be a mathematician." Discussion of statistical applications to analyses of human problems in Nigerian geography owe almost everything to Mabogunje's contributions ranging from difficult factoral analysis of urban structures [1186] to the development of models for urban growth generally [1180]. There have, of course, been other workers too, such as Abiodun's [244 and 1110] quantitative studies of urban hierarchies, Eighmy's [838] theoretical approach to the study of modernization process in Western Nigeria, Hay's [1080-81] works in locational and network analyses, and High's [73] demonstration of the use of hardware models for teaching human geography. All give the impression of increasing use of statistical techniques in human geographic writings on Nigeria.

Certain Nigerian geographers have been as vigorous as those in any other country in expressing skepticism about what geography stands to gain from the approach that 'new geography' advocates and uses.

Crist's (1969) often - cited rejoinder to Gould's stout defence of the new methodological approach came after Floyd's (1966 and 1967) passionate condemnation of what he called "the mathematizers of our subject." It may be worthy of note that Floyd's tone has not re-echoed in subsequent Nigerian geographical literature. But, perhaps a sure sign that Floyd's position was by no means an isolated one was Barbour's [1125] complaint that a certain section of Mabogunje's 1968 work [1186] contains too few maps and too much statistics. From all indications, however, it does appear that the new trend will continue and perhaps even be reinforced. Most Nigerian universities make mathematics, at least at the Ordinary Level, compulsory for potential Honours students in geography. This requirement would seem to reflect recognition of the need for a basic knowledge of mathematical logic for future geographers.

Another manifest trend in geographic methodology is to de-emphasize the traditional dichotomy between the physical and human parts of regional geographic writings. Dissatisfaction with this dichotomy has been voiced for a long time. For example, Preston James (1954) declared:

> The various kinds of duality which have been popular in the past, such as regional as opposed to topical geography, or physical as opposed to human geography, seem to have obscured rather than illuminated the true nature of the discipline. The latter kind of separation between the physical and human aspects continues to hinder the full and balanced development of geography, for it persists in textbooks, in academic organization, and also in the research agencies of government and in the organization of the research councils... Such a division is intolerable for geographers, for they must deal with man as well as that which is not man (now commonly defined as nature), and the two are intimately intermixed wherever man has been on the earth. (James 1954, p.15).

Such declarations have generally gone unheeded until quite recently when regional geographers started to do something about the problem. In this study, Udo's [144] textbook is the typical example of the type of harmony that James and subsequent writers were advocating. Basically, Udo's work updates information contained in the Buchanan - Pugh [136] standard textbook on the geography of Nigeria. The striking feature of Udo's book, however, is the clear departure of its method from the stereotyped regional geographic description and analysis against a 'physical background' that normally claims the first chapter or two of such a work. Both the physical and human aspects of the subject are discussed together and are demonstrated to be so closely interrelated that their traditional separation is made to look artificial.

Shortly before Udo's book was published, West Africa by Morgan and Pugh [140] had appeared. Pollock's (1969) review of the work maintained that the authors had essentially failed in their attempt to weld together the physical and human aspects of their subject.

In a country of comparatively low book production such as Nigeria, these two examples are the only first edition textbooks published on the geography of Nigeria since the new trend in regional geographical writings became noticeable. Although new editions of older works may not be expected to reflect this trend, it remains to be seen whether Udo's example will be followed by subsequent contributors to Nigeria's regional geography.

5.2 PROSPECTS OF PHYSICAL & HUMAN GEOGRAPHY

In Chapter Two, it was shown that Nigeria's geographical literature is heavily concentrated on the human aspects of the discipline. Here, we shall examine a possible explanation for this situation as a basis for predicting trends in these two traditional parts of geography.

This concentration of the literature upon human geography is shown in Table XII to characterize the academic staff in Nigerian universities. A number of writers have commented upon this tendency. Two consecutive editorials in The University Geographer (1966 and 1967) made strong pleas to contributors to widen the scope of their topics "in order to cover not only the human and economic aspects but also the physical fields of geography." Usoroh [47], reviewing the literature for his thesis, observed that most of the published and unpublished works on the geography of Nigeria during the 1953-68 period deal with human geography. In particular, he reckoned that of a total of 17 masters and doctoral theses and dissertations on the geography of Nigeria submitted by 1968, only three dealt with physical geography. A more comprehensive review of this pattern of concentration has been done by Afolabi Ojo [99] in his Presidential Address to the 1964 Annual Conference of the Nigerian Geographical Association entitled: The Immediate Future of Geography in Nigeria - the Relative Prospects of Physical and Human Geography. Analyzing only publications appearing in Nigerian Geographical Journal, Ojo concluded that "most of the geographical research so far undertaken in the country is in the human branches"—a conclusion supported by the findings reported in Chapter Two of this study.

TABLE XII: GEOGRAPHY ACADEMIC STAFF* IN NIGERIAN UNIVERSITIES ACCORDING TO SPECIALIZATION IN HUMAN & PHYSICAL GEOGRAPHY

	HUMAN GEOGRAPHY		PHYSICAL GEOGRAPHY		T O T A L S	
University	1948-1970	1970	1948-1970	1970	1948-1970	1970
Ahmadu Bello	7	4	4	2	11	6
Ibadan	26	7	12	3	38	10
Ife	10	6	3	2	13	8
Lagos	6	5	2	2	8	7
Nsukka**	8	...	3	...	11	...
T O T A L S	57	22	24	9	81	31
PERCENTAGE	70.0	71.0	30.0	29.0	100.0	100.0

*Includes visiting and part-time lecturers

**Closed during 1968-70 sessions

...Figures not available

Sources : University Calendars and personal communication

It is perhaps not too difficult to see why the present bias for human geography may have arisen. It will be recalled that Table I in Chapter Two shows that there are 20 subdivisions of human geography as compared with 14 in the physcial parts. Thus, because more topics are available in human than in physical geography, it is at least reasonable to expect that more investigators may be required to handle human geographical topics than physical ones. Table XIV suggests that this is the case, at least among university teachers in Nigeria. Hence, the second

explanation for this bias may derive largely from the first: there are more workers in human than in physical geography. For even if it were desirable to increase the number of physical geographers, one could only do so up to a certain point relative to the number that would be required to investigate topics in human geography.

Table XII illustrates the distribution of physical and human geographers in Nigeria by classifying professional geographers in Nigerian universities according to their specialization in the physical or human aspectes of geography. It must be borne in mind that the table is not fully representative of all workers in the two branches because it excludes two important categories of contributors to Nigerian geographical literature: (a) workers in Nigerian and foreign research institutions and learned societies; (b) academic staff in geography departments outside Nigeria, except the few who come on short tours as visiting lecturers, and academic staff in non-geography departments both inside and outside Nigeria. Yet, the ratio of 2:1 of human to physical geographers is still a useful guide and one would probably not expect any radical departure from this pattern even if all categories of potential contributors to the geography of Nigeria were included. The ratio is also interesting because it is exactly the same as that reported for the distribution of publications between physical and human geography. It appears reasonable then to suppose that there is some relationship between the number of writers in the physical and human parts of geography and the number of contributions they make to the literature of the subject.

Will the present situation of bias towards human geography continue? Ojo's observation that students who combine geography with subjects in the biological and physical sciences at both secondary and university levels are likely to end up specializing in some physical aspects of the subject appears reasonable, But, he adds:

> For some time to come more students will be reading geography combined with subjects in the humanities than those doing so within the sciences (social sciences excluded).

And then he concludes that as a result of this tendency:

> the content of our geography course [at university level] and the type of researches may tilt appreciably towards the human rather than the physical side of geography [99, p.6].

The inference is that those who combine geography with subjects in the humanities cannot be expected to specialize in the physical aspects of geography. If this were the case then one would have a rather simple and reliable basis for predicting the future trends of physical and human geography not only in Nigeria but in any part of the world where the basic knowledge suggested by Ojo is available.

In order to test Ojo's implied hypothesis, the simple questionnaire shown in Appendix F was sent to eleven physical geographers known to be resident in Nigerian universities at the end of 1970. Seven responded and analysis of their answers is presented in Table XIII. As Ojo's hypothesis suggests, three of the respondents (D, F, and G) combined science subjects with geography and became physical geographers but, on the other hand, the other four respondents, none of whom had pursued science subjects at any level in combination with geography, also became

physical geographers. Small though this sample is, it suggests strongly that no particular pattern of subject combination with geography can be identified as a predictor of later specialization in geography. Except for English language, which is compulsory, only mathematics was found to be invariably combined with geography at the Ordinary Level and no subject other than geography was common to all at higher levels. The evidence does not support all of Ojo's hypothesis.

Even if it were possible to predict with a fair degree of certainty the ultimate specialization of geographers from their previous patterns of education, there would be no guarantee that the literature would precisely reflect the nature of the specialization. It is possible to cite a number of examples of geographers of one specialty who write outside their customary field. De Blij (1959) whose doctoral dissertation was in geomorphology, has since written four textbooks in the areas of regional, urban, and political geography, one of which is part of data in Appendix A [1372]. Faniran [929] also a geomorphologist, has written at least one important article on economic geography, as has Oguntoyinbo [855], who is a climatologist.

In sum, the only sound basis now known for predicting the future trends in human and physical geographical literature concerning Nigeria is the past tendency for human geographers to outnumber physical geographers. The pattern of the geographical literature seems likely to continue to reflect similar proportions, as it has been in the past.

TABLE XIII: SUBJECTS STUDIED UP TO UNIVERSITY LEVEL BY NIGERIAN PHYSICAL GEOGRAPHY LECTURERS

Respondent	Ordinary Level Subjects	Advanced Level Subjects	University Subjects	University Major	Masters Degree	Doctoral Degree	Specialty (as of 1970)
A	1,2,3,4,5,6,7,8	1,3,4,5	1,3,4,12	1	a	a	a
B	1,2,3,4,5,8,12	1,3,4,14	1	1	-	a	a
C	1,2,3,4,5,8,14	1,3,13	1,3	1	b	b	b
D	1,2,3,5,9,11,15	1,2,15	1,2,15	1,2	b	b	b
E	1,2,3,4,5,6,8	1,3,4	1,3,10	1	-	b	b
F	1,2,3,4,5,6,8,9	1,2,16	1,16	1	c	c	c
G	1,2,3,4,5,9,10,17	1,10,3,16,18	1,10,13	1,13	-	a	d

KEY

Subjects

1 : Geography

2 : Mathematics

3 : History

4 : English Literature

5 : English Language

6 : Religious Knowledge

7 : Health Science

Areas of Specialization

a : Geomorphology

b : Climatology

c : Biogeography

d : Hydrography, Environment, Resources

Table XIII (cont'd.)

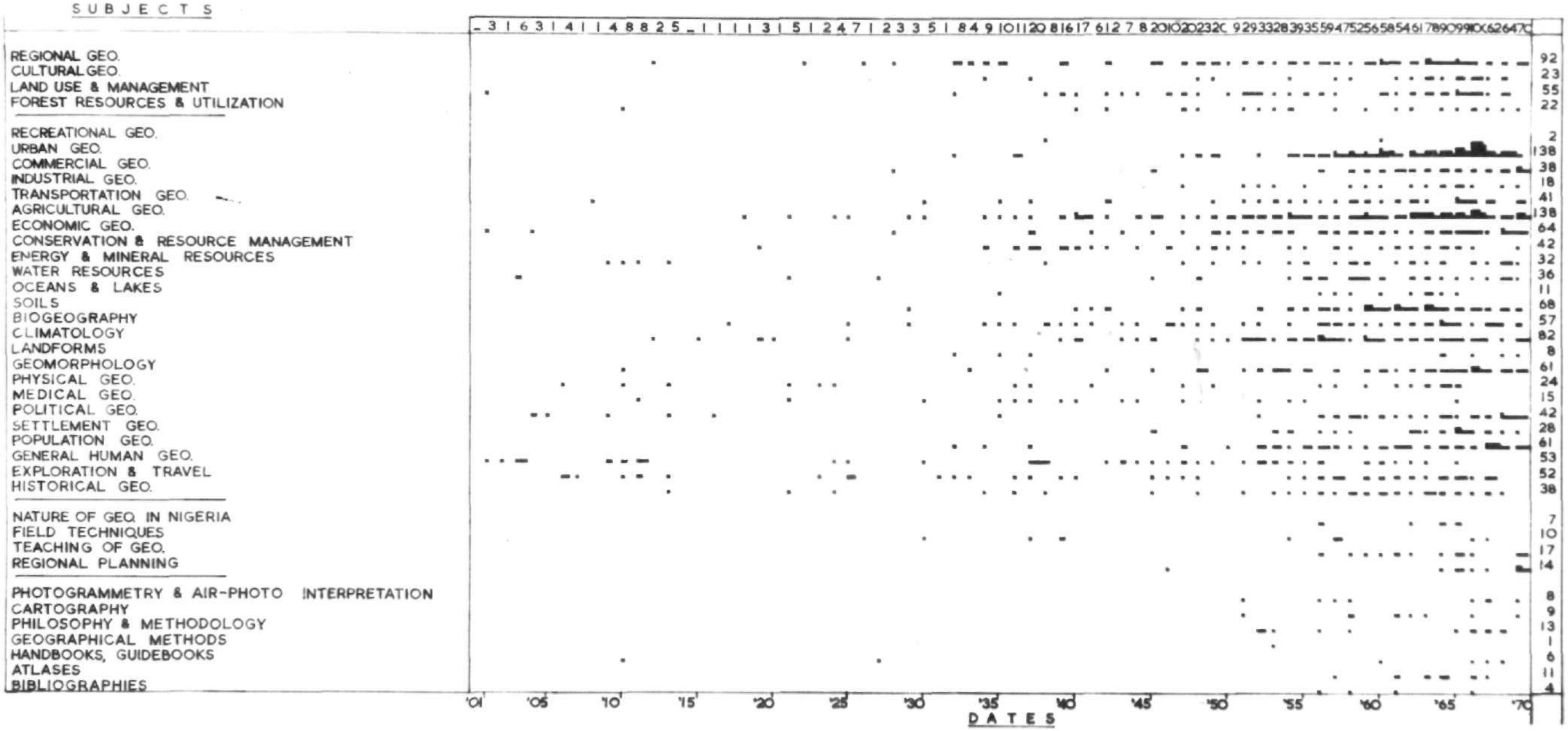
8	:	Yoruba
9	:	Biology
10	:	Geology
11	:	Physics
12	:	French
13	:	Economics
14	:	British Constitution
15	:	Latin
16	:	Botany
17	:	Spanish
18	:	Zoology

5.3 TRENDS IN SUBDIVISIONS OF GEOGRAPHY

As shown in Fig. 14, geographical publications concerning Nigeria have changed over the years in their degree of attention to particular subdivisions. Each square represents one publication, showing its year of publication and its subject matter, employing, in inverse order, the subject subdivisions used in Appendix A to classify the entries in the annotated bibliography of 1,441 publications that form the major data base of this study. Those subdivisions in the original classification schedule that are not represented in the literature analyzed for this study are shown by three horizontal dashes and are also discussed below.

14
FIG.

TIME-PERIOD / SUBJECT DISTRIBUTION



Four major aspects of Fig. 14 may be summarized as follows:

(a) the comparatively recent development of certain subdivisions,

(b) the decline of other subdivisions,

(c) subdivisions in the original classification schedule that have no publications on them in the present study, and

(d) the trend towards specialization within the discipline.

Each of these facets will now be taken in turn.

(a) Comparatively Recent Development of Certain Subdivisions.

In this category are to be found all the reference sources: bibliographies, atlases, and handbooks; the philosophical and methodological subdivisions: geographical methods generally, philosophy and methodology, cartography, photogrammetry and air-photo interpretation, and field techniques generally; regional planning; the teaching of geography in Nigeria; and the nature of geography in Nigeria.

It has been shown that as a subject builds up its body of descriptive and analytical literature it begins to concern itself more and more with philosophical and methodological problems (Price 1961). The recency of the philosophical and methodological subdivisions here may thus indicate that geography is coming of age in Nigeria after more than twenty years as a university subject. The one exception in this category is photogrammetry and air-photo interpretation which is a new subdivision of geography anywhere in the world. It does follow that until both types of literatures, that is, methodological and descriptive/analytical, have accumulated up to a certain point, bibliographic access tools may not be required. The implications of this situation for librarians are discussed in Chapter Six (6.3).

begin to specialize in this area. It is pertinent to note that although cultural geography is not yet taught as a separate course in Nigerian universities, it is steadily building up a body of knowledge largely as a result of the initiative and dedication of Afolabi Ojo. All the entries on medical geography in this study were contributed by entomologists and medical officers whose primary objectives were clearly not geographical. Less dramatic but by no means less significant is the case of conservation and resource management on which pre-1957 and post-1957 entries number 25 and 16 respectively. However, the decline in this area is more apparent than real as many of the entries under soils, biogeography, geomorphology, agricultural geography, and land-use and management have considerable conservational aspects although their primary purpose has not been such. This may suggest that the nature, and possibly the methodology, of this aspect of geography has been experiencing significant shift in emphasis in recent years.

(c) Subdivisions With No Publications on Them: Fig. 14 also shows up those subdivisions of geography in the original classification scheme that have no publications on them at all in the present study. From the bottom of the Figure, the three long dashes represent statistical methods, biography, and military geography respectively. As was noted above, statistical methods are used in the analyses of a considerable number of publications scanned for this study and have been classified under such topics; studies in statistical methods in geography per se without reference to Nigeria will, of course, be excluded from this study. Nigeria's geographical literature is therefore not lacking in statistical methodology.

Although several entries in Appendix A are motivated by, or based on, war situations [351, 856, 1187], none of them qualifies to be classified as military geography in the sense of studies aimed at explaining the geographical factors in the planning and operations of wars (like, for example, Chisholm 1916, Peel 1941, and Davies 1946). Documents on the Nigerian civil war that would permit serious studies on military geography will probably not be made available to all researchers for some time yet. As such sources are declassified, corresponding literatures in geography and in other subjects may begin to build up.

Recreational geography, with only two publications during the period, also fits into this category. Again, this seems to be an area of specialization where Nigerian geographers have taken little interest. This contrasts very sharply with the situation in developed countries where society's increasing concern with the safe and beneficial utilization of leisure has turned more and more geographers to this area too (Kohn 1970).

(d) The Trend Towards Specialization Within the Subject is evident from Fig. 14. Generally, broader subjects are discussed less and less in the literature while their subfields witness substantial growth. Journal articles on regional geography featured very prominently in the early years of the study period, but they ceased entirely by the early 1950s, their places having been taken by topics dealing with aspects of the region. And although regional textbooks on the geography of Nigeria continue to be written, it appears to be at a somewhat slower rate than before.

Publications on general physical geography display a marked decline while those on its subfields: geomorphology, landforms, climatology, biogeography, and soils show rapid growth. In a similar fashion, studies on the human geography of Nigeria have continued to decrease over the years while its subdivisions: population geography, settlement geography, political geography, and particularly urban geography, have continued to grow rapidly.

This phenomenon has been observed before by Cleef (1964) who suggested that the increasing application of statistical methods has made possible this kind of increasing specialization. Stallings' (1971) results of a content analysis of the five leading geographical journals published in the United States corroborate Cleef's observation. Stallings also agreed with Cleef's explanation as to how the situation may have developed. It could mean then that the feature reported in this study has more than local significance and might lend support to reports of a world-wide trend towards increasing specialization within all established disciplines.

Contrary to this development, studies in economic geography have continued to grow side by side with studies in its subdivisions such as agricultural, transportation, industrial, and commercial, geography. This observation again corroborates Stallings' findings. It suggests that economic geography will hold its own as a legitimate field of specialization for some time yet, and the current revolution in cartography and air-photo interpretation techniques will probably enhance rather than reduce this trend. Just why economic geography alone of the major subdivisions of geography should display this characteristic is not altogether clear.

5.4 THE LITERATURE AND SOCIO-ECONOMIC GROWTH

In this section, an attempt is made to estimate, interpret,and evaluate relationships between indicators of socio-economic growth in Nigeria and the geographical literature on Nigeria. It is hypothesized that there is a positive and statistically significant relationship between the geographical literature on Nigeria and the country's socio-economic development. Having established in previous chapters that Nigeria's geographical literature is indeed growing, two further points remain to be demonstrated:

(a) that Nigeria is experiencing socio-economic growth, and

(b) that this growth is similar to the growth pattern of the geographical literature.

The relationships whose parameters are to be estimated are formulated in the form of correlation coefficients. The rationale derives from the discussion in Chapter Two to the effect that the subject matter of Nigeria's geographical literature has become ever more deeply involved in the social, political, and economic life of Nigeria. In particular, it was demonstrated that the geographical literature on Nigeria is very strong on the economic aspects. It would be expected, therefore, that the relationship between measures of economic development and the literature will also be strong. Similarly, one might expect some relationship between enrolments at various levels of Nigeria's educational institutions and the literature, especially at the university level which probably gives the nearest indication of geographical

productivity in the future. Correlation coefficient is represented by the formula:

$$r = \frac{\Sigma(x - \bar{x})(y - \bar{y})}{(n-1)S_x S_y}$$

where

x = The geographical literature variable

y = Each indicator of socio-economic growth

Sx = Standard deviation of x

Sy = Standard deviation of y

n = number of observations (= 20).

Measures of Nigeria's Socio-Economic Growth

Social scientists agree that certain indicators of socio-economic development are more reliable, in the sense that they are more measurable, than others. In deciding what indicators of socio-economic growth are best suited to this study, four considerations have influenced the choice of criteria used. These considerations are: the consensus of published works on the topic of correlations of socio-economic variables with other parameters; the need to use reasonably reliable data; the nature of the present study, particularly its areal limitation and time span; and the completeness and reliability of Nigeria's statistical records. Criteria for selecting indicators of socio-economic growth are as follows: (a) The indicators are limited to the 'hard', quantifiable ones (that is, those indicators constituting

the "economic development cluster" identified and described by Simon (1954), Russett (1964), Blalock (1968), and Banks (1971), among others) as opposed to the 'soft', subjective ones such as government and politics, family and social relations, and religion; (b) Indicators that in any way involve consideration of population figures have been excluded because post-1952/53 census figures in Nigeria are notoriously unreliable (see 2.3); (c) Because of the fairly long period covered by this study, only those indicators for which data are available for at least the last twenty years (1951-1970) have been included; (d) Only those indicators that represent the whole of Nigeria have been selected; (e) Data on each indicator must be derivable from at least two sources. Robinson's Coefficient of Agreement formula (described in Chapter One) is applied to determine to what extent information from two sources on a particular indicator is the same. Whenever a value of less than 0.90 is recorded, (in a scheme where 1.0 implies exact identity) data on that particular indicator are dropped.

Application of these criteria left the following nine indicators of socio-economic growth that have been used to estimate the pattern of socio-economic growth in Nigeria.

1. Volume of Exports
2. Volume of Imports
3. Volume of Electricity Production
4. Number of Telephones
5. Number of Road Vehicles in Use

6. Number of Radio Receivers
7. Total Enrolment in Primary School
8. Total Enrolment in Secondary School
9. Total Enrolment in University

Simple scatter diagrams soon establish that Nigeria is indeed experiencing socio-economic growth and that this growth is roughly linear and positive, irrespective of what measures are used.

In addition to these nine variables two estimates are introduced. This is a statistical technique to take care of two anomalous situations: (a) the war years (1967-1969) when all parameters of socio-economic growth recorded appreciable reductions and (b) to reconcile two sets of data on one on the varieables (Number of Radio Receivers). The assumption was made that all the parameters would have continued their growth rates but for the discruptive effects of the civil war. The 1967-69 declines are consequently regarded as anomalous. In the case of radio receivers, it was impossible to derive all data from the same source. The first set of data, 1951-1959, represent the total numbers of imports for the period while 1960-1970 data represent the total number of radio receivers actually in use in the country. Before 1960, imports accounted for virtually all of radio receivers in the country. The first assembly plants for radio receivers was established in Ikeja in 1960. Each of the nine measures of socio-economic growth listed above is combined with the geographical literature on Nigeria, the objective being to see whether parameters of socio-economic growth relate

positively and significantly to the geographical literature.

The correlation coefficients are presented in Table XIV. Given the value of r in each case, it is suggested that there is a strong and highly significant relationship between the growth of Nigeria's geographical literature and the growth of the nine measures of socio-economic growth chosen for this study.

TABLE XIV: CORRELATION COEFFICIENTS FOR SOCIO-ECONOMIC GROWTH VARIABLES

Variable	Correlation Coefficient(r)*
Volume of Exports	0.650
Volume of Imports	0.778
Volume of Electricity Production	0.860
Number of Telephones	0.855
Number of Road Vehicles in Use	0.635
Number of Radio Receivers	0.629
Total Enrolment in Primary Schools	0.780
Total Enrolment in Secondary Schools	0.802
Total Enrolment in Universities	0.712

* for n = 20, the critical value of r for testing that there is no correlation at the 1% level is 0.561.

It must be stressed that the interpretation of a correlation coefficient as a measure of the strength of the linear relationship between two variables is a purely mathematical interpretation and is completely devoid of any cause and effect implications.

The fact that two variables tend to increase or decrease together does not imply that one has any direct or indirect effect on the other.

The booming oil industry and the recent civil war have focused a great deal of attention on Nigeria in recent years. As a result, one may expect that these topics would generate a wide range of geographical and non-geographical publications in the coming years. Most of the geographical publications would inevitably be in the area of human geography with the result that the relationship between socio-economic growth and the geographical literature might be strengthened. Further study of multiple and partial multiple correlation coefficients for combinations of the variables considered here and other variables should then prove quite informative.

5.5 SUMMARY OF CONCLUSIONS

The conclusions of the analyses and discussion in Chapter Five are summarized as follows:

(1) The methodology of geographic research has undergone profound changes within the last decade largely as a result of the impact of the computer. Statistical techniques are now increasingly used in both physical and human geography. Nigeria's geographical literature displays considerable evidence of this trend.

(2) At the present growth rate, publications in human geography will continue to exceed those in the physical aspects of the subject for some time to come. It appears that there are two basic reasons for this bias towards human geography: (a) as traditionally considered, the human aspects of geography have encompassed a larger number of topics than physical geography and (b) there are more human geographers than physical geographers. It is suggested that combination of geography with either science or non-science subjects at any level does not appear to be a valid basis upon which to project future specialization in the human or physical geography of Nigeria.

(3) Military geography, statistical methods, and recreational geography have no publications on them; the literature on reference sources, philosophy and methodology, regional planning, teaching and nature of geography in Nigeria are a comparatively recent development; publications on medical geography and on conservation and resource management studies are declining; there is a definite trend towards increasing specialization in the subdivisions of economic, human, and physical geography.

(4) ~~Simple, linear regression~~ Correlation results show that each of the nine measures of socio-economic growth in Nigeria shows a positive and highly significant relationship to the geographical literature. ~~Generally, each of the three groups of socio-economic growth indicators relates positively to the geographical literature although this relationship is insignificant (at the 10% level) in the case of primary and secondary school enrolments only.~~ These results seem to support the hypothesis that there is a positive and significant relationship between measures of socio-economic growth in Nigeria and the growth of the geographical literature on Nigeria.

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CHAPTER SIX

CONCLUSIONS REACHED, THEIR IMPLICATIONS, AND SUGGESTIONS FOR FURTHER RESEARCH

The main purpose of this Chapter is to summarize the evidence and conclusions of this study. The first part consists essentially of a restatement, in the light of findings reported in Chapters Two to Five, of the three hypotheses and other conclusions reached in the study. The implications of the conclusions for libraries and librarianship are then discussed. The ultimate objective is to provide for librarians and geographers alike a deepened understanding of the characteristics of geographical literature in order that geographical materials and libraries may be better organized and more effectively used than they are at present. Finally, a number of unanswered questions requiring further research beyond the scope of the present study are raised and briefly discussed.

6.1 SUMMARY OF CONCLUSIONS

One of the three hypotheses proposed in the study states:

> that the growth of the geographical literature concerning Nigeria is an aspect of the socio-economic growth of Nigeria.

Correlation
~~Linear regression~~ results show that the growth of Nigeria's geographical literature is similar to the growth of socio-economic development

parameters in Nigeria. Although only the 'hard', most readily quantifiable indicators are used, the general impression is that there is a positive and significant (at ~~between~~ 1% ~~to 10%~~ level) relationship to the literature. It is suggested that the findings reported here support the hypothesis.

Two other hypotheses were also proposed:

(a) that Nigeria's geographical literature is more concentrated on the human aspects of the subject than on the physical, and that the trend is to perpetuate this trend;

(b) that indexing/abstracting coverage of Nigeria's geographical literature is proportional to the growth of the country's geographical literature, and that indexing/abstracting coverage varies according to form, publisher, and place of publication.

The first hypothesis is supported by evidence produced in this study. Human geographical publications exceed the physical in the ratio of 2:1; the population of human and physical geography lecturers in Nigerian universities is also distributed in the same ratio. Although no satisfactory reasons are advanced for this bias in favour of human geography, it is noted that there are more subdivisions of human than physical geography, and that combination of geography with non-science subjects at any level does not necessarily preclude specialization in the physical aspects of geography. If the present situation continues, therefore, one may expect that human geographical publications will continue to exceed publications in physical geography.

The second hypothesis is also supported by evidence produced in this study. Indexing and abstracting coverage of Nigeria's geographical literature has generally kept pace with the increased volume of publications,

particularly during the most productive years, 1960-1970. But, considerable variations in indexing and abstracting coverage are found according to form, publisher, and particularly, according to place of publication exceptin cases where research institutes and learned societies are the publishers. Investigators who study the growth of publications as related to indexing coverage in the future may be well-advised to incorporate into their hypotheses the expectation that the two phenomena will grow concurrently.

In addition to the specific provisions of this hypothesis, other related conclusions are as follows:

(a) There is considerable duplication of coverage among the nine indexing and abstracting services selected. More than half (53 percent) of all indexed publications are indexed at least twice and some as many as five times.

(b) Bibliographic services appear to follow a pragmatic approach in their selection of items rather than a consistent programme of indexing. Indexing and abstracting services may be highly selective in coverage and do not, generally, include book reviews, review articles, abstracts of unpublished conference papers, and news items. Some important and regular features of journals are also unindexed.

(c) Comprehensive retrospective coverage of Nigeria's geographical literature must include Geographical Abstracts and Current Geographical Publications, the two most comprehensive abstracting and indexing services respectively. In order to cover all forms of the literature, United Kingdom Publications and Theses on Africa, Theses and Dissertations

Accepted for Higher Degrees in Nigerian Universities, and possibly African Abstracts will have to be added. The user of these services must, however, keep in mind that he is being provided access to the principal articles in the journals indexed.

Other conclusions are summarized as followes:

(1) Nigeria's geographical literature was almost completely dominated by non-Nigerians (mainly British) up to about 1952 when Nigerians began to make substantial contributions. An important break-through was reached in 1960 (Nigeria's year of independence) when Nigerians contributed over 40 percent of all publications. Since that date, contributions by Nigerians have grown at approximately one and a half times the growth rate of contributions by non-Nigerians—a period when total publications grew at more than four times the rate of the previous decade. Increasingly, from the 1950s, the content of Nigeria's geographical publications has reflected the social, political, and economic aspirations and problems of the nation.

(2) Most of Nigeria's geographical literature is concentrated within the last 20 years of the study-period with more than 50 percent within the last ten years. Four serials: Nigerian Geographical Journal, Nigeria Magazine, Nigeria Trade Journal, and Research Notes have been the principal vehicles of publication of this rapidly growing literature. The ratio of periodical articles to monographs is greater than 2:1 which approximates more to the situation in science and technology than [redacted] social science. The low level of book production in Nigeria would seem to be the reason why the monographic literature is so comparatively

small and may not be representative of the whole field of geography.

(3) There is considerable variation in the areal disctribution of publications with some areas the subject of considerable attention and others totally neglected. The population density of an area does not appear to be related to the extent to which the area is studied. Factors such as accident of interest by some prolific authors, the location of active university centres of geographical research, and the topographical complexity of certain areas may have contributed most decisively to the selection of areas for study.

(4) Application of Bradford's law to the productivity of authors produced 50 authors as constituting the core authors. This number compares with 53 authors each of whom contributed six entries or more to the literature within the period analyzed.

(5) Most of Nigeria's geographical literature is research and professional in character (75.5 percent) although there is a considerable proportion (21.0 percent) of informational and popular material reporting application of research. The very nature of this latter group of publications places upon libraries and bibliographic services a special problem of selectivity.

(6) The largest publishers of the literature are research institutes and learned societies (39.2 percent), the Federal government of Nigeria and its agencies (17.4 percent), and foreign commercial firms (13.9 percent). The format of what they publish differs: research institutes and learned societies publish mainly in research and professional journals; the Federal government and its agencies publish mostly informational and trade magazines; foreign commercial firms publish books and pamphlets.

(7) The literature displays a wide subject dispersion although the field of geography contributes the largest proportion (41.5 percent) of all subjects contributing to the geographical literature on Nigeria. Agriculture, forestry, economics and demography in particular, and the sciences and social sciences generally are closely associated with geography in Nigeria. This suggests that bibliographic services in both the sciences and social sciences will cover most of the literature of geography. But, the wide range of subject fields in which geographical literature is published means that in order to be comprehensive, a bibliographic service designed to cater specifically for the interests of geography must cover many publications in the sciences and social sciences, and even a few in the humanities.

(8) The periodical literature demonstrates similar characteristics to those reported for subjects in science and social science. Title dispersion is high with only 68 titles out of 156 providing 90 percent of all references and the rest 10 percent scattered among 88 titles. This phenomenon is reflected in a relatively high reference scattering coefficient of 0.58. Attempts at complete coverage of Nigeria's

geographical literature would involve searching a large number of periodical titles that have only marginal interests to the field of geography.

6.2 IMPLICATIONS OF STUDIES FOR LIBRARIES AND LIBRARIANSHIP

Three major aspects of this study are considered relevant to better organization of geographical collections and to improved professional service by librarians who cater to the interests of geographers: (a) the Annotated Bibliography and the Ranked List of Periodicals Analyzed, (b) the patterns of relationship of geography with other subjects, and (c) the importance of the study for information storage and retrieval.

6.21 Reference Work and Acquisition of Geographic Periodicals

The classified Annotated Bibliography in Appendix A is the first comprehensive bibliography on the geography of Nigeria for the period 1901-1970. If complete bibliographic coverage of the literature concerning Nigeria must be achieved, retrospective coverage for individual subject areas might be one of the most effective ways of achieving such overall coverage. This bibliography should also be of basic usefulness to reference librarians working in general or special libraries that include materials on the geography of Nigeria.

Acquisitions librarians traditionally select their periodical titles on the basis of one or a combination of the following criteria: (a) recommendations of library users, (b) reputation of publishers, (c)

(c) relevance of the title of a periodical to defined library objectives, and (d) the assessment of reviews. Although the merits of these criteria have been extensively discussed in the professional literature of librarianship, Lawani (1971), among others, argued that none of these methods of acquiring periodical titles is objective enough. Lawani suggested that a ranked list of periodical titles in a subject, derived from some comprehensive bibliography or abstracting/indexing publication, is more objective than similar lists derived from analysis of a library's statistical records or citation studies. The case of Lawani's approach then is its objectivity, and most importantly, the product of this objective method, a list of periodical titles to which informed intelligence and judgement can be applied.

Appendix B is a ranked list of periodicals analyzed in order of productivity. The major advantage of the list is that it constitutes a basis for a librarian or information officer to ascertain what journal titles are important (in terms of productivity alone) in the subject it represents. If a library adopts this procedure, there may be other criteria, such as the language(s) in which papers in a periodical are published, that may have to be considered. For example, a library may, as a matter of policy, decide not to acquire a high-ranking title if the library's clientele cannot read the languages in which the periodical's articles are published. Also, a library could modify its policy to give preference to titles specializing in certain geographical regions, in which case some low-ranking titles may still be acquired without reducing the overall usefulness of a general, ranked list for a subject.

If such a list were regularly up-dated, say, once every two years, it could also constitute a basis for weeding out those titles that are no longer contributing to the subject, and for the incorporation of new, relevant titles.

6.22 Classification of Geographic Materials

As demonstrated in Chapter Three of this study, geography shares strong and intricate relationships with many science and social science subjects. The pattern of relationship has one important implication for the arrangement of geographic materials in relation to other subject materials in libraries. Such arrangement will involve some kind of classification; it is this aspect of library organization that is now discussed.

In a library that caters only to the interests of geography, it may be quite easy to adopt the American Geographical Society's classification schedule that has been used to organize data for this study. It is one of the very few schedules so far that provides for all sub-divisions of geography as generally recognized by professional geographers. As a result, it allows the classifier to provide for the new subdivisions of geography, such as: photogrammetry and air-photo interpretation, and regional planning instead of grouping them together under some generalia classes. As the schedule is also well-suited to the arrangement of geographical bibliographies, it would facilitate comparison of bibliometric analyses if all geographical bibliographies were to adopt it.

areas. Increasingly, however, both librarians and information officers are challenging this approach, suggesting that descriptive and analytical studies of primary and secondary literatures of subjects must precede the design of any information system that would retrieve such literatures. Describing his Group's approach to the Design of Information Systems in the Social Sciences (DISISS), Maurice Line (1971) stresses how:

> Much of the initial effort... has been concerned with data collection, mostly for the bibliometric studies. This has been necessary to rectify the almost complete absence of descriptive data on the structure of the primary and secondary literature in the social sciences: for example, little is known about the size, growth, mortality, scatter, and density of the serial and monograph literatures of the social sciences (Line 1971, p.1).

Line's observation is particularly interesting as it comes after he had led a similar group at Bath University Library (1971) to complete an Investigation into the Information Requirements of the Social Sciences (INFROSS) without first making a bibliometric analysis of the literatures of the subjects involved. Jones, Chapman, and Woods (1972) echoed the opinion of Line when they asserted:

> Before librarians can supply [the] information needs [of library users] they have to know how information is communicated and used, and indeed what is 'information' itself. At the moment, information retrieval is not really concerned with information but with documents and their retrieval. But documents contain information, and a first step towards the study of information and its use in a particular discipline is a study of the documentation or literature of that discipline. (Jones, Chapman, and Woods 1972, p.138).

In a recent article, Pritchard (1972) compared bibliometrics with metrology—the science of measurement—in the information transfer process, suggesting that the purpose of bibliometrics is the analysis

and control of the information process. "Bibliometrics", he argued, "cannot solve the problems of information centres but it can provide necessary data upon which to make informed decision." Explaining his position further, Pritchard (1972) identified four processes in the operation of information centres:

(a) develop the information transfer model,

(b) measure, bibliometrically, the character and flow of information through that model,

(c) use results of (b) to refine the model, and

(d) take action on the basis of the final model that results.

This study is part of the activities in step (b); information contained in this thesis may prove to be of value to any information system that uses geographical literatures.

6.3 SUGGESTIONS FOR FURTHER RESEARCH

Five areas seem particularly promising for further research. Such investigations should lead not only to a better understanding of the characteristics of geographical literature, but also to the improvement of our cumulative knowledge about the literatures of all subjects. The areas listed here are discussed in that order:

(a) Behaviour of subject literatures through time,

(b) Productivity of authors,

(c) Distribution of subject literatures within a country,

(d) Use of book production figures as indicator of economic growth and

(e) Subject literatures and national development.

6.41 Behaviour of Subject Literatures Through Time

It will be recalled that the time-period analysis of geographical publications on Nigeria shows wide oscillations from 1901 through 1951, and that the literature began a rapid growth rate in 1952, reached a peak in 1967 and subsequently declined in the 1968-1970 period. Reasons for the rapid growth were suggested, a tentative reason was offered for the decline, but no satisfactory explanation could be given for the oscillations. Cole and Eales (1917), while analyzing the literature of comparative anatomy from 1550 through 1860, produced a histogram that shows wide oscillations in the literature from 1550 to 1815, a rapid increase from 1816 to 1835, and a decline from 1836 onwards. The authors' explanation of this phenomenon has implications that go beyond the situation they described:

> The steep decline... after 1835 can only be explained as an admirable example of that rhythm which underlies all activities of the living world. The primitive abhorence of the fixed level, which finds its expression in advance or retreat, but never in stability, is just as characteristic of the work of a community as of the internal economy of an individual. Our records do not extend beyond the year 1860, but we believe that bottom was reached soon after that time and was followed by another rise. That in its turn gave place to the current depression of which all students of the literature of comparative anatomy have been conscious for several years. (Cole and Eales 1917, p.595).

Hulme (1923), who analyzed records of British patents from 1550 through 1921, and the volume of scientific output as reflected in The International Catalogue of Scientific Literature, 1901-1913, observed a similar pattern of oscillations, rapid rise, and subsequent

decline. It is probably not surprising that he gave a similar explanation for this phenomenon as did Cole and Eales. Concerning the pattern revealed by the patents, Hulme concluded:

> The charts of patent statistics, however, contain a deeper meaning. This uneventful record over so long a period suggests that the modern upward phase of invention and its associated factors must some day reach a peak - to be succeeded by a decline in those forces and by the introduction of a new phase of civilization. (Hulme 1923, p.21).

Explaining the pattern revealed by papers contained in The International Catalogue of Scientific Literature, 1901-1913, Hulme (1923) made these generalizations:

> ... the extraordinary oscillations which the chart reveals afford some idea of the nature of the movements you may expect to find in other branches of science when treated by the same method... Science halts when opposed to obstacles which temporarily it cannot surmount —but new methods borrowed from other sciences may serve in the removal of those obstacles and enable a resumption of the forward movement to be made. Bibliographical statistics, employed with the requisite qualifications... are without question able to reveal the shape and period of such movements. (Hulme 1923, pp.33-34).

Without commenting on either the rather mystical explanations of Cole and Eales, or the quantitative correlations of Hulme, the conclusions of these studies might, with profit, be explored further. Three questions in particular derive from them: Is there a discernable oscillatory pattern of gradual rise, rapid growth, decline, and then rise again, etc, in the literature of every subject? Secondly, several writers (Crane 1944, Delougaz 1949, Aiyepeku 1970) have shown that literary output declines appreciably during periods of war. Would the decline in

literary output that has been observed by these writers to occur during periods of war have occurred if there had not been a war? Thirdly, what is the pattern of relationship between stages in the literature of a subject and stages of socio-economic life? In other words, does development or decline in one depend on the other? If so, would the pattern of dependence be the same for all subjects?

Answers to questions such as those will go a long way towards improving our knowledge concerning subject literatures and may eventually lead to a theory of their behaviour through time. At present, all that can be said is that in the early years of a subject, publications tend to be few and that when they are few, the entirely random variations tend to loom large.

6.42 Productivity of Authors

Detailed knowledge about the pattern of communication among contributors to the literature of any field sometimes proves crucial in the effective organization for use of that literature. Analysis of authors in this study does not go beyond identification of core authors and a very brief description of their characteristics. The whole area of the productivity of geographical authors—the rate at which they publish papers, what motivates them to write, the relationship between quality and quantity of their works, the operation, if any, of a reward system—has been left almost untouched.

Application of Bradford's law to analysis of the productivity of authors is comparatively new. Even the limited application of the law in this study to determine core authors raises problems of: (a) inter-

pretation of a Bradford-Zipf bibliograph that conforms with the linear ideal although data are limited to English-language publications on a single country, and (b) the theoretical estimate of the N value that seems too far below the actual number of authors scanned for the study. The interpretations here are obviously not final and they should be further explored by later investigators to determine whether it is valid to apply Bradford's law to analyze the productivity of authors in all situations.

Yet another area of further research in the productivity of authors is the important issue of correlating quantity and quality of writings, as Cole and Cole (1967), Zwoner (1970), and Virgo (1971) have attempted in recent years. For example, is it ture, as Price (1961) asserts, that the number of good papers increases as the square root of the total number of papers written?

Almost nothing has been done in these areas for the field of geography and in many other subjects. Librarians, with appropriate backgrounds, can begin to address themselves to these areas with the aim of producing the kind of detailed knowledge that may very well lead to identification of the prime determinants of graphic communication.

6.43 Distribution of Subject Literatures Within a Country

The areal distribution of subject literatures has received very little attention in library research; previous areal analyses have concentrated on the distribution of publications and publishers among countries. Geography and the earth sciences generally, and some subjects in the social sciences, such

as history, sociology, and economics seem to offer splendid opportunities for research into how their literatures are distributed within individual countries. The present study fails to establish any pattern of relationship between geographical publications concerning Nigeria and population distribution although only the simplest statistical test was used. It is a matter for fruitful investigation whether indeed any pattern of relationship exists between geographical literature and other distributions not examined in this work. What makes a geographer decide to do research in certain localities and not in others although the problem he seeks to investigate may also be legitimately examined elsewhere? It is suggested that an answer to this kind of question, for example, is capable of generating in librarians a new and significant insight into the dynamics of spatial relationships that permeate all geographical writings.

6.44 Use of Book Production Figures as Indicator of Economic Growth

Book production figures as an indicator of economic growth has often been used and relied upon. To cite just two examples, Russett (1964) included it in his list of some 180 socio-economic indicators for different countries. Banks (1971) also included book production as one of his series of data in comparing the social, political, and economic growth of independent countries throughout the world. From limited data analyzed in this study, it is suggested that the experience of developing nations may show that the facilities for book production tend to lag considerably behind facilities for other forms of production.

If this suggestion is shown in studies of other developing nations to have been the case, it may point to the need to use some other types of resources for this important purpose quite deliberately and with more careful thought than has hitherto been exercised. This is an area where further research may prove particularly informative to librarians and workers in the book industry. Where availability of statistical records permit, the issue could be approached first on the basis of individual subjects in order to determine how the growth of book production in different subjects agrees with the growth of the country's economic growth parameters. In this study, for example, books account for a mere 7.08 percent of the geographical literature analyzed, and the growth of these books over the years certainly does not reflect Nigeria's economic growth during the same period.

6.45 Subject Literatures and National Development

The significance of applying information contained in subject literatures to national development has long been realized in science and technology. The report of the (British) Committee on Industrial Productivity (1949) stated:

> It has been our view throughout that an early increase in productivity could be achieved by the rapid application of existing knowledge rather than by the conduct of fresh scientific research. (p.3).

A few years later, the British Advisory Council on Scientific Policy (1960) put it even more strongly when it declared: "A country's wealth and power are today largely determined by the extent of its scientific knowledge and its capacity to use that knowledge." (p.14). The literatures of

science and technology are now generally recognized as a vital and integral part of research efforts in these areas. As the Winberg Report (1963) put it, the technical community of scientists and technologists, and particularly governments, must recognize that "the handling of technical information is a worthy and integral part of science." Later, Ziman (1968) showed that it would indeed be impossible to have science at all without the communication process that "the handling of information" implies.

With the possible exception of economics, recognition of the significance of social science literatures in national development has taken a long time to materialize; it has hardly begun at all in the humanities. The reason appears to be that 'national development' has tended to be interpreted only in the narrow sense of economic or technological development. One of the best known efforts to relate social scientific knowledge to national development is the report of the Special Commission on the Social Sciences of the (U.S.) National Science Board (1969). The Commission observed that social science literatures can contribute significantly to solving America's problems if full advantage is taken of their strengths.

Further study of the relationship of all subject literatures to national development could make valuable contributions to the monitoring of literatures for economic and social growth. Very few studies have sought to demonstrate the kind of relationships explored by Cole and Eales (1917) and Hulme (1923) in their pioneering analyses of scientific and technological literatures. It is only when subject literatures are

examined as indicator of development in this way that they can become a tool for direct use and application to the real world. Shera (1965) stressed the significance of this ultimate utilization of knowledge when he declared:

> The only value of money lies in its spending, and the only value of knowledge in its social utilization. The idle accumulation of knowledge is no less senseless than the idle accumulation of wealth; the latter is avarice, the former a social crime. (Shera 1965, p.10).

Through bibliometric analyses of subject literatures for individual countries, librarians have a vital role to play in putting all types of knowledge to work.

Finally, one methodological issue may be the focus of further research. In the present study, the 'hard' indicators of socio-economic growth have been used to suggest a relationship between the geographical literature and socio-economic growth in Nigeria. Would a similar or different pattern of relationship be found if 'soft' indicators, such as political, demographic, and religious data were used?

It may be appropriate to end this study by quoting Hulme (1923) again:

> Strictly speaking, the province of statistical bibliography /bibliometrics/ ends with the presentation of the figures compiled. The final interpretation should be left to those possessing the necessary qualifications. (Hulme 1923, p.5).

Hulme's emphasis was on the word "final" because, as several citations of his work indicate, he did discuss interpretations of associations revealed by his data. This thesis offers a similar interpretation on

the basis of available data. The "final interpretation" of the kind of relationships explored here can only materialize after a long period of cumulative studies in all subjects, and for all countries.

6.5 SUMMARY

Chapter Six summarizes the major findings of this thesis with regards to the geographical literature of Nigeria from 1901 to 1970. The three hypotheses proposed are reviewed in the light of evidence produced in Chapters Two to Five. Implications of the study in reference work, retrospective bibliographic searches, and in the acquisition of periodicals, are listed and discussed. The relevance of biblionetric analyses such as this one to the operation of information centres is illustrated. The final section suggests and discusses five areas that would benefit from further research.

6.6 REFERENCES

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National Science Foundation (1969). Knowledge into action: improving the nation's use of the social sciences. Report of the Special Commission on the Social Sciences of the National Science Board. Washington, D.C., Government Printing Office.

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Price, Derek de Solla (1961). Science since Babylon. New Haven, Yale University Press.

Pritchard, Alan (1972). Bibliometrics and information transfer. Research in Librarianship 4(20): 37-46.

Russett, Bruce M. and others (1964). World handbook of political and social indicators. New Haven, Yale University Press.

Shera, Jesse H. (1965). In the beginning was the word. In 'Libraries and the organization of knowledge, 'ed. by D.J. Foskett. London, Crosby Lockwood, p.3-11.

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APPENDICES

APPENDIX A: ABBREVIATIONS

The following abbreviations at the end of the 668 indexed entries refer to the following indexing and abstracting services:

AA	:	African Abstracts
AIT	:	Index to Theses Accepted for Higher Degrees in the Universities of Great Britain and Ireland.
BGI	:	Bibliographie Géographique Internationale.
CGP	:	Current Geographical Publications.
GA	:	Geographical Abstracts (Parts A, B, C, & D).
MGA	:	Meteorological and Geoastrophysical Abstracts.
MGLM	:	New Geographical Literature and Maps.
TDA	:	Theses and Dissertations Accepted for Higher Degrees in Nigerian Universities.
UKPT	:	United Kingdom Publications and Theses on Africa.

APPENDIX A

ANNOTATED BIBLIOGRAPHY OF GEOGRAPHICAL PUBLICATIONS ON NIGERIA, 1901-1970

BIBLIOGRAPHIES

1. ENE, Ngozi. A bibliography of the climate of Nigeria. Nigerian Geographical Journal (Ibadan) 5(1): 53-60, June, 1962.

   Classified and annotated listing of recently published monographs and periodical articles.

   CGP
   BG1

2. MABOGUNJE, Akin L. Source material for the study of historical geography in Nigeria. Research Notes (Ibadan) No. 12: 15-28, Feb. 1959.

   Describes the content of six main sources and how they may be obtained.

   CGP
   BG1

3. MITCHELL, Robert C., and Daniel Aronson. Urban research in Nigeria; an inventory of recent and current research projects. African Urban Notes (Los Angeles, Calif.) 2(2): 26-36, 1967.

   Lists alphabetically by subject and author all research undertaken since 1960 in the social sciences which have not yet been published in monograph form.

4. PRESCOTT, J.R.V. Source material for a study of the political geography of Nigeria. Research Notes (Ibadan) No.9: 11-17, Jan. 1957.

   Annotated bibliography with brief introductory note.

ATLASES

5. DIXON, O.M. The representation of Nigeria in school atlases; a review article. Nigerian Geographical Journal (Ibadan) 8(2): 99-114, Dec. 1965.

   Critically analyses the representation of Nigerian topographical and human features in seven atlases, stressing the gross inaccuracies revealed.

   CGP
   GA-B

6. DIXON, O.M. The selection of towns and other features on atlas maps of Nigeria. Cartographic Journal (London) 4(1): 16-23, 1967.

Treatment of Nigerian coastline, hydrography, relief and the selection and classification of towns found deficient in all the educational and reference atlases critically examined for the purpose. Proposals for a more effective treatment of the selection and classification of towns presented.

GA-D

7. DURU, R.C. National atlas of Nigeria and international atlas of West Africa. African Notes (Ibadan) 2(1): 8-14, Oct. 1964.

Reports on problems of tracking down relevant sources and of transportation in the preliminary stages of the Project.

8. FLOYD, Barry N. A descriptive resource atlas of Eastern Nigeria. Nigerian Geographical Journal (Ibadan) 5(2): 121-134, Dec. 1962.

Discusses five basic criteria for any atlas as basis of a proposed atlas for former Eastern Region. Useful annotated list of national and regional atlases (pp.126-134).

CGP
BGI

9. FULLARD, Harold, ed. Atlas for Eastern Nigeria. London, G. Phillip, 1964. 24p. maps, plans.

For use in the lower forms of secondary schools, it introduces the easterner through his immediate locality and former Region, to his country and to his continent.

10. MABOGUNJE, Akinlawon Ladipo, ed. Pathfinder atlas for Nigeria, London, Collins, /1967/.

Clear, original maps of Nigerian former regions and their capitals, and Lagos. Simple illustrations and the economic map of Nigeria add to its usefulness for secondary school pupils.

11. MENAKAYA, J.C., and Barry N. Floyd, eds. Junior atlas for Nigeria. London, Macmillan, 1965. 64p. illus. 57 maps.

Beautifully and profusely illustrated maps to add visual dimensions to features depicted on them. Particular emphasis on Eastern Nigeria.

12. OBOLI, H.O.N. A sketch map atlas of Nigeria. London, Harrap, 1958.

Elementary, for secondary school students.

13. OBOLI, H.O.N. A sketch map atlas of Nigeria. 2nd ed. London, Harrap, [1962].

Covers a large part of the syllabuses (with notes and exercises) for Secondary Modern Schools and Elementary Teacher Training Colleges in Nigeria.

14. OXFORD atlas for Nigeria: prepared by the Cartographic Department of the Clarendon Press, with the advice of F.C.A. McBain. Ibadan, O.U.P., 1968. 65p. (of maps), [7].

Begins with 17 coloured maps of Nigeria. Other special features include a gazetteer of Africa.

15. SOLADOYE, E.E., ed. Nigeria junior atlas. London, Thomas Nelson, 1965. 33p.

Essentially coloured maps, plans and pictures illustrating Nigeria's geography, with few maps on West Africa, Africa and the world. Text on 'Wealth of Nigeria' on page 8.

HANDBOOKS, GUIDEBOOKS

16. GUGGISBERG, F.G. Handbook of the Southern Nigeria Survey. Edinburgh, W & A.K. Johnston, 1911.

Record of investigations carried out up to that date in approximately present Western, Lagos and Eastern states.

17. KIRK-GREENE, Anthony Hamilton Millard. The meaning of place names in Hausaland. Bulletin, Institut Fondamental d'Afrique Noire B. (Dakar) 31(1): 264-278, 1969.

Essentially a study in toponymy, it provides useful background notes to the origins of topographic features and the names of towns in the Hausa parts of northern Nigeria.

NGLM

18. MAJASAN, James Adeyemi. Guide map of Ibadan. [Ibadan] Institue of Education, University of Ibadan, 1968. viii, 54p, 20 maps, photographs. (Information map series, no.1).

Largely maps plus descriptive material of important places.

19. PERMANENT Committee on Geographical Names for British Official Use. First list of names in Nigeria and British Cameroons. London, Published for the Committee by the Royal Geographical Society [1928].

Some 140 place names listed for Nigeria indicating position and direction of each in relation to a known major town.

20. U.S. Department of State. African series. The newly independent nations: Nigeria. Washington, D.C., 1961. 7p. (Department of State publication 7121, African series 6).

Basic facts on its peoples and land.

21. _____. Bureau of Public Affairs. Office of Media Services. Background notes: Republic of Nigeria. Rev. ed. Washington, 1969. 5p. map. (Department of State publication 7953).

Short notes on her peoples and land.

CGP

GEOGRAPHICAL METHODS

22. PROTHERO, R. Mansell. Some problems of land use survey in Nigeria. Economic Geography (Worcester, Mass.) 30(1): 60-69, Jan. 1954.

Discusses statistical, cartographic, sociological, and air photograph interpretation problems encountered in Nigeria.

CGP
BGI

PHILOSOPHY & METHODOLOGY

23. BARBOUR, K.M. 'Facility profiles' as criteria for geographical assessment of development schemes. Nigerian Journal of Economic and Social Studies (Ibadan) 8(3): 455-476, Nov. 1966.

Evolves and applies parameters based on variables of land, labour and capital in assessing success or failure potential of rural development schemes. One of the examples is Bornu Railway Extension.

24. BUCHANAN, Keith M. The delimitation of land use regions in a tropical environment; an example from Western Region of Nigeria. Geography (Sheffield) 38(181) pt. 4: 303-307, Nov. 1953.

Discusses bases for the delimitation criteria used and describes eight major regions distinguished in Western Nigeria.

CGP
BGI

25. GARNIER, Benjamin J. Installing and operating a simple evapotranspirometer. Ibadan, Ibadan University Press, 1957.

Method evolved by the author is described, followed by a critical analysis of its usefulness and limitations as observed at Ibadan.

26. JEFFERS, J.N.R. The use of electronic computers in land-use survey based on photo-interpretation. Photogrammetric Record 5: 465-469, 1967.

Illustrates, by reference to recent work done for Malawi and Nigeria, application of digital computers to the planning and conduct of land-use surveys based on analysis of air photographs.

GA-D

27. MORGAN, W.B. The approach to regional studies in Nigeria. Research Notes (Ibadan) No, 6: 10-18, Oct. 1954.

Presents a case for regional studies based on tribal communities rather than on physical entities.

BG1

28. _____. The movement of passanger traffic on the Lagos-Kano - Nguru line - a method of analysis. Nigerian Geographical Journal (Ibadan) 2(1): 105-112, June, 1959.

Divides cash totals paid by passengers by their numbers for each station. Results provide basis for analytical study of traffic on 'limited' and 'local' railways.

CGP
BG1

29. MOSS, R.P. Land-use, vegetation, and soil factors in south-west Nigeria: a new approach. Pacific Viewpoint (Wellington) 9(2): 107-127, Sept. 1968.

Argues that in order to understand and map relationships between the three phenomena as basis for rational planning of land use in tropical Africa, it is necessary to view plants and soils as a continuously-varying interacting system, rather than as sets of partially-correlated features.

CGP
NGLM
GA-B

30. MOSS, R.P. An ecological approach to the study of soils and land use in the forest zone of Nigeria. In 'Environment and land use in Africa'. Edited by M.F. Thomas and G.W. Whittington'. London, Methuen, 1969. p.385-407.

Summarises theoretical basis of new approach elaborated in earlier chapter (p.193-238) and illustrates its application in a densely peopled area of south-west Nigeria.

GA-C
BG1

31. _____., and W.B. Morgan. The concept of the community: some implications for geographical research. Transactions, Institute of British Geographers (London) No, 41: 21-32, 1967.

Provide examples, under specific headings, of the application of the concept to teaching and research. Examples drawn from Northern and Western Nigeria under 'African Communities' and 'Land-use Studies' respectively.

32. OLAGBAIYE, J.A. Towards manufacturing locational analysis in Southern Nigeria: a population potential model, Nigerian Geographical Journal (Ibadan) 11(1): 11-20, June, 1968.

Demonstrates, mathematically, the techniquo of population potential model construction using forty-six towns in Southern Nigeria as basis. The map that results is interesting although the limitations in the application of the method appear to outweigh its advantages.

AA
CGP
GA-D

33. PROTHERO, R. Mansell. Some contributions of geography to tropical studies: the need for integration. Ibadan, W.A.I.S.E.R. Annual Conference - Sciology Section, March, 1953. p.73-88.

Possibilities of applying the geographic viewpoint and methodology to integrated land-use and planning problems are illustrated with Nigerian examples.

34. _____. Tropical studies: the geographical approach and the need for integration. South African Geographical Journal (Johannesburg) 35: 46-48, Dec. 1953.

Shortened version of his paper (33) read at the W.A.I.S.E.R. Annual Conference in March same year.

35. SMITH, Robert H.T. and Alan M. Hay. A theory of spatial structure of internal trade in underdeveloped countries. Geographical Analysis (Columbus) 1(2): 121-136, April, 1969.

Theory based on analysis of internal rail trade on Nigeria.

CGP

CARTOGRAPHY

36. ADEJUWON, J.O. Vegetation mapping on a topographical scale in the forest areas of Western Nigeria. Nigerian Geographical Journal (Ibadan) 10(1): 29-42, June, 1967.

Outlines the purpose and methods used in the project, and discusses how problems encountered are being tackled.

CGP
NGLM
GA-B

37. DURU, R.C. The scale factor in the population mapping of West Africa. Nigerian Geographical Journal (Ibadan) 7(1): 16-23, June, 1964.

Uses dot maps of Eastern Nigeria and NW Senegal to demonstrate cartographic problems involved in mapping areas of highly uneven population distribution patterns.

CGP
BG1

38. JENKIN, R.N. The rôle of soil survey in the development of the forest resources of Nigeria. Proceedings, Science Association of Nigeria (Ibadan) 6: 95-100, Oct., 1963.

Outlines and justifies a four-stage method of mapping distribution of individual soil profile characteristics as basis for establishment of forest reserves.

39. MOSS, R.P. Land use mapping in tropical Africa. Nigerian Geographical Journal (Ibadan 3(1): 8-17, Dec. 1959.

Illustrates cartographic and geographical problems involved and offers solution based on a new mapping unit device first applied to land-use mapping in part of southwestern Nigeria.

BG1

40. O'SHAUGHNESSY, K.J. The cadastral survey of Lagos, Nigeria. M.Sc. Thesis, University of Bristol, 1962.

UKPT

41. PROTHERO, R. Mansell. Some results of an investigation of land use in the cocoa-growing region near Ibadan. Research Notes (Ibadan) No.1: 21-25, June, 1952.

Problems of land-use mapping in Nigeria are discussed based on a small pilot survey project; useful solutions proposed.

CGP
BG1

42. _____. Problems of population mapping in an underdeveloped territory (Northern Nigeria) Nigerian Geographical Journal (Ibadan 3(1): 1-7, Dec. 1959.

Recounts problems encountered in mapping the former Region on basis of 1952/53 census returns and how they were solved.

AA
CGP
NGLM
BG1

43. _____. African ethnographical maps with a new example from Northern Nigeria. Africa (London) 32(1): 61-64, Jan. 1962.

Reviews African ethnographic maps and discusses problems of obtaining an accurate population density map for Northern Nigeria.

BG1

44. TOMLINSON, P.R. Variations in the usefulness of rapid soil mapping in the Nigerian savanna. Journal of Soil Science (Oxford) 21(1): 162-172, March, 1970.

GA-B

PHOTOGRAMMETRY & AIR-PHOTO INTERPRETATION ~~INTRODUCTION~~

45. AERIAL views of Lagos [and] old Lagos. Nigeria (Lagos) No, 38: 109-130, 1952.

Well-labelled pictorial presentation.

46. CARTER, Jean. Erosion and sedimentation from aerial photographs; a micro-study from Nigeria. Journal of Tropical Geography (Singapore) 11: 100-106, April, 1958.

Based on two large-scale maps it describes erosional and depositional characteristics in a river valley south-west of Enugu from combined geological, climatic and human factors.

CGP
BG1

47. DOWLING, J.W.F. The use of aerial photography and land-form analysis in the location of laterites. In 'Aerial surveys and integrated studies. Proceedings of the Tolouse Conference'. Paris, Unesco, 1968. p.425-429.

Results of an investigation carried out in Northern Nigeria on some 1,200 sq. miles allow certain conclusions to be drawn about the present-day location of laterite gravels in a terrain developed by the dissection of a laterite covered peneplain over horizontally bedded sandstone.

GA-B

48. GROVE, Alfred T. Patterned ground in Northern Nigeria. Geographical Journal (London) 123 (2): 271-274, June, 1957.

Describes and discusses salient features, with particular emphasis on orientation, of the ancient erg of northern Nigeria near Potiskum as observed from "print laydowns" of original photographs.

BG1

49. _____. The ancient erg of Hausaland, and similar formations on the south of the Sahara. Geographical Journal (London) 124 (4): 528-533, Dec. 1958.

Uses "print laydowns" and original photographs to reconstruct a map of the dead erg of northern Nigeria whose major characteristics and significance are described and compared with similar formations in Africa.

NGLM
BG1

50. OYELESE, J.O. An investigation of land use patterns in the forest land of Ibadan Division with the aid of air photographs. African Notes (Ibadan) 4(2): 4-11, Jan., 1967.

Problems of general application of technique evolved by the author shows forth in analysis of 1966 field checks based on enlarged 1963 aerial photographs.

51. _____. The mapping of land use patterns from air photographs on the forest zone of Ibadan Division. Nigerian Geographical Journal (Ibadan) 11(1): 27-37, June, 1968.

Analysis of 1966 field checks based on enlarged 1963 aerial photographs pinpoints difficulties in the general application of the technique evolved and tested by the writer.

AA
CGP
NGLM
GA-C

52. OYELESE, J.O. The ortho-photo map approach to land-use mapping (an application to Ibadan City and its environs). Nigerian Geographical Journal (Ibadan) 13(1): 67-84, June, 1970.

Uses ortho-photo map and field checks to classify land-use patterns in Ibadan and its environs, describes and justifies the classification resulting in "developed and vacant" land-use maps.

NGLM

REGIONAL PLANNING

53. AJAEGBU, Hyacinth Iheanijuhuku. Regional planning and the rural areas in Nigeria. Nigerian Opinion (Ibadan) 6 (3 & 4), 37-40, March-April, 1970.

Focuses attention on neglect of rural areas in spatial planning and strongly advocates an urban-rural oriented regional planning to minimize present areal development opportunity imbalances.

54. BARBOUR, K. Michael. The need for regional planning in Nigeria. Nigerian Opinion (Ibadan) 6(1 & 2): 15-18, Jan.-Feb. 1970.

Makes a case for a permanent and high powered Centre of Regional Planning to give continuing consideration to "the effects upon Nigeria of all policies, past and present, that influence the location of specific activities".

55. BRANDT, P.F. This planning. Farm and Forest (Ibadan) 8(1): 2-10, Jan.-June, 1947.

Enunciates and discusses the objectives and principles of economic planning in democratic societies with particular emphasis on agriculturalization vis à vis industrialization in Nigeria.

56. FANIRAN, Adetoye, Colin High and Julius Oguntoyinbo. Planning and the natural environment. Nigerian Opinion (Ibadan) 6(5-7): 60-63, May-July, 1970.

Socio-economic planning alone without the environmental planning would not only make regional planning incomplete but could lead to dangerous and wasteful consequences.

57. GREEN, Leslie and Vincent Milone. Physical planning in Western Nigeria: a report prepared for the Ministry of Lands and Housing, Western Nigeria, Ibadan, 1966, xxii, 118, maps, tables.

Establishes the need for physical planning in the State, indicates environmental problems arising from its economic growth and suggests solutions through regional planning.

58. _____. Physical planning in Western Nigeria: a report prepared for the Ministry of Lands and Housing, Western Nigeria. Rev. ed. Ibadan, 1967, xxii, 118 l. maps, tables.

Revisions and changes incorporated in the first thirteen leaves (001-013) otherwise same text as the 1966 edition.

59. LOGAN, M.I. Policy issues in Nigerian regional planning. Nigerian Opinion (Ibadan) (3 & 4): 28-32, March-April, 1970.

Argues the case for coordinated spatial planning at state and national levels and suggests broad policies and strategies that might be considered by regional planning bodies.

60. MABOGUNJE, Akin Ladipo. Regional planning and the development process: experience from the 1962-68 Plan. Nigerian Opinion (Ibadan) 6 (3 & 4): 32-36, March-April, 1970.

Illustrates how both sectoral and regional planning are crucial to the development process in Nigeria and suggests an administrative machinery for regional planning.

61. MUENCH, Louis & C.Z. Muench. Planning and antiplanning in Nigeria: Lagos and Ibadan. Journal of the American Institute of Planners (New York) 34(6): 374-381, Nov. 1968.

CGP
GA-D
BG1

62. PLANNING the next plan. Nigerian Opinion (Ibadan) 2(6): 63-66, June, 1966.

Discussion of the administrative and political issues raised in Government's announcement of Nigeria's Five Year Development Plan.

63. PLANNING the planning. Nigerian Opinion (Ibadan) 1(3): 2-4, March, 1965.

Criticises the 'planlessness' of Nigeria's 1962-68 Development Plan and outlines the necessary administrative reforms which are amplified five years later in Wheeler's article (66).

64. PREPARING for the next plan. Nigerian Opinion (Ibadan) 2(3): 26-28, March, 1966.

Reiterates and elaborates on issues discussed in the March, 1965 number of the magazine but is still heavily weighted on 'sectoral planning'.

65. RICHARDS, Paul. Geographical co-ordinate data and regional planning. Nigerian Opinion (Ibadan) 6(5-7): 51-56, May-July, 1970.

Argues the case for modifying Nigerian national surveys and censuses to permit data collection based on a geo-coordinate system.

66. WHEELER, P.T. Physical planning in Nigeria: the relevance of the British experience. Nigerian Opinion (Ibadan) 6(5-7): 64-67, May-July, 1970.

Highlights the administrative, public relations, legal, and amenity aspects of British planning experience which might be relevant to Nigeria's situation.

TEACHING OF GEOGRAPHY

67. ABIOYE, Peter A.F. Geography course in the Nigerian Certificate in Education. Nigerian Geographical Journal (Ibadan 13(2): 211-215, Dec. 1970.

Explains the purpose and structure of the N.C.E. geography course run in Zaria with a note on problems and prospects.

68. ADEJUYIGBE, Omolade. Reshaping high school geography in Nigeria. Nigerian Geographical Journal (Ibadan) 13(1): 89-94, June, 1970.

Summarises under the headings of objectives, content, methodology and teaching aids fourteen papers presented at the Conference on High School Geography, Ibadan, 1969.

69. AMAMKPA, E.W. An outline of geography taught in the Lutheran Teacher Training College, Ibakachi. Nigerian Geographical Journal (Ibadan) 4(1): 47-48, Aug. 1961.

Demonstrates how the study of the effects of environmental setting on the Ibakachi man could lead to better appraisal of similar studies elsewhere.

70. BAKARE, Christopher G.M. Some problems of teaching geography in the Sixth Form. Nigerian Geographical Journal (Ibadan) 8(1): 61-66, June, 1965.

Examines some fundamental problems in the Nigerian situation with suggestions for overcoming them.

71. _____. A critical study of some aspects of geography teaching in Western Nigeria grammar schools. M. Ed. Thesis, University of Ibadan, 1966. xxv, 286.1.

Analysis of objectives, contents and methods of teaching, and assessment of the popularity of geography among the pupils studied.

72. FLOYD, Barry N. Summary of observations resulting from the 11th Annual Conference of the Nigerian Geographical Association held at the University of Nigeria, Nsukka, from December 18th to 22nd 1965. Nigerian Geographical Journal (Ibadan) 9(1): 71-75, June, 1966.

General comments on school syllabuses, map-work in schools, and objective testing in geography as applied to Nigeria.

73. HIGH, Colin and Paul Richards. Some dynamic hardware models for teaching geography. Nigerian Geographical Journal (Ibadan) 13(2): 201-210, Dec. 1970.

Shows how to construct three models to explain and theorise on certain human geographic issues. Examples of application of models are taken from Nigeria.

74. MABOGUNJE, Akinlawon Ladipo. School inspection in geography. Nigerian Geographical Journal (Ibadan) 5(2): 135-138. Dec. 1962.

Appraisal of the organisation of geography teaching in three Western Nigerian secondary schools inspected by the author.

75. McBAIN, F.C.A. *Some observations on geography courses in Nigerian secondary schools.* Nigerian Geographical Journal (Ibadan) 10(1): 57-63, June, 1967.

Discusses problems of content and approach to the geography course based on a survey of fifty secondary grammar schools, and outlines possible solutions.

76. MAJASAN, James Adeyemi. Weather observation in schools. Nigerian Geographical Journal (Ibadan) 5(1): 61-62, June, 1962.

Presents a case for the installation and maintenance of weather observatories in Nigerian schools and explains the climatological and synoptic uses of resultant data.

77. OBOLI, H.O.N. The teaching of local geography in secondary schools. Nigerian Geographical Journal (Ibadan) 1(1): 14-16, April, 1970.

Strongly advocates its meaningful inclusion in Nigerian Secondary school curricula, enumerates the problems involved, and suggests how they may be overcome.

78. OYAWOYE, M.O. Teaching contour maps with modern models. Nigerian Geographical Journal (Ibadan) 6(1): 50-59, June, 1963.

Demonstrates the advantages of models developed at Ibadan.

79. POPOOLA, S.O. Being a geography teacher. University Geographer (Ibadan) 2(1): 28-32, March, 1960.

Nigerian teacher narrates some problems of teaching geography in Nigeria and pleads for urgent solutions.

80. SOLADOYE, E. Ebun. Geography in Nigerian education. University Geographer (Ibadan) 1(2): 13-16, March, 1957.

Offers few suggestions on how to improve the teaching of geography in Nigeria thereby increasing its popularity and relevance to Nigeria's social and economic problems.

81. WATSON, D. Nadine. Result of an inquiry into geography in Nigerian schools. Nigerian Geographical Journal (Ibadan) 2(2): 75-79, March, 1959.

Critical analysis of questionnaire on teaching of geography in Nigerian secondary schools; results compared with similar survey for England in 1957.

CGP

82. WATSON, G.D. An account of field work in the teaching of geography. Nigerian Geographical Journal (Ibadan) 1(2): 38-43, Dec. 1957.

Appraisal of nature and organization of field surveys carried out by School Certificate Candidates at Government College, Zaria over a seven-year period.

83. WILLMER, J.E. A plea for a new interpretation of geography in education. Nigerian Geographical Journal (Ibadan) 9(2): 155-162, Dec. 1966.

Suggests ways of making geography more attractive and better taught in Nigerian secondary schools.

84. AGBOOLA, S. Akin. Geographical field-work in Nigeria. University Geographer (Ibadan) 1(3): 9-13, May, 1958.

Enumerates some documentary, technical, bio-climatic and human problems in conducting field studies in Nigeria.

FIELD TECHNIQUES

85. ANDERSON, David. Surveyor's trek. London, Faber & Faber, /1940/ 326p. map.

Narrative of author's surveying experiences in the then Northern Nigeria.

CGP

86. HERRMAN, Reiner. Methods and results of a hydrogeographic survey in Eastern Nigeria. Erdkunde (Bonn) 22(2): 89-100, June, 1968.

Describes methods used and presents, with the aid of detailed maps and a hydrogeographic profile, four hydrogeographic units.

87. JARRETT, H.R. Possibilities of field work in Nigeria. Nigerian Geogrpahical Journal (Ibadan) 2(1): 40-44, June, 1958.

Discusses techniques, content and organization of intensive field work, with emphasis on planning.

88. KNOWING Nigeria. University Geographer (Ibadan) 1(3): 18-25, May, 1958.

Narrative of some of the experiences of a research student collecting data on rural settlement in Egbaland.

89. MacBRIDE, D.F.H. Land survey in the Kano Emirate. Journal of the Royal African Society (London) 37 (146): 75-91, Jan, 1938.

History, areal coverage and methodology of three types of surveys are given, stressing the significance of the revenue survey to land administration and taxation.

90. PATTULO, M.L. The vegetation map of Sokoto Province. Nigerian Forester (Ibadan) 1(1): 35-38, July, 1940.

Account of method used in intensive vegetational field survey to produce a map that forms basis for delimitation of forest reserves.

91. ADEGBOYE, A. The coastal zone of Lagos. Journal of the Geographical Society (Lagos) 2(1):7-14, 1970.

A geomorphical description and analysis of major features.

92. PUGH, John C. Surveying techniques for Nigerian university students. Empire Survey Review (London) 13(96): 81-87, April, 1955.

Describes details of a course in Simple Surveying offered to Honours students in Geography at the then University College, Ibadan.

93. WOOD, J. Calder. Surveys of towns and township lay-outs in Nigeria. Empire Survey Review (London) 1(2): 50-57, Oct. 1931.

A descriptive account of existing and planned urban development sites.

NATURE OF GEOGRAPHY IN NIGERIA

94. ABBEY, W.A. Nigeria and her geographers. University Geographer (Ibadan) 6: 18-20, June, 1965.

Argues that the geographer's vital contribution in solving society's problems has not been appreciated in Nigeria; gives a list of what geographers have done elsewhere and could do in Nigeria.

95. BARBOUR, K.M. Geography in Nigeria; presidential address. Nigerian Geographical Journal (Ibadan) 6(1): 3-16, June, 1963.

Affirms the vital rôle of geographical research in all universities; summarises the vastness of the unknown in Nigeria; and justifies research being done by Ibadan University staff.

CGP
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96. FLOYD, Barry N. Some comments on the scope and objectives of geography in the developing areas. Nigerian Geographical Journal (Ibadan) 9(1): 11-24, June, 1966.

Argues against increasing mathematization of geography in developing countries with Nigeria as an example.

AA

97. GARNIER, Benjamin John. Geography and national development. Nigerian Geographical Journal (Ibadan) 1(1): 3-6, April, 1957.

Examples of applied geography in other parts of the world point to the possible scale and depth of same development in Nigeria.

98. GRANT, J.A.P. The Nigerian Geographical Association. West African Journal of Education (Ibadan) 1(1): 8-12, Feb. 1957.

Enumerates the objectives of the Association, its achievements do date, and presents an outline of its immediate programme of activities.

99. OJO, G.J.A. The immediate future of geography in Nigeria: the relative prospects of physical and human geography. Nigerian Geographical Journal (Ibadan) 8(1): 3-16, June, 1965.

Demonstrates brighter prospects for human geography and presents a lively account of Yoruba 'afins' (palaces) as an example of human geographic research topic.

CGP
GA-D

100. OJO, Gabriel Jimoh Afolabi. Nigerian geography in action; presidential address. Nigerian Geographical Journal (Ibadan) 9(1): 3-10, June, 1966.

Reviews achievements of Nigerian Geographical Association in the two previous years, and outlines where it should direct itself for solutions to problems at all levels.

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HISTORICAL GEOGRAPHY

101. ABIMBOLA, 'Wande. The ruins of Oyo Division. African Notes (Ibadan) 2(1): 16-19, Oct. 1964.

Advances political and sociological causes for two areas of ruins identified and briefly describes the pattern of resettlement in one of them. His contention that 'forest is not native to this area' needs further clarification.

AA

102. ADEREMI, Adesoji I., Oni of Ife. Notes on the city of Ife. Nigeria (Lagos) No.12: 3-8, 1937.

Historical account of its origin, crafts and position among the Yorubas. Brief description of the adaptation of its peoples to 'modern' trade and technologies.

103. AFIGBO, A.E. Efik origin and migrations reconsidered. Nigeria Magazine (Lagos) No. 87: 267-280, Dec. 1965.

Sifts historical records and oral evidence to challenge popular theory that Efiks are Ibibio, and attempts to reconstruct causes and sequence of their settlements around Calabar.

AA

104. AJAEGBU, Hyacinth Iheanyichuku. Recent migrations and settlement in the coastal areas of southwestern Nigeria: the example of Epe and Ikeja Divisions. Nigerian Geographical Journal (Ibadan) 11(1): 61-78, June, 1968.

Describes factors responsible for the three phases of population movements and settlement patterns in the area from about 1700 to 1950. The earlier dates must be regarded as tentative pending more archaeological and historical evidence.

AA
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105. ALAGOA, E.J. Ijọ origins and migrations. Part 2: Migrations. Nigeria Magazine (Lagos) No, 92: 47-55, March, 1967.

Distinguishes three traditional accounts of Ijọ migrations using the sources to describe the origins and character of Ijọ migrations.

CGP

106. ALISON, Philip A. The last days of Old Ọyọ. Odu (Ibadan) No.4: 16-27, 1957.

Based almost entirely on the records of Clapperton and Lander brothers, the political and socio-economic forces leading to the decline of Old Ọyọ are narrated with brief comments.

107. ANENE, J.C.O. The boundary arrangements for Nigeria, 1884-1906; an objective study in colonial boundary making. Ph.D. Thesis, University of London, 1960.

Critical evaluation of the historical, political, cultural, and physical implications of Nigeria's international boundaries.

108. BASCOM, W. The early historical evidence of Yoruba urbanism. Présence Africaine (Paris) 1959.

109. BONNY. Nigeria Magazine (Lagos) No. 57: 354-372, 1958.

Attributes Bonny's growth and decline as a port to lack of communication with the hinterland. But oil exploration has revived Bonny's past importance.

110. BOVILL, Edward William. Jega market. Journal of the African Society (London) 22(85): 50-60, Oct. 1922.

Natural, commercial, and transportation advantages made Jega market prominent in the nineteeth century; has declined because later rail and road developments bypassed it.

111. CAMPBELL, M.J. Borgu journey. Nigeria Magazine (Lagos) No.48: 60-83, 1955.

Emphasis is on the historical significance of a sparsely populated and largely isolated vast expanse of wilderness. Kainji Dam is changing much of this picture.

AA

112. _____. The walls of a city. Nigeria Magazine (Lagos) No. 60: 39-59, 1959.

Lavishly illustrated description and account of the historical significance of each section and each gate of the picturesque Zaria City walls.

AA

113. COWAN, Alex A. Early trading conditions in the Bight of Biafra. African Affairs (London) 34(137): 391-402, Oct. 1935.

Describes location, volume, and items of crude forms of trade involving Nigerians and Europeans.

114. COWLEY, E.J. Development of the cotton growing industry in Nigeria with special reference to the work of the British Cotton Growing Association. Empire Cotton Growing Review (London) 43(3): 169-195, July, 1966.

Comprehensive historical review of the variagated fortunes of producing areas, production totals, buying stations, and ginneries, from 1902 to 1965.

115. DUCKWORTH, E.H. Badagry; its place in the pages of history. Nigeria (Lagos) No. 38: 145-174, 1952.

Narrates Badagry's contacts with earliest explorers and missionaries like the Landers, Captains Clapperton and Fawcknew, Thomas Freeman and Townsend.

116. ELGEE, Cyrill H. The evolution of Ibadan. Lagos, Government Printer, 1914, 41p.

Chronological account of important historical events from 1811 to 1913. Contains a useful alphabetical gazeteer of Ibadan settlements, around Ibadan, Ile-Ife and Illa towns.

117. FAGG, Bernard. An outline of the Stone Age of the Plateau minesfield In '3rd International West African Conference (C.I.A.O.), Ibadan, 12th-21st Dec., 1949. Proceedings'. Lagos, Nigerian Museum, 1956. p.203-222.

Describes the industry of the Acheulian, particularly the Nok culture, as revealed by escavation sites near Jos.

118. FOULKES-ROBERTS, D.S. Zungeru as the capital of Northern Nigeria. Nigeria (Lagos) No. 23: 138-142; No. 24: 195-200, 1946.

Based on Lugard's Annual Reports, Northern Nigeria, 1910-11, he tells the story of its rise and fall as capital.

119. HODDER, B.W. Badagry I: slave port and mission centre. Nigerian Geographical Journal (Ibadan) 5(2): 75-86, Dec. 1962.

Gives historical account of its locational and religious geography up to 1863.

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120. _____. Badagry II: One hundred years of change. Nigerian Geographical Journal (Ibadan) 6(1): 17-30, June, 1963.

Outlines and explains changes in the human geography of the town since 1863.

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121. HODDER, B.W. and C.W. Newbury. Some geographical changes along the Slave Coast of West Africa. Tijdschrift voor Economische en Social Geografie (Rotterdam) 52(3): 77-84, March, 1961.

Considers settlement, transportation, agriculture and land-use changes since 1489.

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BG1

122. HOPKINS, Brian. The Olokemeji Forest Reserve. Part I: General history of the area. Nigerian Field (London) 34(3): 115-126, July, 1969.

Summarises the accounts of the earliest explorers, missionaries and nineteenth century Yoruba Wars as they relate to Olokemeji area.

123. KIRK-GREENE, Anthony Hamilton Millard and M.J. Campbell. The capitals of Northern Nigeria. Nigeria Magazine (Lagos) No.54: 243-272, 1957.

Chronological record of physical and economic factors influencing the choice of four capitals from Lokoja (1841) to Kaduna (1917). Layout and important features of Kaduna described.

AA
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124. LANGTON, Malcolm. The River Ogun; an historical journey. Nigeria Magazine (Lagos) No. 72: 34-44, March, 1962.

Recounts the growth and decline of trade and politics on the river between 1830 and 1899 and the important features observed during a recent voyage on it.

125 MORGAN, W.B. The influence of European contacts on the landscape of southern Nigeria. Geographical Journal (London) 125(1): 48-64, March, 1959.

Analyses ecological, economic and cultural modifications to the landscape beginning from 1861.

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126. MORGAN, W. Bill and C.W. Newbury. Some geographical changes along the Slave Coast of West Africa. Tijdschrift voor Economische en Sociale Geographie (Rotterdam) 52(3): 77-84, 1961.

Examines, comparatively, some geographical changes along the narrow coastal lowland of southwestern Nigeria, southern Dahomey, and southern Togo since about 1486.

127. MORTON-WILLIAMS, Peter. The influence of habitat and trade on the policies of Oyo and Ashanti. African Notes (Ibadan) 4(3): 39-52, May, 1968.

Illustrates the complex influences of ecological factors on the development of the savannah state of Oyo as compared with the forest state of Ashanti.

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GA-D

128. NZEKWU, Onuora. Lagos, 1861-1961. Nigerian Magazine (Lagos) No. 69: 95-190, Aug. 1961.

Largely pictorial record of the changing characteristics of human, physical and cultural phenomena.

CGP

129. RAID, Mohamed. The Jukun: an example of African migrations in the sixteenth century. Bulletin, Institut Francais d'Afrique Noire (Dakar) 22(2): 476-485, 1960.

Attempts to explain the origins and directions of in-migration of the Jukuns living on both sides of the Benue River.

AA

130. SMITH, Robert. Erin and Iwarun, forgotten towns of Òkè Ògùn. Odu (Ile-Ife) 1(1): 17-32, July, 1964.

Reconstructs the historical geography of these former plain and hill towns from archaeological evidence and oral traditions.

AA

131. SMITH, Robert and Denis Williams. A reconaissance visit to Ọyọ-Ile. Odu (Ibadan) 3(1): 56-60, July, 1966.

Briefly describes the founding of Old Ọyọ, earliest recorded contacts with it, and the significance of a route into the site taken by the writers in February, 1965.

132. TALBOT, P. Amaury. Some foreign influences on Nigeria. Journal of the African Society (London) 24(95): 178-201, April, 1925.

Speculates on chronology of the peopling of Nigeria and describes the mainly Mediterranean influences on the language distribution and anthropological characteristics of her major tribes.

133. TAMUNO, Tekena N. Genesis of the Nigerian railway - 1. Nigeria Magazine (Lagos) No. 83: 279-292, Dec. 1964.

Historical account of its plans and progress of construction up to 1907.

CGP

134. _____. Genesis of the Nigerian railway - 2. Nigeria Magazine (Lagos) No. 84: 31-43, March, 1965.

Concludes the historical account, and discusses future plans for extension especially to Maiduguri (since constructed).

CGP

135. TAYLOR, F.W. The word 'Nigeria'. Journal of the Royal African Society (London) 38 (150): 154-159, Jan. 1939.

Traces earliest uses of the word 'Nigeria' in its present geographical meaning.

CGP

136. UKPABI, S.C. Nsukka before the establishment of British administration. In 'Nsukka Division: a geographical appraisal. Edited by P.K. Sircar.' Nsukka, University of Nigeria, Department of Geography, 1965. p.26-36.

Attempts to reconstruct how the peopling of the Division and population movements within it are reflected in its settlement and cultural geography.

137. WATTERS, R.G. A visit to Old Oyo. Nigeria (Lagos) No. 44: 346-349, 1954.

Depicts the thoroughness of the disappearance of a city that flourished only some 150 years before.

EXPLORATION AND TRAVEL

138. ABIMBOLU, A. Just along the road. University Geographer (Ibadan) 1(2): 17-18, March, 1957.

Diversities in some physical and cultural features along a road from Port Harcourt to Oshogbo are briefly described.

139. ALEXANDER, Lieut. Boyd. From the Niger to the Benue. London, Edward Arnold, 1907. 2v.

First volume and first twelve chapters of volume two record the adventures and survey work of a team of explorers in north eastern Nigeria. Account of Lake Chad and Maiduguri market particularly fascinating.

140. _____. From the Niger to the Nile. London, Edward Arnold, 1907. 2 vols.

Volume One more relevant to Nigeria giving vivid descriptions of the country and its peoples passed through by the Expedition. Accounts of Lake Chad and Maiduguri market particularly fascinating.

141. ALEXANDER, Boyd. Boyd Alexander's last journey, with a memoir by Herbert Alexander. London, Edward Arnold, 1912 ... viii, 296p. front. plates, maps.

Biographical account of Boyd Alexander's last days, and the diary of his last journey through Southern Nigeria to the Cameroons.

142. ALLEN, Capt. William. On a new construction of a map of a portion of Western Africa showing the possibility of the Rivers Yéu and Chadda being the outlet of the Lake Chad. Journal of the Royal Geographical Society (London) 8: 289-307, 1938.

Advances seemingly 'strong evidences' to prove that river Yéu (Hadejia) discharged from Lake Chad south-westwards to join up with river Chadda (Benue)!

143. ARDEN-CLOSE, Sir Charles. The Cross River Country in 1895. Geographical Journal (London) 98(4): 189-197, Oct. 1941.

Chronicle of an explorer in the region east of the Cross River written in the typically racist language of the period.

144. BARTH, Heinrich. Travels and discoveries in North and Central Africa ... London, Frank Cass, 1965. 3v.

Complete edition of original volume. Chapters 23 to 45 give vivid account of topography and anthropological details of Bornu Kingdom and area around Lake Chad in Nigeria.

145. BASCOM, William. Landor's routes through Yoruba country. Nigerian Field (London) 25(1): 12-22, Jan., 1960.

Based on the chronological account of the Landers and Clapperton, names of places mentioned on route are clarified. Glossary on p.20-21 particularly useful.

AA

146. BINDLOSS, Harold [and] James Pinnock. In the Niger country ... together with James Pinnock's Benin: the surrounding country, inhabitants, customs and trade. London, Frank Cass, 1968. x, 396p. illus.

Narrative of a traveller's experiences and observations, p.66-336, is tainted with many subjective and even foolish statements. Pinnock's is same as that entered under his name.

147. BOVILL, Edward William. Henry Barth. Journal of the African Society (London) 25 (100): 311-320, July, 1926.

Summary of his journey into Northern Nigeria and Western Sudan.

148. _____. The Niger quest [and] the lifting of the veil. In 'Caravans of the old Sahara'. London, O.U.P., 1933. p.210-219; 233-245.

Summarises explorations to trace the course of the Niger from Leo Africanus to Barth.

149. BOVILL, Edward William. The Niger. In 'The golden trade of the Moors.' London, O.U.P., 1958. p.203-219.

Summary of explorations to trace the course of the Niger in same way as his 1933 work.

150. _____, ed. Missions to the Niger, 1822-1825. London, Cambridge University Press and Haklyut Society, 1966. vols. II, III, IV.

With copious annotations, modern names, and clear maps showing itineraries of the journeys, he has thrown entirely new light on the journeys and on the three travellers (i.e. Denham, Clapperton and Oudney).

CGP
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151. _____. The death of Mungo Park. Geographical Journal (London) 133(Pt.1): 1-9, March, 1967.

New light based mainly on Amadi's narrative.

152. _____. Niger explored. London, Oxford University Press, 1968. 263p.

With excellent maps and beautiful illustrations it is a splendid summary of rather tedious books on explorations of the Niger from Mungo Park to the Landor brothers.

CGP

153. CROCKER, H.E. Ten thousand miles in Nigeria. United Empire (London) 31(6): 195-201, June, 1940.

CGP

154. DENHAM, Clapperton and Oudney. Missions to the Niger, II, III and IV: the Bornu Mission. Cambridge, C.U.P., 1966.

CGP

155. DUCKWORTH, E.H. A journey through the Creeks: Lagos to Sapele. Nigeria (Lagos) No. 10: 40-47, April, 1937.

Narrative of major human features and flora encountered.

156. DUCKWORTH, E.H. On tour: thoughts and observations during a journey by car from Lagos to Abuja. Nigeria (Lagos) No. 33: 93-134, 1949.

Richly illustrated account of the physiography, life and people in areas along the route, with particular emphasis on Abuja.

157. EXPLORING in Nigeria. Nigeria (Lagos) No. 26: 331-395, 1947.

Pictorial record of a journey to discover any local records of a Captain James Fawckner who was wrecked between Mahin Lagoon and Benin River in 1825.

158. FALCONER, J.D. On horseback through Nigeria or life and travel in the Central Sudan. London, T. Fisher Unwin, 1911. 312p. illus. map.

Surprisingly impressionistic account of a geologist's travels by road and river through the former Northern Region in 1908.

159. FRASER, Douglas C. Impressions - Nigeria 1925. London, Herbert Jenkins, 1926. 188p. illus.

Highly subjective traveller's account of the physical features, fauna and peoples of parts of southern and northern Nigeria.

160. FROM Ibo land to the Sonkwala Mountains; the description of a journey made by some members of the Nigeria magazine staff. Nigeria (Lagos) No. 28: 87-157, 1948.

Descriptive account, mostly illustrated, of the physical geography, the social and economic life of the people on a journey from Asaba to Ikot-Epene and back again through Enugu to Ogoja Province.

CGP

161. GLOVER, John Hawley. The voyage of the 'Dayspring', being the journal of the late ... together with some account of the expedition up the Niger in 1857, by A.C.G. Hastings ... London, John Lane, 1926, xiii, 230p. illus.

Chronological descriptive account of an official survey of the Niger River for the British Government.

162. GODDARD, Stephen. In the footsteps of Mungo Park. Nigerian Field (London) 30(1): 18-27, Jan. 1965.

Record of impressions along route from Ibadan mainly upstream the Niger to Timbuktu and back again.

163. GOLDSMITH, H.S. The River Niger; Macgregor Laird and those who inspired him. Journal of the African Society (London) 31(125): 383-393, Oct. 1932.

Summary of voyages of discovery on the Niger from Mungo Park to the Landers from background of Laird's pioneering activities to open up the area to British commerce.

164. GWYNN, Stephen. Mungo Park and the Niger. London, John Lane, 1934.

Narrative of Mungo Park's abortive attempts to explore the course of River Niger.

165. HALLAM, W.K.R. Driving round Chad Basin. Nigerian Field (London) 31(3): 111-118, July, 1966.

Descriptive account of the physical terrain and fauna encountered in the detour.

UKPT

166. HALLETT, Robin. The riddle of the Niger. Geographical Magazine (London) 36(6): 313-319, Oct. 1963.

Reviews speculations about the course of the Niger until the Lander brothers unravelled the mystery in 1830.

CGP

167. JEFFREYS, M.D.W. Arab knowledge of the Niger's course. Africa (London) 25(1): 84-90, Jan. 1955.

Documentary reconstruction of a facet of the discovery of River Niger.

BG1

168. JOHNSTON, Harry H. The Niger Basin and Mungo Park. Scottish Geographical Magazine (Edinburgh) 23(2): 58-72, Feb. 1907.

Describes the motivation for, and the earlier attempts to solve the Niger mystery before an account of Mungo Parks voyages and achievements are given.

169. KIRK-GREENE, Anthony Hamilton Millard. Nigerian explorers. Nigeria Magazine (Lagos) No. 66:66-74, Oct. 1960.

Chronological account from main available sources of mostly nineteenth century European explorers.

CGP

170. _____. The Niger; illustrated by Caroline Sassoon. London, Oxford University Press [1961] (Rivers of the world series, no.7).

Panoramic account of the land and people on a downstream tour from Bamako to Warri.

171. _____, ed. Barth's travels in Nigeria: extracts from the journal of Heinrich Barth's travels in Nigeria, 1850-1855. London, O.U.P., 1962. 300p. illus. maps. (West African history series).

Aims at presenting a balanced cross-section of personal narrative, geographical description, ethnological observation and historical reconstruction, plus Barth's biographical monograph.

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172. _____. Henrich Barth: a curious error. Nigerian Geographical Journal (Ibadan) 7(2): 109-114, Dec. 1964.

Analyses all documentary evidence and personal observations to establish Barth's erroneous identity and location of Mount Mindif in Adamawa Province.

173. LUPTON, K. The death of Mungo Park. Nigeria Magazine (Lagos) No. 72: 58-70, March, 1962.

Documentary proof of the exact site and date.

174. MIGEOD, Frederick William Hugh. Through Nigeria to Lake Chad. London, Heath Cranton, 1924. 330p. illus. maps.

Narrative of observations from the Niger Delta to Lake Chad to investigate population movements supposedly resulting from increasing dessication of Nigeria!

175. MOODY, H.L.B. and Johanna E. Moody. A visit to Lake Chad. Nigeria Magazine (Lagos) No.88: 42-48, March, 1966.

Experiences and observations on a journey from Maiduguri to Lake Chad.

176. _____. A visit to Sokoto and Wurno. Nigeria Magazine (Lagos) N.98: 177-192, Nov. 1968.

Journalistic description of the landscape in and around these two historic cities very much in the spirit of Paul Standinger, the first European to visit them in 1885.

CGP

177. MORGAN, W.B. A field trip from Ibadan, with students' reports of field excursions contributed by J.A.P. Grant. Nigerian Geographical Journal (Ibadan) 2(1): 45-53, June, 1958.

Descriptive account of geographical features observed en-route a trip started from Ibadan and confined to the main road.

178. MOTT, G.J. Mungo Park: 1771-1805. Nigeria (Lagos) No. 24:224-228, 1946.

Summary of Mungo Park's contribution to solving the mystery of the course of river Niger.

179. NICOL, Davidson. Mungo Park and the River Niger. African Affairs (London) 55(218): 47-50, Jan. 1956.

Narrative of background to, and of, Mungo Park's journeys.

180. _____. Mungo Park and the Niger. West African Review (London) 28(355) 417-419+, April, 1957.

Historical account of Park's two unsuccessful attempts to trace the mouth of the Niger river.

181. NZEKWU, Onuora. From Maiduguri to Lake Chad. Nigeria Magazine (Lagos) No. 79: 234-47, Dec. 1963.

The country, its people, and the route taken reflect a simple way of life but with a growing trade in cattle and fish.

182. OWEN, Richard. Saga of the Niger. London, Robert Hale, 1961. 188p. illus.

Journey on the tracks of Mungo Park, Richard Lander and other explorers.

183. PARNIS, R.O. A visit to Aiyetoro. Nigerian Field (Ibadan) 30(1): 37-40, Jan. 1965.

Narrative of places visited in the town and estimation of the peoples' peculiar socio-economic way of living.

184. PINNOCK, James. Benin: the surrounding country, inhabitants, customs, and trade; a lecture delivered before the Geographical Societies of Liverpool, Newcastle-on-Tyne, etc. London, Frank Cass, 1968. 26p. (text), 29p. (illus.) (Cass Library of African Studies. Travels and narratives, no.48) [Reprinted from original edition, 1897].

Narrative of European, and particularly English, contacts and travels in the area; relatively free of the usual subjective and exaggerated statements about the natives and their activities.

185. PROTHERO, R. Mansell. Heinrich Barth and the Western Sudan. Geographical Journal (London) 124(3): 326-339, Sept. 1958.

Reviews Barth's contribution to knowledge of Western Sudan stressing the geographical significance of his painstaking records of upper Benue River and his journeys between Kukawa and Timbuktu.

186. RAPHAEL, J. Through unkown Nigeria. London, T. Werner Laurie [1914] xxiii, 361p. illus.

Narrative of travels through former Northern Nigeria valuable particularly for the vivid descriptions of Zungeru, Kano, Zaria, Lokoja and settlements on the Jos Plateau.

187. STEEL, E.A. Exploration in Southern Nigeria. Geographical Journal (London) 32(1): 6-24, July, 1908.

Physical and human features in the exploration of parts of Calabar and Onitsha Provinces described.

188. TALBOT, P. Amaury. From the Gulf of Guinea to the Central Sudan. Journal of the African Society (London) 11(44): 373-393, July, 1912.

Diary of expedition up the Cross River to Fort Lamy full of facile generalisations aimed at convincing Government of the feasibility of a railway along that route.

189. UDO, Reuben K. Wandering amongst the gullies. University Geographer (Ibadan) 1(3): 13-17, May, 1958.

Account of observations during an excursion to explore the gullies around Nsudde village, nine miles north-west of Enugu.

190. UMO, K. History of Aro settlements. Lagos, Government Printer, 1949.

Brief narrative of how the Aros came to occupy their present lands.

GENERAL HUMAN GEOGRAPHY

191. BALDWIN, T.H. Kano Province. Nigeria (Lagos) No.15: 183-187, 1938.

Stresses the dense population concentration, intensive cultivation and the sharp cultural and economic contrasts in Kano City and environs.

192. BASDEN, George T. Notes on the Ibo country and the Ibo people, Southern Nigeria. Geographical Journal (London) 39(3): 241-246, March, 1912.

Describes features of a transverse survey carried out in Onitsha Province and the distribution of Ibos there.

193. _____. Notes on the Ibo country, Southern Nigeria. Geographical Journal (London) 55(1): 32-40, Jan. 1925.

Human and physical geography of Iboland around Onitsha and Asaba.

194. BELL, Hesketh H. Recent progress in Northern Nigeria. Journal of the African Society (London) 10(40): 376-391, July, 1911.

In a paper concerned with administrative progress, pages 377-383 describe in some detail the physical features and the distribution and character of its peoples.

195. BOHANNAN, Paul and Laura Bohanna. The Tiv of central Nigeria. London, International African Institute, 1953. (Ethnographic survey of Africa. Western Africa, pt. 8).

Concise account of their tribal groupings, language, physical environment, social and political structure and religious beliefs.

196. BRADBURY, R.E. The Benin kingdom and the Edo-speaking peoples of south-western Nigeria. London, International African Institute, 1957. (Ethnographic survey of Africa. Western Africa, pt. 13).

Concise account of their tribal groupings, language, physical environment, social and political structure and religious beliefs. Includes a section on the Itshekiri, by P.C. Lloyd.

BG1

197. BUCHANAN, Keith M. Nigeria: largest remaining British colony. Economic Geography (Worcester, Mass.) 28(4): 302-322, Oct. 1952.

Broad outline of essential features of its economic and human geography now mostly dated.

CGP
NGPM
BG1

198. _____. The Northern Region of Nigeria; the geographical background of its political duality. Geographical Review (New York) 43(4): 451-473, Oct. 1953.

Describes contrasts in the economic and human geography of the 'Middle Belt' and the six northernmost 'Sudan' provinces.

CGP
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BG1

199. BURDON, Major J.A. The Fulani emirates of Northern Nigeria. Geographical Journal (London) 24(6): 636-650, Dec. 1904.

No more than journalistic description of some geographic features in approximately the present North-West State. Contains many unfounded generalizations.

200. CARTOR, D. Map of part of the Nassarawa Province, Northern Nigeria. Geographical Journal (London) 36(6): 695-696, Dec. 1910.

Has brief explanatory notes on human geography of the Province.

201. CULLEN, A.A. Adamawa Province. Nigeria (Lagos) No.19: 224-226, 1939.

Particular emphasis on the administrative set-up but also brief description of its physical and historical features.

202. DAGGASH, Musa. Adamawa Province. Farm and Forest (Ibadan) 8(1): 19-23, Jan-June, 1947.

General physical and human geography of a largely rural area where results of European influence were just appearing.

CGP
BG1

203. DANIEL, F. DE F. Ilorin Province. Nigeria (Lagos) No. 15: 179-182, 1938.

Mostly descriptive account of the history, peoples and economy of Ilorin town.

204. DAVIS, J.A. Biu. Nigeria Magazine (Lagos) No. 45:75-92, 1954.

Brief sketch of the land and people of Biu Division.

205. DENNIS, P.W.C. The district around Zaria, Northern Nigeria. Scottish Geographical Magazine (Edingburgh) 60(1): 15-18, June, 1944.

Brief physical and human geography of area approximately ten miles radius from Zaria City. This area was not "typical of the whole of Northern Nigeria"!

CGP
BGI

206. The EMIRATE of Zazzau. Nigeria (Lagos) No. 15: 192-196, 1938.

From one of the summits of Mount Kufena the main cultural features of Zaria City and the immediate surrounding villages are described.

207. FARRINTON, J.L. Northern Nigeria - an awakening giant. African Affairs (London) 62(247): 125-136, April, 1963.

General review of socio-economic potentialities, progress and problems.

208. FLOYD, Barry N. The Federal Republic of Nigeria. Focus (New York) 15(2): 1-6, Oct. 1964.

Brief, general, descriptive human geography.

CGP

209. FORDE, Cyril Daryll. Physical character, communications and peoples. In 'The native economies of Nigeria. Edited by M. Perham'. London, Faber & Faber, 1946. p.22-28. (The economies of a tropical dependency, vol. 1).

Brief, generalised description of major physiographic regions, road, river and rail transportation, and distribution of major tribes.

210. _____, ed. Peoples of the Niger-Benue confluence. London, International African Institute, 1955. (Ethnographic survey of Africa. Western Africa, pt. 10).

With sections on the Nupe, Igbira, Igala and the Idoma-speaking peoples, it describes their tribal and linguistic distribution, physical environment, social and political structure and religious beliefs.

211. _____. The Yoruba-speaking peoples of south-western Nigeria. London, International African Institute, 1962. (Ethnographic survey of Africa. Western Africa, pt. 4).

Concise account of their tribal groupings, language, physical environment, social and political structure and religious beliefs.

BGI

212. FORDE, Cyrill Daryll and G.I. Jones. The Ibo and Ibibio-speaking peoples of south-eastern Nigeria. London, International African Institute, 1950. (*Ethnographic survey of Africa. Western Africa, pt. 3*).

Describes tribal and linguistic distribution, physical environment, social and political structure and religious beliefs.

BGI

213. GILLES, Helen Trybulowski. Nigeria: from the Bight of Benin to Africa's desert sands. National Geographic Magazine (New York) 85(5): 537-568, May, 1944.

Panorama of Nigerian social and economic life as observed in the major towns; occasionally smeared by rhetoric and careless hyperboles.

CGP

214. GLOVER, P.E. Introduction. In his 'The tsetse problem in Northern Nigeria.' [Nairobi, Kenya, The author, 1961]. p.ix-xxx.

General description of physical, animal and human resources as they affect the distribution of tsetse flies, and problems of eradicating tsetse flies in the former Region.

215. GRANT, James A.P. Okitipupa: a brief survey. Nigerian Geographical Journal (Ibadan) 1(1): 7-13, 1957.

General physical and human geography of Okitipupa Division; the religious towns of Ugbonla and Aiyetoro are given special attention.

CGP
NGLM
BGI

216. GUNN, Harold D. Peoples of the plateau area of Northern Nigeria. London, International African Institute, 1953. (Ethnographic survey of Africa. Western Africa, pt.7).

Concise account of their tribal groupings, language, physical environment, social and political structure and religious beliefs.

217. GUNN, Harold D. Pagan peoples of the central area of Northern Nigeria. London, International African Institute, 1956. (Ethnographic survey of Africa. Western Africa, pt. 12).

Similarly treated as his 1953 work. Deals with essentially 'Middle Belt' areas.

218. GUNN, Harold D. & F.P. Conant. Peoples of the middle Niger region, Northern Nigeria. London, International African Institute, 1960. (Ethnographic survey of Africa. Western Africa, pt. 15).

Describes tribal groupings, language, physical environment, social and political structure and religious beliefs.

CGP
BGI

219. HUBBARD, John Waddington. The Isoko country, southern Nigeria. Geographical Journal (London) 77(2): 110-122, Feb. 1931.

Missionary's description of its peoples, the water-dominated terrain and associated human activities.

220. _____. The Sobo of the Niger Delta: a work dealing with the history and languages of the people inhabiting the Sobo ((Urhobo) Division, Warri Province, Southern Nigeria, and the geography of their land. Zaria, Gaskiya Corporation, 1948. xxvi, 269p. diagrs. maps.

Only Part I, and chapter four of Part II which give "in somewhat popular form an account of the geography of Sobo country" are relevant. NGLM

221. IZARD, G.W. Bauchi Province. Nigeria (Lagos) No. 18: 161-162, 1939.

Location, origins, topography and subsistence economy very briefly described.

222. JONES, G.C.I. Ecology and social structure among the north-eastern Ibo. Africa (London) 31(2): 117-134, April, 1961.

Ecological part includes the peoples' population, distribution and movements, land tenure, agricultural economy and settlement pattern.

CGP.

223. KENNEDY, J.D. The Jos Plateau, its people and some aspects of its forestry. Empire Forestry Review (Oxford) 28(2): 152-161, June, 1949.

CGP

224. LUGARD, Sir Frederick D. Northern Nigeria. Geographical Journal (London) 23(1): 1-29, Jan. 1904.

Summary of exploratory journeys into the area before 1903 precedes detailed narrative of survey work and administrative reforms imposed or proposed, punctuated with occasional anthropogeographic descriptions.

225. MacGREGOR, Sir William. Lagos, Abeokuta and the Alake. Journal of the African Society (London) No.12: 464-481, July, 1904.

Anthropogeographic study, particularly of Abeokuta Province.

226. MELLOR, Capt. F.H. The British protectorate in Northern Nigeria. Geographical Magazine (London) 6(4): 225-244, Feb. 1938.

General review of its administration, distribution and socio-economic activities of its peoples.

CGP

227. MILLER, Ronald. Katsina, a region of Hausaland. Scottish Geographical Magazine (Edinburgh) 54(4): 203-219, July, 1938.

Describes physiographic and climatic regimes of Katsina Province as they affect water supply, agricultural land-use, and settlement pattern.

CGP
BGI

228. MITCHEL, N.C. Nigeria. Focus (New York) 4(7): 1-6, March, 1954.

Generalized description of major human geographic features.

CGP
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229. MOCKLER-FERRYMAN, Lieut.Col. A.F. British Nigeria. Journal of the African Society (London). No.2: 160-173, Jan. 1902.

Attempts to describe the Niger trade, the country and peoples of Southern and Northern Protectorates with particular emphasis on ethnic distribution and location of major towns.

230. MORGAN, W.B. Farming practice, settlement patterns and pupulation density in south-east Nigeria. Geographical Journal (London) 121(3): 320-333, Sept. 1955.

A case study of interrelationships of these three phenomena in the rural economy of Aba Division and Diobu District.

AA
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231. NEW English province of Northern Nigeria. National Geographic Magazine (Washington, D.C.) 15( ): 433-442, Nov. 1904.

Description of extent, and human features, of the area roughly north of the Rivers Niger and Benue.

232. NIVEN, C.R. Kabba Province, Northern Provinces, Nigeria. Geographical Journal (London) 68(4): 289-301, Oct. 1926.

Generalised description of the land and peoples, excluding Igala Division.

233. OKALI, C. The people of Uboma. In 'Uboma: a socio-economic and nutritional survey of a rural community in Eastern Nigeria.' Bude, Cornwall, Geographical Publications, 1966. p.25-49. (World land use survey. Occasional papers no. 6).

Sections describing the settlement and housing patterns, demography and economy are of particular relevance to the geographer.

CGP
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234. OLI, E.I. The human geography of Nigeria in relation to physical aspects, with special reference to agriculture. M.A. Thesis, University of London, 1945.

UKPT

235. OVER the hills of Yola. Nigeria (Lagos) No. 29: 180-221, 1948.

All aspects of life in most of Adamawa Province are described against background of its historical and physical setting.

CGP

236. SIMPSON, Jas J. Entomological research in British West Africa: II. Northern Nigeria. Bulletin of Entomological Research (London) 2(4): 301-356, 1911.

Report of an entomological tour in the Niger Basin devotes fourteen pages to the physical and social geography of Northern Nigeria besides the narrative (31 pages), maps, tables and photographs containing invaluable geographical information.

237. SUFFILL, T.L. The Birom - a pagan tribe on the Plateau, Nigeria. Farm and Forest (Ibadan) 4(4): 179-182, Dec. 1943.

Very brief, general account of their history, distribution, culture and economy.

238. TAILED people of Nigeria. National Geographic Magazine (Washington, D.C.) 23(12): 1239-1242, Dec. 1912.

239. TALBOT, P. Amaury. The land of the Ekoi, Southern Nigeria. Geographical Journal (London) 36(6): 637-656, Dec. 1910.

Detailed account of physical characteristics of the area, and description of the people of Oban District, Calabar Province.

240. _____. Notes on the Ekoi. National Geographic Magazine (Washington, D.C.) 23(1): 32-38, Jan. 1912.

241. TEMPLE, Charles L. Northern Nigeria. Geographical Journal (London) 40(2): 149-168, Aug. 1912.

Describes population distribution in the area, its economic potentialities, and discusses problems of developing them.

242. UPWARD, Allen. The province of Kabba, Northern Nigeria. Journal of the African Society (London) No. 7: 235-260, April, 1903.

Fairly accurate description of its physical features, population and economy, with particular emphasis on Lokoja and Kabba towns and the area between them; limitations explained in the "Sources of information" section.

243. WATSON, G.D. A human geography of Nigeria. London, Methuen, 1960.

POPULATION GEOGRAPHY

244. ABIODUN, Josephine O. Central place study in Abeokuta province, south western Nigeria. Journal of Regional Science (Philadelphia) 8: 57-76, Summer, 1968.

245. ABIODUN, T.A. "Ten years of doubt." University Geographer (Ibadan) 3(2): 21-22, May, 1962.

Speculates on why Shaki's 1952 census figure may have been understated and hopes the 1962 Census would rectify the situation.

246. AGBOOLA, S.A. Some factors of population distribution in the Middle Belt of Nigeria: the examples of northern Ilorin and Kabba. In "The population of tropical Africa", edited by J.C. Caldwell and C. Okonjo. London, Longmans, 1968. p.291-297.

Thesis is that historical events have largely evolved the present pattern of generally sparse population distribution while the biogeographic and climatic complex have perpetuated it.

CGP
BGI

247. ALUKO, Samuel A. How many Nigerians? An analysis of Nigeria's census problems, 1901-63. Journal of Modern African Studies (Cambridge) 3(3): 371—392, Oct. 1965.

Discusses the unreliability of censuses up to 1963 and why the 1963 count has remained unusable; there is yet no satisfatory knowledge of the size and characteristics of Nigeria's population.

AA
NGLM

248. ARNETT, E.J. The census of Nigeria, 1931. Journal of the African Society (London) 32(129): 398-404, Oct, 1933.

Critique of returns for Nigeria and the Cameroons highlights the high range of reliability from 'incredible' figures for parts of Cameroons to 'the close accuracy' for Lagos and Northern Provinces.

249. ARMSTRONG, Robert G. Estimating ethnic group proportions from the population census of Nigeria, 1952-53. Nigerian Opinion (Ibadan) 5(3 & 4): 415-419, March-April, 1969.

Discussion on 1969 estimates of Nigeria's ethnic group sizes and their distribution shows that her economic and political stability derives largely from her multi-ethnicity.

250. BOHANNAN, Paul. The migration and expansion of the Tiv. Africa (London) 24(1): 2-16, Jan. 1954.

Describes the structure, spatial dimensions and socio-political repercussions of their movements.

AA

251. CENSUS of Nigeria, 1952-1953: Eastern Region results. Nigeria Trade Journal (Lagos) 1(4): 15, Oct.-Dec., 1953.

Provincial census summaries with brief comparative notes on previous 'counts' and estimates.

252. _____: Northern results. Nigeria Trade Journal (Lagos) 1(1): 19, Jan. 1953.

Tabulated provincial returns briefly compared with earlier 'censuses' and estimates.

253. _____: Western results. Nigeria Trade Journal (Lagos) 1(2): 13, April, 1953.

Provisional results of counts taken in 1951 tabulated on provincial basis.

254. CHARLES, Enid and Daryll C. Forde. Notes on some population data from a Southern Nigeria village. Sociological Review (Keele, Eng.) 30(2): 145-160, April, 1938.

CGP

255. COHEN, Abner. Politics of the kola trade; some processes of tribal community formation among migrants in West African towns. Africa(London) 36(1): 18-35, Jan. 1966. [French summary: p.35-36].

Socio-political case study of how the structure of Hausa migrant communities in Yoruba towns relate to their development and organizational requirements, and their monopoly, of the kola trade.

AA
BGI

256. _____. Stranger communities C. The Hausa. In 'The city of Ibadan. Edited by P.C. Lloyd, A.L. Mabogunje [and] B. Awe.' London, C.U.P., 1967.

High population mobility and a specialised economy largely explain the cultural exclusiveness of Hausa migrants in the Sabo Quarter of Ibadan.

CGP
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257. DURU, R.C. Problems of data collection for population studies in Nigeria with particular reference to the 1952/53 census and the Western Region. In "The population of tropical Africa. Edited by J.C. Caldwell and C. Okonjo". London, Longmans, 1968. p.71 - 77.

Critical review of the physical and socio-cultural factors militating against the accuracy and usefulness of 1952/53 census returns and analyses throughout Nigeria.

CGP
BGI

258. EIGHMY, Thomas Harden. Problems of census interpretation in developing countries: the Western Nigeria case. Svensk Geografisk Arsbok (Lund) No. 44: 151-172, Aug. 1968.

Discusses the historical background and some present problems of Western Nigeria in light of the gap between what is desirable and what is available in census data. Some tentative extrapolations into Nigeria and West Africa are given.

CGP
NGLM
BGI

259. EJIOGU, C.N. African rural-urban migrants in the main migrant areas of the Lagos Federal Territory. In 'The population of tropical, Africa. Edited by J.C. Caldwell and C. Okonjo. London, Longmans, 1968. p.320-330.

Based on fairly representative survey of some 600 households, it analyses the effects of migration specific demographic indices.

CGP
BGI

260. EZE, J.O.N. Population and settlement. In 'Nsukka Division: a geographical appraisal. Edited by P.K. Sircar.' Nsukka, University of Nigeria, Department of Geography, 1965. p.72-88.

Stresses historical and physical factors in describing internal population movements, population growth and settlement pattern.

261. GLEAVE, M.B. and H.P. White. Population density and agricultural systems in West Africa. In 'Environment and land use in Africa.' Edited by M.F. Thomas and G.W. Whittington. London, Methuen, 1969. p.273-319.

Explores ways in which agricultural systems adjust under changing conditions of population density. Most examples and all diagrams drawn from Nigeria.

GA-C
BGI

262. GLOVER, P.E. and P.J. Aitchison. Some causes of depopulation in Northern Nigeria. Nigerian Field (London) 35(1): 12-28, Jan. 1970.

Evidences collected from field traverses and answers to questions posed to villagers point to soil exhaustion as the most potent factor.

AA
NGLM

263. GROSSMAN, D. Population patterns with reference to settlement history and resources in Iboland. M.A. Thesis, Columbia University, 1964.

264. GROVE, Alfred Thomas. Soil erosion and population problems in south-east Nigeria. Geographical Journal (London) 117(3): 291-306, Sept. 1951.

Examines the extent, intensity and consequences of soil erosion coupled with dense population concentrations in the Iboland of former Eastern Region.

CGP
BGI

265. _____. Land and population in Katsina Province, with special reference to Bindawa village in Dan Yusufu District, 1952. Kaduna, Government Printer, 1958. 80p. illus. maps.

Recognises four population/land use combination regions whose patterns are analysed and described, with emphasis on contrasts and changes being brought about in each of them.

NGLM

266. _____. Population densities and agriculture in Northern Nigeria. In 'Essays on African population. Edited by K.M. Barbour and R.M. Prothero'. London, Routledge and K. Paul, 1961. p.115-136.

Discusses economic and physical basis for the present pattern, and future trends in the distribution of population in the area.

CGP
NGLM
BGI

267. HARRIS, Rosemary. The influence of ecological factors and external relations on the Mbembe tribes of south-east Nigeria. Africa (London) 32(1): 38-52, Jan. 1962.

Shows how environmental conditions have shaped their population distributions, movements, settlement patterns, traditions and political organisation in pre-European times.

268. HOFFMANN-BURCHARDI, Helmut. High population densities in southeast Nigeria (based on studies by Y. Karmon and R.K. Udo). Erdkunde (Bönn) 22(3): 225-238, Sept. 1968.

Very biased analysis of the physical and socio-political backgrounds to the Nigerian crisis (1966-70) and to the resultant high mobility of Ibos.

CGP
NGLM
BGI

269. IMOAGENE, Stephon O. Psycho-social factors in rural-urban migration. Nigerian Journal of Economic and Social Studies. (Ibadan) 9 (3): 375-386, Nov. 1967.

Essentially theoretical propositions applied to, and confirmed with, data collected in 1965 from Sapele town and a nearby village community, Jesse.

AA
GA-D.

270. JENNINGS, J.H. A population distribution map of the Eastern Region of Nigeria. Geographical Journal (London) 123(3): 416-417, Sept. 1957.

Short commentary on a dot map of the former Region; attention focussed on the dense concentrations.

271. KIRK-GREENE, Anthony Hamilton Millard. Tax and travel among the hill-tribes of Northern Adamawa. Africa (London) 26(4): 369-379, Oct. 1956.

Seasonal population movements amongst the taxable adults in Madagali, Cibunawa and Mubi districts are largely motivated by need to pay tax (cin rani) and bride-price.

272. KUCZYNSKI, R.R. Nigeria and Cameroons. In his 'Demographic survey of the British colonial empire. Volume 1: West Africa.' London, O.U.P., 1948. p.542-774.

Largely unanalysed data; sections dealing with population totals, distribution and composition by sex, age, colour and area of origin are particularly relevant to the geographer.

CGP
BGI

273. MASON, Michael. Population density and 'slave raiding' - the case of the Middle Belt of Nigeria. Journal of African History (London) 10(4): 551-564, 1969.

Sifts nineteenth century documentary evidence to show that slave raiding was only one limited factor explaining low population density in the area.

AA
NCLM

279. OLUSANYA, P.O. Implications of population growth in Nigeria: some lessons from the Mauritanian experience. Nigerian Journal of Economic and Social Studies (Ibadan) 8(2): 311-329, July, 1966.

Comparative bases of population growths in Mauritius and Nigeria. Expressed fears for a "population explosion" in Nigeria seems exaggerated although his suggestions for population control are valid.

AA
GA-D

280. PROTHERO, R. Mansell. The population of Eastern Nigeria. Scottish Geographical Magazine (Edinburgh) 71(3): 165-170, Dec. 1965.

Brief description of distribution pattern based on the 1953 census, with comments on problems.

AA
CGP
BGI

281. _____. The population census of Northern Nigeria, 1952; problems and results. Population Studies (London) 10(2): 165-183, Nov. 1956.

Reviews difficulties in achieving accurate head counts and describes pattern of population distribution as a result of the 1952 census.

AA
CGP
BGI

282. _____. Population patterns and migrations in Sokoto Province, Northern Nigeria. In 'Natural resources, food and population in inter-tropical Africa; a report of a geographical symposium held at Uganda ... under the auspices of the International Geophysical Union ...' London, Geographical Publications, 1956. p.49-54.

Factors responsible for the seasonal migrations, as well as their directions and volume, are briefly described and mapped.

CGP
BGI

283. PROTHERO, R. Mansell. Labour migration in British West Africa. Corona (London) 9(5): 169-172, May, 1957.

Essentially a summary of his 1959 Report to the Northern Nigeria Government.

284. _____. Migratory labour from north-western Nigeria. Africa (London) 27(3): 251-261, July, 1957.

Describes the nature, volume, direction and significance of seasonal migratory labour from Sokoto Province. Investigations treated in full in his 1959 report.

AA
CGP
BGI

285. _____. Migrant labour from Sokoto Province, Northern Nigeria. Kaduna, Government Printer, 1959. 46p. maps, tables.

Against background of population distribution and trends in Sokoto Province, it describes the character, volume and significance of large-scale seasonal out-migration from the area.

CGP
NGLM
BGI

286. _____. Informants and statistics - population changes in Gwadabawa District, Sokoto Province, Northern Nigeria 1953/54. Nigerian Geographical Journal (Ibadan) 3(2): 26-32, Nov. 1960.

Example of need for caution in using native informants and incomplete statistics in demographic interpretation studies in underdeveloped countries.

AA
CGP
BGI

287. _____. African ethnographic maps, with a new example from Northern Nigeria. Africa (London) 32(1): 61-64, Jan. 1962.

Brief description of a map drawn from the 1952 census figures. French summary on page 64.

CGP

288. SAI, B. Akiga. The 'descent' of the Tiv from Ibenda Hill. Africa (London) 24(4): 295-310, Oct. 1954.

Historical sketch of Tiv lineage structure and cause of their down hill movement to present site.

289. SMOCK, David R. An appraisal of village integration in Abakaliki Division. Enugu, Ministry of Rural Development, 1966. 31p.

Reviews the progress and socio-economic impact of integrating an inherently dispersed rural population which is experiencing increasing pressure on land.

290. SPENGLER, Joseph J. Population movements and economic development in Nigeria. In 'Nigerian political scene /by/ Archibald Callaway /and others/ Edited by Robert O. Tilman and Taylor Cole'. Durham, N.C. Published for the Duke University Commonwealth Studies Centre /by/ Duke University Press, 1962. p.147-197.

Theoretical and geographical analysis of demongraphic characteristics as they determine patterns of economic development in Nigeria.

291. STANTON, W.R. The analysis of the present distribution of varietal variation in maize, sorghum, and cowpea in Nigeria as an aid to the study of tribal movement. Journal of African History (London) 3(2): 251-262, July, 1962.

Merely focuses on the problems in the study of the spread of the 'genes' of these crops and their interrelation. The appendix of four maps and notes is particularly useful.

AA

292. STAPLETON, G. Brian. Nigerians in Ghana with special reference to the Yoruba. Ibadan, 6th Conference Proceedings of Nigerian Institute of Social and Economic Research, December, 1958. p.159-163.

Based on several very short visits to Ghana, it tentatively attempts to determine the origins, directions, volume, and motivation of Nigerian migrants in Ghana.

293. STEEL, Robert W. Some geographical problems of land use in British West Africa. Transactions, Institute of British Geographers (London) No. 14: 29-41, 1948.

Focuses on population pressure and land-use, especially in Eastern Nigeria, and parts of Sierra Leone and Ashanti.

CGP

294. _____. Population census in Nigeria. Geography (Sheffield) 39(1): 45-46, 1954.

Presents the 1952-53 census figures for Lagos, Northern and Western Regions, and shows how inter-censal estimates have grossly under-estimated the true position.

BGI

295. STENNING, Derrick J. Transhumance, migratory drift migration: patterns of pastoral Fulani nomadism. Journal of the Royal Anthropological Institute (London) 87(1): 57-73, Jan.-June, 1957.

Field studies among Northern Nigeria Fulanis establish three forms of movement whose major characteristics are described and analysed.

296. STEVENSON, Robert F. High density and state formation in southeastern Nigeria: the Ibo problem. In his 'Population and political systems in tropical Africa.' New York, Columbia University Press, 1968. p.188-227.

Demonstrates the applicability of the central thesis of the book that in Africa, high population densities and formation of indigenous states were associated in the Ibo region of Nigeria.

297. UDO, Reuben K. Land and population in Otoro District. Nigerian Geographical Journal (Ibadan) 4(1): 3-19, July, 1961.

Identifies causes of population pressure in the area and suggests how they may be removed.

AA
CGP
NGLM
BGI

298. UDO, Reuben K. Patterns of population distribution and settlement in Eastern Nigeria. Nigerian Geographical Journal. (Lagos) 6(2): 73-88, Dec. 1963.

Factors affecting patterns of population distribution whose description is based on three density maps and a dot map are analysed.

AA
CGP
NGLM

299. _____. The migrant tenant farmer of Eastern Nigeria. Africa (London) 34(4): 326-339, Oct. 1964.

Describes factors responsible for his appearance and assesses the socio-economic implications of his character in source and receiving areas.

AA
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300. _____. Population and politics in Nigeria (problems of census-taking in the Nigerian Federation). In 'The population of tropical Africa. Edited by J.C. Caldwell and C. Okonjo.' London, Longmans, 1968. p.97-105.

Demonstrates the powerful political implications of share distribution of people as have emerged from 1962 and 1963 censuses in Nigeria.

CGP
BGI

301. _____. Migrations in Nigeria. Nigeria Magazine (Lagos) No. 103: 616-624, Dec. 1969/Feb. 1970.

Identifies source and absorption areas of rural-rural migrants, and appraises economic and social aspects of the phenomenon.

AA
CGP

302. _____. Implications of the pattern of internal migrations for rural planning in Nigeria. Nigerian Opinion (Ibadan) 6(5-7): 56-60, May-July, 1970.

Analyses pattern of rural-rural migrations in Nigeria and its implications for land tenure and planning in receiving areas. A planned land-use programme in destination areas is outlined and discussed.

303. UDO, Reubon K. Census migrations in Nigeria (Paper presented to the Eleventh Annual Meeting of the African Studies Association, Los Angeles, Carliformia, 16-19 Otctober, 1968). Nigerian Geographical Journal (Ibadan) 13(1): 3-7, June, 1970.

Major causal factor is excessive village patriotism as demonstrated, particularly amongst the Ibos, during the 1962 and 1963 censuses.

CGP

304. VERMEER, Donald.E. Population pressure and crop ratational changes among the Tiv of Nigeria. Annals Association of American Geographers (N.Y.) 60(2): 299-314, June, 1970.

Shows how population pressure on land under shifting cultivation practices manifests itself in new, nontraditional crop ratational patterns called "bugh bu".

AA
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SETTLEMENT GEOGRAPHY

305. ADALEMO, I.A. The Kainji Dam Project - a geography of settlement. In 'Proceedings, Staff Seminars of the African Studies Division of the Faculty of Arts, University of Lagos, Nigeria, 1966-1967 Session'. p.50-65.

Discusses geographical implications of rehabilitating displaced villagers in the Kainji Lake Basin.

306. ADALEMO, I.A. The Kainji Dam - a resettlement. Nigeria Magazine (Lagos) No. 99: 265-279, Dec. 1968.

Reviews pre-inundation land-use and settlement patterns as basis of critical appraisal of resettlement measures adopted by the Dams Authority and their socio-economic consequences.

AA
CGP

307. ADALEMO, I.A. Resettlement in the Kainji Dam area: a geographical study. Nigerian Geographical Journal (Ibadan) 11(2): 175-188, Dec. 1968.

Same as one published in Nigeria Magazine in same year.

CGP
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BGI

308. ALLPRESS, P.L. Postwar settlement and resettlement in the Eastern Provinces of Nigeria. Farm and Forest (Ibadan) 7(2): 89-91, Dec. 1946.

Recommendation of resettlement based on a cooperative basis ignores Jones' earlier warning and seems to have followed Haig's dangerous precedent, more or less.

309. CROOKE, Patrick. Sample survey of Yoruba rural building. Odu (Ibadan) 2(2): 41-71, Jan. 1966.

Page 41-51 describing location, population, settlement patterns and trends, and distribution of public utilities in the seven villages covered make useful material for the geographer.

310. _____. Rural settlement and housing trends in a developing country: an example in Nigeria. International Labour Review (Geneva) 96(3): 280-291, Sept. 1967.

Strong urban-rural connections facilitated by extensive road construction have stabilised road-side settlements with concomitant changes in marketing and housing patterns in a pilot area between Lagos and Abeokuta.

311. DANIEL, John B. Mc. Recent trends and developments in Africa: rural resettlement schemes in African areas /Zululand and Eastern Nigeria/. Tydskrif vir Aardryskunde - Journal of Geography (Stellensbosch) 3(6): 639-651, April, 1970.

A geographic appraisal of specific examples in both areas with discussion of implications for socio-economic development.

CGP

312. DEAN, E.R. Progress at Kainji. Nigerian Opinion (Ibadan) 2(8): 93-95, Aug. 1966.

Enumerates areas of rapid construction progress but stresses particularly the problem of resettling the displaced population in the area.

313. GEOGRAPHICAL Society, University of Ibadan. The settlement pattern of the Jos Plateau. (Extract from the report of the Jos-Study Trip organised by the Society - December 1962). University Geographer (Ibadan) 4: 12-14, May, 1963.

Characteristics of rural and urban settlement are described and factors in their development enumerated.

314. GIBBS, J.P.F. Some problems of resettlement of the displaced population /from the Kainji Dam area/. Proceedings, Science Association of Nigeria, (Ibadan) 5: 42-55, Oct. 1963.

Sketch of settlement patterns and peasant economy of the dam area forms background of how the Resettlement Authority hopes to solve problems of resettling some estimated 50,000 people.

315. GLEAVE, Michael B. Hill settlements and their abandonment in western Yorubaland. Africa (London) 33(4): 343-352, Oct. 1963.

Outlines reasons for earlier hill-top settlements and their subsequent downward movement in parts of Oyo and Ibadan Provinces.

AA
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BGI

316. _____. The changing frontiers of settlement in the uplands of Northern Nigeria. Nigerian Geographical Journal (Ibadan) 8(2): 127-141, Dec. 1965.

Analyses very comprehensively the economic effects, problems associated with, and solutions being found to, downhill movement of settlements in some Middle Belt areas of Nigeria.

AA
CGP
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GA-D

317. GLEAVE, Michael B. Hill settlements and their abandonment in tropical Africa. Transactions, Institute of British Geographers (London) No. 40: 39-50, Dec. 1966.

Describes their patterns, distribution and effects as observed in Togoland, Dahomey, Northern and Western Nigeria.

CGP
GA-D

318. GOODBAN, J.W.D. Land settlement - the requirements and lay-out of a scheme. Farm and Forest (Ibadan) 7(1): 60-66, Jan.-June, 1946.

Summarieses the important features of Daudawa Settlement Scheme as guidelines for establishing similar schemes elsewhere in the country.

319. IDANRE. Nigeria (Lagos) No. 46: 154-180, 1955.

Another former hilltop settlement (Old Idanre) which has moved to the adjoining plain as 'New Idanre.'

320. KARMON, Yehuda. A geography of settlement in Eastern Nigeria. Jerusalem, Magness Press, The Hebrew University, 1966. 90p. diagrs. maps. (Scripta hierolymitana, v.15. Studies in geography, pamphlet no.2).

Points out how geographical and historical factors are major determinants of population distribution and settlemnt patterns, and discusses trends based mainly on field observation.

CGP
NGLM
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321. KRAPF-ASKARI, Eva. The Yoruba pattern of settlement. In 'Yoruba towns and cities: an enquiry into the nature of urban social phenomena.' Oxford, Clarendon Press, 1969. p.1-9 (Oxford monographs on social anthropology).

Gives the historical, social and economic basis for Yoruba nucleated settlements in Western Nigeria which are briefly described.

CGP

322. MABOGUNJE, Akinlawon Ladipo. The changing pattern of rural settlements and rural economy in Egba Division, south-western Nigeria. M.A. Thesis, University of London, 1958. ix, 203 l.

Changes in the patterns of rural economy, and the consequent introduction of novel features are described and analysed in their historical and environmental setting.

AIT
UKPT

323. _____. The evolution of rural settlement in Egba Division, Nigeria. Journal of Tropical Geography (Singapore) 13: 65-77, 1959.

Demonstrates the high density of rural settlement in the Division and how its evolution has affected agricultural and land tenure practices in particular.

CGP
BGI

324. MacROW, D.W. Change in the hills. Nigeria Magazine (Lagos) No. 45: 21-59, 1954.

Three articles (a) Senorika, by Denis Stranfield, (b) Ogoga, and (C) Okene, depicting changing patterns of settlement among rock-dwelling communities in Kabba and Kukuruku Divisions.

AA

325. MORGAN, W.B. The change from shifting to fixed settlement in southern Nigeria. Research Notes (Ibadan) No. 7: 14-24, April, 1955.

Historical outline of factors responsible, and their effects on land-use patterns.

CGP
BGI

325. _____. Settlement patterns of the Eastern Region of Nigeria. Nigerian Geographical Journal (Ibadan) 1(2): 23-30, Dec. 1957.

Recognises four types and describes them in their socio-economic and environmental setting.

CGP
NGLM
BGI

327. MOUGHTON, J.C. The traditional settlement of the Hausa people /Northern Nigeria/ Town Planning Review (Liverpool) 35(1): 21-34, April, 1964.

Analysis of their nature and problems, showing how their form and layout are closely related to sociological factors.

CGP
NGLM

328. SCHWAB, William B. An experiment in resettlement in Northern Nigeria. Haveford, Pa., Haveford College, 1954. 76p. diags. maps. tables.

329. SCUDDER, Thayer. Resettlement problems in the Kainji Lake Basin; an introductory description. Ibadan, NISER, July, 1966. 17p.

Problems of displaced natives and of integrating them into somewhat alien community life are described.

330. UDO, Reuben K. A geographical analysis of rural settlements in the Eastern Region of Nigeria. Ph.D. Thesis, University of London, 1963. xii, 354 l.

Analyses historical, political, physical, cultural and economic factors that have shaped present rural settlements whose morphology is described and discussed.

AIT
UKPT

331. _____. Disintegration of nucleated settlements in Eastern Nigeria. Geographical Review (New York) 55(1): 53-67, Jan. 1965.

Describes factors of dispersal of nucleated compounds and assesses village integration attempts in Abakaliki Province.

AA
CGP
NGLM
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BGI

332. UDO, Reuben K. Transformation of rural settlement in British tropical Africa. Nigerian Geographical Journal (Ibadan) 9(2): 129-144, Dec. 1966.

Discusses changes affecting physical aspects of rural settlements in former British dominions in the tropics; most examples drawn from Eastern Nigeria.

CGP
GA-D

POLITICAL GEOGRAPHY

333. ABERNETHY, David B. Nigeria creates a new region. Africa Report (London) 9(3): 8-10, March, 1964.

Briefly examines some of the political and economic inplications of creating the then Mid-West Region.

CGP

334. ADEJUYIGBE, Onolade. Aspects of the political geography of Nigeria with particular reference to the problem of unfication. Ph.D. Thesis, Durham University, 1967.

AIT

335. _____. The problems of unity and the creation of states in Nigeria. Nigerian Geographical Journal (Ibadan) 11(1): 39-60, June, 1968.

Analyses exhausitively and critically the basis of regional and national antipathy among Nigerian "ethnic nations" and offers useful guidelines for the delineation of viable political regions (states) as against the present twelve-state structure.

AA
CGP
NGLM
GA-D

336. _____. Evolution of the boundaries of Lagos. Nigeria Magazine (Lagos) No. 101: 480-484, July-Sept. 1969.

Against the background of evolution of the Lagos Municipal Area, it demonstrates the inappropriateness of its present boundaries and how they may be removed.

CGP

337. ADEJUYIGBE, Omolade. Local boundary disputes in Western Nigeria; the example of Edunabon enclave on the Ife-Ede boundary. Odu (Ile-Ife) No. 2 (New series): 78-101, Oct. 1969.

Traces the origin, history and the nature of rival claims to the disputed area. Attempts to settle the dispute are described and discussion of a possible solution given.

338. _____. Ife-Ijesa boundary problem. Nigerian Geographical Journal (Ibadan) 13(1): 23-38, June, 1970.

1913 and 1932 terms of boundary agreements constitute basis of critical discussion of problems of correct interpretation vis à vis the rival claims of both sides.

CGP

339. _____. The case for a new Federal capital in Nigeria. Journal of Modern African Studies (London) 8(2): 301-306, July, 1970. CGP

340. ANENE, J.C. The Nigerian-Southern Cameroons boundary: an ethno-political analysis. Journal of the Historical Society of Nigeria (Ibadan) 2(2): 186-195, Dec. 1961.

Discusses socio-political and geographical factors and their implications in the evolution of the boundary.

AA

341. _____. The Nigeria - Dahomey boundary. Journal of the Historical Society of Nigeria. (Ibadan) 2(4): 479-485, Dec. 1963.

Reconstructs the complex political conditions prevailing during the period immediately antecedent to its emergence and shows that it has not really functioned as a human barrier.

AA

342. APPLETON, John B., and Wilma Belden. Northern Nigeria -- a study in political geography. Economic Geography (Worcester, Mass.) 12(4): 325-339, Oct. 1936.

Enumerate the achievements of the British Government as reflected in the political geography of the Region. Some of the authors' opinions appear subjective especially as regards tribal organization.

BGI

343. BUCHANAN, Keith MacPherson. Internal colonization in Nigeria. Geographical Review (New York) 43(3): 416-418, July, 1953.

Summary of four agricultural and resettlement schemes launched in the 1940's and the possible implications of their success in the sparsely peopled 'Middle Belt' region.

344. CALVERT, Albert F. The Cameroon - Nigerian boundary. In 'The Cameroons.' London, T.W, Laurie, 1917. p.62-82.

Bases his description of the region and people through which the boundary is run on Nugent's 1914 article (352).

345. COTTON, Ernest Percival. Report on the Egba boundary. [Lagos] Crown Lands Office, 1905. 21p.

Brief account of its alignment and historical background with particular emphasis on validity.

346. EKEREUWEM, O.F. Fish and politics in Eket Division. University Geographer (Ibadan) 7: 11-13, June, 1966.

Shows how the importance of fish in the economy of the area has resulted in international boundary problems and local political agitations.

347. FOULKES, Capt. C.H. The new Anglo-French frontier between the Niger and Lake Chad. Scottish Geographical Magazine (Edinburgh) 22(11): 565-575, Nov. 1906.

Brief history of the boundary delimitation exercise precedes description of physiographic conditions and main tribal groups of the region traversed by the boundary.

348. _____. The Anglo-French Boundary Commission, Niger to Lake Chad. Royal Engineers Journal (London) 73(4): 429-437, Dec. 1959.

CGP

349. JACKSON, Col. Louis. The Anglo-German Boundary Expedition in Nigeria. Geographical Journal (London) 26(1): 28-42, July, 1905.

Mostly irrelevant and inaccurate comments on the country and the people encountered by a Party-member sent to delimit the German-British boundary from Yola to Lake Chad.

350. KOLAWOLE, Bandele. 'Middle Belt' or 'West Merger'?: a geographical analysis of a political problem. University Geographer (Ibadan) 2(1): 14-19, March, 1960.

Some thoughts on the geographical basis of 'Middle Belt's' heterogeneity and on problems of creating a Region from it or merging it with the West.

351. MABOGUNJE, Akin Ladipo. Geography and national reconstruction. Nigerian Geographical Journal (Ibadan) 11(1): 3-10, June, 1968.

Differentiates clearly between 'formal' and 'functional' analyses of the region as a basis of geographical study, and demonstrates the application of the latter approach to Nigeria's new political structure.

AA
GA-D

352. NUGENT, Capt. W.V. Geographical results of the Nigeria - Kamerun Boundary Demarcation Commission, 1912-13. Geographical Journal (London) 43(6): 630-648, June, 1914.

Description of the physical characteristics and the peoples in the area through which the boundary was run.

353. OJEIKERE, Jaiye. Benin-Delta 'State': is it viable? University Geographer (Ibadan) 1(2): 4-10, March, 1957.

Uses the index of export production capacity to justify the viability of the present Midwestern State of Nigeria.

354. OSADEBE, S.K. The Mid-West State: an ethnogeographical recognition. University Geographer (Ibadan) 6: 10-13, June, 1965.

Attempt to justify the creation of the new State on the bases of its ethnic homogeneity and being a 'natural region' is unconvincing.

355. PRESCOTT, J.R.V. A geographical analysis of elections to the Eastern Region House of Assembly, March, 1957. Research Notes (Ibadan) No. 10: 8-20, June, 1957.

Analyses correlations between votes cast and certain geographical phenomena.

356. PRESCOTT, J.R.V. The geographical basis of Nigerian Federation. Nigerian Geographical Journal (Ibadan) 2(1): 1-13, June, 1958.

Appraisal of economic, political, and social forces that produce a disequilibrium and portend future uneasiness - a prophecy vindicated by subsequent events.

AA
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BGI
CGP

357. _____. Nigeria's boundaries - a colonial heritage. In '6th Conference Proceedings of Nigerian Institute of Social and Economic Research (Ibadan), December, 1958.' p.140-150.

Presents chronological account of the evolution of internal and international boundaries in order to show how problems associated with them have arisen.

358. _____. Geographical problems associated with the delimitation and demarcation of the Nigeria - Kamerun boundary, 1885-1916. Research Notes (Ibadan) No. 12: 1-14, Feb. 1959.

Historical account of geographical problems posed and how they were solved.

CGP
NGLM
BGI

359. _____. The evolution of Nigeria's boundaries. Nigerian Geographical Journal (Ibadan) 2(2): 80-104, March, 1959.

Historical perspective of factors determining the character and problems associated with the pattern of Nigeria's international and regional boundaries.

AA
CGP
NGLM
BGI

360. _____. Nigeria's regional boundary problems. Geographical Review. (New York) 49(4): 485-505, Oct. 1959.

Enumerates actual, and potential, physical and ethnographic boundary problems with brief suggestions for solutions.

CGP
NGLM
BGI

361. PRESCOTT, J.R.V. The evolution of Nigeria's political boundaries. Ph.D. Thesis, University of London, 1961. 265ℓ.

Examines the evolution, definition, position and function of federal, regional and provincial boundaries based mainly upon official correspondence supported by fieldwork.

AIT

362. _____. The evolution of the Anglo-French inter-Cameroons boundary. Nigerian Geographical Journal (Ibadan) 5(2): 103-120, Dec. 1962.

Detailed historical background of demarcation of Nigeria's eastern international boundary, with particular emphasis on socio-political factors in its orientation.

CGP
BGI

363. _____. The geography of frontiers and boundaries. London, Hutchinson University Library, 1965.

Although a general discussion of the subject, many of the author's examples are drawn from Nigeria where he has carried out extensive fieldwork.

364. SADA, P.O. Location of administrative capitals in the new states. Nigerian Opinion (Ibadan) 3(8 & 9): 234-236, Aug.-Sept. 1967.

Suitablity of Nigeria's state capitals is assessed against the geographical criteria of centrality, accessibility, and the 'core area' notion.

365. U.S. Department of State. The Geographer. Chad-Nigeria boundary. Washington, 1969. 6p. (International boundary study, no. 90).

Brief notes on its evolution and course.

CGP

366. U.S. Department of State. The Geographer. Dahomey - Nigeria boundary. Washington, 1969. 19p. (International boundary study, no. 91).

Brief notes on its evolution and course.

CGP

367. _____. The Geographer. Cameroon - Nigeria boundary. /Washington/, 1969. 23p. maps. (International boundary study, no. 92).

Brief notes on its evolution, course and attendant problems.

CGP

368. _____. The Geographer. Niger - Nigeria boundary. Washington /1969/ 21p. map. (International boundary study, no. 93).

Brief notes on its evolution and course.

CGP

369. UDO, Reuben K. Problems of developing the Cross River District of Eastern Nigeria. Journal of Tropical Geography (Singapore) 20: 65-72, June, 1965.

Successfully demonstrates that although the area possesses vast agricultural potentialities it is neglected mainly for political reasons.

CGP
BGI

370. _____. British policy and the development of export crops in Nigeria. Nigerian Journal of Economic and Social Studies (Ibadan) 9(3): 299-314, Nov. 1967.

Reviews the bases for, and consequences of, the anti-plantation policy of the colonial administration in Nigeria from 1900 to 1950.

GA-C

371. _____. Reconstruction in the war-affected areas of Nigeria. Area (London) No. 3: 9-12, 1970.

Strong anti-Ibo feelings make reintegration of large Ibo populations in the Rivers and South East States slow while rehabilitation of the local people and their economy faces serious problems.

CGP

372. WHITLOCK, G.F.A. The Yola-Cross River Boundary Commission, Southern Nigeria. Geographical Journal (London) 37(4): 426-438, Oct. 1910.

Describes the orientation, physical characteristics and peoples of the region through which the Nigeria - Cameroon boundary from Yola to the Cross River runs.

373. WILLMER, J.E. The evolution of the political framework of the Nsukka Division. In 'Nsukka Division: a geographical appraisal. Edited by P.K. Sircar.' Nsukka, University of Nigeria, Department of Geography, 1965. p.37-50.

Demonstrates how concept of nodality had been a major factor in the evolution of local administrative headquarters and boundaries in the Division.

374. WILLMER, John E. Political evolution and the Civil War [in Nigeria]. Focus (New York) 21(4): 7-12, Dec. 1970.

Traces Nigeria's 1967-70 conflict to social, political, and economic inbalances in the then regions and briefly discusses the enormous problems of post-war Nigeria.

CGP

MEDICAL GEOGRAPHY

375. BROWN, A. Disease as an element in the Nigerian environment. In 'Land and people in Nigeria ... by K.M. Buchanan and J.C. Pugh.' London, University of London Press, 1955. p.41-57.

Describes the distribution of Nigeria's major diseases and their effects on health and productivity.

376. JOHNSON, W.B. and Llewellyn Lloyd. First report of the tsetse-fly investigation in the Northern Provinces of Nigeria. Bulletin of Entomological Research (London) 13: 373-396, 1922-23.

Only the first four pages and ten photographs dealing with the distribution of four types of species in relation to vegetation types are relevant to the geographer.

377. LEAN, Owen B. The effect of climate on the migrations and breeding of locustariaterricoides in Nigeria. Bulletin of Entomological Research (London) 22: 551-569, 1931.

Correlates their location, directions of movement and breeding grounds with seasonal changes in humidity, precipitation and wind from December 1921 to April 1931.

378. McLETCHIE, J.L. The control of sleeping sickness in Northern Nigeria. Farm and Forest (Ibadan) 6(2): 69-79, April-June, 1945.

Detailed chronological account, 1938-1944, of integrated rural development and resettlement involved in making Anchau Corridor tse-tse fly free.

379. NASH, T.A.M. The part played by microclimates in enabling Glossina submorsitans and G. tachinoides to withstand the high temperatures of a West African dry season. Bulletin of Entomological Research (London) 27: 339-345, 1936.

Analysis of measurements from nine microclimates lead to the tentative conclusion that removal of thickets in the dry season might significantly reduce the tsetse population in Northern Nigeria.

380. _____. Climate, the vital factor in the ecology of Glossina. Bulletin of Entomological Research (London) 28: 75-118, 1937.

Detailed analysis of rainfall, temperature and biogeographic factors as they affect the distribution and seasonal characteristics of G. morsitans and G. tachinoides in Northern Nigeria.

381. _____. The probable effects of densification of woodland upon the distribution of tsetse in Northern Nigeria. West African Medical Journal (Lagos) 10: 10-13, 1938.

Theorizes from observations in the Anchau area that thick woodlands reduce the spread of tsetse flies.

382. NASH, T.A.M. The effect upon Glossina of changing the climate in the true habitat by partial clearing of vegetation. Bulletin of Entomological Research (London) 31: 69-84, 1940.

Experiment set up at Gadau to test author's 1936 hypothesis confirms that thicket clearance in the dry season is fatal to G. tachinaides recolonisation.

383. _____. The Anchau Settlement Scheme. Farm and Forest (Ibadan) 2(2): 76-82, July, 1941.

Achievements and objectives of a tse-tse-free integrated rural development scheme; should be read before Prothero's article on same subject.

384. _____. The probable effect of the exclusion of fire upon the distribution of tsetse in Northern Nigeria. Farm and Forest (Ibadan) 5(1): 8-12, June, 1944.

Explains the close relationship existing between tsetse distribution, climate and vegetation and how a policy of woodland densification could control it.

385. _____. The Anchau rural development and settlement scheme /London/ H.M.S.O. for the Colonial Office, 1948. 22p. illus. maps.

Expansion of his 1941 paper provides more detail about the planning and execution of integrated tsetse irradication and resettlement programme up to 1945.

CGP
BGI

386. NASH, T.A.M. and W.A. Page. The ecology of Glossina palpalis in Northern Nigeria. Royal Entomological Society. Transactions (London) 104: 71-170, 1953.

Only sections reporting the results of a detailed six-year investigation of the eco-climate of the species around Katabu need bother the geographer.

387. SIMPSON, Jas J. Entomological research in British West Africa. III. Southern Nigeria. Bulletin of Entomological Research (London) 3: 137-193, 1912.

Very similar to Study II; it lays greatest stress on geographical factors which influence the distribution of the various species of blood-sucking insects.

388. WADDY, B.B. Health problems of man-made lakes. Geographical Magazine (London) 38(12): 887-897, April, 1966.

Study of health problems resulting from the Kainji Dams in Nigeria.

CGP

389. WAR against tsetse. Nigeria Trade Journal (Lagos) 4(3): 94-98, July-Sept. 1956.

Measures being taken against it and degree of success already achieved in Nigeria are described.

PHYSICAL GEOGRAPHY

390. BARBER, W. The geography of the area. In "Pressure water in the Chad formation of Bornu and Dikwa Emirates, North-Eastern Nigeria". [Lagos] Geological Survey of Nigeria, 1965. p.13-19 (Geological Survey of Nigeria. Bulletin No.35).

Brief account of the physical features, people and economy of the area, illustrated with very useful diagrams and pictures.

CGP

391. CHRISTIANSEN, J.E. et al. Preliminary survey of the Cross River drainage basin of Eastern Nigeria. Enugu, United States Agency for International Development, 1963. 63p. maps, tables.

Describes physical resources, distribution of soil types and present land-use pattern as basis of recommended integrated agricultural development of the area.

392. CLARKE, J.D. A visit to Old Oyo. Nigerian Field (London) 7(3): 139-142, July, 1938.

Report of primarily archaeological mission which passes some useful comments on the topography.

393. CLAYTON, W.D. The swamps and sand dunes of Hadejia. Nigerian Geographical Journal (Ibadan) 1(2): 31-37, Dec. 1957.

Describes the geomorphology, vegetation and soils of Hadejia as related to the distribution of agricultural land-use.

CGP

394. COLLIER, F.S., and J. Dundas. The arid regions of Northern Nigeria and the French Nigor Colony. Empire Forestry Journal (London) 16(2): 184-194, 1937.

395. COLLINGWOOD, C. The Kogin Kogom Kloof. Geographical Journal (London) 64(2): 141-145, Aug. 1924.

Record of observations of a survey team preparing the route for the railway extension from Enugu to Kafanchan; value reduced by wild, subjective conclusions.

396. COX, Paul G. Observations on the agriculture of the Jos Plateau. Nigerian Field (London) 30(2): 84-94, April, 1965.

Pattern of agricultural land use varies with major tribes as does attitude to innovations designed to solve most problems.

397. CROCKER, H.E. Roads of Nigeria and the trans-African route; methods of construction and country traversed: experiences of pre-war travel. The Crown Colonist (London) 12(133): 807-808f, Dec. 1942.

General description of the physical terrain along a road from Lagos through Jos to Fort Lamy in Niger Republic.

398. DU PREEZ, J.W., and W. Barber, comp. Geography. In their "The distribution and chemical quality of groundwater in Northern Nigeria." [Lagos] Geological Survey of Nigeria, 1965. p.11-18. (Geological Survey of Nigeria. Bulletin no. 36).

Five physical and one population maps of the Region very briefly described.

CGP

399. FALCONER, J.D. The geology and geography of Northern Nigeria. London, Macmillan, 1911. xiv, 295p. illus. diagrs. maps.

Detailed panoramic description of the former Region's physical geographic characteristics given on pages 1-62.

400. HALLAM, W.K.R. The Chad Basin. Nigeria Magazine (Lagos) No. 91: 255-264, Dec. 1966.

General description of its physical characteristics and historical account of the peopling of the area.

AA
CGP

401. HIGGINS, G.M., D.M. Ramsay and R.A. Pullan. A report on the climate, soils and vegetation of the Niger trough. Soil Survey Bulletin (Samaru Zaria) No. 10: 1-72, 1960. diagrs. maps, tables.

Contents

Chapter 1, p.1-10: Climatology by R.A. Pullan;
Chapter 2, p.11-42: Geomorphology and soils by G.M. Higgins;
Chapter 3, p.43-72: Vegetation and plant communities by D.M. Ramsay.

402. HILL, M.B. and J.E. Webb. The ecology of Lagos lagoon II: The topography and physical features of Lagos Harbour and Lagos Lagoon. Philosophical Transactions, Royal Society of London. Ser. B, Biological Sciences. (London) 241 (683): 319-333, Sept. 1958.

Topography of Lagos Harbour and associated lagoons and creeks described; diurnal and seasonal variations in salinity, water and sand temperatures, and marine deposits explained.

CGP

403. Hope, W.A. and R.L. Story. Report on the assessment of sites selected for kola groves in the reverain provinces of Northern Nigeria. Soil Survey Bulletin (Samaru, Zaria) No. 25: 1-29, /1962/ map.

Determines physical characteristics and requirements of 23 selected lowland, valley and upland sites, emphasizing all-year supply of water.

404. JONES, Brynmor. The physical geography of the Province. In his 'The sedimentary rocks of Sokoto Province.' /Lagos/ Geological Survey of Nigeria, 1948. p.9-12. (Geological Survey of Nigeria Bulletin no. 18).

Two types of physiographic regions are recognized and described, together with the simple drainage pattern that results.

405. JONES, H.A. and R.D. Hockey. The geography and geomorphology. In their 'The geology of part of south-western Nigeria.' Lagos, Geological Survey of Nigeria, 1964. p.10-13. (Geological Survey of Nigeria. Bulletin no. 31).

Drainage pattern and major topographical regions as related to the geological structure are briefly described and analysed.

CGP
NGLM

406. JUNGERIUS, P.D. The environmental background of land-use in Nigeria. Tijdschrift van het Koninklyk Nederlandsch Aardrijkskundig Genootschap (Rotterdam) 81(4): 415-437, Oct. 1964.

Describes physiographic factors of climate, vegetation, geomorphology and soils as basis for the eleven geographical regions whose characteristics are briefly described.

CGP
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407. LANG, D.M., W.M. Corbett and J.S. Oguntoyinbo. II. The physical environment of Uboma. In 'Uboma: a socio-economic and nutritional survey of a rural community in Eastern Nigeria'. Bude, Cornwall, Geographical Publications, 1966. p.11-24. (World land use survey. Occasional papers no. 6).

Brief description of physiography, climate, biogeography, hydrology and land capabilities of the area.

CGP
NGLM
GA-D
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408. OFOMOTA, G.E.K. Physiography. In 'Nsukka Division; a geographical appraisal. Edited by P.K. Sircar.' Nsukka, University of Nigeria, Department of Geography, 1965. p.5-13.

Broad outline of biogeographic and physiographic characteristics of four landform regions.

409. OGBE, G.A.E. Some notes on land-use by the Mada tribes in Southern Division, Plateau Province. Farm and Forest (Ibadan) 10(1): 64-66, Jan. 1950.

Mainly an account of the physiographic and vegetational characteristics of the area with only a concluding paragraph on land-use pattern and potential.

AA

410. PARKINSON, John. The structure of Southern Nigeria. Geographical Journal (London) 29(1): 56-64, Jan. 1907.

Gives the geology and physiography of parts of Nigeria south of rivers Niger and Benue.

411. TALBOT, P. Amaury. The land of the Ibibios, Southern Nigeria. Geographical Journal (London) 44(3): 286-305, Sept. 1914.

General description of physical features of Eket area, Calabar Province.

412. WILSON, R.C. Physiography [of the area] In "The geology of the Eastern railway, Section 1: Port Harcourt to Enugu." [Lagos] Geological Survey of Nigeria, 1925. p.17-30. (Geological Survey of Nigeria. Bulletin, no.8).

Five physiographic regions are delimited and their most important geomorphic features described, followed by reasoned interpretation of their evolution.

413. WILSON, R.C. and A.D.N. Bain. Physiographic features. In "The geology of the Western railway, Section 1: Iddo to Okuku." [Lagos] Geological Survey of Nigeria, 1922. p.7-15. (Geological Survey of Nigeria. Bulletin no.2).

Brief description of topography precedes analysis of the drainage system, especially the river captures. Reasons advanced for inselberge evolution has been superseded by pedeplanation theory.

GEOMORPHOLOGY

414. ALLEN, J.R.L. Coastal geomorphology of Eastern Nigeria; beach-ridge barrier islands and vegetated tidal flats. Geologie en Mijnbouw (Amsterdam) 44(1): 1-21, 1965.

Divides the Niger delta into three geomorphological units and compares the reticulate drainage system of the Niger with the dendritic system along the Dutch coast.

CGP
CA-A
BGI

415. BALOGUN, C.A. The Nigerian basement complex and some of its related phenomena. University Geographer (Ibadan) 8: 19-21, June, 1967.

Mode of evolution and associated landform features are briefly described.

416. BARBER, W. and D.G. Jones. The geology and hydrology of Maiduguri, Bornu Province. Records of the Geological Survey of Nigeria, 1958. (Lagos) p.5-20, 1960.

Brief account of the history, physical geography and stratigraphy of Maiduguri area precedes analysis of its potential sources of water.

BGI

417. BRYNMOR, Jones. Lateritic ironstone in Sokoto Province. Farm and Forest (Ibadan) 4(1): 15-23, June, 1943.

Describes its distribution and mode of occurrence.

418. CLAYTON, W.D. Erosion surfaces in Kabba Province, Nigeria. Journal of West African Science Association (London) 4(2): 141-149, Aug. 1958.

Three major surfaces are recognised, described and correlated with erosion surfaces recognised by earlier workers in Nigeria.

CGP

419. DE SWARDT, A.M.J. The recent erosional history of Kaduna valley near Kaduna township. Lagos, Geological Survey of Nigeria, 1946. p.39-45 (Annual report series).

BGI

420. DE SWARDT, A.M.J. [The geomorphology of the area]. In his "The geology of the country around Ilesha; an explanation of Sheet North B31/B2 (Ilesha) ..." [Lagos] Geological Survey of Nigeria, 1953. p.2-4. (Geological Survey of Nigeria. Bulletin no. 23).

Very brief description of topography, erosion surfaces, and cycles, and the lateritic and alluvial deposits.

CGP

421. _____. Recent erosion surfaces of the Jos Plateau. In "Proceedings of the Third International West African Conference held at Ibadan, Nigeria, 12th-21st December, 1949". Lagos, Nigerian Museum, 1956. p.180-186.

Recognises and describes four types, and correlates the three lower surfaces with similar observations in other parts of Nigeria. Analysis only tentative pending more reliable data.

422. _____. Lateritisation and landscape development in parts of Equatorial Africa. Zeitschrift für Geomorphologie (Berlin) 8(2): 313-333, 1964.

Demonstrates the importance of lateritisation in the evolution and preservation of ancient landscapes in Nigeria, Uganda and Rhodesia.

CGP
NGLM

423. DIXEY, Frank. The morphology of the Jos Plateau. In his 'The geology of the Plateau tinfields: resurvey 1945-48' [Lagos] Geological Survey of Nigeria, 1949. p.74-78. (Geological Survey of Nigeria. Bulletin no.19).

Main features of the Plateau in relation to surrounding plains and the Benue Valley are described followed by analysis of evolution of the erosion surfaces with tentative geological dates.

424. DOWLING, J.W.H. and F.H.P. Williams. The classification of landforms in Northern Nigeria and their use with aerial photographs in engineering soil surveys. London, Road Research Laboratory, 1964. 25p. diagrs.

GA-A

425. DOWLING, J.W.F. The mode of occurrence of laterites in Northern Nigeria and their appearance in aerial photography. Engineering Geology (Amsterdam) 1(3): 221-233, 1966.

Relates types of laterites to relief and describes their mode of occurrence and distribution by the use of aerial photography.

GA-B
GA-A

426. DU PREEZ, J.W. Laterite: a general discussion with a description of Nigerian occurrencies. Bulletin Agricole du Congo Belge (Brussels) 40(1): 53-66, March, 1949.

Reviews literature to show existing confusion in using the word, offers a definition, and describes its distribution and mode of formation in Nigeria.

BGI

427. _____. The Maiduguri-Bama Ridge and its influence on surface drainage. Memoranda of the Geological Survey of Nigeria (Lagos) No. 3: 1-9, 1949.

428. _____. Origin, classification and distribution of Nigerian laterites. In "Proceedings of the Third International West African Conference (C.I.A.O.) held at Ibadan, Nigeria, 12th-21st December, 1949." Lagos, Nigerian Museum, 1956. p.223-234.

Traces the etymology of 'laterite', gives a resumé of theories of its origin, and analyses the characteristics and distribution of three types in Nigeria.

429. FALCONER, J.D. The origin of the major features of the geography of Northern Nigeria. Geographical Journal (London) 37(2): 180-188, Feb. 1911.

Relates the geology with the geomorphology and explains both, with emphasis on problems of interpretation.

430. FOLSTER, H. Slope development in SW-Nigeria during the late Pleistocene and Holocene. Giessener G. Schriften (Giesben) 20: 3-56, 1969.

NGLM

431. GEOGRAPHICAL Society, University of Ibadan. Geomorphology of Neil's valley. University Geographer (Ibadan) 9 & 10: 29-30, June, 1969.

Brief description of its morphology, drainage characteristics and economic activities.

432. GROVE, Alfred Thomas and R.A. Pullan. Some aspects of the Pleistocene paleogeography of the Chad Basin. In 'African ecology and human evolution. Edited by F.C. Howell and F. Bourlière.' Chicago, Aldine Publishing Co. 1963. p.230-245.

Distribution and orientation of fossil dunes and sediments are used to reconstruct chronology of fluctuations of the lake during the Pleistocene. The two former major lake levels are described.

433. ILOEJE, N.P. The geomorphology of the Nsukka-Okigwi cuesta. Nigerian Scientist (Umuahia-Ibeku) 1(1): 13-23, Nov. 1961.

Broad outline of the structural, morphological and drainage characteristics of the escarpment, its relief features and its geomorphological evolution.

434. _____. The structure and relief of the Nsukka-Okigwi cuesta. Nigerian Geographical Journal (Ibadan) 4(1): 21-40, 1961.

Illustrated description of its lithology and orientation, and a discussion of its morphological evolution.

NGLM
BGI

435. JEJE, Lawrence Kosoko. Some aspects of the geomorphology of south western Nigeria. Ph.D. Thesis, University of Edinburgh, 1970.

AIT
UKPT

436. JUNGERIUS, P.D. The upper coal measures cuesta in Eastern Nigeria. Zeitschrift für Geomorphologie, Supplement Band 5 (Berlin) 167-176, 1964.

General description of the scarp, the drainage system developed on it, the soils, and discusses evolution of the slopes.

NGLM
GA-A
BGI

437. JUNGERIUS, P.D. Some aspects of the geomorphological significance of soil texture in Eastern Nigeria. Zeitschrift für Geomorphologie (Berlin) 9(3): 332-345, 1965.

Demonstrates how sizes of soil particles are associated with the form, distribution and morphological evolution of landscapes.

CGP
NGLM
GA-A

438. OFOMOTA, Godfrey E.K. Landforms on the Nsukka Plateau of Eastern Nigeria. Nigerian Geographical Journal (Ibadan) 10(1): 3-9, June, 1967.

Outline of two major types of landforms: residual hills and dry valleys, with brief comments on their evolution.

CGP
NGLM
GA-A
BGI

439. OLOGE, Owoniyi Kingsley. Aspects of the morphology of metasediments in Nigeria, with particular reference to the Kusheriki area. M.Sc. Thesis, University of Liverpool, 1968.

Describes their evolution and discusses their major physical characteristics.

440. _____. Gully development in the Zaria area, Northern Nigeria. Ph.D. Thesis, University of Liverpool, 1971.

Detailed analysis of the morphometric characteristics and implications for land-use in the area.

441. OYAWOYE, M.O.A. A note on some inselbergs around Bauchi, Northern Nigeria. Nigerian Geographical Journal (Ibadan) 3(2): 33-37, Dec. 1960.

Gives the morphological evolution of three types of inselbergs.

CGP
GA-A

442. PUGH, John C. The Porto-Novo-Badagri sand ridge complex. Research Notes (Ibadan) No. 3: 3-14, May, 1953.

Detailed mapping and description of this stretch of coastline forms basis of preliminary deductions and of a hypothesis explaining its morphological evolution.

CGP
BGI

443. _____. Sand movement in relation to wind direction as exemplified on the Nigerian coastline. Research Notes (Ibadan) No. 5: 2-14, April, 1954.

Correlates maximum fetch directions with sand movement in all four major subdivisions of the Nigerian coastline.

CGP
NGLM
BGI
MGA

444. _____. A classification of the Nigerian coastline. Journal of the West African Science Association (London) 1(1): 3-12, Oct. 1954.

Description of the operative factors responsible for its evolution and critical comparative analysis of the nine sections recognised.

CGP
BGI

445. _____. Multi-cycle inselbergs. Research Notes (Ibadan) No. 6: 1-9, Nov. 1954.

General appraisal of theories of peneplanation and pediplanation with most examples drawn from Western Nigeria.

BGI

446. _____. High-level surfaces in the eastern highlands of Nigeria. South African Geographical Journal (Johannesburg) 36: 31-42, Dec. 1954.

Beginning from Lake Chad southwards through now mostly Cameroonian territory, describes the distribution and geomorphological characteristics of 'Gondwana' and 'African' surfaces identified earlier (1952).

CGP
NGLM
BGI

447. PUGH, John C. The geomorphology of the Northern Plateau of Nigeria. Ph.D. thesis, University of London, 1955. 3 vols.

'Northern Plateau' means areas of 1,000 feet and above, lying to the north of Rivers Niger and Benue whose geomorphological analysis includes detailed studies from other parts of Nigeria.

AIT
UKPT

448. _____. Eastward projection of Lama-Hollis forms into Western Nigeria. Journal of the West African Science Association (London) 2(1): 77-80, Feb. 1956.

Briefly describes landforms analogous to the Lama-Hollis depression in Togo and Dahomey thereby suggesting greater distribution of calcareous rocks in Western Nigeria than hitherto supposed.

449. _____. Fringing pediments and marginal depressions in the inselberg landscape in Nigeria. Transactions, Institute of British Geographers (London) No. 22: 15-32, 1956.

Evolves a theory to explain the evolution of marginal depressions in essentially inselberg-pediment landscape.

CGP
NGLM
BGI

450. _____. The volcanoes of Nigeria. Nigerian Geographical Journal (Ibadan) 2(1): 26-36, Jan. 1958.

Gives general geologic background of volcanoes and describes the character of the five groups recognised in Nigeria.

CGP
NGLM
GA-A
BGI

451. _____. River captures in Nigeria. Nigerian Geographical Journal (Ibadan) 4(2): 41-48, Dec. 1961.

Four examples are described in some detail and their economic importance is illustrated with two further examples.

CGP
GA-A
BGI

452. PUGH, John C. and Lester King. Outline of the geomorphology of Nigeria. South African Geographical Journal (Johannesburg) 34: 30-37, Dec. 1952.

Base description of evolution and characteristics of Nigerian landscape which is dominated by 'Gondwana' and 'African' surfaces, on the so-called 'Theory of Gondwanaland'.

NGLM
BGI

453. PULLAN, R.A. The recent geomorphological evolution of south central part of the Chad Basin. Journal of the West African Science Association (London) 9(2): 115-139, Oct. 1964.

Nineteen geomorphological units are recognised and described, with their statigraphy, in Nigeria and the Cameroons, followed by careful tentatively-dated chronological analysis of the Basin based on fluctuating lake levels.

GA-A
CGP

454. _____. A morphological classification of lateritic ironstones and ferruginised rocks in Northern Nigeria. Nigerian Journal of Science (Ibadan) 1(2): 161-173, July, 1967.

Classifies, defines and illustrates seven primary and four secondary types on the basis of their mode of formation and morphology.

CGP
GA-A

455. _____. Report of work in the Chad Basin and Niger Valley, Northern Nigeria. In 'Palaeoecology of Africa and of the surrounding islands and Antarctica, vol. 2. Edited by E.M. Van Zinderen Bakker.' Cape Town, A.A. Balkema, 1967. p.16-19.

Review article of studies by staff of I.A.R., Zaria, NEDECO, and the Geological Survey of Nigeria, giving brief description of major geomorphological features.

456. RUSS, W. Reconnaissance survey of parts of Abeokuta and Oyo Provinces. In 'Nigeria. Geological Survey Dept. Annual report for the year 1933.' Lagos, 1934. p.43-50.

Descriptive account of major landforms recognized.

457. SIMPSON, A. Geomorphology. In his 'The Nigerian coalfield: the geology of parts of Onitsha, Owerri, and Benue Provinces.' /Lagos/ Geological Survey of Nigeria, 1954. p.4-8. (Geological Survey of Nigeria. Bulletin no. 24).

Major landforms of escarpments, plains and plateaux, with their associated rock types, described. Drainage pattern outlined and its evolution briefly discussed.

CGP

458. SPARKS, B.W. and Alfred Thomas Grove. Fossil non-marine mollusca from Mongonu, North-Eastern Nigeria. Overseas Geology and Mineral Resources (London) 9(2): 190-195, April, 1963.

Ten species of sub-fossil marine molusca are described. Fauna is considered entirely Ethiopian and compared with similar faunas north of Lake Chad and elsewhere in Africa.

459. STONE, Ian. A note on altimetric analysis. Nigerian Geographical Journal (Ibadan) 10(2): 129-132, Dec. 1967.

Two methods of altimetric analysis applied to an area between Auchi and Okene reveal significant erosional surfaces below a general 1,550' summit.

BGI

460. STONELEY, R. The Niger delta region in the light of the theory of continental drift. Geological Magazine (Herts, Eng.) 103(5): 385-397, Sept.-Oct. 1966.

Examines the 120-mile misfit of this area in relation to the north-eastern area of South America and concludes that the two land masses were once joined together.

CGP

461. THOMAS, Michael F. On the approach to landform studies in Nigeria. Nigerian Geographical Journal (Ibadan) 5(2): 87-101, Dec. 1962.

Recognises two major landforms in Nigeria and over much of West Africa, and explains their morphological evolution.

CGP
NGLM
GA-A
BGI

462. THOMAS, M.F. An approach to some problems of landform analysis in tropical environments. In 'Essays in geography for Austin Miller. Edited by J.B. Whittow and P.D. Wood'. Reading, University of Reading, 1965. p.118-144.

With examples drawn from Nigeria it demonstrates the non-universality of applying L.C. King's pedeplanation theory.

CGP
GA-A

463. _____. Evolution of inselberg landscapes in Nigeria. Advancement of Science (London) 21(93): 458-459, 1965.

Presents new evidence concerning the nature and extent of deep weathering which is used to substantiate a mode of evolution for inselberg landscapes very close to Falconer's original thesis.

UKPT

464. _____. Some aspects of the geomorphology of domes and tors in Nigeria. Zeitschrift fur Geomorphologie (Berlin) 9(1): 63-81, March, 1965.

Defines and describes their evolutionary characteristics together with a discussion of geomorphic forces that interplay after their formation.

CGP
GA-A

465. _____. Some geomorphological implications of deep weathering patterns in crystalline rocks in Nigeria. Transactions, Institute of British Geographers (London) No. 40: 173-194, Dec. 1966.

Describes the character and distribution of deep weathering and demonstrates its influence on landscape evolution, especially the inselberg-plain topography.

CGP
NGLM
GA-A

466. _____. A contribution to the study of inselberg landscapes in Nigeria. Ph.D. Thesis, University of London, 1967. 2 vol. (vol. 2 = 44 maps & diagrs., 52 plates).

Submits that deep weathering processes must largely explain the morphology and evolution of inselberg landscapes throughout Nigeria.

AIT

467. THOMAS, Michael. Geomorphology and land classification in tropical Africa. In 'Environment and land use in Africa. Edited by M.F. Thomas and G.W. Whittington'. London, Methuen, 1969. p.103-145.

Review article on methodology with many examples from Nigeria. Two of the three diagrams are on Western Nigeria.

GA-A

468. THORP, Martin B. Joint patterns and the evolution of landforms in the Jawara granite massif, Northern Nigeria. In 'Liverpool essays in geography, a jubilee volume. Edited by R.W. Steel and R. Lawton.' London, Longmans, 1967. p.65-83.

Analyses three types of landform assemblages and concludes that "when a deeply weathered planation surface has been subjected to rejuvenation, a slightly lower surface of equivalent horizontality but greater roughness may be produced before the total replacement of the older surface by the newer one occurs".

GA-A
CGP
NGLM

469. _____. Closed basins in younger granite massifs, Northern Nigeria. Zeitschrift für Geomorphologie (Berlin) 11(4): 459-480, Dec. 1967.

Closed basins on the Jos Plateau are a typical landform resulting from differential weathering and consequent erosion of the granite massifs.

NGLM
GA-A

470. _____. The geomorphology of the younger granite Fudaru Hills. Nigerian Geographical Journal (Ibadan) 10(2): 77-90, Dec. 1967.

Account of physiographic characteristics, evolution, and some problems of landscape evolution yet unresolved. Maps 1 & 2 could have been enlarged with profit.

NGLM
GA-A
BGI

471. USOROH, E.J. Erosional development of the Manu river basin, Eastern Nigeria. M.Sc. Thesis, University of Ibadan, 1968. 313 ℓ.

Description of techniques used, the erosional features, planation surfaces, and denudation chronology of a river basin in parts of Onitsha, Owerri and Enugu Provinces.

TDA

472. _____. Man's role in inducing rapid rates of erosion: the example of the stream channel development and accelerated erosion in Victoria island, Lagos. Nigerian Geographical Journal (Ibadan) 12(1 & 2): 77-86, Dec. 1969.

Uses observation and instrumentation to calculate rate of headward and gully bottom erosion along Kuramo Creek from 1966 to 1968 with man principally providing the "trigger action" for their initiation and perpetration.

CGP
NGLM

473. WIGWE, George A. Drainage composition and valley forms in parts of Northern and Western Nigeria. Ph.D. Thesis, University of London, 1966. v, 350ℓ. (vol. 1), vol. 2 = 75 maps & diagrs.

Detailed analysis of the geomorphology of drainage basins in Ilesha, Iwo and Ilorin districts.

AIT

474. WRIGHT, J.B. The Benue valley - a rip in the African continent. Nigerian Field (London) 35(2): 78-85, April, 1970.

Theory of continental drift explains tensional rifting and folding movements of Benue trough and the deposition of marine sediments in it.

LANDFORMS

475. BRIDGES, A.F.B. Idanre. Nigerian Field (London) 5(4): 156-160, 1936.

Describes the three peaks surrounding Idanre town and main physiographic features observed during ascent of one of them.

476. DUNGER, G.T. Wase rock - its history, geology, fauna and climbs. Nigerian Field (London) 30(4): 148-184, Oct. 1965.

Only useful section consists of excerpts from works of missionaries, travellers and geographers describing physical geology of the rock and the village that once grew around it.

477. FANIRAN, Adetoye. Landform examples from Nigeria, No. 2: the deep-weathering (duricrust) profile. Nigerian Geographical Journal (Ibadan) 13(1): 87-88, June, 1970.

Describes the morphology and morphogenesis of two complete profiles at Ibadan University campus and at Onigbongbo (Lagos-Ikorodu road).

478. FANIRAN, Adetoye and High, Colin. Landform examples from Nigeria, No. 1: an inselberg. Nigerian Geographical Journal (Ibadan) 12(102): 141-144, Dec. 1969.

Description of the bornhardt Aseke Hill near Oyo and summary of the two theories of inselberg formation as advanced by L.C. King and M.F. Thomas.

479. NESHAM, Major E.W. The Idanre hills. Nigeria (Lagos) No.16: 267-269, 1938.

Religious significance of the three major summits precedes description of observations during ascent and descent of Orosun Peak.

480. NIVEN, C.R. Notes on the Ferin Ruwa Falls. Geographical Journal (London) 81(2): 150-153, Feb. 1933.

Describes location, characteristics and immediate vicinity of a water fall on the Jos Plateau.

481. SMITH, Robert. Ogun hills. Nigeria Magazine (Lagos) No. 85: 118-128, June, 1965.

Depicts the rich historic associations of the inselbergs and adjoining communities in Upper Ogun River.

482. THOMAS, Michael F. A bornhardt dome in the plains near Oyo, Western Nigeria. Zeitschrift für Geomorphologie (Berlin) 11(3): 239-261, Sept. 1967.

Detailed description of observed morphological variations and the mode of formation of the bornhardt.

CGP
NGLM
GA-A

CLIMATOLOGY

483. BIGELSTONE, H.J. Diurnal variations in surface wind speed at Kano. Lagos, British West African Meteorological Services, May, 1958. 3p. (Technical Note, no.8).

Study of mean diurnal hourly variations and seasonal incidence of surface wind velocity shows former's close correlation with visibility in Kano.

484. _____. Harmattan haze at Kano (with comments by F. Burns). Lagos, British West African Meteorological Services, June, 1958. 10p. (Technical Note, no.10).

Description of its origin, general characteristics, diurnal variation and seasonal incidence precedes discussion of five examples.

485. BRABY, H.W. The harmattan wind of the Guinea coast. Quarterly Journal of the Royal Meteorological Society (London) 39: 301-306, 1913.

Based on a five-year observational table at Zungeru, it discusses character of harmattan winds and shows how its presence or absence can be used to forecast anticyclonic belt positions.

486. BRAMMER, H. and N.O. Walker. Climatic definition of the Middle Belt. Nairobi, Commission for Technical Cooperation in Africa South of the Sahara (CTTA/CSA), 1960 (Appendix to L (60)).

487. BRITISH West African Meteorological Services. Nigeria. Preliminary note on the climate of Nigeria. Lagos, 1952. 4p. 3 maps, tables (Meteorological note, no. 2).

Brief description of general characteristics of elements of climate based on 1943 to 1967 climatic records.

CGP
MGA

488. BRITISH West African Meteorological Services: Nigeria. The Climate of Nigeria in February. Lagos, 1955. (Meteorological note, no.3) 18p.

Mainly diagramatic representation of detailed climatological information on Lagos, Port Harcourt, Calabar, Ibadan, Enugu, Jos, Kaduna, and Kano--places covered by the 1956 royal tour.

MGA

489. _____: Nigeria. Preliminary note on the rainfall of Nigeria. Lagos [1956] (Meteorological note, no. 2). 69 l

General character of distribution, variability and intensity richly illustrated with 26-page maps, 21-page tables and 13-page diagrams.

MGA

490. _____: Nigeria. Upper air temperatures and winds at Lagos/Ikeja [with explanatory notes by J.R. Clackson]. Lagos, [1959?]. (Meteorological note, no.5) 31p.

Tabular presentation of temperature and wind measurements from 1955 to '58 and 1953 to '58 respectively.

491. _____: Nigeria. Upper winds at Kano [with explanatory notes by J.R. Clackson] Lagos, [1960?] (Meteorological note, no. 7) 21p.

Tabular summary of the results of the morning ascents between 1955 and 1959.

492. _____: Nigeria. The climate of Nigeria in October. Lagos, [1960?] (Meteorological note, no.8) 7p.

Brief notes on temperature, rainfall humidity and winds to guide planners of the Independence celebrations.

BGI

493. BRITISH West African Meteorological Services: Nigeria. Diurnal variation of rainfall. Lagos, Sept. 1960. (Meteorological note, no.9) 26p.

Four-page introductory notes precede twenty isopleth diagrams depicting seasonal variations of rain-hours incidence for nineteen selected stations in Nigeria and Tiko in the Cameroons.

494. BROOKS, C.E.P. The rainfall of Nigeria and the Gold Coast. Quarterly Journal of the Royal Meteorological Society (London) 42(178): 85-106, April, 1916.

Based mostly on 1904-1913 data in Nigeria, a general description and analysis of the rainfall distribution pattern. The tables (six pages) and maps are particularly illuminating.

MGA

495. _____. The distribution of temperature over Nigeria. Quarterly Journal of the Royal Meteorological Society (London) 46(194): 204-214, April, 1920.

Brief outline in maps (seventeen) and tables (four pages) of the mean monthly temperature distribution.

MGA

496. _____. The distribution of relative humidity over Nigeria. Quarterly Journal of the Royal Meteorological Society (London) 46(195): 289-292, July, 1920.

Brief commentary on the maps drawn from data collected in 55 stations, mostly in southern Nigeria.

MGA

497. _____. Nigeria: winds, weather, cloudiness. Quarterly Journal of the Royal Meteorological Society (London) 47(197): 203-206, July, 1921.

Based on data collected from nine stations, factors governing the meteorology of Nigeria and the wet and dry season character are described.

498. BURNS, F. Dust haze in relation to pressure gradients. Lagos, British West African Meteorological Services, March, 1960. 6p. (Technical note, no.11).

Shows how the presence of dust haze in Northern Nigeria can usually be inferred from surface pressure patterns in the absence of observations from desert stations.

499. CHAPAS, L.C. and A.R. Rees. Evaporation and evapotranspiration in Southern Nigeria. Quarterly Journal of the Royal Meteorological Society (London) 90(385): 313-319, July, 1964.

Experiments conducted at Benin from 1961 to 1962 using evaporation pans and Thornthwaite-type evapotranspirometers appear to produce more reliable estimates than those of earlier workers albeit still based on tentative assumptions.

BGI

500. CLACKSON, J.R. Gusts in Nigeria. Lagos, Survey Department, 1952. 13p. tables. (British West African Meteorological Services Meteorological note, no. 1).

Analysis of distribution and frequency of gusts reaching 30 miles per hour or more, based on anemograph recordings from six stations.

MGA

501. _____. Mean temperatures. Lagos, British West African Meteorological Services, 1955. 2p. (Technical note, no.3).

Based on mean daily and hourly figures from seven Nigerian stations, he offers tentative formula for correcting monthly means in order to render them more statistically accurate.

502. _____. Seasonal movement of boundary of northern air. Lagos, West African Meteorological Services, 1957. 5p. (Technical notes, no.5).

1956 and 1957 charts showing the southern boundary of the inter-tropical front over West Africa demonstrates its striking seasonal incidence.

503. CONDRON, Thomas P. A study of harmattan haze at Maiduguri, Nigeria. Washington, D.C., U.S. Air Weather Service, Dec. 1955. 12p. (AWS Technical report 105-49).

Describes the characteristics of the harmattan as observed from Jan-Feb, 1944 and explains why it was so severe during the period.

MGA.

504. DAVIES, John Anthony. Evaporation and evapotranspiration in Ibadan. Nigerian Geographical Journal (Ibadan) 8(1): 17-31, June, 1965.

Critical appraisal of instruments used, methods of calculation, and the results obtained at the University of Ibadan Climatological Station between 1960 and 1962.

CGP
NGLM
GA-B

505. _____. Radiation and evaporation approximations for Nigeria. Ph.D. Thesis, University of London, 1966. 266 l.

Presents the first major analysis of radiation and moisture balance components in Nigeria's climate.

AIT

506. _____. The assessment of evapotranspiration for Nigeria. Geografiska Annaler Ser. A. Physical Geography (Stockholm) 48(3): 139-156, Dec. 1966.

Highly mathematical calculations using the energy balance approach as opposed to the methods of Thornthwaite, Garnier and Penman. Results applied to delimiting broad climatic vegetational zones for the country.

CGP
NGLM
BGI

507. _____. Solar radiation estimates for Nigeria. Nigerian Geographical Journal (Ibadan) 9(2): 85-100, Dec. 1966.

Estimates are based mainly on measured sunshine and recorded cloudiness of earlier investigators.

CGP
GA-B

508. GARNIER, Benjamin John. A preliminary experiment to measure potential evapotranspiration at University College, Ibadan. Research Notes (Ibadan) 1(1): 4-20, June, 1952.

Ten months' readings from a simplified Thornthwaite evapotranspirometer are tabulated and analysed to give a daily mean value of 5mm.

CGP
BGI

509. _____. Some comments on measurements of potential evapotranspiration in Nigeria. Research Notes (Ibadan) No.2 11-18, Jan. 1953.

Compares results from data collected from six stations in the country with Thornthwaite's emperical formula.

BGI

510. _____. Some comments on rainfall at U.C.I. during 1952. Research Notes (Ibadan) No.3: 15-20, 1953.

Outlines the pattern of rainfall at Ibadan on the basis of 1952 data.

CGP
BGI
MGA

511. _____. The incidence and intensity of rainfall at Ibadan, Nigeria. In 'Comptes Rendus, 5^{e} Conférence Internationale des Africanistes de l'Ouest (Abidjan), 7-19, December, 1953' p.87-90.

512. _____. Measuring potential evapotranspiration in Nigeria. In 'The measurement of potential evapotranspiration.' Edited by J.R. Mather, Baltimore, John Hopkins Laboratory of Climate, 1954. p.140-176. (Publications in climate vol. 8, no.2).

Pioneering work being done in the field, mainly by the author, in Nigeria is described with critical analysis of results so far obtained.

MGA

513. GARNIER, Benjamin John. The moisture resources of Nigeria and their utilization. In 'Natural resources, food and population in inter-tropical Africa; a report of a geographical symposium held at Uganda ... under the auspices of the International Geographical Union ...' London, Geographical Publications, 1956p. 28-32.

Comparison of mean monthly precipitation with mean monthly potential evapotranspiration gives an idea of Nigeria's water balance whose problems of utilization are summarised.

CGP
BGI

514. _____. Reports on experiments to measure potential evapotranspiration in Nigeria. Research Notes (Ibadan) No.8: 2-17, Jan. 1956.

The operation and maintenance of an evapotranspirometer are described, results are compared with computed potential evapotranspiration data, and a modification of Thornthwaite's is suggested for Nigerian conditions.

CGP
BGI
MGA

515. _____. The climatic aspect of irrigation development in Nigeria. Advancement of Science (London) 13(53): 351-354, March, 1957.

Briefly considers how seasonal incidence or rainfall distribution coupled with intensity of evapotranspiration could significantly limit the location of irrigation schemes.

516. _____. Potential evapotranspiration and its use in agricultural development. /Ibadan/ Ibadan University Press, 1957.

Demonstrates significance of evapotranspiration studies in understanding water balance distributions through time and space, with particular reference to Nigeria.

517. _____. Using potential evapotranspiration as a guide to water requirements of crops. Ibadan, Ibadan University Press, 1957.

Based on experiments carried out in Ibadan, it describes a method of computing the water requirements of plants thereby giving an idea of when to irrigate them and how much water to use.

518. GARNIER, Benjamin John. Weather conditions in Nigeria ... final report under Contract Nonr - 908(21) Project NR389-145. Washington, D.C. Department of Navy, Office of Naval Research, Geography Branch, 1967. 163p. diagrs. maps. tables.

Against Nigeria's general climatology he examines, in detail, weather conditions during five positions of the ITCZ and suggests division of the country into four weather regions whose characteristics are described.

CGP
NGLM
BGI

519. GILCHRIST, A. Evaporation in Nigeria. Lagos, Nigeria Meteorological Service, 1961. 22p. (Technical note, no.6).

Experiments to determine open water evaporation values raise problem of general application which is discussed against background of earlier related studies by Gunn, Bellani, Piche and Penman.

520. HAMILTON, R.A. and J.W. Archbold. Meteorology of Nigeria and adjacent territory. Quarterly Journal of the Royal Meteorological Society (London) 71(309-310): 231-264, July-Oct. 1945.

Description of the major air masses, characteristics of four weather zones, and instability phenomena associated with them leads to a 'Theory of Disturbance Lines.'

CGP

521. HODDER, B.W. A note on delimiting the humid tropics: the case of Nigeria in West Africa. Research Notes (Ibadan) No.10: 1-7, June, 1957.

Criteria are discussed and it is shown that in Nigeria and West Africa, the humid tropics are a rainfall region within broad temperature limits.

CGP
MGA

522. HOGG, W.H. The diurnal variation of surface wind at Barthust, Freetown and Lagos. Quarterly Journal of the Royal Meteorological Society (London) No.72: 335-337, 1946.

Describes methods in the computation of mean monthly winds at morning and afternoon hours based on observations from the three towns.

523. HOPKINS, Brian. A trend towards a longer dry season in south-western Nigeria. Nature(London) 194: 861-862, June, 1962.

Analysis of records of rainless periods at Olokemeji Forest Reserve show a trend towards an increase in the maximum dry period.

524. _____. Hail at Ibadan. Nigerian Field (London) 28(3): 141-142, July, 1963.

Three eye-witness accounts of occurrences.

525. _____. Observations on the distribution of rainfall in Ibadan. Nigerian Geographical Journal (Ibadan) 6(2): 96-101 Dec. 1963.

Based on data from only five out of 45 stations in the town, the eveness of rainfall distribution reported would require some qualification.

OGP

526. _____. Vegetation of the Olokemeji Forest Reserve, Nigeria II. The climate with special reference to its seasonal changes. Journal of Ecology (Oxford) 53(1): 109-124, March, 1965.

Analysis, with diagrams, of the major climatic elements of wind, temperature, rainfall, humidity and evaporation, and light.

BGI

527. _____. Vegetation of the Olokemeji Forest Reserve, Nigeria III. The microclimates with special reference to their seasonal changes. Journal of Ecology (Oxford) 53(1): 125-138, March, 1965.

Discusses the microclimates of forest, and savanna sites, compares their seasonal changes with those of the climate and the vegetation on the two sites.

BGI

528. IBADAN. University. Department of Geography. Climatological Research Station at the University of Ibadan. Nigerian Geographical Journal (Ibadan) 7(1): 54-56, June, 1964.

Describes the functioning of an evapotranspirometer installed on the campus.

529. IRELAND, A.W. The little dry season of southern Nigeria. Nigerian Geographical Journal (Ibadan) 5(1): 7-20, June, 1962.

Characteristics and distribution of this phenomenon are described and a hypothesis to explain its cause advanced.

CGP
NGLM
BGI

530. JONES, D. The simultaneous occurrence of fog and thunderstorm at Ikeja. Lagos, British West African Metororological Services, 1961. 2p. (Technical note, no.1).

Eye-witness account of two occasions when fog was cleared by thunderstorms, and another two occasions when fog persisted beyond time of clearance by thunderstorm.

531. LADEIL, W.S.S. Physiological classification of climates; illustrated by reference to Nigeria. In "Proceedings of the Third International West African Conference held at Ibadan, Nigeria, 12th-21st December, 1949." Lagos, Nigerian Museum, 1956. p.4-21.

Data collected in Lagos, Port Harcourt, Jos, Enugu, Kano and Zaria are analysed to produce reasonably accpetable Effective Temperature Scale that incorporates heat balance, air movement and radiation factors.

532. LAWES, D.A. Rainfall and percolation studies at Samaru. In 'Proceedings, West African Cotton Research Conference, Samaru, Northern Nigeria, Nov. 18-23, 1957.' Samaru, Ministry of Agriculture, 1959. p.193-196.

Data from the series of percolation guages installed at Samaru on soils with different surface treatments and coverage are presented for the rainfall season of 1957 and compared with previous records, followed by a discussion of the effect of rainfall intensity and rates of percolation.

MGA

533. _____. Rainfall run-off and soil surface infiltration rates at Samaru, Northern Nigeria. M.Sc. Thesis, University of Wales, 1964.

AIT
UKPT

534. LOW humidities in the northern provinces of Nigeria. The Meteorological Magazine (London) 61(726): 143-144, July, 1926.

Based on a selection of low humidities recorded in 1925 and 1926 it explains the unusually low humidities recorded in this area.

535. McCORMACK, J.G. Relation between peak gusts and associated temperature falls. Lagos, British West African Meteorological Services, 1958. 2p. (Technical note, no.9)

Mathematical analysis of records of 67 occasions of occurrence of gusts with thunderstorms from Ikeja, Kano, Maiduguri and Minna stations confirms correlation.

536. McKEOWN, H.D.J. An analysis of the harmattan conditions prevailing in the Nigeria dry season. M.Sc. Thesis, University of Belfast, 1956.

AIT

537. _____. Dust concentration in the Harmattan. Quarterly Journal, Royal Meteorological Society (London) 84(361): 280-282, July, 1958.

Dust counting technique is described based on samples collected from Ibadan in 1955, with suggestion of how large dust concentrations might affect terrestrial radiation.

MGA

538. MANNING, H.L. Crop-water relations of cotton at Samaru In 'Proceedings, West African Cotton Research Conference, Samaru, Northern Nigeria, Nov. 18-23, 1957.' Samaru, Ministry of Agriculture, 1959. p.181-192.

Low cotton yields in Northern Nigeria are attributed to water-logging, low nutrient status, insect pest or plant disease complexes, and abrupt change from wet to arid conditions. Control measures are fully discussed.

MGA

539. MATHEWS, L.S. The unusual storms at Christmas week, 1960 in Nigeria. Lagos, Nigeria Meteorological Service, July, 1961. (Technical note, no.15).

Describes the character and effects of phenomena observed in six days.

540. MILLER, Ronald. The climate of Nigeria. Geography (Sheffield) 37(178pt.4): 198-213, Nov. 1952.

Descriptive analysis of its characteristics based on new data collected during World War II.

CGP
NGLM
BGI
MGA

541. NASH, T.A.M. Fuel consumption in relation to minimum temperature. Farm and Forest (Ibadan) 2(1): 34-36, June, 1941.

Establishment of positive correlation based on only twelve months' statistics makes generalisation dangerous.

542. NIGERIAN Meteorological Service. Heaviest daily rainfall. Lagos, Dec. 1960 (Meteorological note, no.10) 53 l.

Tabulation of heaviest 24-hour (10a.m.-10.a.m.) falls experienced at long-period stations in Nigeria and Southern Cameroons ranging from 1906 to 1959.

MGA

543. OGUNTOYINBO, J.S. Agroclimatic problems and commercial cane sugar industry in Nigeria. Nigerian Geographical Journal (Ibadan) 8(2): 83-97, Dec. 1965.

Provides detailed analysis of physical, and particularly agroclimatic, and economic, problems of the Bacita Sugar Estate.

CGP
NGLM
GA-C

544. _____. Rainfall, evaporation and cotton production in Nigeria. Nigerian Geographical Journal (Ibadan) 10(1): 43-55, June, 1967.

Enumerates optimum climatic conditions for cotton cultivation in Nigeria, and discusses marginally and potentially productive areas.

CGP
GA-B
BGI

545. OGUNTOYINBO, J.S. Surface measurements of albedo over different agricultural crop surfaces in Nigeria and their spatial and seasonal variability. Nigerian Geographical Journal (Ibadan) 13(1): 39-55, June, 1970.

Determines mean albedo values from results of measurements over twelve crop surfaces; the causes and effects of seasonal variations are discussed and compared with similar results reported elsewhere.

CGP

546. _____. Reflection coefficient of natural vegetation, crops and urban surfaces in Nigeria. Quarterly Journal, Royal Meteorological Society (London) 96(409): 430-441, July, 1970.

Establishes that reflection coefficients over a wide variety of surfaces in Nigeria are inversely related to vegetation height. Seasonal differences are discussed and compared with similar results from the Northern Hemisphere.

NGLM

547. OJO, O. Some aspects of energy considerations in West Africa. M.A. Thesis, University of California, 1968.

548. _____. Energy balance climatology and livestock potential in Nigeria. Ph.D. Dissertation, University of California, 1969.

549. _____. The distribution of mean monthly precipitable water vapor and annual precipitation efficiency in Nigeria. Achiv für Meteorologie Geophysik und Bioklimatologie. Ser. B. Klimatologie, Bioklimatologie, Strahlungsforschung (Wien, Germany) 18(3-4): 221-238, 1970.

Calculates and maps zonal distribution of both values from 1951-60 surface data, and explains why they decrease from coast northwards.

CGP

550. OLUSA, Kay. Rainfall in Ibadan. University Geographer (Ibadan) 8: 5-12, June, 1967.

Based on 1957-66 data from five stations it discusses the major characteristics of Ibadan's rainfall pattern.

551. OYEBANDE, B.L. and J.S. Oguntoyinbo. An analysis of rainfall patterns in the south-western states of Nigeria. Nigerian Geographical Journal (Ibadan) 13(2): 141-162, Dec. 1970.

Describes monthly, seasonal and annual distribution of fainfall patterns in relation to basic meteorological, locational and relief factors with analysis of their problems of relationship and significance.

CGP
NGLM

552. PERKINS, W.A. The rainfall of Ibadan. Farm and Forest (Ibadan) 10(1): 26-32, Jan. 1950.

Rainfall coefficient of correlation for five sites is calculated leaving the records of only one station as basis for describing pattern of rainfall between 1911 and 1948.

CGP
BGI

553. PUGH, John C. Rainfall reliability in Nigeria. In 'Proceedings 8th General Assembly and 17th International Congress of the International Geographical Union (Washington, D.C.) Aug. 8-15, 1952. p.280-285.

Calculates and maps double-maximum variations for 53 stations throughout the country and indicates the significance of the resulting pattern for agricultural development.

CGP
BGI
MGA

554. PULLAN, Robert A. The concept of the Middle Belt: a climatic definition. Nigerian Geographical Journal (Ibadan) 5(1): 39-52, June, 1962.

Presents a 'rational' definition of the region in terms of one climatic parameter: the length of the dry season, giving full consideration to range and variation.

NGLM
BGI

555. SCHOVE, D.J. A further contribution to the meteorology of Nigeria. Quarterly Journal of the Royal Meteorological Society (London) 72(311): 105-110, Jan. 1946.

A discussion of an earlier paper by Hamilton and Archibald (1945) in which his experiments shed further light upon conditions in the upper-air as they affect weather conditions.

CGP

556. SIRCAR, Parbati Kumar. Climate. In 'Nsukka Division: a geographical appraisal. Edited by P.K. Sircar'. Nsukka, University of Nigeria, Department of Geography, 1965. p.14-25.

Gives characteristic features of insolation, temperature, relative humidity, rainfall, and water balance for Nsukka town only.

557. SMITHIES, F. Ten years of weather in Ibadan. Nigerian Field (London) 10: 103-112, 1941.

Based on 1930-39 data collected at Government College, mean annual temperature, rainfall, relative humidity, barometric pressure, wind and cloud are described and charted.

558. SPOTTISWOODE, Hildegarde E. The general trend and distribution of rainfall in Nigeria. Nigerian Field (London) 9(2): 50-56, 1940.

Uses statistical method to evolve a formula (high or low phase angles) for determining the march and distribution of rainfall during the year throughout the country.

559. STANHILL, G. The accuracy of meteorological estimates of evapotranspiration in Nigeria. Journal, Institution of Water Engineers (London) 17(1): 36-44, Feb. 1963.

Critically compares results obtained from Ibadan with those from England and Israel using similar instruments.

BGI

560. SWAMI, Kala. Importance of daily and synoptic climatic analyses in ecological studies: an example from Nigeria. Climatological Bulletin (Montreal) No.8: 40-57, July, 1970.

CGP

561. TROPICAL Testing Establishment. Notes on the climate of Nigeria with reference to personnel. Port Harcourt, 1955. 20p. (Technical report, no. 355).

Subjective feelings at stations in the country ranging from hot-wet to semi-arid were compared with instrumental temperatures, humidities and effective temperatures with certain conclusions and recommendations.

NGA

562. WALTER, M.W. Length of the rainy season in Nigeria. Nigerian Geographical Journal (Ibadan) 10(2): 123-128, Dec. 1967.

Computes and maps length of rainy season from monthly average values of rainfall from records of all rainfall recording stations in Nigeria operative for at least five years.

CGP
GA-B

563. _____. Observations on the rainfall at the Institute for Agricultural Research, Samaru, N. Nigeria with notes on the rainfall at Kano Airport, Shika Agricultural Research Station and Mokwa Agric. Res. Station. Samaru Miscellaneous Papers (Zamaru, Zaria) No.15: 1-52, 1967. 21 tables.

Mainly tabular analysis of rainfall characteristics in the four stations between 1928 and 1965.

564. WEST, J. A note on recent Nigerian rainfall records. Farm and Forest (Ibadan) 2(1): 30-31, June, 1941.

Shows that rainfall totals between 1934 and 1940 have been decreasing in Ibadan (Moor Plantation) and in Lagos.

BIOGEOGRAPHY

565. ADEJUWON, J.O. A genetic basis for the classification of forest zone vegetation in Western Nigeria. Journal of Tropical Geography (Singapore) 24: 1-6, June, 1967.

Recognises and describes six vegetation types on basis of land-use patterns as indices of their development and maintenance.

CGP
BGI

566. ADEJUWON, J.O. A biogeographical basis for determining land capabilities in Western Nigeria. Journal of the West African Science Association (Ibadan) 13(1): 65-80, Jan. 1968.

Demonstrates how soil-vegetation relationships can be used to quickly assess the agricultural potentialities of an area, with a case study from Egba Division.

CGP

567. _____. Savanna patches in the forest areas of Western Nigeria: their place in the dynamics of Nigerian vegetation. Ph.D. thesis, University of London, 1968.

AIT
UKPT

568. _____. Soil factor and the occurrence of savanna in the forest areas of Nigeria. In 'Symposium on Humid Tropics (Calcutta), 1968. Proceedings.'

Uses soil characteristics to delineate and analyse soil types in Western Nigeria.

569. _____. Vegetation zonation and the distribution ranges of savanna trees in Nigeria. Nigerian Geographical Journal (Ibadan) 12(1 & 2): 125-133, Dec. 1969.

Tree species are used to delineate taxonomic entities forming basis of nine recognisable savanna vegetation 'distribution range' groups which are briefly discussed.

CGP

570. _____. The ecological status of coastal savannas in Nigeria. Journal of Tropical Geography (Singapore) 30: 1-10, June, 1970.

Records the biogeographical complex in which the distribution and characteristics of natural coastal savanna patches are found.

CGP
NGLN
GA-B

571. AINSLIE, James Robert. The physiography of southern Nigeria and its effect on the forest flora of the country. Oxford Forestry Memoirs (Oxford) No. 5: 1-36, 1926.

Recognises three broad physiographic zones which correspond, more or less, with the four major forest types, and their floristic compositions described.

572. BUXTON, P.A. Seasonal changes in vegetation in the north of Nigeria. Journal of Ecology (Oxford) 23(1): 134-139, Feb. 1935.

Temperature and humidity variations around Gudau near Azare in April and July are described and illustrated with sixteen plates.

BGI

573. CLAYTON, W.D. A preliminrary survey of soil and vegetation in Northern Nigeria. Samaru, Zaria, Departmental report, I.A.R., 1957. 19p.

Result of a two-month road traverse reconnaissance ecological survey which maps and describes major soils, vegetation types and climatic divisions as basis for siting experimetnal stations.

574. _____. A reconnaissance ecological survey of western Kabba Province. Soil Survey Bulletin (Samaru, Zaria) No. 5: 1-17 [attached at end] [1957] maps.

Uses road traverses to describe and map main geomorphological, vegetational and land-use groups in Igbirra, Kabba and parts of Kwara Divisions.

575. _____. Reconnaissance soil and vegetation survey of an area near Wushishi (Niger Province, N. Nigeria). Soil Survey Bulletin (Samaru, Zaria) No. 6: 1-13, [1957] maps.

Main geomorphological and soil characteristics mapped and described as basis for siting a sugar cane industry.

576. _____. Secondary vegetation and transition to savanna near Ibadan, Nigeria. Journal of Ecology (Oxford) 46(2): 217-238, July, 1958.

Attempts to delimit secondary bush communities and to show the rate of savanna advance into these communities.

577. CLAYTON, W.D. A tropical moor forest in Nigeria. Journal of West African Science Association (Ibadan) 4(1): 1-3, Feb. 1958.

Describes a swamp forest formed over peat. Factors responsible for peat accumulation are discussed.

578. _____. Derived savanna in Kabba Province, Nigeria. Journal of Ecology (Oxford) 49(3): 595-604, Oct. 1961.

Five types of derived savanna and forest zones are recognised, mapped and described with their associated plant communities. Pattern attributed mainly to human factors.

GA-B

579. _____. The vegetation of Katsina Province, Nigeria. Journal of Ecology (Oxford) 51(2): 345-351, July, 1963.

Survey confined to an 3,000 square kilometres area distinguishes, by botanical classification, five types of vegetation in an area generally referred to as 'park savanna woodland'.

CGP
BGI

580. CLAYTON, W.D. and W.A. Hopo. Report on the reconnaissance soil and vegetation survey of part of the Jema'a Resettlement Scheme. Soil Survey Bulletin (Samaru, Zaria) No.7: 1-26, 1958. maps.

Recognises eight soil series which are treated as for No. 6 to determine their suitablity for cultivation of oil palms and other tree crops.

581. COOK, C.D.K. The vegetation of the Kainji reservoir site in Northern Nigeria. Vegetatio Acta Geobotanica (The Hague) 15(4): 225-243, 1968.

In an essentially ecological study, only pages 225-231 dealing with the climate, hydrology, geology and soils, land use, and vegetation are of value to the geographer.

CGP

582. DE LEEUW, Peter N. The role of savanna in nomadic pastoralism: some observations from western Bornu, Nigeria. Netherlands Journal of Agricultural Science (Amsterdam) 13(2): 178-189, 1965.

GA-D
BGI

583. EVANS, O.C. Ecological studies on the rain forest of southern Nigeria. II: The atmospheric environmental conditions. Journal of Ecology (Oxford) 27(2): 436-482, Aug. 1939.

Only Part III which presents detailed temperature and humidity conditions in the undergrowth and tree tops of the forest, and the discussion and summary at the end are useful to the geographer.

CGP

584. FAIRBAIRN, W.A. Ecological succession due to biotic factors in northern Kano and Katsina Provinces of Northern Nigeria. Oxford, Imperial Forestry Institute, 1939. 32p. (Imperial Forestry Institute, paper no. 22).

Retrogression from woodland to grassland attributed to careless cultivation and grazing. Vegetation terminology predates Keay's and therefore outdated, but remedies suggested still valid.

CGP

585. GIBSON, C.R. Transition between the equatorial forest and the tropical grassland of Nigeria. Nedlands, W.A., 1950. 10p. (University of Western Australia, Nedlands. Geographical Laboratory. Research report, no.20).

Generalized description of climate, vegetation and soil, agriculture, human occupations, and economic development.

CGP
NGLM
NGA

586. HAMBLER, D.J. The vegetation of granite outcrops in Western Nigeria. Journal of Ecology (Oxford) 52: 573-594, 1964.

587. HEPPER, F.N. The vegetation and flora of the Vogel Peak Massif, Northern Nigeria. Bulletin, Institute Francais d'Afrique Noire, Ser. A. Sciences naturelles (Paris, Dakar) 27(2): 413-513, April, 1965.

Detailed botanical treatment. Plant communities and vegetation types are differentiated by reference to topography.

CGP
GA-B
BGI

588. _____. Outline of the vegetation and flora of Mambila Plateau, Northern Nigeria. Bulletin, Institute Francais d'Afrique Noire, Ser. A. Sciences naturelles (Paris, Dakar) 28(1): 91-127, Jan. 1966.

Detailed botanical analysis. Five types of vegetation are recognized, together with their associated flora.

CGP
GA-B

589. HOPKINS, Brian. Vegetation of the Olokemeji Forest Reserve, Nigeria. I. General features and the research sites, with an appendix by R.N. Jenkin. Journal of Ecology (Oxford) 50(3): 559-598, Nov. 1962.

Describes the physiographic features of the Reserve and classifies its vegetation into climatic climax Moist-deciduous Forest and Derived Savanna Woodland.

590. _____. The Olokemeji forest reserve III: Natural history. Nigerian Field (London) 5(2): 54-78, April, 1970.

Physical and climatic features precede a detailed description of the forest species and seasonal changes amongst them.

591. JONES, A.P.D. Notes on terms for use in vegetation description in southern Nigeria. Farm and Forest (Ibadan) 6(3): 130-136, Dec. 1945.

Terms recommended are based on premise that description of vegetation types be based on pure physiognomy and physiography.

592. JONES, A.P.D. and R.W.J. Keay. Descriptive terms for the vegetation of the drier parts of Nigeria. Farm and Forest (Ibadan) 7(1): 34-40, Jan.-June, 1947.

Determination of six major descriptive terms based on recognisable physiognomic types supersedes earlier incomplete attempts to solve the same problem.

CGP

593. JONES, E.W. Ecological studies on the rain forest of southern Nigeria. IV: The plateau forest of the Okomu Forest Reserve - Part 1: The environment, the vegetation types of the forest and the horizontal distribution of species. Journal of Ecology (Oxford) 43(2): 564-594, July, 1955. Descriptive account.

594. _____. The forest outliers of the guinea zone of Northern Nigeria. Journal of Ecology (Oxford) 51(2): 415-434, July, 1963.

Based on 1958 field studies it describes the physical characteristics, with associated plant communities, of kurame and attempts to explain their shifting boundaries.

595. KEAY, R.W.J. Notes on the vegetation of Old Oyo Forest Reserve. Farm and Forest (Ibadan) 8(1): 36-47, June, 1947.

Vegetation types and their flouristic compositions are described as observed from a transect line; these are related to largely topographical and pedological facotrs.

CGP

596. _____. An outline of Nigerian vegetation. Lagos, Federal Department of Forest Research, 1948.

General classification particularly useful for attempts to standardize terminology; associated plant communities described.

597. _____. An outline of Nigerian vegetation. 2nd ed. Lagos, Federal Department of Forest Research, 1953.

CGP
NGLM

598. KEAY, R.W.J. An outline of Nigerian vegetation. 3rd ed. Lagos, Federal Department of Forest Research, 1959. 46p. diagrs. maps.

General classification with description of associated plant communities.

599. _____. An example of Sudan Zone vegetation in Nigeria. Journal of Ecology (Oxford) 37(2): 335-364, Dec. 1949.

Case study of Zamfara Forest Reserve, Sokoto Province, shows that biotic and soil influences largely determine the vegetation whose plant communities are described in detail.

600. _____. Isoberlina woodlands in Nigeria. Lejeunia 16(2): 3-11, Jan., 1952.

Description of extent, characteristics, and types of species identified.

601. _____. Derived savanna - derived from what? Bulletin. I.F.A.N. Series A. (Dakar) 21(2): 427-438, 1959.

Discusses considerations for determining the status of savanna vegetation and nature of the climax, and then applies these considerations to Nigeria's main vegetation zones.

602. _____. An example of Northern Guinea Zone vegetation in Nigeria, Nigerian Forestry Information Bulletin (Lagos) no. 1: 1960.

BGI

603. _____. Natural vegetation and agriculture. In 'Smyth, A.J. and R.F. Montgomery. Soils and land use in central south-western Nigeria'. Ibadan, Government of Western Nigeria, 1962. p.169-184.

Gives broad physical and distributional characteristics of self-propagating and cultivated species.

604. KEAY, R.W.J., and C.F. Onochie. Some observations on the Sobo Plains. Farm and Forest (Ibadan) 8(2): 71-80, July-Dec. 1947.

Essentially an ecological study, but the reasons advanced for the presence of the Plains in a High Forest environment is of geographical interest.

CGP
BGI

605. KERSHAW, Kenneth A. A survey of the vegetation in Zaria Province, N. Nigeria. Vegetatio Acta Geobotanica (The Hague) 15(4): 244-268, 1968.

Like the article by C.D.K. Cook only the sections dealing with the climate, geology and geomorphology, and vegetation are of interest to the geographer.

CGP

606. LAMB, A.F.A. Different soils make different forests. Farm and Forest (Ibadan) 2(3): 144-147, Dec. 1941.

Evidence gathered from many parts of Nigeria stresses the importance of soil as a factor in vegetational variations - a useful prelude to Keay's classification of Nigeria's vegetation in 1949.

607. _____. The Kurmis of Northern Nigeria. Farm and Forest (Ibadan) 3(4): 187-192, Dec. 1942.

Describes physical and human factors affecting the evolution of isolated patches of high forest (Kurmis') in Niger and Plateau Provinces.

608. MacGREGOR, W.D. Forest types and succession in Nigeria. Empire Forestry Journal (London) 16(2): 234-242, 1937.

CGP

609. MacKAY, J.H. Problems of ecology in Nigeria. Empire Forestry Journal (London) 15: 190-200, 1936.

610. _____. Vegetation and land planning. Nigerian Field (London) 9(2): 84-91, 1940.

Demonstrates interrelationship of geologic, climatic and biotic causal factors in explaining Nigeria's vegetation types, and how they can be widely used as land utility indicators.

611. _____. Perspective in land planning. Farm and Forest (Ibadan) 5(2): 10-16, June, 1944; 5(3): 99-107, Sept. 1944.

With most examples drawn from Nigeria it discusses the soil-climate-vegetation-biotic complex as it affects economic land use; Part II recommends a rural development policy for Nigeria.

612. MORGAN, W.B. and R.P. Moss. Savanna and forest in Western Nigeria. Africa (London) 35(3): 286-294, July, 1965.

Critical discussion of some geographical factors responsible for the clear savanna-forest boundary in the area.

AA
CGP
UKPT
BGI

613. ONOCHIE, C.F.A. The nature of the southern Guinea savanna. Proceedings of the Agricultural Society of Nigeria (Ibadan) 4(1): 17-21, June/July, 1965.

Select bibliographic survey of the vegetation of Nigeria is followed by a detailed description of the vegetation and floristic associations in relation to soil types of the area roughly bounded by latitudes 8°N and 7°50N.

614. RAMSAY, D.McC., and Peter N. De Leeuw. An analysis of Nigerian savanna. I: The survey area and the vegetation developed over Bima sandstone. Journal of Ecology (Oxford) 52(2): 233-254, July, 1964.

Only those sections describing the physiographic features and soil types of this part of Gongola River need concern the geographer.

UKPT

615. _____., and Peter N. De Leeuw. An analysis of Nigerian savanna. II: An alternative method of analysis and its application to the Gombe sandstone vegetation. Journal of Ecology (Oxford) 52(3): 457-466, Oct. 1964.

Approach and analysis same as first part of the article.

616. _____. An analysis of Nigerian savanna. III. The vegetation of the Middle Gongola Region by soil parent materials. Journal of Ecology (Oxford) 53(3): 643-660, Nov. 1965.

Seven soil parent materials and associated vegetation types and floristic compositions are recognised and described in detail.

GA-B

617. RAMSAY, McC.D. and Peter N. De Leeuw. An analysis of Nigerian savanna. IV. Ordination of vegetation developed on different parent materials. Journal of Ecology (Oxford) 53(3): 661-677, Nov. 1965.

Conclusions reached that "soil parent material is not a major factor in determining the arboreal vegetation of an area ... the main factors are water availability in the soil and the degree of human interference..." are of particular interest to the geographer.

GA-B

618. RICHARDS, P.W. Ecological notes on West African vegetation I: The plant communities of the Idanre hills, Nigeria. Journal of Ecology (Oxford) 45(2): 563-577, July, 1957.

Description of the location, topography and climate of the hills precedes a detailed account of the flora which the geographer may ignore.

CGP

619. SYKES, R.A. Some notes on the Benin forests of Southern Nigeria. Empire Forestry Journal (London) 9: 101-106, 1930.

620. UNWIN, A.H. The forests and Forest Department of Nigeria. Journal of the African Society (London) 18(69): 9-31, Oct. 1918.

Journalistic description without a map of the distribution of forest types and their major species makes dull and often confusing reading.

621. VERMEER, Donald E. Geophagy among the Tiv in Nigeria. Annals, Association of American Geographers (Lawrence, Kansas) 56(2): 197-204, June, 1966.

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622. BATES, J.A.R. Studies on a Nigerian forest soil. Journal of Soil Science (Oxford) 11(2): 246-265, 1960.

Analyses and comments, in great detail, on the characteristics of a soil profile near Ibadan.

BGI

623. GEOGRAPHICAL Society. University of Ibadan. Field description of soil profile in Jos. University Geographer (Ibadan) 9 & 10: 30-32, June, 1969.

Description of soil types examined in a profile dug south-east of Jos.

624. HARRIS, J.S. Papers on the economic aspect of life among the Ozuitem Ibo (Southern Nigeria). Africa (London) 14(1): 12-23, Jan. 1943.

Pages 19-23 "enumerates and discusses the types of soil which the Ozuitem farmer recognizes in reference to farming."

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625. HIGGINS, G.M. A preliminary soil report on the Lafiagi Tree Crop Project. Soil Survey Bulletin (Samaru, Zaria) No.1: 1-22, [1957] diagrs. maps.

Description of physical characteristics and illustrated analysis of soil series precede recommendations on best site for proposed irrigated tree-crop growing Project.

626. _____. Preliminary report on Bacita fadama soil survey. Soil Survey Bulletin (Samaru, Zaria) No.3: 1-27, [1958] map.

Geomorphological units demarcate four major soil associations which are described and mapped as basis of Bacita Sugar Factory. W.D. Clayton describes (p.8-10) associated plant species.

627. _____. Experimental farm coverage in Northern Nigeria. Nigerian Geographical Journal (Ibadan) 4(2): 11-25, Dec. 1961.

Against background of Region's general physical conditions he describes the distribution, character and problems of soil survey experimental centres.

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628. HIGGINS, G.M. Upland soils of the Samaru and Kano areas. Soil Survey Report (Samaru, Zaria) 2: 1-18, 1963.

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629. _____. Soils of some rice-growing areas of Northern Nigeria. African Soils (Paris) 9(2): 247-266, May-Aug. 1964.

Describes their physical and general chemical characteristics as they affect yields with a suggested system of classification of alluvial soils.

630. _____. Soils and related surface phenomena near Bacita. Nigerian Journal of Science (Ibadan) 1(2): 205-215, July, 1967.

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GA-B

631. HIGGINS, G.M. and A.P. Fleming. Preliminary report on the detailed land, soil and contour survey of the Riverain Area School of Agriculture /Kabba/. Soil Survey Bulletin (Samaru, Zaria) No.5: 1-32, /1957/.

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632. HIGGINS, G.M. and A.W.S. Mould. Progress of soil surveys in Northern Nigeria. In '3rd Inter-African Soils Conference (Dalaba). Proceedings, Nov. 1959.' p.431-438. (CCTA publication, no.50).

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633. HIGGINS, G.M., D.M. Ramsay and R.L. Story. Report of the second soil survey of the Bacita fadama, Ilorin Province, Northern Nigeria. Soil Survey Bulletin (Samaru, Zaria) No.8: 1-26, 1960. maps.

Supplements and updates information in the 1958 Report.

634. HIGGINS, G.M. and P.R. Tomlinson. Soils of the western climatic Middle Belt; paper presented to the 4th Meeting of CROACUS, Samaru/Mokwa, 3-11, November, 1961.

Tentative classification and description based on rapid reconnaissance soil surveys.

635. HIGGINS, G.M. [and] W.A. Hope. Preliminary report on the detailed soil and contour survey of Mokwa experimental farm site ... with a report on vegetation of map sheet 181 (N.W. Mokwa) by W.D. Clayton. Soil Survey Bulletin (Samaru, Zaria) No. 4:1-17, [1956] maps.

Two soil series developed on Cretaceous sandstone are classified and described on basis of texture and depth of subsoil as suitable for the proposed farm.

636. HIGGINS, G.M. and Y.A. Okunola. Report on the detailed survey of the Ochanja area, Kabba Province, Northern Nigeria. Soil Survey Bulletin (Samaru, Zaria) No. 30: 1-17, [1965] diagrs. maps. tables.

Correlates description of major characteristics of five soil series recognized with present and proposed land use.

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637. HIGGINS, G.M. and others. Report on the reconnaissance and and semi-detailed soil surveys undertaken in north-east Bornu in 1960. Soil Survey Bulletin (Samaru, Zaria) No. 14: 1-134, 1960. diagrs. maps. tables

Very detailed analysis, description and mapping of soils of Lake Chad, River Yobe and the artesain boreholes area capable of being irrigated.

638. HILDEBRAND, P.H. Report on the soil survey of the United Hills area, Sardauna Province, Nigeria. Soil Survey Bulletin (Samaru, Zaria) No. 31: 1-38, 1966. diagrs. maps, tables.

Geomorphological basis for the classification and mapping of nine soil associations described and correlated with land capability assessment for a tree crop economy.

GA-B

639. HILDEBRAND, F.H. Report on the detailed soil survey of areas at Kusuku and Luga Baturo Mambilla Plateau, Nigeria. Soil Survey Bulletin (Samaru, Zaria) No. 33: 1-12, 1966. diagrs. maps, tables.

Three soil groups recognized, described and assessed as regards suitability for coffee growing.

GA-B

640. _____. A reconnaissance survey of the Serti area, Sardauna Province, Northern Nigeria. Soil Survey Bulletin (Samaru, Zaria) No. 37: 1-34, 1968. diagrs. maps, tables.

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641. HILDEBRAND, F.H. and J. Valette. A reconnaissance soil survey of the Wase-Ibi area, Benue-Plateau State, Nigeria. Soil Survey Bulletin (Samaru, Zaria) No. 39: 1-24, 1969.

Report of a survey carried out in 1964 describes the physical environment and soil types as basis for assessing present and potential land use in the area.

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642. HOPE, W.A. A report on the reconnaissance soil survey of part of western Bornu Province. Soil Survey Bulletin (Samaru, Zaria) No. 20: 1-17, 1963.

Description of major soil types and an assessment of their suitability for agriculture.

643. _____. A report on localities on the Mambilla Plateau with particular reference to the cultivation of coffee arabica. Soil Survey Bulletin (Samaru, Zaria) No. 32: 1-24, 1966.

Detailed soil classification and mapping of four sites based on Mould's 1960 report with comments on problems of future land-use planning on the Plateau.

GA-B

644. HOPE, W.A. and W.D. Clayton. Report on the reconnaissance soil and vegetation survey of part of the Jema'a Resettlement Scheme. Soil Survey Bulletin (Samaru, Zaria) No.7: 1-, 1958.

Classifies and describes main soil types with an assessment of the types of crops they will support.

645. JONES, Brynmor. Notes on soils of Sokoto Province. Lagos, Geological Survey of Nigeria, 1930.

Brief description of types and their characteristics.

646. _____. Lateritic ironstone in Sokoto Province. Farm and Forest (Ibadan) 4(1): 15-23, 1943.

Description of major characteristics and distribution in the area.

647. JUNGERIUS, P.D. Part I - the soils. In 'The Anambra-Do Rivers area, by Obihara, C.H., Bawden, M.G. and Jungerius, P.D.' Enugu, Ministry of Agriculture, 1964. p.1-22.

Describes and maps seven major soil associations and their drainage characteristics.

648. _____. The soils of Eastern Nigeria. Amsterdam, Fysisch-Geografisch Laboratorium van de Universiteit van Amsterdam, 1964. p.185-198. (Publicaties van het Fysisch-Geografisch Laboratorium, no. 4).

Descriptive analysis of five major pedological groups recognised on the basis of their morphology and profile characteristics.

CGP

649. KEAY, R.W.J. A study of soil/vegetation units in Northern Nigeria, with special reference to the concept of the topographic catena. B.Sc. Thesis, Oxford University, 1949.

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650. KLINKENBERG, K. Report of the reconnaissance survey of part of Borgu Division, Ilorin Province. Soil Survey Bulletin (Samaru, Zaria) No. 28: 1-36, /1964/ diagrs. maps, tables.

Fifteen soil units classified on basis of geology are described to aid agricultural land-use on the West bank of the Kainji Dam.

651. _____. The soils of the Lau-Kaltungo area; the reconnaissance soil survey of 1,100,000 sheets 173 (Kaltungo), 174 (Guyuk), 194 (Lau) and 195 (Dong). Soil Survey Bulletin (Samaru, Zaria) No. 36: 1-67, 1967 diagrs. maps, tables.

Describes, in particular, the location, extent and properties of vertisols in the area as they determine agricultural land-use.

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652. KLINKENBERG, K. and F.H. Hildebrand. Report of the semi-detailed soils survey of areas near the new town site of Bussa (Niger Dams Resettlement Project) Soil Survey Bulletin (Samaru, Zaria) No. 27: 1-17, 1964. diagrs. map, tables.

Six soil series developed over gneiss and granite rocks are described to aid agricultural land-use around the new town (East bank).

653. KLINKENBERG, K. and G.M. Higgins. An outline of Northern Nigerian soils. Nigerian Journal of Science (Ibadan) 2(2): 91-115, Sept. 1968.

Distribution of categories depicted and described demonstrates the strong relationship between soil types and topographico-climatic conditions.

654. MOSS, R. Percy. Some notes on the soils of the Western Region, with special reference to plantations of exotic tress. In 'Exotic forest trees in the Western Region of Nigeria.' Ibadan, Government Printer, 1957. p.19-29 (Commonwealth Forestry Conference Paper).

Mainly descriptive account.

655. _____. A soil geography of a part of south-western Nigeria. Ph.D. Thesis, University of London, 1962.

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656. MOSS, R.P. Slope development and soil morphology in a part of south-west Nigeria. Journal of Soil Science (Oxford) 16(2): 192-209, 1965.

Describes the soils of two cuestas developed on ferruginous sandstones in relation to slopes and planation surfaces associated with them.

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Broad description of largely Basement Complex - derived soils occurring at near temperate climatic conditions to assess suitability for growth of coffee.

658. OBIHARA, C.H. The acid sands of Eastern Nigeria. Nigerian Scientist (Umuahia-Ibeku) 1(1): 54-57, Nov. 1961.

Puts in proper perspective the chemical and physical characteristics of acid sands and their distribution in relation to population concentrations and major economic activities in the old Eastern Region.

659. _____. Part II - soil fertility. In 'The Anambra-Do Rivers area, by Obihara, C.H., Bawden, M.G. and Jungerius, P.D.' Enugu, Ministry of Agriculture, 1964. p.25-53.

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660. OBIHARA. C.H., M.G. Bawden and P.D. Jungerius. The Anambra-Do Rivers area. Enugu, Ministry of Agriculture, 1964. maps. tables (Soil Survey memoir, no.1).

Describes and maps seven soil associations and their drainage characteristics, their potential for agriculture and the major land-use and vegetation zones.

661. PULIAN, R.A. A report on the reconnaissance soil survey of the Benin Kebbi (Sokoto) area with special reference to the establishment of an experimental farm and a detailed soil survey of the fadama rice trial plots, Zauro. Soil Survey Bulletin (Samaru, Zaria) No. 17: 1-69 /23/ 1961. diagrs. maps, tables.

Particular emphasis on the physical environment and land-use pattern with the usual detailed description of soil types.

662. _____. A report on the reconnaissance soil survey of the Nguru-Hadejia-Gumel area with special reference to the establishment of an experimental farm. Soil Survey Bulletin (Samaru, Zaria) No.18: 1-56 /15/ 1962. diagrs. maps. tables.

Delimits seven major soil units and their relative importance which are fully described and mapped.

GA-B

663. _____. A report of the reconnaissance soil survey of the Azare (Bauchi) area with special reference to the establishment of an experimental farm and the detailed soil survey of the N.A. Farm, Azare. Soil Survey Bulletin (Samaru, Zaria) No. 19: 1-31 /7/ 1962. diagrs. maps, tables.

Three soil associations and four alluvial soil complexes are identified and analysed as basis of best site for the Farm.

664. _____. The soil resources of West Africa. In 'Environment and land use in Africa. Edited by M.F. Thomas and G.W. Whittington'. London, Methuen, 1969. p.147-191.

Illustrates general characteristics of West African soils with mainly Nigeria examples from the high plains of Hausaland and Middle Benue Valley sandstones.

665. PULLAN, Robert A. Grass roots of a continent's prosperity. Geographical Magazine (London) 43(3): 197-204, Dec. 1970.

Essentially illustrated review of the purpose, progress and problems of reconnaissance soil surveys carried out in Northern Nigeria.

CGP

666. _____. The soils, soil landscapes and geomorphological evolution of a metasedimentary area in Northern Nigeria. Liverpool, Department of Geography, University of Liverpool. 1970. 144p. (Research papers, no.6).

Detailed description, together with analytical data, of the soil series recognised during field work in 1962 and 1963, are compared with soil series described by Klinkenberg (1964) and Valette (1967).

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667. ROSEVEAR, R.D. Soil changes in Enugu plantations. Farm and Forest (Ibadan) 3(1): 41, June, 1942.

Preliminary note on observed changes in soil layer from laterite to increasingly clayey content.

668. SMYTH, A.J. Red and yellow soils of Western Nigeria. African Soils (Paris) 8(3): 463-469, Dec. 1963.

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BGI

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Reconnaissance survey covers some 16,000 square miles of metamorphic bedrock in part of cocoa-growing area.

670. STORY, R.L. A report on the selection of a site for a proposed Agricultural Experimental Farm near Zuru, Niger Province, Northern Nigeria. Soil Survey Bulletin (Samaru, Zaria) No. 9: 1-14, 1960.

Interpretation of topographical and present land-use pattern forms basis of soil types recognised and described to aid selection of site.

671. STORY, R.L. Report on the selection of a site for a proposed agricultural experimental farm in Eastern Niger Province, Northern Nigeria. Soil Survey Bulletin (Samaru, Zaria) No.16: 1-24, /1960?/ maps.

Distinguishes and describes three groups of soils, with particular emphasis on soils of Kwali in Abuja Emirate recommended for the proposed farm.

672. _____. Report on the rapid reconnaissance soil survey of parts of central Adamawa Province south of the river Benue. Soil Survey Bulletin (Samaru, Zaria) No. 22: 1-33, 1962.

Gives broad and detailed description of soils developed on Basement Complex rocks, on Cretaceous sediments, and on alluvium.

673. _____. Report on the sampling of soils proposed for irrigation in the River Yobe alluvium, Bornu Province, Northern Nigeria. Soil Survey Bulletin (Samaru, Zaria) No. 24: 1-26, /1962?/ diagrs. maps, tables.

Detailed physical and chemical analysis of mainly saline-alkali soils leads to conclusion that the area is unsuitable for irrigation agriculture.

674. _____. Report on the selection of a site for a proposed Agricultural Experimental Farm in Igala Division, Kabba Province, Northern Province. Soil Survey Bulletin (Samaru, Zaria) No. 13: 1-22, 1962. maps, tables.

Analysis and description of soils developed on mainly ironstones and sandstones at Ochanja recommends site for the Farm.

675. TOMLINSON, P.R. Zaria Province, Northern Nigeria. Afaka Forest Reserve, Experimental Area: preliminary soil survey report. Soil Survey Bulletin (Samaru, Zaria) No. 2: 1-10, 1957. maps.

Maps and describes six soil series, while W.D. Clayton estimates (p.9-10) plant communities on the site.

676. TOMLINSON, P.R. Reconnaissance report, Sheet 51: Gummi. Soil Survey Bulletin (Samaru, Zaria) No.12: 1-61 [1960?] tables.

Nine soil associations demarcated and described to facilitate settlement and land-use in Gummi and Bukwium Districts, Sokoto Province.

677. _____. Report on the detailed soil survey of the Livestock Investigation Centre, Katsina, and the reconnaissance survey of the surrounding area. Soil Survey Bulletin (Samaru, Zaria) No. 11: 1-54, 1960. diagrs. maps, tables.

Detailed classification and description of recognised soil associations and soil series are based mainly on topographical and geological relationships.

678. _____. Classification of Northern Nigerian soils in terms of the legend of the soils map of Africa; fourth approximation. African Soils (Paris) 9(1): 75-84, Jan.-April, 1964.

Distribution and characteristics of eight major groups classified mainly on the basis of comparative profile morphology are described.

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679. _____. Soils of Northern Nigeria. Samaru Miscellaneous Papers (Samaru, Zaria) No. 11: 1-66, 1965.

Generalised description and map of fifteen soil groups, their distribution and contemporary classification.

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680. VALETTE, J. The reconnaissance soil survey of an area near Yelwa and Bin Yauri, Sokoto Province, Northern Nigeria. Soil Survey Bulletin (Samaru, Zaria) No. 35: 1-26, 1967.

Purpose, methodology and information contained similar to No. 34 by same author.

681. VALETTE, J and G.M. Higgins. The reconnaissance soil survey of an area near Auna, Niger Province, Northern Nigeria. Soil Survey Bulletin (Samaru, Zaria) No. 34: 1-22, 1967. diagrs. maps, tables.

Provides basic physiographic information to facilitate proper land-use planning and resettlement of people displaced from Kainji-flooded areas.

682. VINE, H. A soil catena in the Nigerian cacao belt. Farm and Forest (Ibadan) 2(3): 137-141, Dec. 1941.

Characteristics of soil profiles observed in Ganbari and Ibadan areas are described as related to topographical and geological factors.

CGP

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Commentary on some Nigerian major soil types, characteristics, and their possible agricultural utilization as observed from road traverses. Many of the analyses are too general and uncorroborated.

684. _____. Nigerian soils in relation to parent material. Commonwealth Bureau of Soil Science. Technical Communications (Harpenden) No. 46: 22-29, 1949.

Correlates geology and soil profiles and relates the chemical and physical properties of eight major soil groups described with agricultural use and potential.

685. _____. Notes on the main types of Nigerian soils. Lagos, Government Printer, 1953. 6p. map. (Nigeria. Agricultural Department. Special bulletin, no.5).

Briefly describes main physical and chemical characteristics of nine major groupings.

686. _____. The soils of the Ilesha-Ikirun-Efọn Alaiyo area. In "The geology of the country around Ilesha; an explanation of Sheet North B31/B2 (Ilesha) ... by A.M.J. De Swardt". [Lagos] Geological Survey of Nigeria, 1953. p.49-54. (Geological Survey of Nigeria Bulletin no.33).

Classification and description of main soil fprofiles follows a brief account of the process of soil formation here.

687. VINE, H. Latosols of Nigeria and some related soils. In '2nd Inter-African Soils Conference (Leopoldville), 1954. Proceedings.' Brussels, Department of Agriculture, Forest and Animal Husbandry, [1955?] p.295-308.

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CGP
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688. _____. A preliminary survey of Nigerian soils. Ibadan, 1956. (Western Region Department of Agriculture. Soil survey memoir, no.1).

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689. VINE, H. and others Progress of soil surveys in south-western Nigeria. In '2nd Inter-African Soils Conference (Leopoldville), 1954. Proceedings.' Brussels, Department of Agriculture, Forest and Animal Husbandary, [1955?] p.211-236.

Summarises methods and results of reconnaissance soils and land use surveys of the cocoa-growing areas of Western Nigeria and describes the soil series recognised.

CGP
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OCEANS AND LAKES

690. ALLEN, J.R.L. Late Quarternary Niger delta and adjacent areas: sedimentary environments and lithofacies. Bulletin, American Association of Petroleum Geologists (Tulsa, Okl.) 49(5): 547-600, May, 1965.

Description of evolution of the Niger delta precedes very detailed account of its stratigraphy. Generally technical.

691. _____. Sedimentation in the modern delta of the River Niger, West Africa. In 'Deltaic and shallow marine deposits. Edited by L.M.J.U. van Straaten.' [Being the Proceedings of the 6th International Sedimentation Congress, 1963]. Amsterdam, Elsevier, 1964. p.26-34.

Describes how the present Niger delta has been built as a result of transgressions and regressions of the sea during the Pleistocene.

692. The DEEPENING of the Escravos bar. Nigeria Trade Journal (Lagos) 5(1): 10-13, Jan.-March, 1957.

Enumerates economic and physical backgrounds to problem of deltaic silting, reasons for the choice of Escravos, and briefly discusses N.E.D.E.C.O.'s proposals for dredging.

693. ELLISON, R.E. Lake Chad. Nigerian Teacher (London) 2(7): 13-16, 1936.

General hydrographic, economic and social characteristics of the Lake and its adjoining areas.

694. The ESCRAVOS Bar Project; progress report. Nigeria Trade Journal (Lagos) 12(4): 130-133, Oct.-Dec. 1964.

Provides background information to a finished job; supplements 1957 article on same subject published in same journal.

695. GROVE, Alfred Thomas. A note on the former extent of Lake Chad. Geographical Journal (London) 125(1): 465-467, Jan. 1959.

Suggests that the Limani-Bongor shoreline (in Chad Republic) is an extension of the Bama-Maigumeri Ridge which Grove had earlier identified. Discusses climatic and geomorphological implications of such an extensive water surface.

696. _____. Lake Chad. Geographical Magazine (London) 37(7): 524-537, Nov. 1964.

Describes the climatological and economic geography of the area, highlighting the lake's hydrological characteristics and potential.

697. LONGHURST, Alan R. The coastal oceanography of Western Nigeria. Bulletin, I.F.A.N. (Dakar) 26A(2): 337-402, April, 1964.

Reports the year's observations from a transect of Lagos in 1961, together with all available relevant investigations.

CGP
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698. NANA, S.J. A summary of the Escravos Bar Project. Nigerian Geographical Journal (Ibadan) 4(1): 53-55, Aug. 1961.

Brief history and physiographic difficulties of the Niger Delta precedes a description of progress of the Project.

699. SANTEMA, P. The effect of tides, coastal currents, waves and storm surges on the natural conditions prevailing in the deltas. In 'scientific problems in the humid tropical zone deltas and their implications.' Paris, Unesco, 1966. p.109-113.

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700. WEBB, J.E. The ecology of Lagos Lagoon I: The lagoons of the Guinea coast. Philosophical Transactions, Royal Society of London, Ser. B. Biological Sciences (London) 241(683): 307-318, Sept. 1958.

Describes and illustrates the origin, age, distribution and associated geomorphological features of Guinea coast lagoons, with particular emphasis on the mode of formation of Western Nigerian lagoons.

WATER RESOURCES

701. AWOJOLU, This. The Kainji Lake. University Geographer (Ibadan) 9 & 10: 22-24, June, 1969.

Enumerates economic advantages to be derived from the project.

702. CARRUTHERS, J. Tapki water scheme. Nigeria Magazine (Lagos) No. 52: 29-37, 1956.

Huge artificial reservoirs providing water in the dry season in an area in Gombe Division has already started to revolutionize the area's agricultural economy.

703. CARTER, J.D. and W. Barber. The rise in the watertable in parts of Potiskum Division, Bornu Province. Records of the Geological Survey of Nigeria (Lagos) p.5-13, 1956.

The phenomenon, observed since 1932, and restricted to areas surrounding the larger stream courses, is related to extensive deforestation following settlement and cultivation of the area.

704. CHURCH, Ronald James Harrison. Vital water for West African dry zone. Geographical Magazine (London) 42(7): 519-527, April, 1970.

Description of irrigation programmes in the Senegal and Niger valleys mainly in French West Africa but with one important example and five photographs from Nigeria.

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705. CROWDER, Michael. Nigeria's great rivers; a survey of the great inland water highways - the Niger and Benue. Nigeria Magazine (Lagos) No. 64: 28-55, March, 1960.

Mostly illustrated (22 pages) with brief notes on general navigational characteristics of both rivers stressing their problems and potentials as outlined by NEDECO.

CGP

706. EDOKPAYI, S.I. The Niger and the Benue [rivers] in Nigeria's economy: past, present and future. Nigerian Journal of Economic and Social Studies (Ibadan) 3(1): 68-77, Nov. 1961.

Historical narrative of the peasant economies of the valley, its pattern of internal and external trade, and the possible advantages of integrated road-rail-river ways on the economy of the country.

AA

707. EGBUNU, Abu. The importance of the rivers Niger and Benue in the internal and external trade of Koton-Karifi District. Nigerian Geographical Journal (Ibadan) 1(1): 17-18, June, 1957.

Briefly shows how an almost peninsula District has its economy and population distribution geared to the wealth derived from both rivers.

708. FRIJLINK, H.C. Hydrology of the Niger Dams. Proceedings, Science Association of Nigeria (Ibadan) 5: 19-34, Oct. 1963.

Describes the hydrological features of river Nigor's drainage basins and their implications in harnessing the Niger inside and outside Nigoria.

709. GEOGRAPHICAL Society. University of Ibadan. The Ta-Hoss irrigation scheme on the Jos Plateau. University Geographer (Ibadan) 9 & 10: 34-35, June, 1969.

Description of the geographical factors of its agricultural economy.

710. HERRMANN, Reimer. Water supply and nutrition in the humid tropics, with special reference to Eastern Nigeria. Yearbook of the Association of Pacific Coast Geographers (Corvallis, Oregon) 28: 17-27, 1966.

Uses North-South, West-East profiles and a geohydrological map of Eastern Nigeria to analyze quality and dimension of the influence of geographic factors on water regime and balance and consequent effects on water economy.

CGP

711. HUNT-COOKE, A. On the Niger. Nigeria (Lagos) No. 31: 425-430, 1949.

Describes the water system and economy of peoples of the Lower Niger (coast to Asaba).

712. IKOKU, V.A. The economic significance of the rivers of West Africa. University Geographer.(Ibadan) 2(1): 9-14, March, 1960.

Assesses economic impact of Rivers Niger, Benue, Volta, Gambia and Senegal on West African countries in respect of transport, power and agriculture. Particular emphasis on Nigeria's Rivers Niger and Benue.

713. JONES, D.G. The rise in the water-table in parts of Daura and Katsina Emirates, Katsina Province. Records of the Geological Survey of Nigeria (Lagos) p.24-28, 1957.

The phenomenon, observed since 1930, is attributed to combined climatological and human factors, and is compared with similar observation in Potiskum Division.

714. LARGE, W.H. Okene reservoir and the work of the African water maintenance engineer. Nigeria (Lagos) No. 32: 72-77, 1949.

Its location, construction and functioning beautifully illustrated.

715. LEDGER, D.C. Aspects of Nigerian hydrology. Nigerian Geographical Journal (Ibadan) 3(1): 18-27, Dec. 1959.

Explains fundamental principles of hydrology, problems of hydrological research, and analyses physical difficulties making the Nigerian situation more complicating.

CGP
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Based on a survey carried out in 1959, the water regime, drainage system and geological formations of the area are described.

BGI
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717. _____. The Niger Dams Project of Nigeria. Tijdschrift voor Economische en Social Geografie (Rotterdam) 54(4): 242-247, Jan. 1963.

Gives technical details of its hydrological characteristics, the purposes of the Project, and appraises its implications and necessity.

CGP
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718. _____. Some hydrological characteristics of West African rivers. Transactions, Institute of British Geographers (London) No. 35: 73-90, 1964.

Based on run-off data collected for selected rivers, including the Niger, variations are considered as related to climate, topography, soils and vegetation.

CGP
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719. LENFANT, Capt. From the Atlantic to the Chad by the Niger and the Benue. Scottish Geographical Magazine (Edinburgh) 20(6): 306-316, June, 1904.

Brief account of morphology and hydrography of the Chad Basin, the network of rivers draining into it, and of a new Benue-Lagone-Chad water route.

720. MABOGUNJE, Akinlawon L. Water resources and economic development in Nigeria. In 'Ecology and economic development in tropical Africa.' Edited by David Brokensha.' Berkeley, Cal., Institute of International Studies, University of California, 1965. p.147-159.

Discusses significance of equitable distribution of water in urban and industrial areas, the problems involved and how they may be overcome.

721. MIGEOD, Frederick W.H. Some notes on the Lake Chad region in British territory. Geographical Journal (London) 60(5): 347-358, Nov. 1922.

Explains and describes the seasonal advance and retreat of the lake's water level in its section within Nigerian borders.

722. NETHERLANDS Engineering Consultants (NEDECO). Western Niger delta; report on investigation. The Hague, Nedeco, 1954-1955. 4v.

Entries 722-727 - hydrological and feasibility surveys as basis for providing any or combinations of following: (i) supply of electricity (ii) improvement of navigation (iii) extension of irrigation (iv) fisheries development. All have significant geographical sections.

723. _____. Niger and Benue investigation; interim report, June, 1956. The Hague, Nedeco, 1956. 2v.

vol. 1: main report; vol. 2: a collection of 30 maps.

724. _____. Niger and Benue investigation; interim report, July 1957. The Hague, Nedeco /1957/ 2v.

vol. 1: main report; v.2: a collection of 40 maps.

725. _____. Preliminary survey of the Cross River, 1959.

726. _____. River charts of the Niger from Burutu to Jebba and the Benue from Lokoja to Gana; Niger and Benue investigation final report 1959. /Amstordan, North-Holland Publishing Co., 1959/. 63 maps.

727. NETHERLANDS Engineering Consultants (NEDECO). River studies and recommendations on improvements of Niger and Benue. Amsterdan, North-Holland Publishing Co., 1959, ix, 1000p. illus. diagrs. maps (part fold.) tables.

CGP
BGI

728. NIGER Dams Project. Nigeria Trade Journal (Lagos) 12(2): 54-55, April-June, 1964.

Enumerates its economic potentialities.

729. OLADEGBULE, Ayodele. Hydrography of Nigeria's Chad Basin. University Geographer (Ibadan) 9 & 10: 6-10, June, 1969.

Distribution of surface and subsurface water largely determines region's economic activities whose character and potential are discussed.

730. OLAGUNJU, Sanusi. The Kainji Dam. Nigerian Field (London) 32(4): 147-160, Oct. 1967.

Summarises origin and growth of an idea, progress then made in construction work, and estimates its socio-economic impact on the nation when completed.

731. PRESSURE water in the Chad Basin. Nigeria Trade Journal (Lagos) 7(4): 147-150, Oct.-Dec. 1959.

Development of pressure water bore-holes in this semi-arid region could accelerate the economic prosperity of its inhabitants.

732. RAEBURN, C. The Nigerian Sudan: some notes on water supply and other cognate subjects. Lagos, Geological Survey of Nigeria, 1928. (Geological Survey of Nigeria, pamphlet no.1).

Discusses the occurrence of underground water in most of northern Nigeria and their potential for agricultural and social utilization.

733. SPOTTISWOODE, H.E. The Abeokuta water supply. Farm and Forest (Ibadan) 7(1): 2-5, Jan-June 1946.

Relates decreasing water supply from Ogun River to careless farming practices in its catchment areas and recommends sweeping anti-erosion campaign to arrest the trend.

734. U.S. Bureau of Reclamation. Office of Chief Engineer. Land and water resources, Lake Chad Basin; reconnaissance study. Prepared for the Government of Nigeria ... and U.S.A.I.D. Denver, Colorado, 1968. 393p. maps.

Purpose "to identify and evaluate potential irrigation projects in the Basin of Northern Nigeria."

CGP

735. WAGLAND, P.J. Kainji and the Niger Dams Project. Geography (Sheffield) 54 (245): 459-463, Nov. 1969.

Description of its physical, economic and resettlement aspects as compared with Akosombo Dams Project in Ghana.

CGP

736. WATER supply of the town of Lagos (summarised from official publications) /by the Editor/. Journal of the African Society (London) No.10: 173-176, Jan. 1904.

Problems of the distribution, quantity and quality of water supply are examined from the writings of botanists and geologists.

ENERGY & MINERAL RESOURCES

737. ANAZODO, A.A. The future of petroleum industry in Nigeria. University Geographer (Ibadan) 4: 21-23, May, 1963.

Physical and locational characteristics of oil-producing areas described, the economics and volume of production, and attendant benefits to the country briefly enumerated.

738. B.B. The new men of Iva Valley. Nigerian Opinion (Ibadan) 1(8): 6-7, Aug. 1965.

Focusses on aspects of the declining Enugu coal industry - decreasing output and reduced consumers vis à vis increasing production costs and number of employees.

739. BOWER, Penelope A. The mining industry. In 'Mining, commerce, and finance in Nigeria ... Edited by M. Perham.' London, Faber & Faber, 1948. p.1-42. (The economics of a tropical dependency vol. 2).

Examines the distribution, volume, and processes of winning Nigeria's major minerals, particularly tin, their socio-economic impact and prospects.

740. CALVERT, ALbert F. Nigeria and its tin fields. London, Edward Stanford, 1910. 188p. illus, maps.

Examines the volume and fluctuating values of tin production since 1907 and predicts a very gloomy future for the industry.

741. _____. Nigeria and its tin fields. New, enl. ed. London, Edward Stanford, 1912. 488p. illus. maps.

Provides general information on the new fields as regards properties under development, mining regulations, physical resources, transportation costs and labour conditions.

742. _____. Nigerian tin fields: a retrospect and review. 2nd ed. London, Effinghan Wilson, 1914. 55p. tables.

Narrates how lack of careful study of the physical and social milieu of an industry led to disastrous consequences.

743. CHURCH, R.J. Harrison. Power sources for a peaceful Nigeria. Geographical Magazine (London) 41(7): 491-496, April, 1969.

Enumerates direct and incidental benefits derivable from Nigeria's Niger Dams Project and from her oil and natural gas resources.

BGI

744. EDOKPAYI, S.I. The problems facing our coal industry. Nigerian Journal of Economic and Social Studies (Ibadan) 2(1): 12-18, June, 1960.

Focuses only on the problem of market competition with petroleum industry, makes passing reference to transportation difficulties, and completely ignores the problem of quality of coal.

745. ELECTRICITY supply in Nigeria. Nigeria Trade Journal (Lagos) 1(4): 16-19, Oct.-Dec. 1953.

Enumerates major physical and economic problems of electricity transmission showing the present distribution of supply and future plans.

746. FARRINGTON, J.L. A preliminary description of the Nigerian lead-zinc field. Economic Geology (Lancaster, Pa.) 47(6): 583-608, Sept.-Oct. 1952.

The geographer need only bother with sections describing the history, physical features and population in the lead-producing areas.

CGP

747. FELL, Sir Godfrey. The tin mining industry of Nigeria. Journal of the Royal African Society (London) 38 (151): 246-258, April, 1939.

Describes the distribution of tin concentrates, growth of the industry, methods and problems of production and marketing, with a brief discussion of its impact on the country's economy.

CGP

748. HODDER, B.W. Tin mining on the Jos Plateau of Nigeria. Economic Geography (Worcester, Mass.) 35(2): 109-122, April, 1959.

Its history up to the 1930s precedes description of the nature, distribution and organization of the industry, the physical conditions affecting it, and its far-reaching economic and demographic effects.

CGP
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749. JONES, H.A. Phosphate deposits in Abeokuta Province. Records of the Geological Survey of Nigeria (Lagos) 7: 5-13, 1964.

Most useful to the geographer is the description, with a diagram, of its distribution in the Ifo Junction-Oshosun area along the railway.

750. MacROW, D.W. Nigerian coal. Nigeria Magazine (Lagos) No.48: 34-59, 1955.

Illustrates important economic and social facets of production and mineral distribution in the 'Enugu industrial area.'

751. MELAMID, Alexander. The geography of the Nigerian petroleum industry. Economic Geography (Worcester, Mass.) 44(1): 37-56, Jan. 1968.

Describes historical, transportation, climatic and processing patterns of the industry, and discusses the effects of these on Nigerian landscape and economy.

CGP
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752. The MINERAL survey of Southern Nigeria. Scottish Geographical Magazine (Edinburgh) 27(1): 34-36, Jan. 1911.

Summarises the preliminary findings of a survey team as to the distribution and economic exploitability of mineral deposits.

753. MINERALS and industry in Nigeria. Nigeria Trade Journal (Lagos) 7(2): April-June, 1959.

Brief notes on the history of geological surveying in Nigeria precedes account of distribution of major mineral reserves and their use in industry.

754. NIGERIA. Rivers. Office of the Governor. Information Unit. The oil-rich Rivers State. /Port Harcourt/ 1967. 29p.

Account of mineral oil exploitation and production in the State.

755. NIGERIA's coal mining industry. Nigeria Trade Journal (Lagos) 4(3): 88-91, July-Sept. 1956.

Summarises distribution of reserves, production and consumption patterns. Complements L. Schartzl's (1969).

756. NIGERIA's tin resources. Nigeria Trade Journal (Lagos) 11(2): 63-66, April-June, 1963.

Account of its distribution, mining and smelting methods, and its contribution to the national economy.

757. NWOGU, E.D. Oil in Nigeria. Nigerian Geographical Journal (Ibadan) 3(2): 15-25, Nov. 1960.

Examines how oil explorations expand geographical and geological knowledge of a country, and how oil operations have changed the landscape in parts of Owerri and Rivers Provinces.

CGP
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758. OIL developments in Nigeria. Africa Trade and Development (London) 1(1): 8-10, July, 1959.

Brief history of the location of drilling sites since 1937 with particular emphasis on costs, physical and technical difficulties.

759. OIL-some prospects. Nigeria Magazine (Lagos) No. 49: 101-117, 1956.

Considers the possible economic and physical implications of an oil industry in Nigeria.

760. ONAKOMAIYA, S.O. The Nigerian Petroleum and natural gas industry. University Geographer (Ibadan) 6: 4-8, June, 1965.

Analysis of its locational aspects, particularly its impact on associated petro-chemical industries and on the country's economy.

761. SCHATZL, Ludwig. Petroleum in Nigeria; an economic - geographical analysis. Kallmünz Regensburg, Lassleben, 1967. 215p.

CGP
NGLM

762. SCHATZL, Ludwig. The energy structure of Nigeria. University Geographer (Ibadan) 9 & 10: 5-6, June, 1969.

Examines the quantity, distribution and potential of Nigeria's coal, lignite, crude oil, natural gas and water resources in relation to production, foreign trade and consumption.

763. _____. The past and future role of coal in the energy market of Nigeria. Nigerian Journal of Economic and Social Studies (Ibadan) 11(2): 115-141, July, 1969.

Lucid presentation of the distribution, costs and consumption patterns of second class energy source coal vis à vis first class energy sources of gas and oil in a fast-changing energy market.

764. _____. The development of the oil industry in Nigeria, with special reference to the effects of the civil war. Erdkunde (Bonn) 24(1): 59-70, March, 1970.

Records progress and setbacks since production started in 1957, and estimates the vital contribution of the industry to post-war reconstruction and general economic recovery of Nigeria.

NGLM

765. The SEARCH for oil; assessing the commercial possibilities. Nigeria Trade Journal (Lagos) 6(1): 19-26, Jan.-March, 1958.

Emphasizes the uncertainties of the oil industry and the prospects for commercial reserves and production at Oloibiri and Afam wells.

766. SIMPSON, E.S. Electricity production in Nigeria. Economic Geography (Worcester) 45(3): 239-57, July, 1969.

Historical and comparative cost analysis of Nigeria's sources and pattern of electricity generation and consumption from 1898 to 1966 with description of political and economic factors underlying present distribution and potential growth trends.

CGP
NGLM

767. SOKUNBI, D.O.B. The impact of the oil industry on the economy of Nigeria. Nigerian Journal of Economic and Social Studies (Ibadan) 4: 77-83, Aug. 1962. [Comment by S.I. Edokpayi, p.83-84].

Too much emphasis on history and general characteristics of the industry in Nigeria. The impact aspect is dismissed in two pages of incomplete analysis.

768. TIN mining on the Jos Plateau. Nigeria (Lagos) No. 34: 235-254, 1950.

General characteristics of the industry and of Jos town.

CONSERVATION & RESOURCE MANAGEMENT

769. AINSLIE, James Robert. Soil erosion in Nigeria [paper presented at the] British Empire Forestry Conference, South Africa, 1935. Kaduna, Government Printer, 1935. 14p. maps, plates.

Delineates three 'erosion regions' and describes physical factors interacting to produce differences in nature and extent of their erosional characteristics: forest protection is recommended as most effective long-term preventive measure.

770. ALISON, Phillip A. Conservation of vegetation in Southern Nigeria. Farm and Forest (Ibadan) 10(1): 18-22, Jan. 1950.

Discussion of most potent human factors of forest destruction, and the problems and achievements of forest conservation efforts as a means of soil and water conservation.

771. AUBREVILLE, M. The English plans for forest protection in Nigeria. In 'The Niger Colony Forestry Expedition, September to December, 1935; a report.' Ibadan, Forestry Department, 1937. p.55-65.

Briefly reviews soil conservation measures being taken through afforestation in Northern Nigeria and examines possibilities of their adaptation in Niger.

772. BOVILL, Edward William. The encroachment of the Sahara on the Sudan. Journal of African Society (London) 20(77): 174-185; 259-269, Oct. 1920.

Faulty analysis of evidence, mostly gathered from north-western Nigeria, leads to even wilder generalizations than Stebbing's.

773. BRIGGS, G.W.G. Soil deterioration in the southern districts of Tiv Division, Benue Province. Farm and Forest (Ibadan) 2(1): 8-12, June, 1941.

Relates hunting and peasant agriculture with dense populations in generally deteriorating physiographic environments, and suggests possible solutions.

774. BROWN, L.H. Agriculture in Igbirra. Farm and Forest (Ibadan) 6(2): 102-103, April-June, 1945.

Like the hill dwellers of Jos Plateau, downhill movement of Okene peasant farmers has resulted in careless agricultural practices which must be halted to conserve the already impoverished soils.

775. BROWNE, Gilbert. Prevention of soil erosion by means of broad base terracing. Farm and Forest (Ibadan) 14(1): Feb, 1943.

Description of methods used at Daudawa, Northern Nigeria.

776. _____. Soil conservation in Nigeria. Corona (London) 2: 110-111, March, 1950.

Describes the technicalities of terrace farming done on a 3000-acre stock farm at Shika, North-Central State. Problems are simply outlined.

777. DOYNE, H.C. Soil erosion. Nigeria (Lagos) No.16: 331-333, 1938.

General causal factors of sheet and gully erosion are related to broad problem areas of erosion in Nigeria. Useful remedies are given.

778. EROSION at Agulu. Nigeria Magazine (Lagos) No. 57: 154-169, 1958.

Mostly pictorial demonstration of the extent and seriousness of gully erosion at Agulu in the Awka uplands.

779. FAIRBAIRN, W.A. A note on river erosion. Farm and Forest (Ibadan) 2(2): 93-94, July, 1941.

Tentative measures to combat soil erosion are based on experiment carried out on the banks of River Jibiya, Katsina Province.

780. FLOYD, Barry N. Soil erosion and deterioration in Eastern Nigeria; a geographical appraisal. Nigerian Geographical Journal (Ibadan) 8(1): 33-44, June, 1965.

Evaluates the character, evolution and types of soil disintegration over most parts of Eastern Nigeria, factors and agents responsible, soil conservation measures implemented and their problems.

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781. GROVE, Alfred Thomas. Farming systems and soil erosion on sandy soils in south-eastern Nigeria. Bulletin Agricole du Congo Belge (Brussels) 40(5): 2150-2155, 1949.

Combined effects of steep slopes, sandy soils, and careless agricultural land-use in thickly populated areas create serious problems of sheet and gully erosion. Conservation attempts are briefly described.

782. _____. Land use and soil conservation in parts of Onitsha and Owerri Provinces. Zaria, Gaskiya Corporation, 1951. 79p. (Geological Survey of Nigeria. Bulletin, No.21)

CGP
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783. _____. Land use and soil conservation on the Jos Plateau [Lagos] Geological Survey of Nigeria, 1952. iv, 63p. diagrs. plates. (Geological Survey of Nigeria. Bulletin no. 22).

Detailed physical and cultural geography forms backgroud of analysis of soil erosion types and their control, and land-use patterns in most of Jos Division, Western Pankshin, and Shendam Division.

CGP
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784. _____. Soil erosion in Nigeria. In 'Geographical essays on British tropical lands' by R.J. Harrison Church [and others]. Edited by R.W. Steel and C.A. Fisher. London, G. Philip, 1956. p.77-111.

Against background of the country's physical geography, fairly detailed study of pattern of soil erosion in Katsina, Onitsha, and Owerri Provinces, and on the Jos Plateau is given.

CGP
BGI

785. JONES, Brynmor. Desiccation and the West African Colonies. Geographical Journal (London) 91(5): 401-423, May, 1938.

All physical and human evidences obtained in northern Nigeria and Niger by the Anglo-French Forestry Commission fail to support Stobbing's "encroachment of the Sahara" theory.

786. KOWAL, J. Effect of an exceptional storm on soil conservation at Samaru, Zaria. Nigerian Geographical Journal (Ibadan) 13(2): 163-173, Dec. 1970.

Detailed analysis of data collected from a high density of recorders confirms adequacy of soil conservation measures at Samaru farm but raises doubts on merits of ridging under mechanized farming.

CGP

787. LAWES, D.A. The influence of rainfall conservation on the fertility of the loess plain soil of Northern Nigeria. Nigerian Geographical Journal (Ibadan) 5(1): 33-38, June, 1962.

Examines factors influencing the moisture-storing capacity of loess soils in the area and how to increase this capacity.

CGP
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788. MacGREGOR, W.D. Soil erosion and vegetation. Nigeria (Lagos) No.11: 20-22, July, 1937.

Spectacular erosion phenomena in the U.S. and India are briefly described; tropical countries, and Nigeria in particular, are asked to learn from such disasters.

789. NETTING, Robert M. Heritage of survival; Kofyar terraces preserve soil and water. Natural History (New York) 74(3): 14-21, March, 1965.

Detailed account of how traditional farming practice among the Kofyars on the Jos Plateau supports intensive agriculture in areas of very steep slopes.

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CGP

790. NZEKWU, J. Onuora. Erosion at Agulu. Nigeria Magazine (Lagos) No. 57: 154-169, 1958.

Demonstrates how careless farming methods in an area of population pressure has led to almost irreversable gullying.

791. OFOMOTA, Godfroy E.K. Problèmes de l'erosion des sols dan la région d'Enugu du Nigéria /Problems of soil erosion in the Enugu region of Nigeria/. Ph.D. Thesis, Université de Strasbourg, 1963.

792. _____. Soil erosion in the Enugu region of Nigeria. African Soils (Paris) 9(2): 289-319, May-Aug. 1964.

Considers the factors, mechanisms and problems of largescale geological and anthropical erosion, and gives an outline of a programme of control.

CGP

793. _____. Factors of soil erosion in the Enugu area of Nigeria. Nigerian Geographical Journal (Ibadan) 8(1): 45-59, June, 1965.

Reassesses relative importance of physical and human factors responsible for gully erosion in the area.

NGLM
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794. _____. The significance of relief to soil erosion in Eastern Nigeria. Journal of the West African Science Association (Ibadan) 11(1 and 2): 123-135, 1966.

Demonstrates quantitatively how increasing slope angles generally correspond with increasing sheet erosion while subsurface lithology largely determines distribution of gullies.

GA-A
CGP

795. OFOMOTA, Godfroy E.K. Some observations on the landslide at Agulu, Eastern Nigeria. Bulletin, I.F.A.N. Série A (Dakar) 28(2): 433-443, 1966.

Examines causes and consequences of the phenononon, and suggests how to avert similar occurrence in future.

CGP
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796. _____. Some observations on relief and erosion in Eastern Nigeria. Revue de Géomorphologie Dynamique (Paris) 17(1): 21-29, Jan/Feb. 1967.

Distinguishes two types of erosion and shows the importance of relief as a factor influencing various aspects of erosion in the area.

CGP
GA-A
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797. OKEZIE, C.N. A note on gully erosion at Aba. Journal of the Nigerian Mining, Geological and Metallurgical Society (Ibadan) 1(2): 81-86, Dec. 1964.

Physical factors responsible for the gullies are described in some dotail. Recommends how gullying may be checked and prevented here as in other areas of Coastal Plain Sands formation.

798. OWEN, D.G. The waters of Sokoto. New Commonwealth (London) 39(2): 103-105, Feb. 1961.

Brief account of offorts to protect and reclaim land in the Sokoto River catchment and valley areas.

799. PLATEAU Provincial Development Committee. Land rehabilitation: Platoau Province; report of a Sub-Committee of the Committee. Farm and Forest (Ibadan) 8(2): 60-67, July-Dec. 1947.

Recommends short and long-term measures to combat extensive man-induced soil degradation on the high Plateau.

CGP

800. PROTHERO, R. Mansell. Some observations on desiccation in north-western Nigeria. Erdkunde 16(1): 111-119, March, 1962.

Conclusively demonstrates that phenomenon is seasonal and human-generated rather than climatological - a trend that could be halted by more careful utilization of the slender physical resources.

CGP
NGLM

801. RANDELL, P.C. Soil degredation and land use in Onitsha Province. Nigerian Forester (Ibadan) 1(2): 21-25, Nov. 1940.

Shows how physical and mainly human factors contribute to serious widespread sheet and gully erosion and assesses problems involved in control approaches.

802. SPOTTISWOODE, Hildegarde E. Soil conservation - in Basutoland and in Nigeria. Farm and Forest (Ibadan) 3: 109-112, 1942.

Suggests that Basutoland's approaches to combating iminent widespread soil destruction there could be applied, with necessary modifications, to Nigeria's conditions.

803. STAMP, Laurence Dudley. Land utilization and soil erosion in Nigeria. Geographical Review (New York) 28(1): 32-45, Jan. 1938.

Discusses the agricultural pattern and relative seriousness of sheet and gully erosion in the three agricultural belts recognised.

CGP
BGI

804. _____. Soil conservation in tropical Africa. Nature (London) 141(3563): 268-270, Feb. 1938.

Observations made in Nigeria convince the author that the 'bush fallow' and the isolated basins system of cultivation provide the answer to soil erosion.

CGP

805. STAMP, Laurence Dudley. The southern margin of the Sahara: comments on some recent studies on the question of desiccation in West Africa. Geographical Review (New York) 30(2): 297-300, April, 1940.

Summarises the contributions of major writers, supporting Brynmor Jones and others who direct attention rather to the problem of "man-made desert from within" and how to combat it.

806. STEBBING, E.P. The encroaching Sahara: the threat to the West African Colonies. Geographical Journal (London) 85(6): 506-524, June, 1935.

Based on uncritical analysis of evidences largely gathered from Northern Nigeria, it attributes the "progressive desiccation of West African countries" to climatological and human factors.

807. SUB-COMMITTEE of the Plateau Provincial Development Committee. Land rehabilitation: Plateau Province. Farm and Forest (Ibadan) 8(2): 60-67, July-Dec. 1947.

Against general background of soil deterioration causes, Committee recommends afforestation, controlled grazing and bush burning, improved farming practices, and temporary population movement to the lowlands.

808. SYKES, R.A. A history of the anti-erosion work at Udi. Nigerian Forester (Ibadan) 1(1): 3-6, July, 1940.

Review of expensive but relatively successful attempts to control sheet and gully erosion mainly by soil fixation techniques from 1911 to 1939.

809. VINE, H. Progress of work on the management of the soil since 1948 [in Nigeria]. In '2nd Inter-African Soils Conference (Leopoldville). 1954. Proceedings'. Brussels, Department of Agriculture, Forest and Animal Husbandry, [1955?]. p.1049-1094.

Only sections III-IV (p.1056-61) which describe population pressures in relation to soil deterioration are of direct interest to the geographer.

810. WEBB, J.E. The erosion of Victoria Beach, its cause and cure, /Being a lecture delivered to the Philosophical Society, University College, Ibadan on 11th December, 1959/. Ibadan, Ibadan University Press, 1960. 42p. diagr. maps, plates.

Ecological analysis of its nature and extent, and how the phenomenon could be halted.

CGP
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ECONOMIC GEOGRAPHY

811. *ADENIYI, E.O.* The impact of the change in river regime on economic activities below the Kainji Dam. Nigerian Geographical Journal (Ibadan) 13(2): 175-183, Dec. 1970.

Enumerates expected benefits from the Dam and shows how the changed river regime adversely affects the farming and fishing economy of people downstream of the Dam site.

CGP

812. AGBOOLA, S.A. The 'Middle Belt' of Nigeria - the basis of its unity. Nigerian Geographical Journal (Ibadan) 4(1): 41-46, July, 1961.

Shows that the unity of the Middle Belt is based on its being a region of largely subsistence economy diversified by mining activities and few cash crops.

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813. _____. Some geographical influences upon the population and economy of the 'Middle Belt' west of the Niger. M.A. Thesis, University of London, 1962. vii, 202p.

Case study of factors of population and agriculture characteristics and problems of development in the northern parts of Ilorin and Kabba Provinces.

AIT
UKPT

814. AJAEGBU, Hyacinth Iheanyichuku. The impact of Lagos on the changing rural economy of the creeks and lagoon areas of Ẹpẹ and Ikeja Divisions, Western Nigeria. Ph.D. Thesis, University of Ibadan, 1967. ix, 409 l.

Describes and analyses the impact of Lagos urban market on the changing character and adaptive nature of a rural economy.

TDA

815. _____. The coastal creeks and Lagoons area of south western Nigeria and the problems of accepting innovations and effecting rural economic changes in the area. Nigerian Journal of Economic & Social Research (Ibadan) 11(1), 65-80, March, 1969.

Analyses factors and problems of adopting economic innovations in the coastal areas of Ẹpẹ and Ikẹja Divisions against background of their physical, population, market and transportation characteristics.

AA

816. _____. Population and local resource development in the Lagos State of Nigeria. Nigerian Geographical Journal. (Ibadan) 12(1 & 2): 37-52, Dec. 1969.

Analyses the socio-economic factors responsible for the high physical resources, low population densities and low expectation situation in most parts of Lagos State outside Lagos City.

AA
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817. ALUKO, Samuel A. Agriculture and economic development in Nigeria. Nigerian Journal of Economics and Social Studies (Ibadan) 1(1): 27-40, May, 1959.

Makes a strong case for agricultural development before the industrial and suggests guidelines for the pattern it should take.

818. BORNU Province - prospects of a vast economic development. Nigeria Trade Journal (Lagos) 9(2): 65-68, April-June, 1961.

Illustrated forecast of the agricultural and industrial boom that would follow the extension of the railway to Maiduguri.

819. BRINKWORTH, Ian. Igan Alade helps itself. Geographical Magazine (London) 26(10): 544-553, Oct., 1954.

Pictorial illustration of a community development project successfully completed in a village in Abeokuta Province.

820. BROWN, A.J. Conclusion: economic problems of a tropical dependency. In 'Mining, commerce and finance in Nigeria... Edited by M. Perham'. London, Faber & Faber, 1948. p.327-348. (The economics of a tropical dependency vol. 2).

Discusses problems of poverty, insecurity of primary products, external control of economic life and of social adjustment, and how to ameliorate them.

821. BROWNIE, George. Nigeria: the faltering giant recovers. New Commonwealth (London) 43(3): 138-141, March, 1965.

Focuses on problems in her economic development, especially that of coordinated planning in industry and agriculture.

822. CHARLE, Edwin G., Jnr. English colonial policy and the economy of Nigeria. American Journal of Economics and Sociology (Lancaster, Pa.) 26(1): 79-81, Jan. 1967.

Through ingenuous use of data author demonstrates that English colonial economic policies in Nigeria were always designed to protect English interests albeit with incidental benefits to Nigerians.

823. CHUKWUEMEKA, Nwankwo. African dependencies: a challenge to western democracy; a study of the resources, commerce and industries of Nigeria and suggestions for the economic development of the dependency. New York, William-Frederick Press, 1950. [ix], 207p.

Nigeria's vast physical and human resources are reflected in highly diversified agriculture, commerce, and industry which cry for a free and purposeful direction to effect the desired economic breakthrough.

CGP

824. CHURCH, Ronald James Harrison. Some geographical aspects of West African development ... London, G. Bell, 1966. 40p. maps.

Integration of river, oil and natural gas resources to generate electricity in Nigeria described on pages 31-36 with particular emphasis on prospects of the Kainji Dams.

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825. _____. Urban problems and economic development in West Africa. Journal of Modern African Studies (London) 5(4): 511-20, Dec. 1967.

Drawing most examples from Nigeria, it outlines physical, economic and sociological problems, recommending industrial dispersion in smaller towns within an integrated rural-urban master plan.

826. _____. Some problems of regional economic development in West Africa. Economic Geography (Worcester) 45(1): 53-62, Jan. 1969.

Reviews politico-economic problems hindering international economic development, and of regional development in Northern Nigeria, recommending small-scale industries in smaller towns as possible solution.

CGP

827. _____. Picking up the pieces in a federated Nigeria. Geographical Magazine (London) 42(6): 453-454, March, 1970.

Examines post-war food shortage and distribution problems in relation to the transportation network, and of reactivating the economy in East Central State.

CGP

828. _____. Some geographical aspects of West African development. /Athens/ Ohio University, Center for International Studies, Africa Program /1970/ 29p. maps. (Papers in international studies, Africa series, no. 10).

Exactly the same as the 1966 text which was his inaugural address at the London School of Economics and Political Science.

CGP
NGLM

829. The COMMONWEALTH Institute. The Federation of Nigeria. London, U.L.P., 1963. 40p. map.

"... Gives a vivid picture of life in Nigeria - life that is influenced equally by the past and by the latest ideas and technological progress."

830. DARKER, G.F. Niger Delta natives, with special reference to maintaining and increasing the population of Southern Nigeria. Journal of the African Society (London) No. 14: 206-220, Jan. 1905.

Based on the distribution and simple economy of essentially the peoples of Mid-western and Eastern States, it outlines administrative and economic plans to combat their most deadly diseases and practices.

831. DENT, Martin. Nigeria after the war. The World Today (London) 26(3): 103-109, March, 1970.

Discusses some important issues of reconstruction and reintegration, particularly in the East Central State.

832. DEVELOPING the Niger Delta. Nigeria Trade Journal (Lagos) 14 (4): 166-170, Oct.-Dec. 1966.

Review of proposed, or partially completed, integrated development schemes in general, physical surveying, agriculture, fisheries and forestry of the Delta.

833. DUCKWORTH, E.H. A visit to the apostles and the town of Aiyetoro; describing how a small group of African fishermen with vision and faith have created a new town and pioneered a new and improved way of life on the coast of Nigeria. Nigeria (Lagos) No.36: 387-440, 1951.

Describes the peculiar but very successful communal social and economic organisation of the peoples in a capitalist country.

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834. _____. The apostles of Aiyetoro. Colonial Development (London) No.14: 17-19, Summer, 1953.

Shortened version of a very detailed eye-witness account of example of African initiative recorded in Nigeria No. 36, 1951.

835. DUNDAS, James. Ilorin Rural Planning Scheme. Farm and Forest (Ibadan) 3(3): 132-133, Aug. 1942.

General account of deteriorating physical and economic conditions in an area within twenty miles of Ilorin town to be covered by the Scheme.

836. EARLE, F.M. Geographic influences upon British economic policy in West Africa. Ph.D. Thesis, George Washington University, 1929.

837. EGBUNU, Abu. The Middle Belt predicament. University Geographer (Ibadan) 1(2): 19, March, 1957.

Rather superficial analysis of the regions sparse population, and its economic problems.

838. EIGHMY, Thomas Harden. Modernisation in a regional context: pretheory and practice in Western Nigeria. Ph.D. Dissertation, Pennsylvania State University, 1969. ix, 432p.

839. FANIRAN, Adetoye and others. Some aspects of the geography of part of the middle belt of Nigeria. Report of the field work trip to Bida, 17th-23rd Dec. 1963. Ibadan, Geographical Society of the University of Ibadan, 1964. 18p.

Broad description of the human and physical geography of the area around Bida.

NGLM

840. GOBLE, P.L. A geographical study of the development of British West Africa in relation to modern economic needs. M.A. Thesis, University of Wales, 1954.

841. GROVE, Alfred Thomas. The Benue valley. [Kaduna]. Ministry of Natural Resources, Northern Region [1957] 94p. front. illus. diagrs. maps.

Main physiographic regions are described as background to its agricultural potentialities and general economic development.

CGP
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842. HAWKESWORTH, E.G. Ijębu Province. Nigeria (Lagos) No. 15: 197-199, 1938.

Describes the progressive socio-economic nature of its people relative to other Yoruba groupings.

843. HEATH, Frank, trans. Extracts from "A chronicle of Abuja" (written in Hausa by Mallam Hassan Sarkin Ruwa of Abuja and Mallam Shaibu Mukaddamin Makarantar of Bida). Nigeria (Lagos) No. 33: 135-152, 1950.

Peasant economy and social life of its peoples.

844. HOPKINS, Brian. The Olokemeji Forest Reserve Part II: the local history of the Reserve. Nigerian Field (London) 34(4): 147-170, Oct. 1969.

Only sections which describe the development of its agriculture and transportation are of particular interest.

845. INDUSTRIALISATION and agriculture; a lesson from Ireland. Nigeria Trade Journal (Lagos) 2(1): 23, Jan.-March, 1954.

Each step towards industrialization in Nigeria should be accompanied by a corresponding intensification of agricultural production to avoid Eire's sad precedent.

846. INTERNATIONAL Bank for Reconstruction and Development. The economic development of Nigeria; a report ... Baltimore, Johns Hopkins Press, 1955. xxii, 686p. diagrs. maps. tables, appendix.

Part Two of the report on economic and financial resources; agriculture; water resources; industry, mining and power; transportation and communication is particularly relevant.

CGP
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847. LESTER, H.M.O. Aspects of rural development. Farm and Forest (Ibadan) 5(3): 115-117, Sept. 1944.

Discusses White's and Gisborne's earlier divergent views on approaches to rural development with particular application to the Anchau Settlement Scheme.

848. MACKINTOSH, John P. Nigeria since independence. World Today (London) 20(8): 328-337, Aug. 1964.

Outlines aspects of her economic improvements since 1960 and suggests ways of achieving faster growth rate.

849. MacROW, D.W. Kabba. Nigeria Magazine (Lagos) No. 61: 166-184; No. 162: 246-264, 1959.

People of Kabba Division, endowed with poor natural resources, build their welfare services and roads through communal and missionary activities.

850. MITCHEL, Noel C. Nigerian resources: pattern of development. In 'Proceedings, 8th General Assembly and 17th International Congress of the International Geographical Union (Washington, D.C.) Aug. 8-15, 1952.' p.646-649.

Examines problems and prospects in the development of agricultural, livestock and mineral resources and the crucial rôle of adequate transportation and large-scale mapping.

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851. MOISLEY, H.A. The establishment of a sugar industry in Nigeria. Geography (Sheffield) 51(231): 142-147, April, 1966.

Describes the physical conditions under which the Bacita sugar cane grows, manufacture and marketing of its sugar, with a discussion of its economic justification.

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852. MORTIMORE, Michael J., and J. Wilson. Land and people in Kano close-settled zone: a survey of some aspects of rural economy in the Ungogo District, Kano Province; a Report to the Greater Kano Planning Authority. Zaria, Ahmadu Bello University, 1965. vii, 119p. diagrs. plans, maps, tables.

Detailed case study of the rural economy of five villages, stressing the symbiotic urban-rural connections.

CGP
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853. NATIONAL Economic Council. Economic survey of Nigeria, 1959. Lagos, Federal Government Printer, /1959/ 132p. maps.

Inventory of physical, animal and human resources and their development since 1945, with short-term projections into the future.

854. NIGERIA. Federation. Commerce and Industry, Department of. Nigeria Trade Journal p.3-55, Sept. 1960.

This special independence issue contains useful review articles on the country's (i) Trade and industry, (ii) Utilities, (iii) Communications.

855. NORTHERN Region, Nigeria, 1946-60. Commonwealth Survey (London) 1(2): 46-49, Jan. 1955.

Record of economic and social progress since 1946 and plans for 1955-60 as outlined in the book: "The Northern Region of Nigeria, an outline of progress 1946-60."

856. OGUNTOYINBO, J.S. The rôle of a geographer in the economic development of a nation. Nigerian Geographical Journal (Ibadan) 11(2): 169-174, Dec. 1968.

Compliments Mabogunje's article in same issue as it reviews work done in all aspects of Applied Geography in Nigeria except urban. Similar bias for University of Ibadan's contributions.

GA-C
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857. OLIVER, E.I. The commerce, industry, agriculture, mining, minerals, transport and communications. In his 'Nigeria: economic and commercial conditions in Nigeria.' London, H.M.S.O. 1957. p.65-157. (Great Britain. Overseas economic surveys).

Inventory of the pattern based on now outdated data.

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858. ONAEKO, E.A. Shagamu and its district. Nigerian Geographical Journal (Ibadan) 2(1): 14-25, June, 1958.

General account, with particular emphasis on economic activities.

CGP
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859. PEMBLETON, E.S. Plateau Province, the highlands of Nigeria. Nigeria (Lagos) No. 15: 188-191, 1938.

Emphasis is on the varied landscape and population, and the socio-economic impact of the tin mining industry.

860. PERHAM, Magery, ed. The native economies of Nigeria ... London, Faber & Faber, 1946. xxi, 312p. (The economics of a tropical dependency, vol. 1).

In two parts: Part I; the rural economies by Professor Daryll Forde; Part II; Production for trade by Dr R. Scott.

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861. POPOOLA, I. Oluwole. The problems posed by Nigeria's "empty" Middle Belt. University Geographer (Ibadan) 7: 24-27, June, 1966.

Incoherent assessment of the comparative unproductivity of the area.

862. PRACTICAL notes on the Yoruba country and its development [by "white ant"]. Journal of the African Society (London) No.3: 316-324, April, 1902.

Economic resources and trade potentialities of Lagos Colony and its immediate hinterland described with emphasis on forest products.

863. ROAD to Shaki. Nigeria Magazine (Lagos) No.42: 150-177, 1953.

Problems of erosion and of tobacco production in Iseyin precede survey of Shaki's economic and social life which centres around the settled Fulani and their cattle.

864. ROYAL Institute of International Affairs. Nigeria: the political and economic background. London, Oxford University Press, 1960, viii, 141p. maps, tables.

Valuable but dated resumé of the country's physical and human resources as basis for development to which R.M. Prothero contributed significant material.

865. SMITH, M.G. A study of Hausa domestic economy in Northern Zaria. Africa (London) 22(4): 333-347, Oct. 1952.

Detailed account of the peasant agriculture and crafts of seven rural communities.

CGP
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866. STAPLETON, G. Brian. The wealth of Nigeria. London, Oxford University Press, 1958. 235p. diagrs. maps, tables.

Source inventory of all facets of the economy, with useful suggestions for integrated economic development. Outdated data here revised in the second edition.

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867. _____. The wealth of Nigeria. [2nd ed.] Ibadan, Oxford University Press, 1967. 264p. maps.

Economic geography. Much of the information and statistics still hopelessly out of date.

868. STOLPER, Wolfgang F. The development of Nigeria. Scientific American (New York) 209(3): 169-174, Sept. 1964.

Discusses Nigeria's economic development problems as related to the 1962-68 Development Plan.

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869. TAKES, Charles A.P. Problems of rural development in Southern Nigeria. Tijdschrift van het Koninklyk Nederlandsch Aardrijkskundig Genootschap (Rotterdam) 81(4): 438-452, 1964.

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870. The U.A.C. in Nigeria's economic growth. Nigeria Magazine (Lagos) No. 87: 285-286, Dec. 1965.

Narrates the historical and contemporary rôle of U.A.C. in developing Nigeria's internal and external trade, and in industrialization.

871. UDO, Reuben K. The changing economy of the Lower Niger Valley. Nigerian Geographical Journal (Ibadan) 12(1 & 2): 113-124, Dec. 1969.

Descriptive analysis of the evolution of the economy of peoples inhabiting the region between Lokoja and Aboh, with special emphasis on Onitsha market and town.

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872. WESTERN Nigeria sets the pace. New Commonwealth (London) 38(4): 245-246, April, 1960.

Notes on economic development plans in Western Nigeria.

873. WORRALL, Denis. Recent trends and developments in Africa: the Federation of Nigeria; an introduction. Tijdskrif vir Aardrykskunde - Journal for Geography (Stellenbosch) 2(8): 17-22, April, 1966.

Broad and somewhat misleading and simplistic description of Nigeria's economic and political geography.

CGP

874. WRAITH, R.E. Community development in Nigeria. Ekistics (Athens) 111: 125-128, 1965.

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AGRICULTURAL GEOGRAPHY

875. ABEGUNDE, Dayọ. Agricultural revolution in Western Nigeria ("the Cooperative Farm Settlement Scheme"). University Geographer (Ibadan) 2(1): 23-28, March, 1960.

Objectives of the Scheme are enumerated and some problems of implementation discussed with suggestions on how to solve them.

876. ADEGBOYE, R.O. Procuring loans through plodging of cocoa trees. Nigerian Geographical Journal (Ibadan) 12(1 & 2): 63-76, Dec. 1969.

Describes the practice in Western Nigeria and discusses its agro-economic implications.

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877. ADEGBOYE, R.O., A.C. Basu and Dupẹ Ọlatunbọsun. Impact of Western Nigerian farm settlements on surrounding farmers. Nigerian Journal of Economic and Social Studies (Ibadan) 11(2): 229-240, July, 1969.

Analysis of questionnaire and interview results of 200 peasant farmers around Ibadan reveals that farm settlements have insignificant impact on surrounding farmers except in the limited use of fertilizers.

878. ADEJUWON, J.O. Crop-climate relationship: the example of cocoa in Western Nigeria. Nigerian Geographical Journal (Ibadan) 5(1): 21-32, June, 1962.

Examines relationship between the stages in cocoa production and climate using 'coefficients of correlation' parameters.

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879. _____. Farming and farmlands in Ibadan Division of Western Nigeria. M.Sc. Thesis, University of London, 1963. 257 l.

Analysis of crop distribution patterns and geographical factors of agricultural production in the area.

880. ADELODUN, M. Shifting cultivation in Ilorin. Farm and Forest (Ibadan) 6(3): 160, July-Dec. 1945.

Most superficial and unrealistic analysis of a complex socio-economic problem by an incompetent writer.

881. AGBOOLA, Akinola. Ways of improving farming systems in Western Nigeria. Odu (Ile-Ife) 4(1): 44-60, July, 1967.

Against background of present farming practices in the state recommendations to improve economic returns and preserve soil fertility are offered.

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882. AGBOOLA, Samuel Akindele. The introduction and spread of cassava in Western Nigeria. Nigerian Journal of Economic and Social Studies (Ibadan) 10(3): 369-385, Nov. 1968.

Explains that the integration of cassava into the State's agricultural economy was the result of the interaction of certain historical, physical, economic and psychological variables.

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883. _____. Patterns of food crop production in south-western Nigeria. Nigerian Geographical Journal (Ibadan) 11(2): 135-152, Dec. 1968.

Based on surveys carried out between 1963 and 1966, the physical and social bases, and patterns of food-crop combination regions in Lagos and Western states are described and mapped.

CGP
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884. AGRICULTURAL project at Mokwa. Crown Colonist (London) 20: 540, Sept. 1950.

Summary of the major facets of a vast mechanized agriculture and settlement programme planned for Mokwa. Chances of success were overestimated.

BGI

885. AJAEGBU, H.I. Food crop farming in the coastal area of south-western Nigeria. Journal of Tropical Geography (Singapore) 31(2): 1-7, Dec. 1970.

Proximity to urban Lagos offers greatest incentive to increasing food crop cultivation in a traditional fishing area whose pattern and characteristics are analysed and described.

CGP
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886. ALISON, P.A. The collection of export produce in an agricultural community; the palm produce and rubber trades in Igala. Farm and Forest (Ibadan) 7(1): 11-18, Jan-June, 1946.

Account based on a study of export production involving some 50,000 male adults in Igala Division between 1942 and 1944.

887. ARE, Lekan. An assessment of some plantation problems in Western Nigeria. Tropical Agriculture (London) 41(1): 1-13, Jan. 1964.

Critical appraisal of socio-political, management and agronomic problems based largely on Western Nigeria Development Corporation projects.

CGP

888. ARIBISALA, T.S.B. The development of mixed farming and the expansion of livestock industry in southern Nigeria. Proceedings of the Agricultural Society of Nigeria (Ibadan) 4: 5-10, July, 1966.

Survey of mixed farming development in Nigeria from 1922, the particular problems in the south, and steps being taken to overcome them.

889. BAKER, G.S. Mokwa project shows the way; a new experiment in agricultural development. West African Review (Liverpool) 27(345): 577-579, June, 1956.

After the near-fatal errors of the Colonial Development Corporation, the Northern Region Government takes over and attempts to solve the triangular problems of soil erosion, profitability of scheme and settlement.

890. BALDWIN, Kenneth D.S. Some social and economic enquiries at Mokwa. In 'West African Institute of Social and Economic Research. Conference Proceedings' (Ibadan) p.92-97, 1955.

Brief analysis of a short socio-economic questionnaire in an agricultural settlement community.

891. _____. The Nigor agricultural projects; an experiment in African development. Oxford, Blackwell, 1957. xvi, 221p. illus. maps, tables.

Economist's critical account of the inception, difficulties, and reasons for the failure of the scheme.

CGP

892. _____. Land-tenure problems in relation to agricultural development in the Northern Region of Nigeria. In 'African agrarian systems ... Edited by D. Biebuyck.' London, O.U.P., 1963. p.65-82.

Examines physical factors influencing land-tenure structures, agricultural settlement and productivity particularly in Kano, Katsina and Plateau Provinces.

893. _____. The Mokwa land settlement scheme. In 'Eicher, C.K. and C. Liedholm eds. Growth and development of the Nigerian economy.' /East Lansing/. Michigan State University Press, 1970. p.163-178.

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894. BISPHAM, W.M.L. The Bacita story. Nigerian Opinion (Ibadan) 2(3): 35-36, March, 1966.

Refreshing account of how cash crop economy has revolutionized a peasant community without disrupting subsistence farming.

895. BOSTON, J.S. The Igala oil-palm industry. In 'Nigerian Institute of Social and Economic Research. Conference Proceedings' (Ibadan) March, 1962. p.100-110.

Structure, problems, and economic implications described and discussed.

896. BRICE-BENNETT, F.O. Dikwa faces the future. West African Review (London) 28(356): 450-454, May, 1957.

Agricultural improvement and resettlement schemes in the area adjoining the Lake Chad of Dikwa Emirate (Sardauna Province) are briefly and hopefully described.

897. BROWNE, Gilbert. The experiment in co-operative farming at Daudawa in Northern Nigeria. Empire Cotton Growing Review (London) 7(4): Oct. 1930.

Early history of the Daudawa settlement scheme.

898. BUCHANAN, Keith M. The pattern of export production in Nigeria. Nigeria Marketing Board Journal (Lagos) 3(1): 6-10, 1953.

Brief description of Nigeria's cash crops as regards their location, extent and channels for their evacuation through the ports.

899. _____. Recent developments in Nigerian peasant farming. Malayan Journal of Tropical Geography (Singapore) 2: 17-34, March, 1954.

Empirical analysis of Nigeria's agricultural and settlement development schemes against background of interrelated physical, economic and social problems. Some of his solutions have not stood the test of time!

CGP
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900. CHADWICK, E.R. Ijo Lilliput villages. Nigerian Field (London) 7(3): 133-134, July, 1938.

Description of the layout and function of Ijọ foodstores.

901. CLARKE-BUTLER-COLE, R.F. The influence of permanent crops on rural economy in the Western Provinces of southern Nigeria. Nigerian Forester (Ibadan) 1(1): 32-35, July, 1940.

Bush fallow subsistence economy gives way to largely cash crop economy involving a complex and potentially dangerous land tenure-land use pattern.

902. COCOA. Nigeria Trade Journal (Lagos) 11(2): 69-73, April-June; 11(4): 146-149, Oct.-Dec. 1963.

Examines the development, extent and processing procedures of the industry, its associated problems and how they are being tackled, and its economic impact on Nigeria.

903. COPPOCK, J.T. Agricultural geography in Nigeria. Nigerian Geographical Journal (Ibadan) 7(2): 67-90, Dec. 1964.

Reflects on topics worthy of investigation and levels of approach, stressing the value of individual case studies.

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904. _____. Tobacco growing in Nigeria. Erdkunde (Bonn) 19(4): 297-306, Nov. 1965.

Based on data from tobacco companies, it discusses its economic history, organizational and distributional pattern, and its effects on peasant agriculture generally.

CGP
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905. _____. Agricultural developments in Nigeria. Journal of Tropical Geography (Singapore) 23: 1-18, Dec. 1966.

Discusses the changes taking place, particularly in the transformation of traditional agriculture since 1900.

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906. CORBY, H.D.L. Changes being brought about by the introduction of mixed farming /in Nigeria/ Farm and Forest (Ibadan) 2(3): 106-109, Dec. 1941.

Comparative study of agricultural practices and land-use patterns among 27 mixed and hand-farmers in Bomo village area near Zaria.

CGP

907. COX, Paul G. Observations on the agriculture of the Jos Plateau. Nigerian Field (London) 30(2): 84-94, April, 1965.

Because of deteriorating soil conditions coupled with heavy rainfall, the Biroms have adapted new staple crops to suit their environment and are experimenting with new lands and new methods of cultivation.

AA

908. The DAIRY industry in Plateau Province. Nigeria Trade Journal (Lagos) No. 8: 6-9, Jan-Mar, 1960.

Story of a growing pioneer industry and some of the major problems it faces.

909. DAVIES, H.R.J. The farmers of Zaria City. Swansea Geographer 8: 90-92, Aug. 1970.

CGP

910. DAVIES, J.G. The Gyel farm survey in Jos Division. Farm and Forest (Ibadan) 7(2): 110-114, 1946.

Physiographic characteristics of a village group area given as background to description of its land-use pattern raising similar problems outlined by Pitcairn in an earlier article.

BGI

911. DENNETT, R.E. Agricultural progress in Nigeria. Journal of the African Society (London) 18(72): 266-289, July, 1919.

Particularly useful for the statistics on the volume and value of cash crops and livestock exported from the earliest times to that date.

912. DESERT blooms. Nigeria Magazine (Lagos) No. 60: 2-21, 1959.

Enumerates climatological and social problems confronting mechanised rice irrigation schemes in Sokoto Province. Completion of Kainji Dam should alleviate most of the physical difficulties, particularly flooding.

CGP

913. DUGGAN, E. deC. The cotton growing industry of Nigeria. Journal of the African Society (London) 21(83): 199-207, April, 1922.

Demonstrates how the distribution of cotton growing areas and ginneries in former Western and Northern Regions was largely determined by availability of rail and river transport.

914. _____. The cotton prospects of Northern Nigeria. Journal of the African Society (London) 26(101): 10-20, Oct. 1926.

Reviews the phenomenal growth of cotton production from pre-colonial times to 1925, stressing the vital rôle of the British Cotton Growing Association.

915. DUNBAR, Gary S. African Ranches Ltd., 1914-1931: an ill-fated stockraising enterprise in Northern Nigeria. Annals Association of American Geographers (N.Y.) 60(1): 102-123, March, 1970.

Detailed case study of the Allagarno Ranch north of Kaduna to illustrate problems of large-scale commercial stockraising in colonial and modern tropical Africa.

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916. DURU, R.C. Improvement of the rural economy of Eastern Niger Delta. University Geographer (Ibadan) 3(2): 9-11, May, 1962.

Suggests that agricultural economy in the area should be mechanised and discusses ways of effecting it.

917. EBERE, A.A. The changing pattern of rural economy in Mbaise, Owerri. University Geographer (Ibadan) 6: 23-25, June, 1965.

Increasing population pressure in the area has lead to excessive land fragmentation, soil degradation, out-migration and abandonment of agriculture for trade; suggestions for restoring an equilibrium are given.

918. ENGELDOW, F.L. Cotton growing in Nigeria. Nature (London) 192: 1248-1249, Dec. 1961.

Enumerates the importance of rainfall and how it affects yields in Northern Nigeria.

919. FANIRAN, Adetoye. Tobacco growing in Olla (via Oshogbo). (A cash crop in a basically subsistence community - abstract from an original essay submitted for the London University's B.A. degree in Geography, 1964). University Geographer (Ibadan) 5: 28-33, May, 1964.

Boom in the economic well-being of Olla people is traced directly to tobacco cultivation; consequent disruption of the traditional land-use pattern is described.

920. _____. Creating a commercial farming industry in a nomadic pastoral economy. Australian Geographer (Sydney) 10(5): 392-397, Sept. 1968.

Against the physical and cultural geography of Jos Plateau he assesses recent attempts to transform the area's nomadic pastoral economy into commercial dairying. CGP NGLM GA-C

921. FARM Settlement Scheme in Nigeria. Nigeria Trade Journal (Lagos) 10(1): Jan.-March, 1962.

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922. _____; a progress report. Nigeria Trade Journal (Lagos) 15(2): 60-68, April-June, 1967.

Record of 'modest achievements' and pious hopes but results still fail to justify the huge monetary investments.

923. FAULKNER, Odin Tom. Agriculture in Nigeria. West African Review (Liverpool) 6(93): 7-8, June, 1935.

Reports phenomenal increase in the volume and value of Nigerian major cash crops and attributes this mainly to the activities of the Agriculture Department.

924. FEILBERG, C.G. Some characteristic features of traditional agriculture in Nigeria. Geografie Tidschrift (Copenhagen) 57: 75-108, 1958.

Field studies attempt to explain why Nigerian traditional farmers work the soil up into mounds or ridges for cultivating yams or cassava.

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925. FERGUSON, W. Muturu cattle of Western Nigeria. Part I: census, distribution, husbandry and behaviour of village herds. Journal of West African Science Association (London) 12(1): 29-36, Feb., 1967.

Of interest to the geographer are the environmental conditions limiting the distribution of Muturu cattle in the area.

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926. FLOYD, Barry N. Terrace agriculture in Eastern Nigeria: the case of Maku. Nigerian Geographical Journal (Ibadan) 7(2): 91-108, Dec. 1964.

Detailed account of the techniques of indigenous terrace farmers of Maku, their difficulties, and the gloomy future of their tradition.

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927. FLOYD, Barry N. and Monica Adindo. Farm settlements in Eastern Nigeria; a geographical appraisal. Economic Geography (Worcester, Mass.) 43(3): 189-230, July, 1967.

Analytical and descriptive account of their origins, distribution, structure, and the pattern of land-use in them

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928. FOGG, C. Davis. Economic and social factors affecting the development of smallholder agriculture in Eastern Nigeria. Economic Development and Cultural Change (Chicago) 13(3): 278-292, April, 1965.

Against existing background of agricultural land-use he recommends small-holder development agriculture as best, enumerates economic and social barriers in its application, and suggests how these may be overcome.

929. FORDE, C. Daryll. Land and labour in a Cross River village, Southern Nigeria. Geographical Journal (London) 90(1): 24-51, July, 1937.

Describes the agricultural economy of Umor village community as related to its physical environment and social organization.

BGI

930. _____. The rural economies. In 'The native economies of Nigeria. Edited by M. Perham.' London, Faber & Faber, 1946. p.29-216. (The economics of a tropical dependency, vol.1).

Detailed description of factors and patterns of subsistence and cash crop economy in the South, North (Hausa) and 'Middle Belt' areas.

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931. FRICKE, Werner. Report on studies in agricultural geography in Gombe Division, Northern Nigeria. Erdkunde (Bonn) 19(3): 233-248, Sept. 1965.

Survey of ethno-historical factors influencing agriculture and settlement patterns in the three economic zones of Forde (1945) as represented in the Division.

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932. GEOGRAPHICAL Society, University of Ibadan. Irrigation on the Jos Plateau (Extract from the report of the Jos-Study Trip organised by the Society-December, 1962.) University Geographer (Ibadan) 4: 12-14, May, 1963.

Summarises the objectives, operation, achievements and problems of Tar Hoss, Barkin Ladi and Rhyom irrigation schemes.

933. GEOGRAPHICAL Society, University of Ibadan. Agriculture in Kano City and the adjacent areas (Extract from the Report of the Kano Study Trip organised by the Society, December 1964). University Geographor (Ibadan) 6: 26-28, June, 1965.

Summary of the nature and basis of an intensive all-the-year-round agricultural economy.

934. GILLES, Helen Trybulowski. Nigerian groundnuts help feed starving nations. Farm and Forest (Ibadan) 7(1): 5-10, Jan.-June, 1946.

Rather poetic description of the economics and sociology of Nigeria's groundnut industry.

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935. HAIG, E.F.G. Co-operative agricultural settlements: an experiment in civilization. Farm and Forest (Ibadan) 6(1): 36-39, Jan.-March, 1945.

Such cooperative agricultural settlements based on plantation economy as recommended here have never succeeded in Nigeria because they fail to fully appreciate the complex sociological forces involved.

936. HARDCASTLE, J.E.Y. The development of rice production and research in the Federation of Nigeria. Tropical Agriculture (London) 36(2): 79-95, April, 1959.

Varying ecological environments, and the distribution of rice-growing areas described; suggestions for increasing yields stress need for more research.

937. HARDING, H.J.M. A short history of the Bamenda-Cross River-Calabar Scheme up to May, 1949. Farm and Forest (Ibadan) 11: 44-48, 1952.

Account of the problems and prospects of an agricultural settlement scheme north of Calabar.

938. HARRIS, J. Human relationships to land in Southern Nigeria. Rural Sociology (Ithaca, N.Y.) 7(1): 89-92, March, 1942.

Outlines environmental, economic and cultural factors permitting intensive rural agricultural land-use in parts of Iboland.

939. HIGHSMITH, Richard Morgan et al. Shifting cultivation in southeastern Nigeria. In 'Case studies in world geography, occupance and economy types.' Edited by R.M. Highsmith. Englewood Cliffs, N.J. Prentice-Hall, 1961. p.3-9.

Characteristic farming practices and variables due to soils, slope, land-tenure systems, local authority and population density are described.

940. HUNT, E.O.W. An experiment in resettlement. Kaduna, Government Printer, 1951. 33p. illus. maps, tables.

Success story up to July 1950 of an Agricultural Resettlement Scheme in an area of in-migration on the lowlands of Shendam Division.

941. IRVINE, William H. Our cocoa industry. Lagos, Public Relations Department, [1955]. 16p. illus. (Crownbird series, no.18).

Brief account of the growing, marketing, and significance of cocoa in Nigeria's economy.

942. JOHNSRUD, Robert O. Guided economic change in a Northern Nigerian agricultural community. Annals, Association of American Geographers (New York) 50(3): 328, Sept. 1960.

Reports successful cooperative government and private efforts in large-scale production of export cotton in Gombe Division, and gives conditions for the success.

943. _____. A decade of Nigerian cotton 1949-1958: Nigerian Geographical Journal (Ibadan) 3(2): 1-14, Nov. 1960.

Boom in production, its economic significance and improvement possibilities in the crop described.

AA
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944. KEHINDE, G.O. Nigerian agriculture in mid-twentieth century. The Journal of King's College Geographical Society, University of Durham (Newcastle) 14(1): 26-31, March, 1963.

Assessment of the problems of peasant agriculture in a largely agricultural economy.

CGP

945. KEMMER, V.A.D. Katsina Ala as seen by an Ijaw. Nigeria (Lagos) No. 22: 71-72, 1940.

Sees the village as potential centre of beniseed production and of general economic growth for Tiv Division.

946. KING, H.E. Cotton yields and weather in Nigeria. Empire Cotton Growing Review (London) 34(3): 153-154, July, 1957.

Observed positive correlation between October-November rains and high yields of cotton analysed.

947. LAMB, P.H. The past, present and future of cotton growing in Nigeria. Empire Cotton Growing Review (London) 2: 184-197, April, 1925.

Historical narrative, with an assessment of its impact on the Nigerian economy in the future.

948. _____. Agricultural development in Nigeria. Journal of the African Society (London) 30(119): 119-127, April, 1931.

Reviews progress and problems in the production and marketing of major cash crops.

949. LEE, B.J.S. Cotton in Western Nigeria 1: History and recent developments. Empire Cotton Growing Review (London) 43(2): 85-97, April, 1966.

Pages 85-90 provide the physical and economic background to the fluctuating fortunes of the crop in the area.

UKPT

950. LEONARD, H.B. The development of cotton production in the Northern Region of Nigeria, 1949-1952. Empire Cotton Growing Review (London) 31(1): 12-26, Jan. 1954.

Measures taken to increase the production acreage and quality of cotton described. Statistics on page 25-6 very useful.

951. LITTLE (Arthur D). Inc. An evaluation of alternative sites for a sugar plantation in Nigeria. Lagos, May, 1967.

Physical and economic location factors are described as basis of recommendation.

952. MABBUTT, J.A. Report on a visit to Northern Nigeria. Oxford, Dept. of Agriculture, Soil Science Laboratory, 1965.

953. MABOGUNJE, Akin L. Rice cultivation in southern Nigeria. Nigerian Geographical Journal (Ibadan) 2(2): 59-69, March, 1959.

Describes origins and distribution of rice cultivation in rural areas, assesses new developments being introduced.

CGP
BGI

954. MABOGUNJE, Akin L. and Michael B. Gleave. Changing agricultural landscape in southern Nigeria; the example of Egba Division, 1850-1950. Nigerian Geographical Journal (Ibadan) 7(1): 1-15, June, 1964.

Illustrates how the amazing adaptibility of Egba farmers to changing ecological and economic conditions brought about by Europeans is reflected in the fast changing agricultural landscape.

AA
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955. MACKIE, J.R. The possibilities of increased production of cotton in Nigeria. Empire Cotton Growing Review (London) 25(1): 4-11, Jan. 1948.

Recognising geographical limitations in the cotton-growing areas, improved farming methods and supervision, better transport and seed distribution channels, higher prices, and development of new varieties are the major facets considered.

AA

956. MECHANIZATION of Agriculture in the North. Nigeria Trade Journal (Lagos) 6(4): 136-142, Oct.-Dec. 1958.

General problems of agricultural mechanization in the tropics notwithstanding, promising successes with rice ploughing projects have been recorded in Sokoto, Bornu, Kano and Plateau provinces.

957. MILLER, Ronald. Cultivation terraces in Nigeria. Geographical Journal (London) 118(Pt.1): 110-111, March, 1952.

Gives examples of terraced agriculture on the Jos Plateau as corollary to earlier examples in Eastern Nigeria given in Grove's paper.

958. MONEHIN, J.O. Plantation agriculture in Western and Midwestern Nigeria. Ph.D. Thesis, University of London, 1967.

959. MORGAN, W.B. The strip fields of southern Nigeria. In 'Natural resources, food and population in inter-tropical Africa; a report of the geographical symposium held at Uganda ... under the auspices of the International Geographical Union...' London, Geographical Publications, 1956. p.33-37.

Maps and analyses the pattern of agricultural land-use observed in Abakaliki and Nsukka Divisions, and in Benin Province.

CGP
BGI

960. _____. Agriculture in southern Nigeria (excluding the Cameroons). Economic Geography (Worcester, Mass.) 30(2): 138-150, April, 1959.

Describes distribution of systems of cultivation and their relationship to the physical environment.

CGP
BGI

961. _____. The distribution of food crop storage methods in Nigeria. Journal of Tropical Geography (Singapore) 13: 58-64, Dec. 1959.

Types of storage, physical and agro-economic factors largely determine four major food-crop storage regions whose characteristic features are described.

CGP
BGI

962. _____. Food imports of West Africa. Economic Geography (Worcester, Mass.) 39(4): 351-362, Oct. 1963.

Estimates import needs, factors governing imports and their rôle in West African economies. Flour and sugar imports are stressed for Nigeria.

CGP
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963. MORGAN, W.B. The zoning of land use around rural settlements in tropical Africa. In 'Environment and land use in Africa.' Edited by M.F. Thomas and G.W. Whittington, London, Methuen, 1969. p.301-319.

Descriptive analysis of examples of concentric rings of cultivation particularly in the savanna and forest regions of Nigeria, and in West Africa generally.

CGP
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964. MORGAN, W.B. and R.P. Moss. Farming, forest and savanna in Western Nigeria. Erdkunde (Bonn) 24(1): 71-80, March, 1970.

Case study of 302 holdings north of Abeokuta shows the interaction in locational influence between economic and ecological factors in relation to cropping in forest-savanna contact zone of Western Nigeria.

CGP
NGLM

965. MORTIMORE, Michael J. Land and population pressure in the Kano close-settled zone, Northern Nigeria. Advancement of Science (London) 23(118): 677-686, April, 1967.

Based on a study of three villages it explores some of the ways in which the agricultural economy has responded to, and been modified by, an exceptionally high population density.

CGP
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966. MORTLEY-FLETCHER, D. Nigeria goes 'N.A.P.' Colonial Development (London) 1(4): 8-9, Winter, 1950-51.

Enthusiastic report on the Niger Agricultural and Settlement Project.

967. MOSS, R.P. Soils, slopes and land-use in a part of south-western Nigeria: some implications for the planning of agricultural development in inter-tropical Africa. Transactions, Institute of British Geographers (London) No. 32: 143-168, June, 1963.

Describes their nature and distribution, and demonstrates importance of mapping their interrelationships in tropical Africa before implementing any agricultural scheme.

CGP
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968. NETTING, Robert M. Kofyar agriculture: an investigation of the intensive terrace cultivation of a pagan group on the southern edge of the Jos Plateau. Ph.D. Thesis, University of Chicago, 1963.

969. NEWBERRY, R.J. Yoruba fishing in the Lagos and Lekki lagoons and the sea. Nigerian Teacher (London) 2(6): 6-10, 1936.

Describes the stages of the industry, a typical fishing village, and the distribution of fish and non-fish species.

970. NIGER Agricultural Project. Colonial Development (London) No. 9: 23, Autumn, 1954.

Contains summary of why the Project failed "... further period of experiment is needed to prove the crops and methods of cultivation best suited to the climate and soil."

CGP

971. NIGERIA. Department of Statistics. Report on the sample census of agriculture 1950-51. Lagos, Survey Department, 1952. 108p. maps, tables.

Acreages and production for individual crops are presented in tabular and map forms but omission of some important crops and livestock in the south, plus inaccurate methodology, limit usefulness.

BGI

972. NIGERIA. North. Agricultural Department. Farming systems in Kano Province. African Soils (Paris) 3(4): 519-523, Oct.-Dec. 1955.

General description of methods of farming, farm sizes and crops grown in relation to pedological and climatic conditions with particular emphasis on the close-farmed area.

973. NIGERIAN beef - the story of a stock-rearing experiment. Nigeria Magazine (Lagos) No. 40: 314-27, 1953.

Experimenting with breeding of tse-tse-resisting cattle at Fashola, west of Oyo, is described and its potentials summarised.

974. NIGERIAN Cotton. Nigeria Trade Journal (Lagos) 3(4): 157-161, Oct.-Dec. 1955.

Suitability of certain varieties to Nigerian conditions is discussed and estimated volume of production from 1947 to 1955 given.

975. NWOSU, N.A. Aspects of land development for agriculture in Eastern Nigeria. Proceedings of the Agricultural Society of Nigeria (Ibadan) 2(1): 27-32, July, 1963.

Critical analysis of three types of agricultural development in the 1962-68 Development Plan and its possible implications on land-use patterns in the area.

976. NZEKWU, Onuora. Kola nut. Nigeria Magazine (Lagos) No. 71: 298-305, Dec., 1961.

Reviews the social significance of kolanut, areas of production, direction, volume and potentialities of trade in it in Nigeria.

977. OJO, Gabriel Jimoh Afolabi. The changing patterns of traditional group farming in Ekiti, north-eastern Yoruba country. Nigerian Geographical Journal (Ibadan) 6(1): 31-38, June, 1963.

Political and socio-economic changes amongst the people are responsible for the decline. Assesses its effects on the farmscape and on the quality and types of crops produced.

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978. _____. Trends towards mechanised agriculture in Yorubaland. Nigerian Geographical Journal (Ibadan) 6(2): 116-129, Dec. 1963.

Traces history and impact of mechanized farming in Western Nigeria up to and after 1960, and critically examines chances of farm institutes succeeding.

AA
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979. OJO, Gabriel Jimoh Afolabi. Some observations on journey to agricultural work in Yorubaland, southwestern Nigeria. Economic Geography (Worcester) 46(3): 459-471, July, 1970.

CGP
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980. OKOJI, M.A. Plantation agriculture in Eastern Nigeria: a study in economic geography. M.A. Thesis, University of Manchester, 1968.

981. OLUWASANMI, Hezekiah A. Agriculture and Nigerian economic development. Ibadan, Oxford University Press, 1966. vi, 240p.

Sections dealing with land-use, population, the transportation infrastructure of Nigeria's agricultural development, and mechanized agriculture are particularly informative to the geographer.

CGP
UKPT
BGI

982. _____, and others. Uboma: a socio-economic and nutritional survey of a rural community in Eastern Nigeria. Bude, Cornwall, Geographical Publications, 1966. xi, 116p. illus. diagrs. maps, tables. (World land use survey. Occasional papers no.6).

Collection of detailed essays on integrated facets of increasing agricultural production in a 25-square mile area in Okigwe Division.

CGP
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983. ONAJIN, Funke. The Bacita Sugar Growing Project. University Geographer (Ibadan) 5: 33-36, May, 1964.

Records how the Project started and its main features of location and economics of production.

984. ONAKOMAIYA, S.O. Market gardening along the banks of Osun River in Osunmaiyogun District. Ijebu Division. University Geographer (Ibadan) 5: 17-20, May, 1964.

Describes its organization and its economic impact on the people; some physical, technical and land-use problems are briefly discussed.

985. OTUYELU, S.A. Some restraints on agricultural development in Nigeria. University Geographer (Ibadan) 8: 21-23, June, 1967.

Problems of crude implements, land tenure systems unsuited to mechanization, poor storage facilities and inadequate water supply are some of those mentioned.

986. OYELEYE, D.A. The impact of tobacco cultivation on the agricultural economy of Oyo Division. M.A. Thesis, University of Ibadan, 1970. [4], viii, 201 l. diagrs. maps, tables.

Establishes the impact of a cash crop on land tenure and land-use, labour, capital and entrepreneurship of an essentially subsistence agricultural area.

TDA

987. PITCAIRN, G.D. First attempts at rural development on the Plateau. Farm and Forest (Ibadan) 2(2): 55-61, July, 1941.

Review of mixed farming programmes in an area of progressive soil deterioration and growing populations of Birom peasant farmers and Fulani herders.

988. POYNTER, Capt. H.G. Production and consumption of native foodstuffs in Abeokuta Province. Farm and Forest (Ibadan) 2(2): 68-71, July, 1941.

Too many assumptions in the calculations invalidate the conclusions. Far more data are needed.

989. PROTHERO, R. Mansell. Agricultural problems in Nigeria. Corona (London) 5(9): 328-332, Sept. 1953.

Discusses physiographic and socio-economic problems facing Nigeria's export and subsistence crops.

CGP

990. _____. Recent developments in Nigerian export crop production. Geography (Sheffield) 40(1): 18-27, Jan. 1955.

Appraisal of small and large-scale improvements, and discussion of problems of mixed farming and mechanization.

AA
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991. PROTHERO, R. Mansell. The sample census of agriculture, Nigeria, 1950-51. Geographical Journal (London) 121(2): 197-206, June, 1955.

Describes the origin, organization and implementation of the scheme with a critical commentary on results reported.

CGP
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BGI

992. RICE production in Eastern Region. Nigeria Trade Journal (Lagos) 8(4): 145-147, Oct.-Dec. 1960.

Distribution and processes of mechanised rice production in Enugu, Onitsha and Ogoja provinces.

993. RIGBY, Charles A. Land use survey project in Nigeria; detailed study of economic and social conditions of a typical Nigerian rural community. [Uboma, E. Nigeria] African World (London) 12(9): 4-5, Sept. 1967.

Summary of integrated physical, economic and social conditions affecting agricultural output.

994. RODER, Wolf. The irrigation farmers of the Kainji Lake Region. Prepared under the auspices of the Food and Agriculture Organization of the United Nations and the Nigerian Institute of Social and Economic Research. [Cincinnati, Ohio], Dept. of Geography, University of Cincinnati, 1967. vii, 91 l.

995. RUNOWICZ, A.Z.A. Some problems of agricultural development in Nigeria. Ibadan, Nigerian Institute of Social and Economic Research, 1967. 46p.

Problems of land-tenure practices and particularly in relation to mechanized agriculture are discussed.

996. SMOCK, David R. Social, cultural, and psychological factors affecting agricultural development. In his 'Agricultural development and community plantations in Eastern Nigeria.' Lagos, Rural Development Project, Ford Foundation, 1965. p.17-26.

Catalogue of cultural and psychological factors inhibiting agricultural developments in eight sample villages albeit many social factors promote them.

BGI

997. SMOCK, David R. Cultural and attitudinal factors affecting agricultural development in Eastern Nigeria. Economic Development & Cultural Change (Chicago) 18(1): 110-124, Oct. 1969.

Essentially the same as his 1965 text.

AA
CGP

998. TAYLOR, C.B. An experiment in land settlement. Tropical Agriculture (London) 20(4): 71-73, April, 1943.

Story of the Daudawa Mixed Farming Settlement Scheme in Katsina Emirate.

CGP

999. UDO, Reuben K. Sixty years of plantation agriculture in southern Nigeria: 1902-1962. Economic Geography (Worcester, Mass.) 41(4): 356-368, Oct. 1965.

Landmarks in its development, its demands, distribution, organization and its position relative to other economic activities, are described.

AA
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BGI

1000. UNITED Africa Company. Produce goes to market, Nigeria: groundnuts. Statistical and Economic Review (London) No.4: 1-45, Sept. 1949.

Company's rôle in the production and evacuation of groundnuts for export described in same way as earlier articles on palm produce and cocoa.

1001. _____. Produce goes to market, Nigeria: cotton. Statistical and Economic Review (London) No.7, 16-47, March, 1951.

Same format as earlier ones on palm produce, cocoa and groundnuts.

BGI

1002. UNITED Africa Company. Produce goes to market; the hides and and skins trade of Nigeria. Statistical and Economic Review (London) No.8: 27-48, Sept. 1951.

Production and marketing described in same way as earlier articles on palm produce, cocoa, groundnuts and cotton.

AA
BGI

1003. _____. Plantations in Africa. Statistical and Economic Review (London) No. 9: 1-50, March, 1952.

General account of their economics and sociology. Nigeria and Cameroon receive joint treatment on pages 34-38, 41-42, 44-46 and 48.

1004. _____. Cocoa in Western Nigeria. Statistical and Economic Review (London) No.18: 1-51, Sept. 1956.

General characteristics of its production and marketing pattern form background of detailed account of the economic implications of cocoa pests control, particularly the black pod.

1005. UPTON, Martin. Recent changes from subsistence to commercial agriculture in southern Nigeria. World Land Use Survey. Occasional Papers (Bude, Eng.) No. 7: 29-40, 1966.

Set against the background of traditional farming practices in the area, it describes changes which have already taken place and discusses implications of further changes in both subsistence and cash cropping.

1006. UZOZIE, L.C. The relative importance of yams and cassava in the staple food economies of Eastern Nigeria. M.A. Thesis, University of Ibadan, 1966. ix, 192 l.

Describes and interpretes the spatial distribution and interrelationship of staple food crops in their socio-ecological setting, emphasizing the importance of yams and cassava in the agricultural system.

TDA

1007. VAN RAAY, J.G.T. and P.N. de Leeuw. The importance of crop residues as fodder: a resource analysis in Katsina Province. Tijdschrift voor Economische en Sociale Geografie (Rotterdam) 61(3): 137-147, 1970.

Yields of crop residues and their fodder potential are examined and implications for the livestock industry of both the pastoral Fulani and the sedentary Hausa farmers are examined.

AA
NGLM

1008. VIRONE, L.E. Awakening in the Uboma forests [of Eastern Nigeria] Geographical Magazine 40(3): 214-224, July, 1967.

Describes phases in the pioneer agricultural project at Uboma and appraises its problems and achievements.

CGP

1009. WALLACE, J.W. Agriculture in Abakaliki and Afikpo (with a note on the salt industry of Ogoja Province). Farm and Forest (Ibadan) 2(2): 89-93, July, 1941.

Methods of sustaining soil fertility, and major crops grown in both divisions are briefly described.

1010. WESTERN Nigerian natural resources. Africa Trade and Development (London) 2(5-6): 10-11, May-June, 1960.

Highlights plans to improve cocoa and rubber, and the creation of farm settlements in the Region's 1960/65 Development Plan.

1011. WHITE, Stanhope. Agriculture economy of the hill pagans of Dikwa Emirate, Cameroons (British mandate) Empire Journal of Experimental Agriculture (London) 9(35): Jan. 1941.

Describes how a people forced to dwell in an unhelpful environment have evolved a balanced agricultural economy to support a dense population in parts of Sardauna Province.

1012. _____. Notes on mixed farming as practised by some Shuwa Arabs in parts of Dikwa Emirate. Farm and Forest (Ibadan) 2(1): 24-26, June, 1941.

Gives the chronology and characteristics of the agricultural year involving, principally, Masakwa (guinea corn) and cattle manure.

TRANSPORTATION GEOGRAPHY

1013. ADEDEJI, Adebayo. A survey of highway development in the Western Region of Nigeria. Ibadan /Government Printer/ 1960. 68p. 17 sheets of maps, tables.

Analyses historical development of roads and comparative importance of different means of transportation as basis for sound economic planning and growth.

1014. AKONI, E.B. Transport and the state. Nigerian Ports Authority News (Lagos) 8-10, Dec. 1966.

Brief description of government's rôle in expanding and coordinating Nigeria's transport services.

1015. BARBOUR, K.M. A survey of the Bornu railway extension in Nigeria - a geographical audit. Nigerian Geographical Journal (Ibadan) 10(1): 11-28, June, 1967.

Geographers' role in planning and executing regional development projects is discussed with particular reference to the Bornu railway extension.

CGP
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1016. _____. New routes for Lagos? Nigerian Opinion (Ibadan) 6(3 & 4): 41-43, March-April, 1970.

Proposes and justifies a new eastern highway connecting Lagos island to the rest of the country.

1017. BASHIR, A.A. The Bornu railway extension: prospects and problems. University Geographer (Ibadan) 4: 7-9, May, 1963.

Reviews economic prospects and problems in the area through which the new line runs and briefly discusses two alternative solutions.

1018. BORNU railway extension. Nigeria Trade Journal (Lagos) 7(1): 20-23, Jan.-March, 1959.

Irresistably strong economic reasons are advanced for the project whose problems of construction are briefly described.

1019. CHURCH, Ronald James Harrison. The railways of West Africa; a geographical and historical analysis. Ph.D. Thesis, University of London, 1943. [5], 277 l.

More than half of the study is devoted to Nigeria.

UKPT

1020. _____. The transport pattern of British West Africa. In 'Geographical essays on British tropical lands. Edited by R.W. Steel and C.A. Fisher.' London, G. Philip, 1956. p.53-76.

Pages 67-74 reviews economic and political backgrounds to the development of Nigerian railways.

CGP
BGI

1021. COORDINATING transport in Nigeria. Crown Colonist (London). Aug. 1938.

E s s a y.

1022. CROCKER, H.E. Kano: focal point of West African communications. The Crown Colonist (London) 13(138): 309-310, May, 1943.

Examines the position of Kano relative to the grandiose railway and road communication network envisaged for Africa. Full of sweeping generalizations on physiography of West Africa.

CGP

1023. EARL, A.K. Nigeria's ports. Nigeria Magazine (Lagos) No.72: 26-33, March, 1962.

Gives historical background to the development of Nigeria's major ports.

CGP

1024. EKPENYONG, Jonathan O. The port of Calabar. (Culled from an original work presented for the B.A. (Hons) Geography degree of the Ibadan University--June, 1966). University Geographer (Ibadan) 7: 27-30, June, 1966.

Enumerates port facilities available, describes their functioning and the nature and volume of trade the port handles.

1025. HAWKINS, Edward Kenneth. The road and rail systems in Nigeria. In his 'Road transport in Nigeria; a study in African enterprise.' Oxford, O.U.P., 1958. p.8-24.

Outlines their development and distribution, particularly since 1946, emphasising their significance to the national economy and to the growth of urban centres.

CGP
NGLM

1026. HAY, Allan M. Geography of road transport in Nigeria. Ph.D. thesis, Cambridge University, 1968. 300 l.

1027. HOGG, V.W. Transport planning problems in Nigeria. Ibadan (Ibadan) No. 9:11-12, June, 1960.

Highlights problems of inadequate human and financial resources and suggests how they may be overcome.

1028. IJEWERE, G.O. Rail-road problems in Nigeria. Nigerian Journal of Economics and Social Studies (Ibadan) 1(1): 17-26, May, 1959.

Against background of historical development of rail and road transportation in Nigeria, its financial, coordinating and administrative problems are discussed in guiding economic planning.

1029. INTERIM Report of the Road-Rail Competition Committee, 1936. Lagos, Govt. Printer 1937. (Sessional paper, no.6).

Nature and extent of competition described as basis of recommendation for effective harmonization of both services.

1030. LAGOS port development. Colonial Development (London) No. 11: 26-27, Autumn, 1952.

Briefly outlines the expected impact of proposed Lagos harbour extension on traffic and housing conditions in the Apapa area.

1031. MOVING the groundnuts from the North. Nigeria Trade Journal (Lagos) 2(2): 10-12, April-June, 1954.

Routes, and problems of groundnut evacuation briefly described.

1032. NIGERIA. Federation. Ministry of Transport and Aviation. Consideration of the report by the Stanford Research Institute on transport co-ordination in Nigeria. Lagos, 1962.

Government Policy Statement on a report submitted to it on integration of rail, road and river transportation.

1033. The NIGERIAN railway 1: a brief history. Nigeria Trade Journal (Lagos) 3(3): July-Sept. 1955.

Presents the phases and problems of railway construction from 1901 onwards, and the volume of economic activities it has generated.

1034. OGUNDANA, Babafemi. Lagos: Nigeria's premier port. Nigerian Geographical Journal (Ibadan) 4(2): 26-40, Dec. 1961.

Describes the nature of shipping, maritime and inland traffic from Lagos, and assesses its capability to handle Nigeria's fast growing imports and exports.

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1035. OGUNDANA, T.T.B. Some elements of changing port concentration in Nigeria. M.Sc. Thesis, University of London, 1966.

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1036. OGUNDANA, Babafemi. Changing port outlets of Nigeria's export commodities. Nigerian Geographical Journal (Ibadan) 9(1): 25-43, June, 1966.

Examines the dynamics of Nigerian ports since 1910 from viewpoints of quality and variety of export commodities they handle.

AA
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GA-C

1037. _____. The fluctuating significance of Nigerian seaports before 1914. Odu (Ibadan) 3(2): 44-71, Jan. 1967.

Recognises four phases of 'pre-modern' ports and describes nature and volume of foreign trade connected with each, emphasizing factors responsible for their changing fortunes.

AA

1038. OGUNDANA, B. Patterns and problems of seaport evolution in Nigeria. In 'Seaports and development in tropical Africa, edited by B.S. Hoyle and D. Hilling.' London.

1039. ONAKOMAIYA, Samuel Onanuga. Some spatial aspects of rail movements of foreign trade in Nigeria 1964. M.A. Thesis, University of Wisconsin, 1968.

1040. ONAKOMAIYA, Samuel Onanuga and Robert H.T. Smith. The rail distribution of imported goods in Nigeria. Nigerian Geographical Journal (Ibadan) 11(2): 115-134, December, 1968.

Evolves and discusses seven dependent, and seven predictor, variables to explain the pattern of rail distribution for imported goods in 1964 from Lagos and Port Harcourt to twenty four hinterland centres.

CGP
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1041. OYELEYE, 'Bade. Freight rate structure in Nigeria. University Geographer (Ibadan) 5: 10-17, May, 1964.

Analysis of the spatial and economic dynamics of freight rates charged for goods transported by rail, road and water.

1042 PORT development in Nigeria. Nigeria Trade Journal (Lagos) 14(2): 60-65, April-June, 1966.

Summary of port facilities, volume and types of goods handled, at Lagos, Port Harcourt and Koko ports.

1043. PORT HARCOURT extension. Nigeria Trade Journal (Lagos) 5(4): 123-127, Oct.-Dec. 1957.

Outline of present economic situation and potentialities justifying an extension of the port.

1044. PROBLEMS of the Niger delta. Nigeria Trade Journal (Lagos) 1(3): 12-13, July, 1953.

Restatement of the physical and technical problems of providing deep water communication in the area as enumerated by P. Jansen.

1045. RAILWAY construction in Nigeria. Scottish Geographical Magazine (Edinburgh) 25(7): 353-355, July, 1909.

Reviews briefly projects for railway construction in the context of a projected transportation 'network' for the country.

1046. SADA, P.O. Political policies and the development of transportation in metropolitan Lagos. Nigerian Geographical Journal (Ibadan) 13(2): 185-199, Dec. 1970.

Demonstrates how injudicious political and administrative decisions on location and operation of public institutions largely explain the chaotic Lagos transport situation.

CGP
NGLM

1047. SMITH, Sidney R. Bush paths and roads in Nigeria. Empire Cotton Growing Review (London) 8(3): 218-224, July, 1931.

1048. TAAFE, Edward J., R.L. Morrill and P.R. Gould. Transport expansion in underdeveloped countries (Ghana and Nigeria): a comparative analysis. Geographical Review (New York) 53 (4): 503-529, Oct. 1963.

Examines the growth patterns and importance of transportation in the economic development of both countries.

CGP
BGI

1049. UDO, Reuben K. and B. Ogundana. Factors influencing the fortunes of ports in the Niger delta. Scottish Geogrphical Magazine (Edinburgh) 82(3): 169-183, Dec. 1966.

Critical exammination of factors which have influenced the growth and decline of Niger delta ports.

CGP
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1050. UNITED Africa Company. The Company's river fleet and port, Nigeria. Statistical and Economic Review (London) No.2: 33-48, Sept. 1948.

Review of the types and volume of merchandise handled by the company on Nigeria's main inland waterways, the problems involved, and the importance of Burutu port in the operations.

1051. _____. Forcados and Escravos bar. Statistical and Economic Review (London) No.6: 46-60, Sept. 1950.

Considers some of the physical and economic implications of the silting up of the entrances to the River Niger if allowed to proceed unchecked.

1052. _____. Transport economics in West Africa--1. Statistical and Economic Review (London) No. 14: 5-38, Sept. 1954.

Pattern of road, rail and water transportation with particular emphasis on problems based on the Company's experience. Most examples drawn from Nigeria.

1053. WHITE, H.P. The ports of West Africa--some geographical considerations. Tijdschrift voor Economische en Sociale Geografie (Rotterdam) 50(1): 1-8, Jan. 1959.

General description of their importance and physical handicaps; port developments and problems west of the Niger delta, and on the delta itself are emphasized.

CGP
NGLM
BGI

1054. _____. The movement of export crops in Nigeria. Tijdschrift voor Economische en Sociale Geografie (Rotterdam) 54(11): 248-253, Jan. 1963.

Quantitative analysis of transportation media for each crop, volume of traffic and ports' hinterlands. Problems are discussed and valuable solutions offered.

CGP

INDUSTRIAL GEOGRAPHY

1055. ADEYANJU, D.O. Transport costs and the location of industries in Ibadan — a study in industrial geography. M.A. Thesis, University of Ibadan, 1969.

TDA

1056. AJAYI, G.B. Industrial progress in Nigeria. New Africa (London) 5(12): 13-14, Dec. 1963.

Successful undertakings are enumerated and problems are stressed but too facile assessment of the expected blessings of industrialization.

1057. AKINOLA, R.A. The industrial structure of Ibadan. Nigerian Geographical Journal (Ibadan) 7(2): 115-130, Dec. 1964.

Classifies types of industries and describes their structure and problems as a case study of industrialization in developing countries.

AA
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BGI

1058. _____. Factors affecting the location of a textile industry—example of Ikeja Textile Mill. Nigerian Journal of Economic and Social Studies (Ibadan) 7(3): 245-256, Nov. 1965.

Initial consideration was solely political albeit economic factors stabilised it and promoted its growth. Problems and possible solutions briefly discussed.

AA
GA-C

1059. _____. Factors in the geographical concentration of manufacturing in Greater Lagos. Lagos Notes and Records (Lagos) 1(1): 30-47, June, 1967.

Comprehensive analysis of locational factors responsible for the rapid growth and concentration of manufacturing industries in the area.

1060. HAIR, P.E.H. Enugu, an industrial community in E. Nigeria, 1914-53. In 'West African Institute of Social and Economic Research. Conference Proceedings' (Ibadan), 1952. p.67-70.

Overgeneralized assessment; Enugu certainly did not qualify as "an industrial community" during that period.

1061. IHENACHO, Felix O. Scope for industry in Eastern Nigeria. Africa Trade and Development (London) 2(2): 10-11, Feb. 1960.

Actual and potential agricultural and mineral resources form basis of expanded industrial investments envisaged for the former Region.

1062. INDUSTRIAL estates. Nigeria Trade Journal (Lagos) 13(3): 118-124, July-Sept. 1965.

Describes the location, sizes and range of activities carried out in the major centres in Nigeria.

1063. MAJASAN, James Adeyemi. Ewekoro cement factory. Nigerian Geographical Journal (Ibadan) 4(2): 50-52, Dec. 1961.

Account of its founding, progress, economic and social impact of the factory on the area.

1064. MENIRU, G. Udegbunem. African-American co-operation; a study in tropical development; a survey of the natural resources and industrial potentialities of Nigeria. Glen Gardner, N.J. Liberatarian Press, 1954. 120p. illus.

Describes the quantity and distribution of Nigeria's agricultural, forest, animal, and mineral resources as basis for assessing actual and potential industrialization, and factors in its location and operation.

CGP.

1065. MORTON-WILLIAMS, Peter. Social consequences of industrialism among S.W. Yoruba; with comparisons from Hausa-society. In 'Proceedings, W.A.I.S.E.R. Annual Conference - Sociology Section (Ibadan), March, 1953.' p.21-30.

Studies made in Egbado Division reveal significant modifications in traditional agricultural and social order which differ from that observed in Soba village and environs.

1066. NIGRI, Eve de. Nigerian textile industry before independence. Nigeria Magazine (Lagos) No. 89: 95-101, June, 1966.

Briefly outlines variegated history of traditional weaving industry from the 10th century to 1960.

AA
CGP

1067. NWOGU, E.G.D. Nigeria's embryo industrial district. University Geographer (Ibadan) 1(1): 20-23, May, 1956.

Main characteristics of Apapa Industrial Estate described with emphasis on the economic impact and potentialities of the soap, margarine, metal containers, and beer industries.

1068. OKUNROTIFA, P.O. Manufacturing industries in Lagos, Nigeria. Professional Geographer (Lawrence, Kan.) 22(2): 62-66, March, 1970.

Briefly describes the distribution, production capacities, and geographical conditions favourable to the development of five types of large-scale modern industries in Lagos.

AA
CGP

1069. ONYEMELUKWE, C.C. Problems of industrial planning and management in Nigeria. London, Longmans, 1966. wii, 330p. tables.

Emphasizes planning as the primary step of industrialization and discusses problems involved and their possible solutions in underdeveloped countries with Nigeria as a case study.

1070. TURTON-HART, Sir Francis. The growth of the West African industry. African Affairs (London) 65(261): 281-288, Oct. 1966.

Considers the politics and economics of the pattern and growth of local manufactures in Nigeria principally, and in Ghana.

1071. UNITED Africa Company. Industrialization in Commonwealth West Africa. Statistical and Economic Review(London) No. 23: 1-41, Sept. 1959.

Basis for, development of, and locational considerations of industrialization are discussed; examples of feasible and non-feasible small-scale industries are described with examples mainly from Nigeria.

COMMERCIAL GEOGRAPHY

1072. ADABANYA, O.C. Oturkpo urban market (Idoma Division, Northern Nigeria). University Geographer (Ibadan) 3(2): 29-31, May, 1962.

Describes factors of development, organization and volume of business in a large, daily market.

1073. ADALEMO, Isaac A. The marketing of major cash crops in the Kainji Lake Basin. Ibadan, Nigerian Institute of Social and Economic Research, 1969.

CGP

1074. _____. Distribution of market centers, market periodicities, and marketing in North western Nigeria. African Urban Notes (East Lansing) 5(2): 38-57, Summer, 1970.

Reviews Hodder's earlier theory on the location of periodic markets as basis for examining effects of relocation of markets on their structures and functions in the Kainji Lake Basin area.

CGP

1075. AKINOLA, R.A. The retail structure of Ibadan, Nigeria. Sierra Leone Geographical Journal (Freetown) No.12: 45-55, 1968.

CGP

1076. ANTHONIO, Quirino Bandolo Olatunji. The supply and distribution of yams in Ibadan markets. Nigerian Journal of Economic and Social Studies (Ibadan) 9(1): 33-50, March, 1967.

Writer, an agricultural economist, stresses costs aspects whereas the geographer would find the channels and overall pattern of distribution useful.

GA-C

1077. BOHANNAN, Laura, and Paul Bohannan. Tiv markets [in Nigeria]. Transactions of the New York Academy of Sciences. Series II (New York) 19(7): 613-621, May, 1957.

AA
CGP

1078. CATTLE trade in Nigeria. Nigeria Trade Journal (Lagos) 8(3): 88-91, July-Sept. 1960.

Inter-regional cattle movements and industries dependent on them face certain problems which are briefly discussed.

1079. GUSTEN, Rolf. Studies in the staple food trade of Western Nigeria. Munich, Ibadan, NISER and Ifo - Institute for Economic Research, 1968. 310p. illus. diagrs. maps, tables.

Most relevant to geographers is the section which discusses volume, origins and destinations of foodstuffs in Western Nigeria defined to include Midwestern and Lagos states.

1080. HAY, A.M. and R.H.T. Smith. Preliminary estimates of Nigeria's interregional trade and associated money flows. Nigerian Journal of Economic and Social Studies (Ibadan) 8(1): 9-36, March, 1966.

Estimates of the volume, value and payments for transport services involved in interregional trade in locally-produced goods consumed in Nigeria.

1081. _____. Interregional trade and money flows in Nigeria, 1964. Ibadan, published for N.I.S.E.R. [by] Oxford University Press, 1970. 245p.

CGP

1082. HODDER, B.W. The Yoruba rural market ring. Research Notes (Ibadan) No. 12: 29-36, Feb. 1959.

Preliminary facts and ideas about the operation of the 'Akinyẹle market ring' between Ibadan and Ọyọ are presented.

CGP
BGI

1083. HODDER, B.W. The growth of trade at Lagos (Nigeria). Tijdschrift voor Economische en Social Geografie (Rotterdam) 50(10): 197-202, Oct. 1959.

Analyses very briefly geographical factors in its growth from 1740 to date with emphasis on its changing rôles as a port, and rail terminus.

CGP

1084. _____. Rural periodic day markets in part of Yorubaland, Western Nigeria. Transactions, Institute of British Geographers (London) No. 29: 149-159, 1961.

Presents the 'ring' system as it operates in rural periodic day markets between Ibadan and Ọyọ towns.

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1085. _____. The Yoruba rural market. In 'Markets in Africa. Edited by P. Bohannan and G. Dalton'. Evanston, Ill., Northwestern University Press, 1962. p.103-117.

Based on fieldwork done between Ibadan and Ọyọ it carefully analyses the structure and socio-economic functions of mainly the Akinyẹlẹ Rural Market Ring north of Ibadan.

BGI

1086. _____. Markets in Yorubaland. Ph.D. Thesis, University of London, 1963.

Same, materially, as his 1969 contribution to a book.

1087. _____. Markets of Ibadan. In 'Ibadan in the changing Nigerian scene.' Ibadan, Institute of African Studies, 1964. p.91-103.

Analyses their locational and distributive functions within the city's economy, with particular emphasis on Ọjẹ and Gẹgẹ—Oritamẹrin—Ọja'ba market complexes.

1088. _____. Distribution of markets in Yoruba-land. Scottish Geographical Magazine (Edinburgh) 81(1): 48-58, April, 1965.

Classifies Yoruba markets into 'periodic' and 'daily', with subtypes, and describes their structure, distribution and relative economic importance.

AA
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1089. HODDER, B.W. The markets of Ibadan. In 'The city of Ibadan.' Edited by P.C. Lloyd, A.L. Mabogunje /and/ B. Awe. London, C.U.P., 1967. p.173-190.

Exactly same in content as the earlier mimeographed article of same title.

CGP
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1090. _____. Markets in Yorubaland. In 'Markets in West Africa by B.W. Hodder and U.I. Ukwu.' Ibadan, Ibadan University Press, 1969. p.3-109.

Based on his doctoral thesis of identical title, it describes and analyses market institutions in Yorubaland thereby demonstrating their significance in understanding the socio-economic life of the people.

NGLM

1091. HOUDE, Pierre. The Umuahia market. Nigerian Geographical Journal (Ibadan) 8(2): 143-151, Dec. 1965.

Outline of a questionnaire field work project carried by Sixth Form students of Umuahia Government College.

AA

1092. JONES, G.C.I. The beef-cattle trade in Nigeria. Africa (London) 16(1): 29-38, Jan. 1946.

Describes the volume and directions of cattle movements, with particular emphasis on the Umuahia distribution centre.

CGP
BGI

1093. KEHINDE, G.O. Egba rural market /Nigeria/. Geographical Journal (Newcastle-upon-Tyne) 15: 60-65, May, 1964.

Structure and operation of rural markets in Egba Division described.

CGP

1094. LOVEJOY, Paul E. The wholesale kola trade of Kano. African Urban Notes (East Lansing) 5(2): 129-142, Summer, 1970.

Demonstrates the significance of the kola trade to Kano and how Hausa traders have successfully responded to new economic opportunities brought about by improved transportation between 1900 and 1970.

CGP

1095. MABOGUNJE, Akinlawon L. The market woman. Ibadan (Ibadan) No. 11: 14-17, Feb. 1961.

Illustrates the economic and social significance of the average Nigerian woman's proponsity for trade.

AA

1096. NTUKIDEM, A.E. Rural markets in Nigeria. University Geographer (Ibadan) 3(2): 27-29, May, 1962.

Depicts their major characteristics with examples from Katcha (north of Baro), Oyo-Ibadan area, Itu District (Calabar Province), and Maiduguri.

1097. NZEKWU, Onuora. Banda; the secret of Ibo concentration in Maiduguri. Nigeria Magazine (Lagos) No. 79: 248-253, Dec. 1963.

Inter-and intra-regional trade in smoked-dry fish from Lake Chad involving significant population movements.

AA

1098. ONAKOMAIYA, Samuel. Marketing channels for selected delicacy foodstuffs in Nigeria. African Urban Notes (East Lansing) 5(2): 64-85, Summer, 1970.

Analyses and discusses seven principal factors that influence the distributive costs and marketing channels for kola nuts, onions, oranges, dried meat and dried fish in Nigeria.

CGP

1099. ONAKOMAIYA, Samuel. Marketing of kola and other food crops in Nigeria. Ph.D. Dissertation, University of Wisconsin, 1970.

1100. ONITSHA market. Nigeria Trade Journal (Lagos) 5(3): 88-91, July-Sept. 1957.

New market, whose layout is described, enhances Onitsha's nodal position as Iboland's commercial centre.

1101. ONYEMELUKWE, J.O.C. Staple foods trade in Onitsha market: an example of urban market distribution function. Ph.D. Thesis, University of Ibadan, 1970.

Detailed analysis of the sources, routes to the market, prices and financing, and consumption patterns of the major foodstuffs sold in Onitsha market.

TDA

1102. _____. Aspects of staple foods trade in Onitsha market. Nigerian Geographical Journal (Ibadan) 13(2), 121-139, Dec. 1970.

Examines in detail methods of entering the trade and the formal and informal institutions through which capital for financing it is raised.

CGP

1103. OTTENBERG, Simon O. and Phoeb Ottenberg. Afikpo markets 1900-1960. In "Markets in Africa" by P.J. Bahannan and G. Dalton. /Evanston/. Northwestern University Press, 1962. p.118-169. (Northwestern University African Studies, no.9).

Analyse the origins, development and pattern of trade stressing the important factors that make markets so significant in the socio-economic study of the area. Primarily an anthropological survey.

BGI

1104. R.G. The crisis and interregional trade. Nigerian Opinion (Ibadan) 2(11): 124-126, Nov. 1966.

Advances six reasons for the growing volume of interregional exchange of foodstuffs and explains the adverse effects of the crisis on its distributional and economic aspects.

1105. SCOTT, Richenda. Production for trade. In 'The native economies of Nigeria. Edited by M. Perham.' London, Faber & Faber, 1946. p.217-291. (The economics of a tropical dependency, vol. 1).

Examines the volume and distribution of production, patterns, value and future of Nigeria's major cash crops and the livestock industry.

CGP
BGI

1106. SMITH, Sidney R. Markets and marketing in Nigeria. Empire Cotton Growing Review (London) 6(4): 315-325, Oct. 1929.

1107. UKWU, Iguwe Ukwu. Markets in Iboland, Eastern Nigeria. Unpublished Ph.D. Thesis, Cambridge University, 1965. xvi, 349 l. plates.

Same, materially, as his contribution to a 1969 book.

AIT
UKPT

1108. _____. Markets in Iboland. In "Markets in West Africa." Ibadan, Ibadan University Press, 1969. p.113-250.

Based also on his doctoral thesis of identical title it traces the origins, distribution, and development of markets in Iboland, examines their relative importance in the commercial exchange system, and analyses the functional aerial relationships resulting from marketing activity.

NGLM

1109. WEST Africa's largest market [Onitsha]. Nigeria Magazine (Lagos) No. 65: 133-147, June, 1960.

Description of the origins, physical lay-out, and economic and social impact of the reconstructed market on Onitsha area in particular, and the country at large.

URBAN GEOGRAPHY

1110. ABIODUN, Josephine O. Urban hierarchy in a developing country. Economic Geography (Worcester, Mass). 43(4): 347-367, Oct. 1967.

Using quantitative techniques, five distinct groups in a hierarchy of settlements are identified and discussed in Ijebu Province, Western Nigeria.

AA
CGP
NGLM
GA-D

1111. ADENLE, J.A., and others. Structure of a Nigerian town: outline development proposals for Iwo, 1969-1989. Ibadan, Ministry of Lands & Housing, 1969. 67p.

Comprehensive geographical appraisal of the town precedes detailed outline of its plan proposals.

1112. AGBOOLA, 'Bade Adeniyi. Rural-urban relationship in Western Nigeria. University Geographer (Ibadan) 8: 23-29, June, 1967.

Analyses the evolution of Yoruba urban and rural settlements, and describes some economic, social and cultural relationships between them.

1113. AKINOLA, R.A. Ibadan; a study in urban geography. Ph.D. Thesis, University of London, 1963.

AIT
UKPT

1114. _____. The Ibadan region. Nigerian Geographical Journal (Ibadan) 6(2): 102-115, Dec. 1963.

Defines the 'city region' as applied to Ibadan and describes its cultural, administrative, economic and commercial interrelationships.

AA
NGLM

1114. AKINOLA, R.A. The growth and development of Ibadan, the largest Yoruba town. Bulletin, Ghana Geographical Association 11(1): 48-63, 1966.

GA-D

1116. _____. Flood problems in Ibadan, Western Nigeria. Nigerian Geographical Journal (Ibadan) 9(2): 101-113, Dec. 1966.

Examines factors responsible for the 1963 flood, its effects on the cultural landscape and how a recurrence could be prevented.

CGP
NGLM

1117. _____. The problems of town planning in Nigeria: the example of Ibadan. In 'Proceedings, Staff Seminars of the African Studies Division of the Faculty of Arts, University of Lagos, Nigeria, 1966-1967 Session.' p.121-139.

Analyses problems of housing and health, lack of effective development control, inadequate public amenities and traffic congestion, and suggests ways of remedying them.

1118. _____. Problems of urban development in Nigeria - the example of Ibadan. Bulletin, Ghana Geographical Association (Accra) 12(1): 7-22, 1967.

Outlines deficiencies in housing, health, public amenities and traffic congestion and offers short-term palliatives before 'ideal' solutions could be found.

GA-D
BCI

1119. _____. Urban tradition in Yorubaland. Nigeria Magazine (Lagos) No.95: 344-350, Dec. 1967.

Examines some problems of differentiating Yoruba towns from villages on a functional basis although he admits the uniqueness and validity of Yoruba urbanism.

AA

1120. AKINRINMADE, R.O. Another form of urban settlement. University Geographer (Ibadan) 4: 9-10, May, 1963.

Description of urban-rural connections involving Idanre and surrounding villages.

1121. ALI, I. Analysis of the growth and structural function of Abiriba town: a sample study in rural settlement in Umuahia Province, Eastern Nigeria. University Geographer (Ibadan) (Ibadan) 4: 15-23, May, 1963.

Factors in its location are mainly physical, while its nucleated structure is best explained in cultural terms; both aspects are described in some detail.

1122. ALUKO, T.M. Problems of urbanization; example of the Federal capital of Lagos. Revue Française No. 184: 29-33, Jan. 1966.

1123. AMUGBANITE, Tony. Enugu-city of coal. West African Review (London) 30(376): 22-4, Jan. 1959.

Narrates how the town was founded on coal and describes the population and economy that have developed on the mineral.

AA

1124. ATTAH, Effiong B. Nsukka: an emergent urban community. In 'Nsukka Division: a geographical appraisal. Edited by P.K. Sircar.' Nsukka, University of Nigeria, Department of Geography, 1965. p.101-110.

Discusses socio-cultural and physical changes that the presence of a university has brought to a rural community.

1125. BARBOUR, K.M. The changing nature of urban geography in the English-speaking world; a review article based on 'Urbanization in Nigeria' by A.L. Mabogunje, and 'Urbanization and its problems, essays presented to E.W. Gilbert, Ed. by R.P. Beckinsale and J.M. Houston.' Nigerian Geographical Journal (Ibadan) 12(1 & 2): 145-150, Dec. 1969.

The second part of the review (p.148-150) dealing with Mabogunje's book is a most scholarly presentation of the author's achievements and difficulties.

1126. BASCOM, William. Urbanization among the Yoruba. American Journal of Sociology (Chicago) 60(5): 446-454, Sept. 1955.

Analyses the origins, and the economic basis of Yoruba pre-colonial cities, stressing their social structure and functions.

AA

1127. BASCOM, William. Yoruba urbanism; a summary. Man (London) 58(253): 190-191, Dec. 1958.

Description of major characteristics based on his 1955 article.

AA

1128. _____. Urbanism as a traditional African pattern. Sociological Review. New series (Keele, Eng.) 7(1): 29-43, July, 1959.

Essentially an historical and functional analysis of Yoruba traditional urban agglomerations.

NGIM
BGI

1129. _____. Some aspects of Yoruba urbanism. American Anthropologist (Menasha, Wisconsin) 64(4): 699-709, Aug. 1962.

Investigates the relationship of degree of urbanism as measured both by the size of the twelve largest Yoruba cities and by the index of urbanization of the eight Yoruba areas of Nigeria, to population, density, ethnic diversity, sex ratio, occupational distribution, percentage of males of employable age, etc.

AA

1130. BEIER, H. Ulli. Changing face of a Yoruba town. Nigeria Magazine (Lagos) No.59: 373-382, Sept. 1958.

Largely pictorial illustration of the changing morphology of Erin, six miles from Ẹdẹ.

1131. _____. Oshogbo, portrail of a Yoruba town. Nigeria Magazine (Lagos) No. 66: 94-102, Oct. 1960.

General commentary on the history, layout, people, and cultural life of the town.

AA

1132. BLUE, A.D. West African boom town; Ibadan, bustling capital of Western Nigeria. African World (London) p.11-12, July, 1957.

Combined economic, political and cultural factors make Ibadan a veritable 'melting-pot'.

AA

1133. BOOKER, A. Sokoto - an impression. Nigerian Teacher (London) No. 10: 18-19, April, 1937.

Poetic description of the terrain and people of the ancient city.

1134. CALABAR, Nigeria (Lagos) No. 52: 70-98, 1956.

Relates the historical and cultural geography of the town and its inhabitants.

AA

1135. CAMPBELL, M.J. and J. Wilson, eds. The report of the conference on problems of urbanization in Northern Nigeria. Zaria, Ahmadu Bello University, 1963. 30p.

1136. CHANGING the face of Lagos. Nigeria Trade Journal (Lagos) 7(3): 104-111, July-Sept. 1959.

Slum clearance and reclamation of swamps provide valuable land for re-development spearheaded by the Lagos Executive Development Board.

1137. COMHAIRE, Jean. Leopoldville, Lagos, and Port au Prince; some points of comparison. In 'Nigerian Institute of Social and Economic Research. Conference proceedings' (Ibadan), 1960. p.73-78.

Compares and contrasts the morphology, population distribution, and demographic characteristics of Lagos and Leopoldville (Kinshasha), with brief sample features of the Afro-American city of Port au Prince.

CGP

1138. CRAIG, O. Urban planning in Lagos. Journal of the Society of Health (Lagos) 2(1): 29-31, Jan. 1967.

Outlines the growth of Lagos, emphasizing the importance of demographic factors in urban planning followed by a brief discussion of the nature and growth of slums and attempts to stemm them.

AA

1139. DOUTRÉ, N.H. Kano - ancient and modern. Geographical Magazine (London) 36(10): 594-602, Feb. 1964.

Describes rapid social and economic changes going on in and around the city walls.

1140. DUNBAR, G.S. Land and people in the Kano close-settled zone. Geographical Review (New York) 57(2): 265-267, April, 1967.

Draws attention to changes in population densities and land-use within the old city of Kano and reviews some relevant geographical publications on it.

BGI

1141. ENUGU, capital of the Region. Enugu, Government Printer, /1955/ 7p. illus. map.

Brief description of major tourist features illustrated with a large-scale map.

1142. FADEYI, Gabriel Ayodeji. The growth and decline of Badagry: a geographical analysis. M.A. Thesis, University of Lagos, 1969.

Analysis of historico-geographic factors that have contributed to the socio-economic prosperity and decadence of Badagry. Prospects for future briefly discussed.

TDA

1143. FEILBERG, C.G. Ibadan, the capital of Western Nigeria. Kulturgeografi (Kobenhavn) 10(59): 77-91, Oct. 1958.

Analyses physical, historical, and cultural factors that encouraged its founding and growth, followed by description of the city's morphology and urban dynamics.

CGP
BGI

1144. GEOGRAPHICAL Society, University of Ibadan. Vom - settlement pattern, population, and land use. University Geographer (Ibadan) 9 & 10: June, 1969.

Broad, brief description.

1145. GODDARD, Stephen. Town-farm relationships in Yorubaland: a case study from Ọyọ. Africa (London) 35(1): 21-29, Jan. 1965.

Study of a particular compound within Ọyọ town and Ọyọ generally; most of the conclusions reached are applicable to similar economies in Yorubaland.

AA
UKPT
BGI

1146. GODDARD, Stephen. Ọyọ; a Yoruba town and its rural hinterland: M.A. Thesis, University of Birmingham, 1969.

AIT

1147. GODWIN, John. Lagos views. Nigeria Magazine (Lagos) No.61: 90-103, 1959.

Complementary to Jack W. Murray's earlier 'Old houses of Lagos' published in same Magazine.

1148. GRIFFIN, Donald W. Urban development in Africa: the case of Lagos. California Geographer (Long Beach) 8(1): 37-46, 1967.

Evaluates the Central Lagos Slum Clearance Project within the broader setting of African urbanization, with particular emphasis on immigration and natural population increase.

BGI

1149. GWYNNE-JONES, D.R.G. A picture of New Idanre. Nigerian Geographical Journal (Ibadan) 1(2): 44-45, Dec. 1957.

Brief description of the town based on a picture taken by the author.

1150. H.C.K. Capital cities and the accumulation of functions. Nigerian Opinion (Ibadan) 3(5 & 6): 206-207, May & June, 1967.

Pleads for a halt in the increasing accumulation of commercial, industrial and educational functions in Lagos and Ibadan.

1151. HEADS, J. Urbanization and economic progress [in Nigeria]. Ibadan, 6th Conference Proceedings of Nigerian Institute of Social and Economic Research, December, 1958. p.65-73.

Examines the relationship between urbanization and a rising level of real income per head, concluding that urbanization in Nigeria within the previous thirty years "must be regarded as the consequence of economic progress."

1152. HOFFMANN-BURCHARDI, Holmut. The Yoruba towns in southwest Nigeria. Erdkunde (Bönn) 18(3): 206-235, Oct. 1964.

Emphasizes the distinctiveness in the morphology and social structure of Yoruba precolonial urban centres.

CGP
NGLM
BGI

1153. HOPPÉ, E.O. Kano in Hausaland. Canadian Geographical Journal (Montreal) 38(1): 39-47, Jan. 1949.

Brief but most subjective general statements about the Hausas precede journalistic description of the city as a commercial centre.

CGP

1154. ILỌRIN. Nigeria Magazine (Lagos) No. 49: 148-167, 1956.

Portrays Ilọrin as important cultural and agricultural diffusion centre by virtue of its location and environment in relation to the northern and southern parts of the country.

1155. INGMAN, V.E. Idanre - a geographical study of a Yoruba town. M.A. Thesis, University of Wales, 1967.

1156. JACK, W. Murray. Old houses of Lagos. Nigeria (Lagos) No. 46: 96-117, 1955.

Pictorial analysis of the origins, distribution and architecture of 'Brazilian' and 'colonial' houses on Lagos island.

1157. JENNINGS, J.H. Enugu - a geographical outline. Nigerian Geographical Journal (Ibadan) 3(1): 28-38, Dec. 1959.

Describes the urban morphology, social and economic functions, and its relationship with surrounding regions.

AA
CGP
NGLM
BGI

1158. JOHNSON, A.W. Abeokuta. Nigerian Geographical Journal (Ibadan) 6(2): 89-95, Dec. 1963.

Describes its origin and growth as an important social and economic centre in Western Nigeria, especially since the 1930s.

AA
CGP

1159. KANO—traffic centre of Africa. Nigeria Trade Journal (Lagos) 5(2): 59-65, April-June, 1957.

Examines the basis of Kano City being Nigeria's great industrial, commercial and transportation focal point.

1160. KOENIGSBERGER, Otto and others. Metropolitan Lagos ... New York, United Nations Commission for Technical Assistance, 1964. viii, 306p. diagrs. maps, tables.

Team identifies and discusses ten groups of problems - all reflecting a rapid population growth - as basis of recommendations of economic utilization of limited physcial and human resources.

1161. LEOPOLDVILLE and Lagos; comparative study of urban conditions in 1960. Economic Bulletin for Africa (Addis Ababa) 1(2): 50-65, June, 1961.

Describes in general terms similarities and differences in the development, morphology social and economic structures of both cities.

1162. LIM, H.K. An analysis of the Central Business District in Ibadan. M.A. Thesis, University of Ibadan, 1968. x, 305 l.

Analyses its evolution and functional dynamics.

TDA

1163. LLOYD, P.C. The Yoruba town today. Sociological Review. New series (Keele, Eng.) 7(1): 45-63, July, 1959.

Briefly describes the impact of economic and political developments on the social groupings and morphology of the towns.

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BGI

1164. LLOYD, P.C. Yoruba towns. Ibadan (Ibadan) No. 9. 26-29, June, 1960.

Describes their evolution, structure and function.

1165. LLOYD, P.C., A.L. Mabogunje [and] B. Awe, eds. Ibadan in the changing Nigerian scene. Ibadan, Institute of African Studies, 1964.

Series of essays on physical and socio-economic changes in the traditional city.

1166. _____. The city of Ibadan. London, Cambridge University Press, 1967.

Series of essays on the socio-economic and physical aspects of the city.

CGP
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1167. LOCK, Max and Partners. The geographic, climatic and regional setting. In their 'Kaduna 1917, 1967, 2017: a survey and plan ...' London, Faber & Faber, 1967. p.19-22.

Brief account of its location, peoples and physical characteristics.

NGLM

1168. _____. The present pattern of land-use. In their 'Kaduna 1917, 1967, 2017: a survey and plan ...' London, Faber & Faber, 1967. p.91-100.

Detailed analysis of all categories of land, examining particularly problems of distribution of undeveloped areas to optimum land utilization planning.

NGLM

1169. _____. Regional communications. In their 'Kaduna 1917, 1967, 2017: a survey and plan ...' London, Faber & Faber, 1967. p.36-41.

Examines Kaduna's road, rail and air communications networks in both regional and national settings, their impact on town's urban structure, and suggests improvements.

NGLM

1170. M.W.K. The city of Sokoto III. Corona (London) 2(5): 187-189, May, 1950.

Outline of some of its economic problems and how they were being tackled.

1171. MABOGUNJE, Akinlawon L. Ibadan - black metropolis. Nigeria Magazine (Lagos) No. 68: 12-26, March, 1961.

Historical backgrounds, locational significance at border zone between forest and grassland, and topography are described as basis of urban structure of Ibadan.

AA
CGP

1172. _____. Lagos - Nigeria's melting pot. Nigeria Magazine (Lagos). No. 69: 128-155, Aug. 1961.

Gives the historical, economic and political basis for the heterogeneity of its population and describes the major land-use developments particularly since 1861.

1173. _____. Lagos, a study in urban geography. Ph.D. Thesis, University of London, 1961. ix, 285 l.

Examines its growth and development from seventeenth century to 1960 and analyses its urban land-use structures and pattern of traffic circulation as of 1960.

AIT
UKPT

1174. _____. The growth of residential districts in Ibadan. Geographical Review (New York) 52(1): 56-77, Jan. 1962.

Analyses the growth of Ibadan by fission and spatial expansion, and describes the structure of seven types of residential districts distinguished.

CGP
NGLM
BGI

1175. MABOGUNJE, Akinlawon L. Yoruba towns; based on a lecture entitled 'Problems of a pre-Industrial urbanization in West Africa' given before the Philosophical Society, University College, Ibadan, on 12 April, 1961. Ibadan, Ibadan University Press, 1962. 22p. illus. diagrs. plans, plates.

Traces history and uniqueness of Yoruba towns, their morphology and problems, and how they may be solved.

CGP
NGLM
BGI

1176. _____. The evolution and analysis of the retail structure of Lagos, Nigeria. Economic Geography (Worcester, Mass.) 40(4): 304-327, Oct. 1964.

Discusses the origin, structure and organization of retailing in Lagos, and the important rôle played by markets and women in the business.

CGP
NGLM

1177. _____. Urban landscape of Ibadan. In 'Ibadan in the changing Nigerian scene'. Ibadan, Institute of African Studies, 1964. p.21-32.

Shows how the convergence of two different traditions of urbanism has shaped the complex socio-economic dichotomy within the city making for an increasingly complex morphology.

1178. _____. The economic implications of the pattern of urbanization in Nigeria. Nigerian Journal of Economic and Social Studies (Ibadan) 7(1): 9-30, March, 1965.

Advances four hypotheses of urbanization and applies factor analysis to test each in the Nigerian situation using 1952 census returns. Briefly discusses implication of resultant pattern for economic development.

AA
GA-D
GA-C
BGI

1179. MABOGUNJE, Akinlawon L. Urbanization in Nigeria - a constraint on economic development. Economic Development and Cultural Change (Chicago) 13(4 pt.1): 413-438, July, 1965.

Demonstrates that the relation between urbanization and economic development has been complex and variable, involving a bewildering pattern of 'urbanization' and 'de-urbanization', of movements in and out of towns, and of various levels of adjustments to new economic conditions.

AA
CGP

1180. _____. African cities and some theoretical underpinings in urban geography. In 'Africa in the wider world. Edited by D. Brokensha and M. Crowder.' Oxford, Pergamon Press, 1967. p.163-186.

Analyses the hierarchical distribution and organization of pre-European urban centres in Northern Nigeria as compared with similar observations in Europe. Only pages 169-179 are directly relevant to Nigeria.

1181. _____. The morphology of Ibadan. In 'The city of Ibadan. Edited by P.C. Lloyd, A.L. Mabogunje /and/ B. Awe'. C.U.P., 1967. p.35-56.

Exactly same in content as his earlier mimeographed article: 'Urban landscape of Ibadan'.

CGP
NGLM
GA-D
BGI

1182. _____. The problems of a metropolis. In 'The city of Ibadan. Edited by P.C. Lloyd, A.L. Mabogunje /and/ B. Awe'. C.U.P., 1967. p.261-271.

Assesses Ibadan's administrative and functional capacity to stimulate and maintain increased socio-economic activities which the city is destined to witness.

CGP
NGLM
GA-D
BGI

1183. MABOGUNJE, Akinlawọn L. Stranger communities A.' The Ijọbu. In 'The city of Ibadan. Edited by P.C. Lloyd, A.L. Mabogunje /and/ B. Awẹ'. C.U.P., 1967. p.85-95.

Describes the origins, residential locations and socio-economic organization and functions of Ijọbu immigrants to Ibadan.

CGP
NGLM
GA-D
BGI

1184. _____. Research in urban geography in Nigeria. Nigerian Geographical Journal (Ibadan) 11(2): 101-114, December, 1968.

Scholarly bibliographic resumé of achievements and problems in research activity directed along five major lines. Citations heavily based on work done at Ibadan University.

CGP
NGLM
GA-D
BGI

1185. _____. Urban land-use problems in Nigeria. Institute of British Geographers. Special Publications (London) No. 44: 203-218, 1968.

CGP

1186. _____. Urbanization in Nigeria. London, London University Press, 1968. 353p. illus. plates.

Scholarly work that embodies all, and much more, of the author's contribution to pre-European and modern urbanization in Nigeria with a difficult statistical factoral analysis of their pattern and problems; Ibadan and Lagos receive especial attention.

CGP
NGLM
BGI

1187. _____. Industrialization within an existing system of cities in Nigeria. Nigerian Geographical Journal (Ibadan) 12(1 & 2): 3-16, Dec. 1969.

Reviews some dynamics of urban location and growth as basis for sound industrial planning and development in post-war Nigeria.

AA
NGLM

1188. MABOGUNJE, Akin L. and M.O. Oyawoye. The problems of the northern Yoruba towns: the example of Shaki. Nigeria Geographical Journal (Ibadan) 4(2): 2-10, Dec. 1961.

Evaluates Shaki's problems of changed locational characteristics, of site, and of an attenuated economic base. Possible solutions briefly discussed.

AA
CGP
BGI

1189. McDONELL, Gavan. The dynamics of geographic change: the case of Kano. Annals, Association of American Geographers (Lawrence, Kansas) 54(3): 355-371, Sept. 1964.

Narrates how Kano has been economically and politically adaptive to changes since the tenth century.

AA
CGP
NGLM
BGI

1190. MacROW, D.W. Ilorin. Nigeria (Lagos) No. 49: 148-167, 1956.

Account of the historical, economic and social life of an essentially agricultural community.

1191. MAIR, L.P. Some inplications of economic change in Nigeria. Nigerian Journal of Economics and Social Studies (Ibadan) 1(1): 8-16, May, 1959.

Analyses socio-political problems of urbanization and their implications on town planning. No solutions are offered.

1192. MELVIN, Ernest E. Native urbanism in West Africa. Journal of Geography (Chicago) 60(1): 9-16, Jan. 1961.

Rather superficial and inaccurate analysis of pre-European urban settlement types and functions; gives examples from Nigeria and Ghana.

CGP

1193. MILLER, N.S. Aspects of the development of Lagos. Nigerian Field (London) 28(4): 149-172, Oct. 1963.

Beautifully illustrated historico-geographical account, with five useful maps depicting land-use changes from 1500 to 1961.

1194. _____. The beginning of modern Lagos. Nigeria Magazine (Lagos) No.69: 107-121, August, 1961.

Historical background to the changing land-use patterns and present morphology of Lagos Island.

1195. MILLER, Ronald. Katsina, a city of the desert border. Geography (Sheffield) 22(118): 282-292, Dec. 1937.

Relates the structure, cultural and economic functions of the city to environmental conditions and historical antecedents.

CGP

1196. MINER, Horace M. Urban influences on the rural Hausa. In 'Urbanization and migration in West Africa. Edited by Hilda Kuper.' Berkeley Cal., University of California Press, 1965. p.110-130.

Examines the extent to which the urbanizing influences of colonialism, which began from southern Nigeria, spread to Hausa-land in the north.

1197. MITCHEL, N.C. Some comments on the growth and character of Ibadan's population. Research Notes (Ibadan) No. 4: 2-15, Dec. 1953.

Discusses the evolution, structure and problems of Ibadan's teeming population in relation to its increasingly limited physiographic conditions.

CGP
BGI

1198. _____. The Nigerian town: distribution and definition. Research Notes (Ibadan) No. 7: 1-13, April, 1955.

Based on 1952 census returns, it describes growth, distribution and classification of urban areas, with a discussion on approaches to defining 'the urban area.'

CGP
NGLM
BGI

1199. MITCHEL, N.C. Yoruba towns. In 'Essays on African population. Edited by K.M. Barbour and R.M. Prothero.' London, Routledge & K. Paul, 1961. p.279-301.

Evolution, character and uniqueness of Yoruba urbanization are described with Ibadan as typical example.

CGP
BGI

1200. MOODY, H.L.B. Ganuwa: the walls of Kano City. Nigeria Magazine (Lagos) No. 92: 19-38, March, 1967.

Gives a detailed description of the walls, stressing its historical, political and economic significance in Kano.

AA
CGP

1201. MORGAN, W.B. The grassland towns of Eastern Region of Nigeria. Transactions, Institute of British Geographers (London) No. 23: 213-224, 1957.

Their origin, growth, morphology and functions are described, and their place among other Ibo settlements discussed.

AA
CGP
NGLM
BGI

1202. _____. A picture of part of Lagos island. Nigerian Geographical Journal (Ibadan) 2(1): 54-55, June, 1958.

Short description of the northern side based on an air photograph.

1203. MORTIMORE, Michael J. Land use in Kano City and township; a map on the scale 1: 12,500 in two sheets based on air photography (1962) and ground checks, with a commentary. /Being/ a Report to the Greater Kano Planning Authority. Zaria, Ahmadu Bello University, 1966. ii, 10p. maps, table. (Ahmadu Bello University. Dept. of Geography. Occasional paper no. 3).

Brief commentary on features revealed by the maps.

CGP
NGLM

1204. MORTIMORE, Michael J. Population densities and rural economies in the Kano Close-Settled Zone, Nigeria. In 'Geography and a crowding world; a symposium on population pressures upon physical and social resources in the developing lands.' Edited by Wilbur Zelinsky, L.A. Kosinski (and) R.M. Prothero. New York, Oxford University Press, 1970. p.380-388.

Based on data from five sample areas the study describes and analyses the intricate relationships in an area of unusually high population densities and its land-use patterns.

1205. _____. Some aspects of rural-urban relations in Kano, Nigeria. Paper submitted to the 'Colloque International du C.N.R.S. La Croissance urbaine en Afrique noire et à Madagascar' [Bordeaux, 1970].

Analysis of the symbiotic system that perpetuates a region of dense population and intensive year-round agriculture.

1206. NIGERIAN cities and towns: Lagos. Nigeria Trade Journal (Lagos) 13(3): 125-130, July-Sept. 1965.

General account of a few major socio-economic activities.

1207. _____: Kaduna, Kano and Zaria. Nigeria Trade Journal (Lagos) 14(1): 19-24, Jan.-March, 1966.

Spotlights their changing faces.

1208. _____: Ibadan and Ife. Nigeria Trade Journal (Lagos) 14(2): 79-86, April-June, 1966.

Stress on social services and economic infrastructure.

1209. _____: Enugu, Port Harcourt and Onitsha. Nigeria Trade Journal (Lagos) 14(3): 135-141, July-Sept. 1966.

Economic and social functions described.

1210. _____: Benin, Sapele and Warri. Nigeria Trade Journal (Lagos) 14(4): 187-194, Oct.-Dec. 1966.

Stress is on commerce and industries.

1211. NIVEN, C.R. Kano in 1933. Geographical Journal (London) 82(4): 336-343, Oct. 1933.

General account of the physical features, political and economic life within and outside the city.

1212. NZEKWU, J. Onuora. Onitsha. Nigeria (Lagos) No. 50: 200-223, 1956.

Historical account of the peopling of its present site and a description of the peoples' cultures and traditions.

AA

1213. OBATERU, Oluremi I. and Barry N. Floyd. The 'Holy City' of Aiyetoro: a geographic appraisal. Bulletin, Ghana Geographical Association (Accra) 12: 65-79, 1967.

Founded in 1947 by a dynamic religious sect, Aiyetoro people practise communalism and pursue a policy of economic self-sufficiency in an effort to solve the problems of the town's geographic environment.

GA-D
BGI

1214. OGBUAGU, Bob. Enugu--coal town. Nigeria Magazine (Lagos) No. 70: 241-251, Sept. 1961.

Enugu owes its origin and development since 1910 to the coal industry.

AA
CGP

1215. OHADIKE, P.O. Urbanization growth transitions and problems of a premier West African city, Lagos, Nigeria. Urban Affairs 3(4): 69-90, 1968.

BGI

1216. OJO, Gabriel Jimoh Afolabi. Hausa quarters of Yoruba towns, with special reference to Ile-Ife /Nigeria/. Journal of Tropical Geography (Singapore) 27: 40-49, Dec. 1968.

Based on house to house survey and questionnaire, it analyses the social and occupational structure of the 'Sabongari' Quarter of Ile-Ife.

CGP
NGLM

1217. OJO, Gabriel Jimoh Afolabi. Development of Yoruba towns in Nigeria. Ekistics (Athens) 27(161): 243-247, April, 1969.

Explores the structural functions of traditional urban centres, influence of traditional variations between towns, traditional and modern areas within towns, and recent changes in urban patterns.

CGP
GA-D
BGI

1218. OKONJO, C. Western Ibos in Ibadan. In 'Seminar on Ibadan in the changing Nigerian scene.' Ibadan, Institute of African Studies, 1964. p.53-70.

Examines in some detail the social life and organization of Western Ibo migrants in Ibadan since the 1920s.

1219. _____. Stranger communities. B. The Western Ibo. In 'The city of Ibadan.' Edited by P.C. Lloyd, A.L. Mabogunje and B. Awe. C.U.P., 1967. p.97-116.

Exactly same in content as his earlier mimeographed article: 'Western Ibos in Ibadan'.

CGP
NGLM
GA-D
BGI

1220. OKOYE, T.O. Nsukka as an urban centre. In 'Nsukka Division: a geographical appraisal. Edited by P.K. Sircar,' Nsukka, University of Nigeria, Department of Geography, 1965. p.89-100.

Administrative functions and the siting of a university there have transformed former Nsukka villages into a growing urban centre whose structural functions are described.

1221. OLOKO, Olatunde. A tale of 4 cities. Nigeria Magazine (Lagos) No. 66: 83-93, Oct. 1960.

Illustrated brief account of the origins, growth, and socio-economic life of Lagos, Ibadan, Enugu and Kaduna.

1222. OLUSA, Kay. Nigerian towns. University Geographer (Ibadan) 7: 13-17, June, 1966.

Outline of types, structure, distribution and their evolution.

1223. OLUSANYA, P.O. The Sabon-Gari system in the northern states of Nigeria. Nigeria Magazine (Lagos) No. 94: 242-248, Sept. 1967.

Outlines the origin and influence of different settlement areas for natives and strangers on the socio-political and economic life of northerners and southerners.

AA
CGP

1224. _____. The problem of rural-urban migration in Nigeria. Nigerian Opinion (Ibadan) 4(10-11): 368-369, Nov.-Dec. 1968.

Argues that introduction of labour-intensive agriculture in rural areas is not the answer to the 'high potential rural migrants' who would move in any event.

1225. _____. Socio-economic aspects of rural-urban migration in Western Nigeria. Ibadan, NISER, June, 1969. vi, 164p. illus. diagrs. tables.

Based on questionnaire interviews, it examines some demographic and socio-economic correlates of mass emigration from five sample villages in the forest and derived savannah areas.

1226. ONIBOKUN, Gabriel Adepoju. Socio-cultural constraints on urban renewal policies in emerging nations: the Ibadan case. Nigerian Journal of Economic and Social Studies (Ibadan) 11(3): 343-354, Nov. 1969.

Analyses how socio-cultural and political issues should be appraised and resolved among tradition - conscious inhabitants of Ibadan's Core slum area if any redevelopment programme is to succeed there.

1227. _____. The core of Ibadan city: a case study in problem of housing in the emerging nations. M.A. Thesis, University of Waterloo, 1969.

1228. OWOYELE, David. Kaduna, administrative town. Nigeria Magazine (Lagos) No. 71: 306-320, Dec. 1961.

Its short history and layout reflect careful planning and execution except in the native settlement area of Tudun Wada.

AA
CGP

1229. OYEBODE, D.A. Igbetti town, Oyo Province. Farm and Forest (Ibadan) 9(1): 20-21, Jan.-June, 1948.

Narrates the history of the founding of Igbetti and Iseyin towns, Western Nigeria, as gathered from oral tradition.

1230. A PICTORIAL survey of life and industry in a small Yoruba town, Okitipupa, Ondo Province. Nigeria (Lagos) No. 32: 5-34, 1949.

Forty six well-labelled illustrations and two pages of text.

1231. PULLEN, Grenville. Some problems of rapid urbanization in Lagos, Nigeria. Journal of Tropical Geography (Singapore) 23: 55-61, Dec. 1966.

Stresses rapid numerical growth, physical, housing and socio-economic problems, with workable suggestions as to their amelioration.

CGP
GA-D
BGI

1232. ROTIMI, C.O., F.A. Ohiwerei and Dotun Segun. Part of the 'Report on the social survey of Oke-Ado area in Ibadan.' Conducted June-September, 1959. University Geographer (Ibadan) 2(1): 33-37, March, 1960.

Three types of housing areas are recognised and described with rough estimates of the concentration of people in them.

1233. SADA, P.O. The metropolitan region of Lagos: a study of the political factor in urban geography. Ph.D. Thesis, Indiana University, 1968.

1234. SALUBI, Adogbeji. The origins of Sapele township. Journal of the Historical Society of Nigeria (Ibadan) 2(1): 115-131, Dec. 1960.

Location and factors of its founding are described as basis for an account of its economic activities and population characteristics.

AA

1235. SCHWAB, William B. Oshogbo - an urban community? In 'Urbanization and migration in West Africa. Edited by Hilda Kuper'. Berkeley, University of California Press, 1965. p.85-109.

Case study of the wider 'urban status' question as applied to Yoruba traditional towns in Western Nigeria.

1236. SMITH, Brian C. New Bussa, a new town on the Niger. Urban Studies 4(2): 149-164, June, 1967.

CGP
GA-D
BGI

1237. SPLANSKY, Joel. The concentric zone theory of city structure as applied to an African city: Ibadan, Nigeria. Yearbook, Association of Pacific Coast Geographers (Corvallis, Oregon) 28: 135-146, 1966.

Applies Burgess' theory of city growth to analyse and describe three concentric zones identified in 'Newer' Ibadan.

1238. STEEL, Robert W. The towns of tropical Africa. In 'Essays on African population. Edited by K.M. Barbour and R.M. Prothero'. London, Routledge & K. Paul, 1961. p.249-278.

Pattern and uniqueness of Yoruba indigenous towns feature prominently; major urban problems are discussed.

1239. STEIGENGA, W. Ibadan, a city in transition. Tijdschrift van het Koninklyk Nederlandsch Aardrijkskundig Genootschap (Amsterdam) 82(2): 169-195, April, 1965.

Analysis of effects of social, political and economic changes on the townscape, together with attendant problems.

CGP
NGLM
GA-D
BGI

1240. TRAVALLION, B.A.W. Metropolitan Kano; a report on the Twenty Year Development Plan, 1963-1983. /London/ Newman Neame /1966/ 160p. maps, tables.

"Prepared in 1963 for the Greater Kano Planning Authority. Deals with settlement patterns, social structure, housing, public and social services, commercial and industrial development, agriculture, forestry, landscape and communications."

CGP
BGI

1241. UDO, Reuben K. New towns for Eastern Nigeria? Nigerian Opinion (Ibadan) 3(3): 175-177, March, 1967.

Draws attention to the feasibility and problems of creating 'new towns' on existing settlement sites in former Eastern Region to resettle refugees (or 'returnees').

1242. _____. The growth and decline of Calabar. Nigerian Geographical Journal (Ibadan) 10(2): 91-106, Dec. 1967.

Demonstrates how the locational factor largely explains both phenomena. Has not stressed the political factor which may now be vital in the present set-up of Nigeria.

AA
CGP
NGLM
GA-C
BGI

1243. W.J.S.S. The city of Sokoto I. Corona (London) 2(3): 107-109, March, 1950.

General description of its major physical characteristics, its peoples and culture.

1244. _____. The city of Sokoto II. Corona (London) 2(4): 135-137, April, 1960.

Brief historical account of the present morphology of the town.

1245. WELLDON, R.M.C. The human geography of a Yoruba township in south-western Nigeria. B. Litt. Thesis, Oxford University, 1958.

AIT
UKPT

1246. WHITTLESEY, Derwent. Kano: a Sudanese metropolis. Geographical Review (New York) 27(2): 177-199, April, 1937.

Describes the origin, growth, morphology and land use of Kano City as a prominent commercial and agricultural centre in a densely-peopledregion.

BGI

1247. ZAREMBA, Piotr. The urban development of West and Equatorial Africa. Africana Bulletin (Warsaw) No. 1: 105-134, 1964.

Describes present urban structures and discusses spatial problems of future town development. Has significant references to Nigerian towns, particularly Kano and Port Harcourt.

RECREATIONAL GEOGRAPHY

1248. SISTER, A. The Ikorodu lagoon - site for holiday resort. Nigerian Geographical Journal(Ibadan) 4(2): 53-54, Dec. 1961.

Describes the scenic beauty of the lagoons south of Ijebu, particularly the Ikorodu one.

1249. WANN, Major J. Travel in Ondo Province. Nigeria (Lagos) No.18: 118-119, 1939.

Emphasis on tourist attraction potentialities make some of the facts of doubtful value.

FOREST RESOURCES AND UTILIZATION

1250. ADEYOJU, Samuel Kolade. The forest resources of Nigeria. Nigerian Geographical Journal (Ibadan) 8(2): 115-126, Dec. 1965.

Gives an historical account of its value in the economy, and examines problems of forest depletion suggesting methods of conservation.

CGP
NGLM
GA-C

1251. ADEYOJU, Samuel Kolade. The development of the timber industry in the Western and Midwestern regions of Nigeria. Ph.D. Thesis, University of London, 1966. 307 l.

Detailed analysis of areal, physical, social and economic dimensions of timber exploitation from about 1897 to 1960.

AIT
UKPT

1252. _____. The Benin timber industry before 1939. Nigerian Geographical Journal (Ibadan) 12 (1 & 2): 99-111, Dec. 1969.

Traces the chronology, and maps the distribution, of timber concession areas in Benin Province since 1897 describing the transportation network that developed around the industry.

AA
CGP

1253. _____. The timber economy and the landscape: the role of the timber industry in shaping the lanscape and economy of the Lagos, Western and Midwestern States of Nigeria. Ibadan, University of Ibadan, Department of Forestry, 1970. vi, 64p. diagrs. maps, photos. tables. (Department of Forestry, Bulletin no.21).

Analysis of the spatial dimensions of physical and economic changes brought about in the area since about 1900 which are directly traceable to timber exploitation.

1254. COSTELLO, J.W. The forest conditions of south Ilorin. Farm and Forest (Ibadan) 4(4): 194-196, Dec. 1943.

Brief survey of High Forest and Savanna Woodland utilization in the area enclosed by Offa, Ajasse, Omu-Aran, and Oke towns of Kwara State.

1255. FORESTS of the Niger. Niger Delta Development Board News and Features (Port Harcourt) No. 8: 1-8, May, 1967.

A descriptive account of the major species.

1256. HASEK, V. A new timber industry in Nigeria. Colonial Development (London) No. 14: 28-30, Summer, 1953.

Brief historical background of the timber industry in Nigeria puts the establishment of Fowa Sawmill into focus; main species of timber used are then described.

1257. MACDONALD, K.R. The gum arabic industry in Bornu Province. Farm and Forest (Ibadan) 2(1): 13-16, June, 1941.

Brief account of the history, processes and the economic impact of the industry on the Province.

1258. MORGAN, W.B. The Nigerian oil palm industry. Scottish Geographical Magazine (Edinburgh) 71(3): 174-177, Dec. 1955.

Describes the operation and relative importance of the industry in the economy of southern Nigeria.

BGI

1259. NZEKWU, Onuora. Nigeria's timber industry: Nigeria Magazine (Lagos) No. 75: 47-56, Dec. 1962.

Describes the processes, volume and significance in the national economy.

CGP

1260. OHIWEREI, Felix. Rubber production in the Mid-west. University Geographer (Ibadan) 2(1): 19-22, March, 1960.

Historical account of the economics and spatial dimensions of the industry since about 1890.

1261. OIL palm industry in Nigeria. Nigeria Trade Journal (Lagos) 15(2): 53-59, April-June, 1967.

Emphasis is on efforts being made to improve fruit quality and seed value.

1262. _____. Nigeria Trade Journal (Lagos) 6(4): 143-150, Oct.-Dec. 1958.

Argues only from the economic standpoint in making a strong case for oil palm plantations as the only way of maximizing production.

1263. RUBBER production in Nigeria. Nigeria Trade Journal (Lagos) 16(1): 10-18, Jan.-March, 1968.

Describes the distribution and extent of plantations; volume, value and potentialities of production.

1264. THOMPSON, H.N. Forests of Southern Nigeria. Journal of the African Society (London) 10(38): 121-145, Jan. 1911.

Five forest vegetation types and their associated fauna are recognised and described, followed by a lively discussion on economic exploitation of forest resources.

1265. TIMBER enterprise in the Western Region. Nigeria Trade Journal (Lagos) 3(2): 64-69, April-June, 1955.

Highlights the decisive rôle of road transport in the economic exploitation of 'opepe' (Sarcocephalus Diderichii) from Omo Forest Reserve.

1266. TIMBER. Nigeria Trade Journal (Lagos) 11(2): 50-52, April-June, 1963.

Reviews Nigeria's volume and value of production since 1905.

1267. UNITED Africa Company. The future of the Nigerian oil industry. African Affairs (London) 47(186): 41-51, Jan. 1948.

Demonstrates mechanical and agricultural problems facing the oil palm industry and offers solutions based on the plantation - settler pattern.

1268. _____. The production of palm oil and palm kernel in Nigeria. Statistical and Economic Review (London) No.1: 15-31, March, 1948.

Discusses mainly the economics of increasing both quality and quantity of Nigeria's palm oil and palm kernel production.

BGI

1269. _____. Produce goes to market, Nigeria: palm produce. Statistical and Economic Review (London). No. 3: 1-37, March, 1949.

Describes the Company's role in the various stages and processes between the gathering of palm oil and palm kernel and their exportation. Evacuation routes mapped.

1270. UNITED Africa Company. Timber in West Africa. Statistical and Economic Review (London) No.10: 1-61, Sept. 1952.

Detailed description of activities of the African Timber and Plywood Limited in the production and exportation of sawn timber and plywood in Nigeria and Ghana.

1271. _____. The processing, storage and transport of Nigerian palm oil. Statistical and Economic Review (London) No.13: 1-40, March, 1954.

Discusses the sequence of the various steps involved. Position hasn't changed much from the March, 1949 situation given in same journal.

LAND-USE & MANAGEMENT

1272. ADEBAYO, Richard. Land use at Kainji. University Geographer (Ibadan) 9 & 10: 24-26, June, 1969.

Summary description of changed land-use structures brought about by the dam.

1273. ADEGBOYE, R.O. The need for land reform in Nigeria. Nigerian Journal of Economic and Social Studies (Ibadan) 9(3): 339-350, Nov. 1967.

Analysis of problems of increased agricultural output forms basis of a plea for reforms in land tenure, farm tenancy, agricultural credit and extension, to effect population redistribution.

AA.

1274. _____. Improving land use in Nigeria through removing defects in land inheritance. Ph.D. Thesis, Iowa State University of Science and Technology, 1964.

Detailed recommendations based on field work carried out-mainly in Western Nigeria.

1275. _____. An analysis of land tenure structures in some selected areas of Nigeria. Bulletin of Rural Economics and Sociology (Ibadan) 2(1): 38-51, 1966.

Analysis of data based on a questionnaire-interview of 270 selected farmers from eight villages demonstrates major characteristics and trends in agricultural land tenure.

AA

1276. ADEGBOYE, R.O. V. Land tenure in Uboma. In 'Uboma: a socio-economic and nutritional survey of a rural community in Eastern Nigeria'. Bude, Cornwall, Geographical Publications, 1966. p.71-81 (World land use survey. Occasional papers no.6).

Eight land acquisition and disposal rights are described based on 33 sample families and their consequences on agricultural land-use are briefly discussed.

CGP
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1277. ALISON, P.A. Irun: a first exercise in land use survey. Nigerian Forester (Ibadan) 1(2): 43-47, Nov. 1940.

General account of physical and economic conditions in Irun and environs precedes detailed description of vegetation and the broad land use pattern.

1278. ARE, Lekan. The remaining land resources. Proceedings of the Agricultural Society of Nigeria (Ibadan) 2(1): 32-35, July, 1963.

Examines, perhaps too briefly, what cultivable lands of the world remain, and particularly in Nigeria, against physical and socio-economic problems hindering their development.

1279. BAWDEN, M.G. Part III- The land use and vegetation. In 'The Anambra-Do Rivers area, by Obihara, C.H., Bawden, M.G. and Jungerius, P.D.' Enugu, Ministry of Agriculture, 1964. p.57-62.

Five land-use and vegetation zones are recognised and briefly described.

1280. BAWDEN, M.G. and P. Tuley. The land resources of southern Sardauna and southern Adamawa provinces, Northern Nigeria ... Tolworth, Land Resources Division, Directorate of Overseas Surveys, 1966. xi, 120p. dingrs. 20 maps, 24 plates, tables. (Land resource study, no.2)

Recoinaissance survey of physical resources forms basis of classification and description of present and potential land-use within 30 land systems.

CGP
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GA-D

1281. BOHANNAN, P.J. The political and economic aspects of land tenure and settlement patterns among the Tiv of Central Nigeria. D. Phil. thesis, Oxford University, 1951-52.

UKPT

1282. _____. Tiv farm and settlement. London, H.M.S.O. 1954. 87p. diagrs. maps, plates, tables. (Great Britain. Colonial research studies, no. 15).

Based on fieldwork done between 1949 and 1953 it demonstrates significance of farming in the peoples' social anthropology, particularly in land-use, land tenure and settlement patterns.

CGP
NGLM

1283. CAMERON, Sir Donald. A note on land tenure in the Yoruba Provinces. Lagos, Government Printer, 1933. 8p.

Summarises Ward-Price's 'Report of land tenure in the Yoruba Provinces' and comments on his conclusions, particularly as they affect agricultural land-use.

1284. CHUBB, L.T. Report on Ibo land tenure. [No imprint]. 117p. Printed by Gaskiya Corporation, Zaria [1947].

Probes past and present individual and group ownership rights and use of land as basis of recommendations for control of land and its use in future.

1285. _____. Ibo land tenure. Ibadan University Press, 1948. 97p.

A descriptive account of varying practices with some discussion on how they affect land-use practices.

BGI

1286. _____. Ibo land tenure. 2nd ed. Ibadan University Press, 1961. 115p.

Same as the 1947 text by same author.

1287. COLE, C.W. Report on land tenure, Niger Province. Kaduna, Government Printer, 1952. 85p.

Employing Rowling's method he describes and discusses implications of the 'Habe system' - dominated tradition of land ownership, particularly in Abuja Emirate.

BGI

1288. _____. Report on land-tenure, Zaria Province. Kaduna, Government Printer, 1952. 84p.

Employs Rowling's methodology for Kano and Plateau Provinces to analyse the quasi individual - family - commercial pattern of tenure in selected areas.

1289. DOWLING, James W.F. Land evaluation for engineering purposes in Northern Nigeria. In 'Land evaluation. Papers of a CSIRO Symposium organised in cooperation with UNESCO, 26-31 August 1968'. Edited by G.A. Stewart. Australia, Macmillan, 1968. p.147-159.

Demonstrates, with examples from Bauchi and Bornu Provinces, that a land classification originally designed for the evaluation of agricultural land use could be adopted for storing engineering soil-test data for road construction.

GA-A

1290. FLOYD, Barry N. Rural land-use in Nsukka Division. In 'Nsukka Division: a geographical appraisal. Edited by P.K. Sircar.' Nsukka, University of Nigeria, Department of Geography, 1965. p.51-71.

Present land-use pattern is the result of physical, socio-economic and historical factors; two agricultural development projects during the 1962-68 plan period assessed.

1291. FOOD and Agriculture Organization. Land Use Survey Team. Report on the land-use survey of the Oyo-Shaki area, Western Nigeria. Ibadan, Oct. 1962.

Descriptive account, with recommendations on ways of effecting better utilization.

1292. FOOD and Agriculture Organization of the United Nations. Land tenure and related social problems. In 'Agricultural development in Nigeria 1965-1980.' Rome, F.A.O., 1966. p.331-338.

Briefly describes existing land tenure systems and indicates inherent difficulties in their practice in implementing FAO's recommendations on improved agricultural land-use.

GA-C
BG1

1293. FOWLER, W. A report on the lands of the Colony Districts. Lagos, Government Printer, 1947.

Extent, and land-use characteristics, of roughly the old Lagos Colony.

1294. GEOGRAPHICAL Society. University of Ibadan. Land use and land reclamation in east of Bukuru on the Jos Plateau. University Geographer (Ibadan) 9 & 10: 32-33, June, 1969.

Problems resulting from mining, agriculture and grazing activities are described, and programmes of reclamation assessed.

1295. GLOVER, P.E. and P.J. Aitchison. Tsetse control and land use in Northern Nigeria Area I. Kaduna, Baraka Press, 1967.

Demonstrates land-use patterns and the distribution of tse-tse flies; control of the fly would release more land for agricultural use.

1296. GREEN, M.M. Land tenure in an Ibo village in south-eastern Nigeria. London, Published for London School of Economics and Political Science by Percy Lund, Humphries, 1941. 44p. diagrs. map.

Examines socio-historical factors affecting ownership and use of land in Umueke-Agbaja village, an area of population pressure south of Okigwi Division.

CGP

1297. HANSEN, E. Don. Evaluating land for irrigation on the Ngala sand ridge area - south Lake Chad region, Bornu Province, Northern Nigeria. Kaduna, Ministry of Agriculture and U.S.A.I.D. 1966. 52p. map. photos.

Description and analysis of pedological and physical characteristics of the area produces a land classification used as basis for determining feasibility of lands for irrigation.

1298. IBRAHIM, Mustafa B. The Fulani - a nomadic tribe in Northern Nigeria. African Affairs (London) 65(259): 170-176, 1966.

Appraisal of land-use problems posed by the grazing habits of the Borori (Bush or Cow Fulanis).

1299. IGWE, D.C. The need for enclosure and land resettlement in Nigerian agriculture. Tropical Agriculture (London) 31(1): 57-68, Jan. 1954.

Examines socio-economic backgrounds of changing attitudes to land tenure among Nigerian communities and makes a strong case for revision of land laws that would permit full-scale enclosures!

1300. JONES, G.C.I. The human factor in land planning. Farm and Forest (Ibadan) 4(4): 161-166, Dec. 1943.

Delineates five land-use zones in Owerri Province and discusses the socio-economic problems of under and over exploitation of land resources. Solutions suggested are too optimistic and too narrowly conceived.

1301. _____. Agriculture and Ibo village planning. Farm and Forest (Ibadan) 6(1): 9-15, Jan.-March, 1945.

Describes land-use pattern in a typical Ibo village community as basis of rejecting the proposed "model villages" planned with urban bias. Alternative approach analysed offers greater chances of success.

1302. _____. Ibo land tenure. Africa (London) 19(4): 309-323, Oct. 1949.

Shows how Ibo patterns of settlement and uneven population distribution greatly reflect land tenure and land-use practices.

BGI

1303. LLOYD, P.C. Some problems of tenancy in Yoruba land tenure. African Studies (Johannesburg) 12(3): 93-103, Sept. 1953.

Studies in Ado Ekiti and Iwo show how increasing population densities, greater mobility, and cocoa growing have complicated relatively simple Yoruba traditional system of land tenure.

1304. LLOYD, P.C. Land settlement and tenure in Ibadan. In "Proceedings of the Third International West African Conference held at Ibadan, Nigeria, 12th-21st December, 1949". Lagos, Nigerian Museum, 1956. p.264-268.

Brief account of rural settlement and land-use patterns on approximately the present site of the University of Ibadan.

1305. LUNING, H.A. The impact of socio-economic factors on the land tenure pattern of Northern Nigeria. Journal of Local Administration Overseas (London) 4(3): 173-182, July, 1965.

Quantitative presentation of a case study in Katsina and Sokoto Provinces between 1960 and 1962.

AA
CGP

1306. MABOGUNJE, Akin L. Some comments on land tenure in Egba Division, Western Nigeria. Africa (London) 31(4): 258-269, Oct. 1961.

Outlines historical and geographical factors leading to land sales in the area.

AA
CGP

1307. MACKAY, J.H. On the role of regional survey in administration and land planning. Farm and Forest (Ibadan) 5(4): 172-178, Dec. 1944.

Strong argument for detailed study of existing economies against present land use and potentialities as basis for planning effective rural economy is illustrated with survey plan for Ikom-Oban area.

1308. MEEK, C.K. Land tenure and land administration in Nigeria and the Cameroon. London, H.M.S.O., 1957, vi, 420p. maps. (Colonial research studies, no. 22).

Examines the historical, administrative and sociological aspects of land-holding as they affect agricultural land-use.

CGP
NGLM

1309. MOSS, R.P. The appraisal of land resources in tropical Africa; a critique of some concepts. Pacific Viewpoint (Wellington) 10(2): 18-27, Sept. 1969.

Review article draws freely from previous studies done by the author in parts of Western Nigoria.

CGP
NGLM
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1310. NATIVE system of government and land tenure in the Yoruba country [by] "A native of Yoruba". African Affairs (London) 1(3): 312-315, April, 1902.

Brief sketch of both practices, emphasizing their simplicity and adaptibility to the people's necessities and character.

1311. NICHOLAS, I.D. Land use and speciality crops, Eastern Nigeria. Enugu, United States Agency for International Development, 1963. 27p. (Consultant report, no. C-36).

Relates physical and biogeographic conditions of the area to present and suggested land-use and soil management milieu for growing the envisaged crops.

1312. NORMAN, David Wallace. An economic study of three villages in Zaria Province 1: Land and labour relations. Samaru Miscellaneous Papers (Samaru, Zaria). Nos. 19 & 23: 1-84, 1967. diagrs. maps, tables. (no. 23 = 6 maps).

Describes the population, farmland characteristics, and land-labour relationships existing in each village.

1313. OJO, G.J.A. Geographical problems of land use in West Africa. M.A. Thesis, National University of Ireland, 1958.

Emphasis on socio-cultural problems. Most examples drawn from Nigeria.

AFT
UKPT

1314. PROTHERO, R. Mansell. Land use at Soba, Zaria Province. Research Notes (Ibadan) No. 2: 3-10, Jan. 1953, also in Economic Geography 33(1): 72-86, Jan. 1957.

A survey based on fieldwork and interpretation of air photographs recognises and describes three major land-use patterns.

AA
CGP
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1315. _____. Land use, land holdings and land tenure at Soba, Zaria Province, Northern Nigeria. Bulletin, Institut Francais d'Afrique Noire. Sér. B. (Dakar) 19 (3-4): 558-563, 1957.

Describes the significance of social and physical factors in the location, ownership and use of farmlands in and around Soba Village as observed in 1952.

AA
CGP
BGI

1316. _____. Sokoto Province - past and future. West Africa (London) 45(2315): 1131-1132, Oct. 1961.

Analyses human and physical setbacks to agricultural land-use in the past and cautions on proposed survey of Sokoto and Rima rivers' valleys aimed at improving the situation.

AA

1317. FULLAN, R.A. and Peter de Leeuw. The land capability survey prepared for the Niger Dams Authority ... Soil Survey Bulletin (Samaru, Zaria) No. 26: 1-205, /1964/ 29 maps, diagrs. tables.

"A study of the physical geography and land utilisation of Shanga and Ngaski Districts in Yauri Emirate and of Auna District and the western part of Rijau District in Kontagora Emirate, leading to a land capability assessment with special reference to the resettlement of displaced riverain people." /title page/.

GA-B

1318. ROWLING, C.W. Notes on land tenure in the Benin, Kukuruku, Ishan and Asaba Divisions of Benin Province. Lagos, Government Printer, 1948. 43p.

Summarises, with comments, the village-orientated pattern of land ownership and transfer as revealed in Ward-Price's book, documents, files and court cases.

1319. _____. Report on land tenure, Kano Province. Kaduna, Government Printer, 1952. iii, 57p.

Using factual 'case histories' method, it deals with tenancy of farms and house property in and around Kano City, with particular emphasis on Sabon Gari.

BGI

1320. _____. Report on land tenure in Ondo Province. Lagos, Government Printer, 1952. 87p. (House of Representatives special Paper No. 5 of 1952).

Descriptive account with brief discussion of the implications of practices for agricultural land-use.

CGP

1321. _____. Report on land tenure, Plateau Province. Kaduna, Government Printer, 1952. iv, 80p.

Uses combination of 'case histories', comparative discussion and court records to analyse characteristics and implications of indigenous and alien tenancy.

BGI

1322. _____. Land tenure in Ijebu Province. Ibadan, Government Printer, 1956. 67p.

Based mainly on numerous litigations, he recognises and describes eight types of land and examines the effects of their complex principles of acquisition and disposal on agricultural land-use.

1323. SMOCK, David R. Land tenure and agricultural development in Eastern Nigeria. In his 'Agricultural development and community plantations in Eastern Nigeria.' Lagos, Rural Development Project, The Ford Foundation, 1965. p.27-40.

Discusses barriers to agricultural development posed by the prevailing land tenure practices and the extent to which they have been overcome in certain villages.

BGI

1324. _____. Land fragmentation and the possibility of consolidation in Eastern Nigeria. Bulettin of Rural Economics and Sociology (Ibadan) 2(3): 194-210, 1967.

Briefly describes the nature of fragmentation as an obstacle to agricultural development, discusses problems of consolidation and how they may be resolved.

AA

1325. URQUHART, D.H. Land usage and utilization in Southern Nigeria. Nigerian Forester (Ibadan) 1(2): 51-54, Nov. 1940.

Reviews traditional methods of land usage against its physical background and recommends more economic land utilization practices which ensure greater yields and preserve soil fertility.

1326. WARD-PRICE, H.L. Land tenure in the Yoruba Provinces (includes Donald Cameron's Note on the report). Lagos, Government Printer, 1939. 146p. xi.

Detailed account of ancient and present-day conditions of land ownership, disposition, and utilization for socio-economic purposes in Yoruba West and Benin City.

CULTURAL GEOGRAPHY

1327. ANUMBA, E. Ofodumeno. Geographical significance of social institutions in Eastern Nigeria. University Geographer (Ibadan) 3(2): 17-20, May, 1962.

Incoherent and feeble attempt to demonstrate the significance of cultural institutions like kinship, marriage, religion and land tenure in interpreting the physical and human landscape of the area.

1328. BRAY, Jennifer M. The industrial structure of a traditional Yoruba town - the example of weaving in Iseyin. M.A. Thesis, University of Ibadan, 1966. iii, 201 l. /13 1/.

Analyses factors of production, the spatial pattern of distribution, and how these have affected Iseyin's urban morphology.

1329. _____. Local cotton production and traditional weaving in Western Nigeria. Cotton Growing Review (London) 44(4): 265-268, Oct. 1967.

Fairly detailed account of technicalities of local cloth-making from 'Ishan' and other imported varieties of cotton, mainly at Iseyin. Based on author's M.A. Thesis.

1330. _____. The organization of traditional weaving in Iseyin, Nigeria. Africa (London) 38(3): 270-280, March, 1968.

Detailed analysis of the intricate economies of native cloth production in Iseyin, and its marketing in and out of the town.

AA
BGI

1331. _____. The craft structure of a traditional Yoruba town. Transactions, Institute of British Geographers (London) No. 49: 179-93, March, 1969.

Detailed case study based on a questionnaire survey of ninety weaving compounds in Iseyin town showing how social and economic factors have influenced the location and function of the weaving industry.

AA
CGP
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1332. BRAY, Jennifer M. The economics of traditional cloth production in Iseyin, Nigeria. Economic Development and Cultural Change (Chicago) 17(4): 540-551, July, 1969.

Examines factors of supply and demand as they influence production and makes a reasoned estimate of weavers' income based on total annual cloth output and seasonal price fluctuations.

CGP

1333. BRINKWORTH, Ian. Nigeria's cultural heritage. Geographical Magazine (London) 31(9): 425-438, Jan. 1959.

Pictures with appropriate captions depicting the wealth of Nigeria's artistic works.

CGP

1334. CALLAWAY, Archibald. Crafts and industries. In 'Seminar on Ibadan in the changing Nigerian scene'. Ibadan, Institute of African Studies, 1964. p.107-119.

Examines the distribution and functional dynamics of Ibadan's indigenous crafts and industries.

1335. _____. From traditional crafts to modern industries. Odu (Ile-Ifẹ) 2(1): 28-51, July, 1965.

Based on a survey done in 1961 and 1963, the structure and distribution of 245 small industries in Ibadan are described against a thorough analysis of their problems and possible solutions.

AA

1336. _____. From traditional crafts to modern industries. In 'The city of Ibadan'. Edited by P.C. Lloyd, A.L. Mabogunjẹ /and/ B. Awẹ. C.U.P., 1967. p.153-171.

Revised version of his earlier mimeographed article: 'Crafts and industries'.

CGP
NGUM
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1337. DODWELL, C.B. Isoyin; the town of weavers. Nigeria (Lagos) No. 46: 118-143, 1955.

Organisation of the industry, factors and volume of production, and its marketing pattern are described and illustrated.

1338. ENE, J. Chunwike. Indigenous silk-weaving in Nigeria. Nigeria Magazine (Lagos) No. 81: 127-136, June, 1964.

Demonstrates its long history, nature of the industry and its shaky future.

1339. FOYLE, Arthur M. Nigerian architecture. Geographical Magazine (London) 23(5): 173-180, Sept. 1950.

Outlines the barest minimum points of similarities and contrasts in traditional building patterns observed in Kano and Benin cities.

CGP

1340. HAMBLY, Wilfrid Dyson. Culture areas of Nigeria. Chicago, Field Museum of Natural History, 1935. 137p. 68 plates. (Anthropological series, vol. 21, no.3, p.365-502).

Detailed description of the distribution of cultures and how this depends largely on geographical factors, with particular emphasis on the blending of cultures through migrations and warfare.

BGI

1341. JONES, G.C.I. The distribution of Negro sculpture in Southern Nigeria. Nigerian Field (London) 7(3): 102-108, July, 1938.

Identifies, describes and maps six types of native sculpture and carving in former Eastern and Western Regions.

1342. NZEKWU, Onuora. Uburu and the Salt Lake. Nigeria Magazine (Lagos) No. 56: 84-96, 1958.

Describes the method of extracting salt from salt water and the importance of the industry in the economy of the people.

AA
CGP

1343. NZEKWU, Onuora. Keana salt camp. Nigeria Magazine (Lagos) No. 83: 262-78, Dec. 1964.

Keana women near Lafia practise an old art in much the same way as the Uburu womenfolk.

AA

1344. OJO, Gabriel Jimoh Afolabi. Yoruba culture; a geographical analysis. Ph.D. Thesis, National University of Ireland, 1963. xii, 330p.

Recognises two classes of major culture complexes both of which are shown to be closely associated with the prominent features of the geography of Yorubaland.

AIT
UKPT

1345. _____ Yoruba culture; a geographical analysis. London, University of Ife and University of London Press, 1966. 303p. illus. diagrs. maps, tables.

Describes every aspect of Yoruba culture in terms of the environment which made it possible, and of the use made of materials found in that environment.

NGLM
BG1

1346. _____ Yoruba palaces; a study of afins of Yorubaland. London, University of London Press, 1966. 110p. illus. diagrs. maps, plans.

Grows out of Chapter Six of his Yoruba culture, giving more detailed account of their traditional forms and functions and their adjustments to foreign influences.

GA-D
BG1

1347. _____ Yoruba traditional architecture. African Arts (Los Angeles), Spring, 1967.

1348. _____ Royal palaces: an index of Yoruba traditional culture. Nigeria Magazine (Lagos) No. 94: 194-210, Sept. 1967.

The distinct location and functions of Yoruba afins (palaces) make them a significant institution in understanding Yoruba urbanism, history, and culture.

AA

1349. W.H.L. The red walls of Bida. Nigeria (Lagos). No. 30: 271-315, 1949.

Journey from Lagos to tour Bida emphasizes the rich handicrafts of Bida and surrounding villages.

REGIONAL GEOGRAPHY

1350. ACKAH, A.C. Nigeria. In his "West Africa: a school certificate geography." London, University of London Press, 1958.

CGP

1351. AINSLIE, Marion D. Nigeria: a first geography. London, Longmans, Green, 1934. iv, 90p. /Longman's African geographies/.

Broad, generalized description of major physical, ethnographic and population features.

1352. _____. Nigeria: a first geography. 2nd ed. London, Longmans, Green, 1936. iv, 90p. /Longman's African geographies/

1353. _____. Nigeria: a first geography. 3rd ed. London, Longmans, Green, 1952. iv, 92p.

Introduces the beginner in a practical way to the basic elements of the country's physical and economic geography.

1354. BEAVER, Stanley H. and Dudley L. Stamp. Nigeria. In their 'A regional geography for advanced and scholarship courses. Part II: Africa.' London, Longmans, 1934. p.54-65. (University geographical series).

Brief account of the essentials of its physical and human geography.

1355. _____. Nigeria. In their 'A regional geography for advanced and scholarship courses. Part II: Africa.' 2nd ed. London, Longmans, 1935. p.54-65. (University geographical series.

1356. BEAVER, Stanley H. and Dudley L. Stamp. Nigeria. In their 'A regional geography for advanced and scholarship courses. Part II: Africa.' 3rd ed. London, Longmans, 1950. p.55-66. (University geographical series).

CGP

1357. _____. Nigeria. In their 'A regional geography for advanced and scholarship courses. Part II: Africa. 4th ed. London, Longmans, 1959. p.55-66. (University geographical series).

CGP
NGLM

1358. _____. Nigeria. In their 'A regional geography for advanced and scholarship courses. Part II: Africa. 5th ed. London, Longmans, 1964. p.55-66. (University geographical series).

CGP
BGI

1359. BUCHANAN, Keith M. An outline of the geography of the Western Region of Nigeria. Malayan Journal of Tropical Geography (Singapore) 1: 9-24, Oct. 1953.

Outline of physical and economic geography of present Western, Midwestern and Lagos states. Analysis of economic problems particularly stimulating though limited by inadequate statistical data.

CGP
NGLM
BGI

1360. BUCHANAN, Keith M. and John C. Pugh. Land and people in Nigeria; the human geography of Nigeria and its environmental background ... London, University of London Press, 1955. xii, 252p. illus. diagrs. maps, tables.

Most comprehensive and authoritative standard textbook on the regional geography of the whole country before Udo's work appeared in 1970.

CGP
NGLM
BGI

1361. CHURCH, Ronald James Harrison. The Federation of Nigeria - an epitome of West Africa. In his 'West Africa: a study of the environment and man's use of it.' London, Longmans, 1957. p.439-515. (Geographies for advanced study).

Stresses diversities in her physical and human resources showing how these are reflected in her economic strength and potential. Political and economic problems are discussed and solutions recommended.

CGP
NGLM
BGI

1362. _____. The Federation of Nigeria - an epitome of West Africa. In his 'West Africa: a study of the environment and man's use of it.' 2nd ed. London, Longmans, 1960. p.439-515. (Geographies for advanced study).

Incorporates political and economic changes since the first edition, otherwise text the same.

CGP
NGLM
BGI

1363. _____. The Federation of Nigeria - an epitome of West Africa. In his 'West Africa: a study of the environment and man's use of it.' 3rd ed. London, Longmans, 1961. p.439-515. (Geographies for advanced study).

Many changes incorporated since the second edition, otherwise same text material.

1364. _____. The Federation of Nigeria - an epitome of West Africa. In his 'West Africa: a study of the environment and man's use of it.' 4th ed. London, London, Longmans, 1963. p.439-515. (Geographies for advanced studies).

Some text material as previous editions except for social, economic and political changes incorporated.

NGLM
UKPT

1365. CHURCH, Ronald James Harrison. The Federation of Nigeria - an epitome of West Africa. In his 'West Africa: a study of the environment and man's use of it.' 5th ed. London, Longmans, 1966. p.439-515. (Geographies for advanced study).

Different from previous editions only in incorporation of social, economic and political changes.

UKPT

1366. _____. The Federation of Nigeria - an epitome of West Africa. In his 'West Africa: a study of the environment and man's use of it.' 6th ed. London, Longmans, 1968. p.439-513. (Geographies for advanced study).

Stresses diversities in her physical and human resources showing how these are reflected in her economic strength and potential. Political and economic problems are discussed and solutions recommended within the twelve-state structure.

CGP
BGI

1367. _____. The Federation of Nigeria - the India of Africa? In his 'Environment and policies in West Africa'. Princeton, N.J., Van Nostrand, 1963. p.79-88, (Van Nostrand searchlight book, no.9).

Stresses significance of physical and political factors in the economic and social diversities of the country.

BGI

1368. DALLIMORE, H. Nigeria. In his 'A geography of West Africa, with special reference to the colonies of British West Africa, as required by the educational codes of the colonies of West Africa.' London, Lutterworth Press, 1923.

1368. _____. Nigeria. In his 'A geography of West Africa, with special reference to the colonies of British West Africa, as required by the educational codes of the colonies of West Africa. 2nd ed. London, Lutterworth Press, 1935.

1369. _____. Nigeria. In His 'A geography of West Africa, with special reference to the colonies of British West Africa, as required by the educational codes of the colonies of West Africa.' 3rd ed. London, Lutterworth Press, 1946.

1371. DALLIMORE, H. Nigeria. In his 'A geography of West Africa, with special reference to the colonies of British West Africa, as required by the educational codes of the colonies of West Africa.' 4th ed. London, Lutterworth Press, 1948.

CGP

1372. DE BLIJ, Harn J. From colony to Republic: the experiment of the federation of Nigeria. In his 'A geography of sub-saharan Africa.' Chicago, R. McNally, 1964. p.323-245.

Thematic approach to the human geography of Nigeria, based on the former Regions, stressing her developmental facets.

CGP
NGLM
BGI

1373. FITZGERALD, Walter. Eastern forest belt (Southern Nigeria). In his 'Africa, a social, economic and political geography of its major regions.' London, Methuen, 1933. p.357-365.

Brief account of historical, physical, economic and human geographic features.

1374. _____. Eastern forest belt (Southern Nigeria). In his 'Africa, a social, economic and political geography of its major regions. 2nd ed. London, Methuen, 1936. p.357-365.

1375. _____. Eastern forest belt (Southern Nigeria). In his 'Africa, a social, economic and political geography of its major regions. 3rd ed. London, Methuen, 1940. p.357-365.

1376. _____. Eastern forest belt (Southern Nigeria). In his 'Africa, a social, economic and political geography of its major regions.' 4th ed. London, Methuen, 1943. p.357-365.

1377. _____. Eastern forest belt (Southern Nigeria). In his 'Africa, a social, economic and political geography of its major regions.' 5th ed. London, Methuen, 1946. p.357-365.

CGP

1378. FITZGERALD, Walter. Eastern forest belt (Southern Nigeria). In his 'Africa, a social, economic and political geography of its major regions. 6th ed. London, Methuen, 1949. p.357-365.

1379. _____. Eastern forest belt (Southern Nigeria). In his 'Africa, a social, economic and political geography of its major regions.' 7th ed. Rev. by W.C. Brice. London, Methuen, 1950. p.359-371.

NGLM

1380. _____. Eastern forest belt (Southern Nigeria). In his 'Africa, a social, economic and political geography of its major regions'. 8th ed. rev. by W.C. Brice. London, Methuen, 1955. p.359-371.

CGP

1381. _____. Eastern forest belt (Southern Nigeria). In his 'Africa, a social, economic and political geography of its major regions.' 9th ed. rev. by W.C. Brice. London, Methuen, 1961. p.359-371.

Material up-dated to reflect the country's newly-acquired independence status.

UKPT
BGI

1382. _____. Eastern forest belt (Southern Nigeria). In his 'Africa, a social, economic and political geography of its major regions.' 10th ed. rev. by W.C. Brice. London, Methuen, 1964. p.359-371.

CGP

1383. _____. Northern Nigeria. In his 'Africa, a social, economic and political geography of its major regions,' London, Methuen, 1933. p.365-369.

Outline of major physical, economic and human geographic features.

1384. _____. Northern Nigeria. In his 'Africa, a social, economic and political geography of is major regions.' 2nd ed. London, Methuen, 1936. p.365-369.

1385. FITZGERALD, Walter. Northern Nigeria. In his 'Africa, a social, economic and political geography of its major regions'. 3rd ed. London, Methuen, 1940. p.365-369.

1386. _____. Northern Nigeria. In his 'Africa, a social, economic and political geography of its major regions. 4th ed. London, Methuen, 1943. p.365-369.

1387. _____. Northern Nigeria. In his 'Africa, a social, economic and political geography of its major regions.' 5th ed. London, Methuen, 1946. p.365-369.

CGP

1388. _____. Northern Nigeria. In his 'Africa, a social, economic and political geography of its major regions. 6th ed. London, Methuen, 1949. p.465-369.

1389. _____. Northern Nigeria. In his 'Africa, a social, economic and political geography of its major regions. 7th ed. rev. by W.C. Brice. London, Methuen, 1950. p.367-371.

1390. _____. Northern Nigeria. In his 'Africa, a social, economic and political geography of its major regions. 8th ed. rev. by B.C. Brice. London, Methuen, 1955. p.367-371.

NGLM

1391. _____. Northern Nigeria. In his 'Africa, a social, economic and political geography of its major regions. 9th ed. rev. by W.C. Brice. London, Methuen, 1961. p.367-371.

Up-dates information to reflect the country's new political status after independence.

1392. _____. Northern Nigeria. In his 'Africa, a social, economic and political geography of its major regions. 10th ed. rev. by W.C. Brice. London, Methuen, 1964. p.368-372.

CGP

1393. FLOYD, Barry N. Eastern Nigeria: a geographical review. London, Macmillan, 1969. 359p. illus. diagrms. maps, tables.

Presents a scientific analysis of the spatial distribution of human and physical resources and their attendant problems of development in the Eastern Region before the Civil War.

CGP
NGLM
GA-D
BGI

1394. GRANT, James A.P. A geography of Western Nigeria. Cambridge, University Press, 1960. 95p. illus. diagrs. maps.

Practical, descriptive account based on an imaginary tour beginning near Ibadan for the lower forms of secondary schools and teacher training colleges.

CGP

1395. GROVE, Alfred Thomas. Nigeria. In his 'Africa south of the Sahara'. London, O.U.P., 1967. p.126-148.

Regional geography of former Regions with a short paragraph on development projects. Work includes 32 pages of maps lifted from the 'Oxford regional economic atlas of Africa.'

CGP
NGLM

1396. _____. Nigeria. In his 'Africa South of the the Sahara'. 2nd ed. London, Oxford University Press, 1970 p.126-148.

Brief preview of country's physical diversities, political organization, and problems precedes description and analysis of its more or less geographic regions. Incorporates much of author's previous works.

CGP
BGI

1397. ILOEJE, N.P. A new geography of Nigeria. London, Longmans, 1965. 260p. illus. maps.

Best illustrated and most comprehensive textbook of secondary school standard yet on the geography of Nigeria.

CGP

1398. IRONS, Evelyn. Nigeria. Garden City, New York, Doubleday /1961/. 64p. maps. (American Geographical Society. Around the world program).

CGP

1399. _____. Nigeria. Rev. ed. Garden City, New York, Doubleday, 1966. 64p. maps. (American Geographical Society. Around the world program).

CGP
BGI

1400. JARRETT, H.R. The Federation of Nigeria. In his 'A geography of West Africa'. London, J.M. Dent, 1956. p.103-128.

Part I (chapter ten) deals with the physical, while Part II (chapter eleven) describes the human geography for school certificate students and teachers.

1401. _____. The Federation of Nigeria. In his 'A geography of West Africa.' New ed. London, J.M. Dent, 1957. p.103-128.

Unchanged for Nigeria, but section for Ghana revised and three new chapters added for Liberia, Portuguese Guinea and the French-speaking countries.

1402. _____. The Federation of Nigeria. In his 'A geography of West Africa.' 3rd ed. London, J.M. Dent, 1958. p.103-128.

Makes few revisions in the chapters on Nigeria.

1403. _____. The Federation of Nigeria. In his 'Africa'. London, Macdonald & Evans, 1962. p.154-160. (New certificate geography series. Advanced Level).

Brief, descriptive human geography.

CGP
NGLM

1404. _____. The Federation of Nigeria. In his 'Africa.' 2nd ed. London, Macdonald & Evans, 1966. p.154-162. (New certificate geography series. Advanced level).

UKPT

1405. JENNINGS, J.H. and S.O. Oduah. A geography of the Eastern Provinces of Nigeria. Cambridge, University Press, 1966. viii, 208p. illus. diagrs. maps.

Like Grant's book, a practical, descriptive account based on an imaginary journey round Eastern Nigeria beginning from Ogidi near Onitsha.

CGP
UKPT

1406. KITSON, A.E. Southern Nigeria: some considerations of its structure, people, and natural history. Geographical Journal (London) 41(1): 16-38, Jan. 1963.

General outline of the physical features and economic activities of peoples in the area.

1407. LYONS, Charles H. Nigeria. Focus (New York) 21(4): 1-7, Dec. 1970.

Broad, generalized description of physical setting, history, peoples, agriculture, industry, and transportation.

CGP

1408. MABOGUNJE, Akin L. Land, people and tradition in Nigeria. In 'The politics and administration of Nigerian government'. Ed. by L. Franklin Blitz. London, Sweet & Maxwell, Lagos African Universities Press, 1965. p.11-36.

Summarises the country's highly diversified physical, cultural, and population characteristics showing their relevance to an understanding of the people's attitude to constituted authority.

GA-D

1409. MORGAN, W.B. and John C. Pugh. West Africa. London, Methuen, 1969. xxviii, 788p illus, diagrs. maps.

No section specifically devoted to Nigeria but the authors' wealth of Nigerian experience is reflected in the numerous references to Nigeria brought together in the index.

CGP
GA-D

1410. MORTIMORE, Michael J. ed. Zaria and its region: a Nigerian savanna city and its environs. Zaria, published for the 14th Annual Conference of the Nigerian Geographical Association, Zaria, Jan. 1970, by the Department of Geography, Ahmadu Bello University, 1970. 191p. (Occasional paper No.4).

Series of essays on the physical and human geography of the area.

NGLM

1411. NSUKKA. University of Nigeria. Department of Geography. Nsukka Division: a geographical appraisal, Nsukka, 1965. 112p. maps.

Chapters by members of the Department cover such aspects as rural land-use, population and settlement, and Nsukka as an urban centre.

1412. OBOLI, H.O.N. Nigeria. In 'An outline geography of West Africa'. London, G.G. Harrap, 1957. p.114-164.

Ordinary Level Certificate regional geography within West African and African regional geography context.

CGP

1413. _____. Nigeria. In 'An outline geography of West Africa'. 2nd ed. London, G.G. Harrap, 1961. p.115-165.

Ordinary Level Certificate regional geography within West African and African regional geography context.

1414. _____. Nigeria. In 'An outline geography of West Africa.' 3rd ed. London, G.G. Harrap, 1963. p.115-165.

Ordinary Level Certificate regional geography.

1415. _____. Nigeria. In 'An outline geography of West Africa.' 4th ed. London, G.G. Harrap, 1965. p.116-167.

Ordinary Level Certificate regional geography.

CGP

1416. OBOLI, H.O.N. Nigeria. In 'An outline geography of West Africa.' 5th ed. London, G.G. Harrap, 1967. p.116-167.

Ordinary Level Certificate regional geography.

1417. ORMSBY-GORE, W.G.A. Some contrasts in Nigeria. Geographical Journal (London) 69(6): 497-515, June, 1927.

Outline of climatic, physical, religious, ethnographic, demographic, cultural and political contrasts based on a one-month tour of few towns.

1418. PERKINS, W.A. and Jasper H. Stembridge. Nigeria, a descriptive geography. Ibadan, O.U.P., 1957. vi, 186p. diagrs. maps.

Basic introductory textbook for teacher-training colleges and the middle and upper forms of secondary schools.

CGP
NGLM

1419. _____. Nigeria; a descriptive geography. 2nd ed. Ibadan, O.U.P., 1962. vi, 186p. diagrs. maps.

1420. _____. Nigeria; a descriptive geography. 3rd ed. Ibadan, O.U.P., 1966. 184p. diagrs. maps.

CGP
UKPT

1421. PUGH, John C. and A.E. Perry. Nigeria. In 'A short geography of West Africa.' London, University of London Press, 1960.

Factual, descriptive regional geography for 'O' and 'A' level examinations.

CGP
NGLM
BGI

1422. QUINN-YOUNG, Charles T. and T. Herdman. Geography of Nigeria. London, Longmans, Green, 1946, vii, 219p.

General regional geography of 'O' level standard.

CGP
BGI

1423. QUINN-YOUNG, Charles T. and T. Herdman. Geography of Nigeria. 2nd ed. London, Longmans, Green, 1948. vii, 219p.

1424. _____. Geography of Nigeria. 3rd ed. London, Longmans, Green, 1951. vii, 219p.

1425. _____. Geography of Nigeria. 4th ed. London, Longmans, Green, 1954. vii, 223p.

1426. _____. Geography of Nigeria. 5th ed. London, Longmans, Green, 1957. vii, 223p. illus. diagrs. maps.

1427. _____. Geography of Nigeria. 6th ed. London, Longmans, Green, 1961.

1428. SIRCAR, Parbati Kumar, ed. Nsukka Division: a Geographical appraisal. Nsukka, University of Nsukka, Dept. of Geography, 1965.

Collection of essays on the geography of the Division preparatory to the 1965 Annual Meeting of Nigerian Geographical Association in Nsukka.

1429. STAMP, Laurence Dudley. Nigeria. In his 'Africa, a study in tropical development.' New York, J. Wiley, 1953. p.304-320.

Broad outline of social and economic geographic features with special emphasis on Kano and environs.

CGP
NGLM
BGI

1430. _____. Nigeria. In his 'Africa: a study in tropical development.' 2nd ed. New York, J. Wiley, 1964.

CGP
UKPT

1431. SUGGATE, L.S. Nigeria. In his 'Africa'. London, G. Harrap, 1929. p.185-192. (Harrap's new geographical series).

Brief description of major physical and economic geographic features.

1432. SUGGATE, L.S. Nigeria. In his 'Africa'. 2nd ed. London, G. Harrap, 1933. p.185-192. (Harrap's) new geographical series).

1433. _____. Nigeria. In 'Africa.' 3rd ed. London, George G. Harrap, 1940. p.185-192. (Harrap's new geographical series).

1434. _____. Nigeria. In 'Africa.' 4th ed. London, George G. Harrap, 1949. p.186-193. (Harrap's new geographical series).

1435. _____. Nigeria. In 'Africa'. 5th ed. London, George G. Harrap, 1956. p.186-193. (Harrap's new geographical series).

CGP

1436. _____. Nigeria. In 'Africa'. 6th ed. London, George G. Harrap, 1960. p.230-242. (Harrap's new geographical series).

1437. _____. Nigeria. In 'Africa'. 7th ed. London, George G. Harrap, 1964. p.231-242. (Harrap's new geographical series).

UKPT
BGI

1438. _____. Nigeria. In his 'Africa'. 8th ed. London, George G. Harrap, 1966. p.232-243. (Harrap's new geographical series).

UKPT

1439. _____. Nigeria. In his 'Africa'. 9th ed. London, George G. Harrap, 1968. p.232-243. (Harrap's new geographical series).

1440. UDO, Reuben K. Geographical regions of Nigeria. London, Heinemann Educational Books, 1970. xi, 212p. 84 diagrs. 52 plates.

Authoritative textbook for high school and university students whose approach and content make it entirely different from, and largely superior to, Buchananan and Pugh's Land and People in Nigeria (1955).

CGP
NGLM
GA-D

1441. UDOH, G.H. An elementary school geography for Eastern Nigeria. Book 1 (for Elementary Four). Lagos, Macmillan, 1966. 95p. illus. maps, plates.

Introduces some fundamentals of geography based on examples from former Eastern Region.

APPENDIX B

RANKED LIST OF PERIODICALS ANALYZED

Rank	Periodical Title	No. of Articles
1	Nigerian Geographical Journal	122
2	Nigeria Magazine	97
3	Farm and Forest	58
4.	University Geographer	51
5	Nigeria Trade Journal	45
6	Geographical Journal	40
7	Soil Survey Bulletin	37
8	African Affairs	30
9.5	Nigerian Field	22
9.5	Nigerian Opinion	22
11.5	Africa (London)	20
11.5	Nigerian Journal of Economic and Social Studies	20
13	Research Notes	19
14	Journal of Ecology	17
15	Economic Geography	15
16.5	Geographical Magazine	13
16.5	Statistical and Economic Review	13
18	Journal of Tropical Geography	12
19.5	Royal Meteorological Society, London. Quarterly Journal	11
19.5	Scottish Geographical Magazine	11
22	Cotton Growing Review	10
22	Geographical Review	10
22	Institute of British Geographers. Transactions	10

Rank	Periodical Title	No. of Articles
25	Bulletin of Entomological Research	8
25	Erdkunde	8
25	Odu	8
28.5	Geography (Sheffield)	7
28.5	New Commonwealth	7
28.5	Tijdschrift voor Economische en Soial Geografie	7
28.5	West African Science Association Journal	7
31.5	Corona	6
31.5	Zeitschrift für Geomorphologie	6
35	African Soils	5
35	Association of American Geographers. Annals	5
35	Colonial Development	5
35	Institut Fondamental d'Afrique Noire. Bulletin. Série A: Sciences Naturelles	5
35	West African Review	5
41.5	African Notes (Ibadan)	4
41.5	African Urban Notes	4
41.5	Commonwealth Forestry Review	4
41.5	Economic Development and Cultural Change	4
41.5	Focus	4
41.5	Geological Survey of Nigeria. Records	4
41.5	National Geographic Magazine	4
41.5	Nigerian Agricultural Journal	4
53.5	Advancement of Science	3
53.5	Ghana Geographical Association. Journal	3
53.5	Historical Society of Nigeria. Journal	3
53.5	Ibadan	3
53.5	Institut Fondamental d'Afrique Noire. Bulletin. Série B. Sciences Humaines	3
53.5	Journal of Modern African Studies	3
53.5	Journal of Soil Science	3
53.5	Nature; a weekly journal of science	3

Rank	Periodical Title	No. of Articles
53.5	New Africa (London)	3
53.5	Nigerian Journal of Science	3
53.5	Samaru Miscellaneous Papers	3
53.5	Science Association of Nigeria. Proceedings	3
53.5	Sociological Review (Keele, England)	3
53.5	South African Geographical Journal	3
53.5	Tijdschrift van het Konninklyjk Nederlandsch Aardrijkskundig Genootschap	3
53.5	Tropical Agriculture	3
68	African World	2
68	Association of Pacific Coast Geographers. Yearbook	2
68	Bulletin Agricole du Congo Belge	2
68	Bulletin of Rural Economics and Sociology	2
68	Ekistics	2
68	Empire Survey Review	2
68	Journal of African History	2
68	Nigerian Scientist (Umuahia)	2
68	Pacific Viewpoint	2
68	Royal Society of London. Philosophical Transactions. Series B. Biological Sciences	2
68	Tijdskrit vir Aardryskunde	2
68	Vegetatio Acta Geobotanica	2
68	World Today	2
115.5	Africa Report (London)	1
115.5	African Arts (Los Angeles)	1
115.5	African Studies (Johannesburgh)	1
115.5	Africana Bulletin (Warsaw)	1
115.5	American Anthropologist	1
115.5	American Association of Petroleum Geologists. Bulletin	1
115.5	American Institute of Planners. Journal	1
115.5	American Journal of Economics and Sociology	1
115.5	Archiv für Meteorologie, Geophysik, und Bioklimatologie. Ser. B. Klimatologie, Bioklimatologie	1

Rank	Periodical Title	No. of Articles
115.5	Area	1
115.5	Australian Geographer	1
115.5	California Geographer	1
115.5	Canadian Geographical Journal	1
115.5	Cartographic Journal	1
115.5	Climatological Bulletin	1
115.5	Commonwealth Bureau of Soil Science. Technical Communication	1
115.5	Commonwealth Survey	1
115.5	Economic Bulletin for Africa	1
115.5	Economic Geology and the Bulletin of the Society of Economic Geologists	1
115.5	Empire Forestry Review	1
115.5	Engineering Geology	1
115.5	Geografie Tijdschrift	1
115.5	Geografiska Annaler. Series A. Physical Geography	1
115.5	Geographical Analysis	1
115.5	Geographical Society. Journal (Lagos)	1
115.5	Geographische Berichte	1
115.5	Geological Magazine	1
115.5	Geological Survey of Nigeria. Memoranda	1
115.5	Geologie en Mijnbouw	1
115.5	Giessener G. Schriften	1
115.5	Institute of British Geographers. Special Publications	1
115.5	Institution of Water Engineers. Journal	1
115.5	International Journal of Comparative Sociology	1
115.5	International Labour Review	1
115.5	Journal of Administration Overseas	1
115.5	Journal of Experimental Agriculture	1
115.5	Journal of Geography	1
115.5	Journal of Regional Science	1
115.5	King's College Geographical Society. University of Durham. Journal	1

Rank	Periodical Title	No. of Articles
115.5	Kulturgeografie	1
115.5	Lagos Notes and Records	1
115.5	Lejeunia	1
115.5	Lund Studies in Geography	1
115.5	Man	1
115.5	Mass Education Journal	1
115.5	Meteorological Magazine	1
115.5	Natural History	1
115.5	Netherlands Journal of Agricultural Science	1
115.5	New York Academy of Sciences. Transactions	1
115.5	Niger Delta Development Board and News Features	1
115.5	Nigeria Marketing Board Journal	1
115.5	Nigerian Forestry and Information Bulletin	1
115.5	Nigerian Mining, Geological and Metallurgical Society. Journal	1
115.5	Nigerian Ports Authority News	1
115.5	Overseas Geology and Mineral Resources	1
115.5	Oxford Forestry Memoirs	1
115.5	Photogrammetric Record	1
115.5	Population Studies	1
115.5	Présence Africaine	1
115.5	Professional Geographer	1
115.5	Revue de Geomorphologie Dynamique	1
115.5	Royal Anthropological Institute. Journal	1
115.5	Royal Engineers Journal	1
115.5	Royal Entomological Society. Transactions	1
115.5	Royal Geographical Society. Journal	1
115.5	Rural Sociology	1
115.5	Scientific American	1
115.5	Sierra Leone Geographical Journal	1
115.5	The Society of Health (Lagos). Journal	1
115.5	Soil Survey Report	1

Rank	Periodical Title	No. of Articles
		1
115.5	Svensk Geografisk Arsbok	1
115.5	Swansea Geographer	1
115.5	Town Planning Review	1
115.5	United Empire	1
115.5	Urban Affairs	1
115.5	Urban Studies	1
115.5	West Africa Magazine	1
115.5	West African Journal of Education	1
115.5	West African Medical Journal	1
115.5	World Land-Use Survey. Occasional Papers	1

N = 156

APPENDIX C

MAJOR BIBLIOGRAPHIES CONSULTED

AKINYOTU, Adetunji. A bibliography on development planning in Nigeria, 1955-1968. Ibadan, Nigerian Institute of Social and Economic Research, 1968. vi, 133p.

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_____ _____ Library Record. (Monthly).

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9. WOLPE, Howard. A study guide for Nigoria. Boston, Mass., Development Program, African Studies Center, Boston University, 1966.

APPENDIX D

GEOGRAPHICAL CO-ORDINATES OF SPECIFIC PLACES SHOWN IN FIG. 4

No.	Place	Geographical Coordinates	No.of Publications
1	Aba	5 07 ; 7 22	1
2	Abeokuta	7 10 ; 3 26	3
3	Abiriba	5 42 ; 7 45	1
4	Abuja	9 16 ; 7 02	2
5	Agulu Ani	6 06 ; 7 04	3
6	Aiyetoro	6 08 ; 4 48	5
7	Anambra-Do Rivers Area	7 18 ; 7 30	1
8	Anchau	10 55 ; 8 48	3
9	Aro	7 12 ; 3 18	1
10	Auchi	7 03 ; 6 20	1
11	Auna	10 12 ; 4 50	1
12	Azare	11 50 ;10 15	1
13	Bacita	9 08 ; 4 55	7
14	Badagri	6 22 ; 2 52	4
15	Benin City	6 19 ; 5 38	1
16	Bida	9 05 ; 6 00	1
17	Bindawa	12 42 ; 7 45	1
18	Birnin Kebbi	12 30 ; 4 18	1
19	Birnin Yauri	10 45 ; 4 46	1
20	Biu	10 38 ;12 12	1
21	Bomo	11 09 ; 7 38	1
22	Bonny	4 40 ; 7 05	1
23	Burutu	5 15 ; 5 32	1
24	Calabar	4 58 ; 8 19	4
25	Cross River	5 30 ; 8 02	1
26	Daudawa	11 40 ; 7 10	4

No	Place	Geographical Coordinates	No. of Publications
27	Enugu	6 25 ; 7 29	7
28	Erin	7 30 ; 4 35	2
29	Escravos	5 36 ; 5 10	4
30	Fashola	7 52 ; 3 55	1
31	Forcados	5 12 ; 5 32	1
32	Gadau	11 50 ; 10 12	2
33	Gongola River	11 00 ; 11 20	2
34	Gumel	12 50 ; 9 25	1
35	Gwadabawa	13 30 ; 5 18	1
37	Hadejia	12 28 ; 10 03	1
38	Hadejia River	12 18 ; 8 30	1
39	Ibadan	7 23 ; 3 54	59
40	Idanre	7 07 ; 5 07	7
41	Igan Alade	7 00 ; 3 02	1
42	Igbetti	8 44 ; 4 08	1
43	Ikeja	6 42 ; 3 24	1
44	Ile-Ife	7 35 ; 4 36	2
45	Ilorin	8 30 ; 4 32	3
46	Irun	7 30 ; 5 52	1
47	Iseyin	7 59 ; 3 35	7
48	Iwarun	7 30 ; 4 05	1
49	Iwo	7 46 ; 4 14	1
50	Jega	12 23 ; 4 25	1
51	Jema'a	9 28 ; 8 20	2
52	Jesse	5 48 ; 5 50	1

No	Place	Geographical Coordinates	No. of Publications
53	Kabba	7 51 ; 6 03	1
54	Kaduna	10 31 ; 7 25	8
55	Kaduna River	10 05 ; 8 06	1
56	Kaena	8 15 ; 8 48	1
57	Kaltungo	9 48 ; 11 16	1
58	Kano	12 00 ; 8 29	22
59	Katsina	13 00 ; 7 35	2
60	Katsina Ala	7 15 ; 9 18	1
61	Lafiagi	9 03 ; 5 20	1
62	Lagos	6 28 ; 3 25	42
63	Lau	9 12 ; 11 16	1
64	Maiduguri	11 51 ; 13 09	3
65	Maku	6 42 ; 7 26	1
66	Manbilla Plateau	7 00 ; 11 10	4
67	Mamu River (and Basin)	6 20 ; 7 05	1
68	Mokwa	9 13 ; 5 07	8
69	New Bussa	9 48 ; 4 30	2
70	Nguru	10 52 ; 10 28	1
71	Nsudde	6 35 ; 7 20	1
72	Nsukka	6 52 ; 7 22	3
73	Ochanja	7 18 ; 7 10	2
74	Ogun River	8 15 ; 3 46	2
75	Okene	7 29 ; 6 13	3
76	Okitipupa	6 26 ; 4 48	2
77	Okomu	7 55 ; 5 48	1
78	Old Ọyọ	9 00 ; 4 25	6
79	Olla	7 34 ; 4 18	1
80	Olokemeji	7 26 ; 3 37	7

No	Place	Geographical Coordinates	No. of Publications
81	Ono	7 00 ; 4 30	1
82	Onigbongbo	6 40 ; 3 08	1
83	Onitsha	6 09 ; 6 47	6
84	Oshogbo	7 48 ; 4 29	2
85	Ọṣọṣọ	7 31 ; 6 21	1
86	Oturkpo	7 13 ; 8 09	1
87	Ọyọ	7 51 ; 3 56	2
88	Port Harcourt	4 47 ; 7 00	2
89	Rima River	13 35 ; 6 03	1
90	Samaru	11 04 ; 7 40	5
91	Sapẹlẹ	6 00 ; 5 45	3
92	Semorika	7 30 ; 6 19	1
93	Shaki	8 40 ; 3 22	3
94	Shika	11 09 ; 7 28	1
95	Soba	11 00 ; 8 03	2
96	Sokoto	13 03 ; 5 14	5
97	Sokoto River	12 30 ; 4 35	1
98	Ta Hoss	9 45 ; 8 42	1
99	Uburu	5 56 ; 7 56	1
100	Udi	6 22 ; 7 23	1
101	Umor	6 08 ; 8 45	1
102	Umuahia	5 32 ; 7 30	2
103	Umueko-Agbaja	5 36 ; 7 34	1
104	Vogel Peak Massif	8 25 ; 11 47	1
105	Von	9 41 ; 8 46	1

No.	Place	Geographical Coordinates	No. of Publications
106	Warri	5 31 ; 5 42	1
107	Wase	9 09 ; 9 58	2
108	Wurno	11 15 ; 5 33	1
109	Wushishi	9 45 ; 6 06	1
110	Yelwa	10 54 ; 4 45	1
111	Yobe River	13 03 ; 11 50	1
112	Zaria	11 03 ; 7 41	8
113	Zungeru	9 48 ; 6 09	1
114	Zuru	11 28 ; 5 03	1
115	Kainji Dam Area		20
116	Lake Chad Basin Studies		18

APPENDIX E

RANKED LIST OF CORE AUTHORS

Rank	Author	No. of Entries
1	Mabogunje, Akin L.	33
2	Prothero, R. Mansell	23
4	Fitzgerald, Walter	20
4	Morgan, W.B.	20
4	Udo, Reuben K.	20
6	Higgins, G.M.	17
7.5	Grove, Alfred T.	16
7.5	Pugh, John C.	16
9	Church, R.J. Harrison	15
11	Hodder, B.W.	14
11	Pullan, R.A.	14
11	United Africa Company	14
13.5	Garnier, Benjamin J.	13
13.5	Ojo, Gabriel J.A.	13
17	Akinola, R.A.	11
17	Clayton, W.D.	11
17	Floyd, Barry	11
17	Keay, R.W.J.	11
17	Moss, R.P.	11
20.5	Prescott, J.R.V.	10
20.5	Stamp, Laurence D.	10
24	Hopkins, Brian	9
24	Nash, T.A.M.	9
24	Nzekwu, J. Onuora	9
24	Suggate, L.S.	9
24	Vine, H.	9
29	Bovill, Edward W.	8
29	Buchanan, Keith M.	8

Rank	Author	No of Entries
29	Oboli, H.O.N.	8
29	Ofomota, G.E.K.	8
29	Thomas, Michaol F.	8
36.5	Adejuwon, J.O.	7
36.5	Adejuyigbe, Omolade	7
36.5	British West African Meteorological Services	7
36.5	Kirk-Greenee, Anthony H.M.	7
36.5	Mortimore, Michael J.	7
36.5	Oguntoyinbo, J.S.	7
36.5	Ramsay, D.M.	7
36.5	Story, R.L.	7
36.5	Toulinson, P.R.	7
36.5	U.S. State Department	7
47.5	Agboola, S.A.	6
47.5	Ajaegbu, H.I.	6
47.5	Barbour, K.M.	6
47.5	De Leeuw, Peter N.	6
47.5	Forde, C. Daryll	6
47.5	Hope, W.A.	6
47.5	Faniran, Adetoye	6
47.5	Jarrett, H.R.	6
47.5	Jones, G.C.I.	6
47.5	Jungerius, P.D.	6
47.5	Lloyd, P.C.	6
47.5	Netherlands Engineering Consultants (NEDECO)	6

N = 53

APPENDIX F

SAMPLE QUESTIONNAIRE TO PHYSICAL GEOGRAPHY LECTURERS IN NIGERIAN UNIVERSITIES

Names:

Address:

Qualifications: B.A. ☐; B.Sc. ☐; M.A. ☐; M.Sc. ☐; M.Phil. ☐; Ph.D. ☐; D.Phil. ☐; Docteur de 3 éme cycle ☐; other ☐ G.C.E. 'O' Level, W.A.S.C., or equivalent; Subjects:

G.C.E. 'A' Level, H.S.C., or equivalent; Subjects

Degree Subjects:
Part I:
Part II:
Part III:

Higher Degrees:
Master's; Title of Thesis and year:

Doctorate; Title of Thesis and year:

Major Area of Specialization (Please, tick ONE only)
Biogeography ☐
Geomorphology ☐
Climatology ☐
Cartography ☐
Photogrammetry & Air-photo Interpretation ☐
Other. Please, specify ☐

Signature:

Date:

APPENDIX G

AUTHOR'S BIOGRAPHICAL RESUMÉ

Born in Iyara, Kwara State, on August 23, 1942 the third child and only son of five children. Received my primary school education at St. Paul's School, Iyara (1949-1956); secondary school education at Government Secondary School, Okene (1957-1963) where I obtained both the West African School Certificate and the Higher School Certificate in 1961 and 1963 respectively. Obtained a Second Class Upper Honours degree in Geography at Ahmadu Bello University in June, 1967 having successfully completed a summer school course in French at the Université de Dakar in 1965.

Made up my mind to become a librarian in summer, 1963 when I worked at the then Northern Regional Library in Kaduna. Subsequently worked Jan.-Sept. 1964, June-July, 1965, June-Sept. 1966, and June 1967-Sept. 1968 at Ahmadu Bello University Library before coming to the University of Ibadan in October, 1968 and obtaining the Postgraduate Diploma in Librarianship (with distinction) in June, 1969. Immediately registered for the master's degree in librarianship until my appointment as Assistant Lecturer August 1, 1969. Since then I have carried on this research on a part-time basis except July, 1972-March, 1973 when I was on study leave at the University of Wisconsin, Madison, U.S.A.

My interest is mainly in the area of Advanced Bibliography and Documentation (Bibliometrics) generally and in geographical literatures in particular. Have completed the following investigations in the area of geographical documentation, some of which are cited in this thesis:

1. Geography, wars, and the Nigerian situation; a bibliographic analysis. Ibadan, Institute of Librarianship, 1970. 26pp. (Occasional paper, no.4).

2. Problems of complete bibliographic control: the position of geography in relation to the social sciences. Nigerian Libraries (Ibadan) vol. 7, nos. 1 & 2, April & August, 1971, pp.1-11.

3. The Widening frontiers of bibliographic research; some aspects of 'applied' bibliography. (Research Report presented to the Annual Conference, Nigerian Library Association, Jos, 1971). 13pp.

4. The languages and format of geographical literature; a comparative study. International Library Review (London & New York) vol. 5, no. 1, Jan. 1973, pp. 53-62.

5. An Evaluation of the geographical resources at the University of Pittsburgh Libraries. Pittsburgh, University of Pittsburgh, 1972. 60pp. (Being text of Report).

6. The Periodical literature of geography. Libri (Copenhagen) vol. 22, no. 3, Oct. 1972. pp.169-182.

Married with two children, a boy (6 years) and a girl (3 years).