

GEOGRAPHY AND AFRICAN

DEVELOPMENT

Professor Simeon H. Ominde

Inaugural Lecture

University College Nairobi

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Reprinted from:

Ominde, S.H. (ed.) Studies in East African geography and development:
essays presented to S.J.K. Baker London: Heinemann Educational Books,
1971, p. 1-8

1 Geography & African Development

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I. THE DEVELOPMENT OF THE GEOGRAPHICAL DISCIPLINE

In the rapidly expanding institutions of higher learning in East Africa the development of the geographical discipline is but the culmination of a period of intense intellectual application to the challenges of Africa. Within the context of East Africa, it is proper that we should record our debt in particular to the vision of Professor S. J. K. Baker and his colleagues for their faith in the establishment of Makerere School of Geography, and to the part it has played in extending the horizon of geographical tradition in East Africa.

I shall later comment on the specific research contribution of this school and that of the University College, Dar-es-Salaam. However, it is necessary to remind ourselves that as the University institutions in East Africa enter the next phase of their development, Makerere and its sister colleges have played a crucial role in meeting the high-level manpower needs of East Africa. I have a special privilege in recording our debt to Professor W. T. W. Morgan and those of his colleagues who were available at a critical moment in the initial stages of the growth of the University College, Nairobi, who helped to ensure that the geographical discipline secured a respected place in the developing structure of the academic commitment to the Kenya nation, East Africa, and the wider international community of which we are a part. We need also to record the welcome development of the geographical tradition in its new base at Dar-es-Salaam under the resourceful leadership of Professor Berry and his colleagues.

In choosing Geography and Development as the theme of this paper, I have done so to remind readers of the ultimate role of our intellectual activity in the challenges facing our continent. But there is a more positive reason underlying the choice of theme. In the context of United Nations Development Decade it is only proper that we should examine our role in the practical situation facing our countries and continent. The 'economic take-off' by the continent of Africa in this second half of the twentieth century demands that the intellectual activities on which success or failure will depend should be constantly under review.

In the narrower sense it is difficult to resist the temptation to use this opportunity to clear up some misunderstandings regarding our role or reason for existence within the general educational framework. In many areas of our educational experience we are paralysed by philo-

sophical disputes which are part of the colonial educational legacy. Lacking in originality, we tend to be lost in academic disputes which have no foundation in the realities of our development. The extent to which twentieth-century African geography will free itself from the methodological uncertainties of its parentage will depend on the comprehension of a growing generation of geographers, with a vision of their discipline not as restricted within narrow national, faculty, or departmental confines, but as a dynamic intellectual activity of great practical importance to economic and social development in the modern world. It will also depend on the extent of their contribution to finding and adapting new methodological approaches, and in particular, the use of new techniques that are becoming rapidly available and are being put to good use by scholars in other disciplines and in more developed parts of the world.

2. THE GEOGRAPHICAL TRADITION AND THE NATURE OF MODERN GEOGRAPHY

In a community of scholars in which we have made a distinctive contribution, I do not feel the need to offer an apologia for my subject. However, it is natural that I should make a few observations concerning the nature of our intellectual activity. In the first place the rapid pace of development of our institutions of higher learning in East Africa and new ideas to which we must constantly adapt ourselves from time to time raise the question as to what geographers are supposed to be doing.

In the second place, our cultural relations with the rest of the world unfortunately put us in a situation in which we tend to be concerned with disputes in the educational sphere for several decades after they have had their impact in the European world and elsewhere. In Europe today, where the stress is on teaching and research, the administrative base is secure and the dispute about which fold geography belongs to is a matter of the past. But in some of our institutions the efforts of geographical scholars tend to be frustrated by the discipline mould which we have inherited, a situation that is contrary to the nature of geographical thought and to the development challenge that East African countries present to geographers.

However, even if such problems continue to exist in the developed countries of the world, the facts of development in Africa require that the role of geography in the transformation of our natural resources and development of our human resources be correctly appreciated. Such an appreciation calls for insight into how geographers have

shaped the discipline over the past hundred years. A. E. Perkins, surveying the American scene in the early twentieth century, recorded general agreement that geography was concerned about the earth and knowledge about life on it.¹ Others (to resolve the dispute) have taken the view that 'Geography is what Geographers do'.² Another distinguished American geographer once defined geography as 'The science of areal differentiation', and later added 'geography is concerned to provide accurate, orderly and rational description and interpretation of the variable character of the earth'.³ These definitions are but a fragment of the wealth of literature that has accumulated as a result of over a century of intense intellectual discussion, in an attempt to clarify the scope and subject-matter of geography. We are aware that the dispute rages with no less fury in the Socialist countries, despite the tremendous contribution of the subject to development in these countries.

In the Soviet Union Academician Gerasimov has drawn attention to the difficulties over the subject-matter and definition of approach to phenomena to be studied which have yet to be overcome by geographers. But geography as an intellectual activity in the Soviet Union aims at ascertaining and clarifying connections between natural phenomena in different parts of the earth's surface or between characteristics of the population and the economy in the national and world-wide context.

The diversity of approach outlined here is a reflection of the varied strands which have come to make up the modern complex discipline of geography over the last century. It is natural that professional geographers in the universities and institutes should be at the centre of this controversy. But practising teachers and a large number of educationists have also contributed definitions which in the main reflect their area of special interest in geography.

Modern geography had its beginnings in the great surge of intellectual and social activity of the nineteenth century. It was a time when the transport revolution had created a new awareness of place and the differences between places of which an increasing number of observers were beginning to have first-hand experience. With the triumph of the scientific method intellectual activity on an unparalleled scale was unleashed to systematize the vast accumulation of factual material. This new phase of scientific activity could be described in terms of 'Curiosity for its own sake, but also interest in industrial techniques, and practical control; freedom of inquiry; experimental verification in place of authority; full publication and abun-

dant discussions'.⁴ Its wider impact on intellectual activity in general has been to categorize specialization of thought and the development of analytical techniques in association with particular phenomena.⁵ The nineteenth-century scholars who launched the discipline in its modern form were deeply dissatisfied with the current trend of ever narrower specialization which threatened the unity of intellectual life.

This nineteenth-century intellectual framework in which modern geography was moulded also led to a tendency to explain social change in terms of features of the physical environment. It was responsible for the subsequent revolt of some geographers against the narrow approach of environmental determinism. This was an intellectual revolt which once more shifted the centre of gravity in geographical thought towards human activities. Perhaps the most significant and lasting aspect of this shift was the birth of the 'Regional' school of geographers, led by eminent names in French geography such as Vidal de la Blache, Reclus, St Martin, and Maunoir.

The regional method in geography emerged at a time when the application of the methods of natural science to the social sciences was under attack. The foundation for systematic geography had been firmly laid and the genius of French scholars turned to interpretation and exposition. Together with other landmarks in the development of the geographical tradition, the emergence of the 'Regional' school illustrates the importance of the prevailing intellectual climate of the day on the work of geographers.

I have outlined the changing ideas in the developing geographical tradition not to arrive at an agreed definition but to set the framework for the diverse views of geographers about the purpose of their intellectual inquiry. In this connection I need to mention another intellectual surge which has added yet another framework of reference to geography as an intellectual pursuit. This is the emergence of Marxist ideology. Modern Soviet geographers address themselves to their challenge within the framework of the principles of dialectical materialism. Thus our expectation of a single definition within the world's intellectual framework must recede even farther. But even in such a situation, the distinctive characteristic of geographical methodology is defined as generalization and synthesis—'which is just as essential to the progress of science as the analytical work done within the narrower framework of a more specialized scientific discipline'.⁶ I shall have more to say about the contribution of geography to development in the socialist economies at a later stage.

3. WESTERN GEOGRAPHICAL TRADITION IN THE CONTEXT OF AFRICAN GEOGRAPHICAL CHALLENGE

In a sense to superficially attach the label 'African' to a scientific discipline might justify the charge not only of narrow nationalism but also of intellectual bankruptcy. The invitation here to examine the distinctive African character of our task as geographers in my opinion has two main justifications. In the first instance, as part of the modern intellectual re-awakening of our continent, we are challenged to reflect on geography as an intellectual activity within the context of the African development situation, and of Africa in its adjustment to the world setting. In this respect, we see this intellectual tradition adapting itself to the wider intellectual climate of a changing Africa. Here is an opportunity to place in perspective the contribution of the Western geographical tradition to the understanding of problems of African development and global relations.

In the second place, if African development is not a blind imitation of the course of events in the countries which have so far nursed the geographical tradition, then there is need for a redefinition of the goals which would determine the evolving theoretical and practical role of the subject in the solution of our development problems. This is the question of the African philosophy of economic and social development. In this lies the distinctive contribution of African scholars to expanding the intellectual horizon through geographical research and teaching.

Like most aspects of the modern intellectual traditions in Africa, geography as a discipline belongs to that phase which might be called a phase of cultural intrusion. It is owing to our manpower situation that the place and philosophy of geography in the face of our challenge must for some time depend on overseas support and inspiration. This in a large measure means exposure to and assimilation of those traditions of geography from its past sources which have become inextricably woven into the modern fabric of geography as a scientific discipline in Africa.

In its critical formative period during the second half of the nineteenth century the growth of geography was essentially part of the upsurge of western intellectual activity. In Europe and America it developed in a closely knit international intellectual atmosphere, flourishing side by side with progress in the conquest of nature. Whether from Germany, whence it inherited its scientific gene, or from France and Britain, where the humanist strain made a distinctive contribution, the complex stream of modern

geography as an intellectual activity very clearly became an essential instrument in African political, social, and economic development. In Europe and America it was a practical concern of statesmen, missionaries, merchants, commercial entrepreneurs, and even other adventurers with their interest in the expanding world-horizon. The encyclopedic geography of the exploration period was in the main part of a drive to meet the needs of a rapidly expanding European sphere of influence. But at the same time, in America, it was harnessed in the service of the expanding American frontier, particularly that of better knowledge and control of American resource bases.

The discipline was forged by scholars, partly in institutions of higher learning, who were acutely conscious of the importance of the educational system in its establishment. Many of the pioneers of modern geography devoted their time to encouraging the growth of geography in schools. It emerged in the educational scene at a time of fierce competition for a place in the timetable, and the threat is not entirely over. The difficult circumstances of the birth of the discipline has had the effect of putting professional geographers on the defensive and of giving emphasis to the definition of the role of geography and the place of its changing methodology.

For many years the Western geographical tradition in Africa continued as a ray illuminating African enterprise from its home base, selecting for study those aspects which fitted into the intellectual framework of the time. The founding of educational institutions in Africa, especially in the mid-twentieth century, therefore constitutes an important milestone in the establishment of African geography as an intellectual and practical activity. With the foundations of institutions of higher learning, the Western geographical endeavour in Africa found a base and new media, in which the discipline could begin a fresh period of growth in the service of new nations and a continent faced by new challenges. It is this phase that bears the indelible mark of Professor S. J. K. Baker and colleagues who worked with him in East Africa.

We must pass on to an important field in which the geographical tradition outlined has made a permanent contribution to African geography. This is the vital field of cartography. The great achievements of European and American geography in African development form a lasting chapter in the cartographic revolution. The advances in cartography were stimulated by the need to codify information gathered from both known and newly explored parts of the world.

Through official surveys and private atlases, valuable

geographical information on our continent has been recorded for posterity. Cartography is now a highly specialized science in which geographers continue to play an important role. Great names in this cartographic revolution have an honoured place in the development of geographical science just as much as the distinguished scholars and societies that were responsible for the development of the discipline we have now inherited.

However, despite the basic importance of cartographic advances to modern geography in Africa, inadequate cartographical resources continue to be one of the most critical limitations in our task. The cartographic science is part of the essential technological equipment of the more developed parts of the world. Its successful establishment in the service of African advance is a major development challenge. Large areas of the continent are inadequately mapped or still depend on former metropolitan countries for their cartographic needs despite increased local activity. In English-speaking Africa an increasing share of the basic topographic mapping is done locally. But in former French colonies the basic topographic mapping is done almost wholly in France. Local activity is confined largely to cadastral surveys and revision of topographical sheets.

In Britain the Directorate of Overseas Surveys was established after the Second World War to meet the expanding needs of the Commonwealth countries. But with the rapid increase in the number of independent countries, new difficulties began to arise. Delay in execution of the assignments is one of the major problems. Further, there is the cost of new production techniques, which have already been employed for other countries. These difficulties point to the urgency of pooling African resources to expand the cartographic service in support of development programmes.

I have referred to the role of cartography in advancing geographical knowledge about Africa not simply as a distinctive contribution of the Western geographical tradition, but to stress the making of maps as a basic geographical technique which must receive the increasing attention of geographers in developing Africa. I must in concluding this section pass on to review geographical specialization and new changes in methodology, which are equally important in extending the frontiers of our discipline in the face of development problems of the continent.

Specialization is as old as the formal study of geography. However, the present trend towards specialization is in essence a legacy of the nineteenth-century traditions of the subject. We have already noted that the scholars

who fashioned the geographical discipline in the nineteenth and early twentieth centuries were trained in other disciplines. They established the discipline by asking themselves geographical questions, or by seeking geographical solutions to problems of the organization of knowledge.⁷ In the face of deepening specialization modern geographers find themselves more and more called upon to master at least sections of the natural science within which their material lies. This is the problem of subject-matter orientation or specialization in geography, which has given rise to academic uncertainties about the activities of geographers and continues to hamper the understanding of some scholars not trained in the discipline. Physical geographers find themselves drawn into the sphere of the natural sciences concerned with the physical, chemical, and biological aspects of the earth. In the field of human geography research workers have now found themselves side by side with other social scientists concerned with such problems as population structures and trends, factors underlying migration, qualitative differences in population, and a wide range of problems of economic development or under-development.

The degree of specialization associated with the growth in geographical knowledge, and which is reflected in Western geographical traditions, must be regarded as a development in response to national and world-wide problems as seen through the eyes of geographers. These specialisms have become part of the widening horizon of African geography and form the foundation on which geographical tradition in East Africa must rest in serving development needs. However, it is necessary to draw attention to the fact that deepening specialization rests on the foundation of an important change in the techniques used. Western geography continues to be empirical in outlook, with increasing reliance on quantitative methods of analysis. Modern geographers in expanding their intellectual horizon have come to rely more and more on sophisticated statistical techniques throughout the whole spectrum of geographical specialization.

Statistical procedures do not comprise the entire activity of geographers. But since geographers are concerned with the integration of a large number of variables, advances in statistical techniques provide an undoubted and firm basis for geographic generalizations. Statistics also provide a meeting-ground on which the methodology of the physical and the social sciences can be accommodated. Among the current trends in research and teaching is the vital contribution of cross-fertilization by external concepts from the field of mathematical statistics and

systems analysis.⁸ The quantitative and systems-analysis revolution in geography is one of the most important developments in contemporary geographical thinking and teaching.

In the specialist field of economic geography a healthy intellectual exchange has emerged in connection with the role of economics in determining the form of geographical patterns, including urbanization. A renewed interest has developed in regional research and methods of regional analysis. Regional studies have received a powerful impact from the contribution of econometrics. Investigations have been directed to such practical issues as the economic performance of regions, industries needed to smooth out employment irregularities, and how to maximize the use of limited resource endowment. Geographers have followed with interest the strongly mathematical approach of economists to definition of regions through the techniques of input-output analysis and linear programming. Through inter-disciplinary research projects, geographers and economists are today participating in research activities of a very high standard.

So far geographical teaching and research has relied mainly on static models or abstractions. New developments in the use of models in economic geography include attempts at a dynamic infusion through the idea of chance process. The uncertainty principle which is now a common language in the mathematical world has been a scientific achievement of immense importance to the present and future contribution of geographical methodology and research. It is also a pointer to the danger of neglecting the mathematical basis in the development of geographical education and research, and of thinking of geography as soft option. In this field geography is on the threshold of developments which require increasing attention to the teaching of elementary statistics.

The spread of geographical activity in Africa from the West by direct research, teaching, and inspiration has left a rich and varied record. The records may be scattered in the annals of exploration, colonizing activities and settlement, and public service. It has left a permanent record in the role of geography as a recognized subject in the modern education of Africa's youth. But a mere extension of intellectual activity from outside would have meant little if geographers had not risen to the challenge of addressing themselves to the practical and theoretical problems of the African scene. This brief but varied history is best reflected in the records of research in the schools of geography that now form a well-established feature of our higher education system. It is on the univer-

sities to which Professor Baker contributed so much, and on other institutions of higher learning, that a full realization of geographical challenge must depend.

Within East Africa the contribution of geography to manpower needs and to research now forms a large part of the work of the new universities of Makerere, Nairobi, and Dar-es-Salaam. A summary of Makerere's contribution in its two decades of existence under the inspiring leadership of Professor S. J. K. Baker has been ably presented by B. W. Langlands.⁹ In the two decades of the development of the School our horizons in the specialist fields of the physical and human geography of East Africa have been extended by inspired individual research, and at times as part of much wider international programmes such as the International Geophysical Year or the International Hydrological Decade. Through these researches almost all the main branches of geography have received attention within the context of East Africa. The effect of this has begun to be felt in the insatiable geographical market for East African material.

At the University of Dar-es-Salaam, a geographical team is addressing itself to the development needs of the Tanzanian Government and to the undisputed gap in research and teaching material. A late-comer to the research field, the Department of Geography at Dar-es-Salaam already has an outline of research topics in both physical and human fields that underline a clear awareness of the development role of the discipline. In the expanding programme of research covering land use, land classification and regional planning, population problems, problems of water resources, political geography, biogeography, and geomorphology, the department is stretching its resources to realize its role as regards the urgent practical needs of the nation as well as the wider intellectual horizon.¹⁰

At the University of Nairobi, the need for geographers to address themselves to urgent problems of development is reflected in the growing output of research papers and books covering such fields as population problems in relation to planning, industrial and agricultural geography, land utilization, geomorphology, problems of large-scale irrigation, and in the compilation of the National Atlas. Educational institutions now have at their disposal school atlases reflecting a new concept of what school geography should be. This research is, as in the other institutions, directed to fulfilling the needs for data on which informed policy decisions could be based as well as to meeting the expanding needs indicated by the undergraduate and graduate programmes. This is but a beginning on the

foundation which must be further strengthened and must carry the future of the discipline in the service of African development in Kenya and Eastern Africa.

The advancement of geography in Africa continues to be nourished by the interest of international scholars throughout the world. In America the African Studies Association maintains the keen attention of some of the distinguished names in the development of twentieth-century geography. Regular visits are paid to the continent by scholars and students from Europe, North America, and other parts of the world.

In Britain interest in African geography is maintained by scholars who have taught or been engaged in research in various African countries. Geographical research and contributions in this field draw on the concern in developed parts of the world with the need to ensure a rational and rapid development of African resources to meet the expanding needs of her growing population. At a recent meeting of the British Association for the Advancement of Science Professor R. W. Steel took up the theme 'Geography and the developing world' for a Presidential Address to Section E of the Association. In this address the contribution of British and other scholars in the field of African geography is ably summarized. Professor Steel concluded his observations on the challenge facing the increasing number of trained geographers in Britain as follows:

If some of them practise the high calling of the geographer in the service of mankind, particularly for the benefit of the millions who live in the developing countries of the Third World, then they should share with us a real sense of satisfaction and of pride, of effort and of attainment. Here it seems to me is one of the great challenges in applied geography today and here in the developing countries surely lie some of our greatest opportunities.¹¹

Before I turn finally to consider the geographical tasks and needs of African development, I want to make brief references to contributions of the geographical discipline to development in the Marxist or centrally planned economies of the U.S.S.R. and China. The aim here is to form some impression of the activities and worldwide significance of the work of geographers within a different ideological and hence theoretical framework.

4. GEOGRAPHY AND DEVELOPMENT IN POLAND, THE U.S.S.R., AND CHINA

The emergence of Marxist ideology and theory of development has made a deep impression on the work of

geographers in such countries as Poland, Rumania, the U.S.S.R., and China. In Poland under the aegis of the Polish Academy of Sciences, following the end of the Second World War, the depleted ranks of Polish scholars played a crucial role in the planned recovery of the war-devastated economy.

The Proceedings of the Anglo-Polish Seminar published by the Institute of Geography under the auspices of the Polish Academy of Sciences in 1959 on 'Problems of applied geography' is a testimony to the importance of trained geographers for teaching, research, and the solution of the practical problems of development facing many nations.¹² In the Soviet Union geographers have made, and continue to make, vital contributions to modern scientific knowledge of the physical environment and planned utilization of the resources, as well as to an understanding of the pattern of world economies.

Soviet geographers count among their contributions a better knowledge of the nature of Soviet northlands, Central Asia, Siberia, and the Far East. Geographical investigations in remote Central Asia have promoted the economic development of water, land, and vegetation resources of these regions, as well as the utilization of the lifeless desert areas. Geography has played a key role in the ambitious programme for the transformation of nature and the integrated utilization of the natural resources of the state within the framework of Marxist social and scientific theory of development. Accumulation of data has proceeded hand in hand with the development of the Soviet theory of geography. Among the distinctive contributions, we need to mention Dokuchayev's theory of horizontal and vertical natural-vegetation zones, based on studies in European Russia and the Caucasus, Pavlov and the theory of glacial period, Voyeykov and the climatic characteristics of Russia and the world, Dokuchayev and Glinka and their contribution to the development of the modern principles of genetic soils science, as well as those of Morosov and others on the principles of geo-botany and zoo-geography.

The theoretical framework of Soviet geographers recognizes two broad fields of geographic generalizations. The field of physical geography is designated the 'Geographic Environment', and the theoretical aim of the field is defined as the 'formulation of laws governing the formation of the natural geographic environment as a single whole and the earth's surface in its parts'.¹³ Further, Soviet geographers recognize the field of economic geography as a second main area of generalization. Economic geography, which includes the study of population, is

concerned with social phenomena (distribution of production) and laws peculiar to the development of society. The general scientific objective of the entire field of geography is defined as 'the study of the natural geographic environment and of the geography of the economy and population of the whole world or its parts'.¹⁴

New developments visualized for Soviet geography include promotion of geographical fieldwork in all regions of the country, with special reference to their further economic development, the transformation of nature, and new large-scale construction projects. The aim of the field surveys is to contribute to the solving of practical problems and to assemble new data relevant to the development of Soviet science. In this respect emphasis is placed on regions of new agricultural development as well as the better knowledge of developed areas.

The geographic environment is studied in a dynamic setting with the object of 'full utilization of natural resources and elemental forces of nature on the basis of man's vigorous and purposeful action upon these natural forces and phenomena'.¹⁵ Economic geography must continue to be concerned 'both with further growth of productive forces in a socialist society and with their proper areal distribution'.¹⁶

In support of this ambitious programme for geography, great emphasis is placed on training young geographers. The need for specialization is accepted, but it is felt that it must be broadly based. Specialists in the field of physical geography are prepared to conduct integrated studies of the natural environment and natural resources of the various regions in the U.S.S.R. and to promote work in regional geography and cartography. In the field of economic geography specialists must be trained to work out problems involving integrated development of the economy of the regions, delimitations of economic regions, regional economic geography, and economic mapping. Considerable importance is attached to the need for an integrated programme of education for the universities, schools, and colleges.

In China theoretical and special geographical investigation and education is aimed at meeting the needs of life. Geographical research oriented by demands, and tasks continually set by life itself, are considered socially useful. Chinese geography has taken as its primary task researches connected with the most rational exploitation of the environment or its eventual transformation in order to meet the needs of rapidly growing society.

Practical application of the geographical sciences is being made in research on the economic use of such assets

as the Hwang Ho River, the Yangtze Kiang, the development of the arid and semi-arid lands of north-east China, as well as in the investigation of glaciers in the north-western mountain regions. Such studies are frequently accompanied by large-scale field surveys, sometimes involving well over 1,000 personnel.

Thus today research in geography is characterized by very large teams of field and laboratory personnel collaborating in complex investigations. In the education of young geographers training in applied aspects must begin during undergraduate days. Students have to learn to carry out by themselves projects developed in the course of their studies. Students of Peking University studying problems of erosion in the mountainous north-west prepared a plan to control erosion, constructed the necessary works, and over a period of time had to check the accuracy of their theoretical solution as applied in practice. As in the Soviet Union, there has been an increasing interest in the specialist area of economic geography.

5. GEOGRAPHY AND AFRICAN DEVELOPMENT

The image of geography I have presented is the image of a discipline in the service of development in a world setting. Throughout its century of growth as an academic discipline geography has continued to serve a variety of purposes. These have ranged from general information about the world, a clearer understanding of the changing relationship between man and environment, and data or information necessary for planned development.

Geography within the context of African development must contribute to the solution of the basic problem of poverty arising from under-development of resources in relation to population needs and from continuing imbalance between the high rate of population growth and the much slower rate of economic growth.

It is generally agreed that in the initial stages of economic 'take-off' in Africa top priority must be given to development of the agricultural base, which in turn would stimulate demand for manufactured goods. The activities of geographers have provided only a bare skeleton of manpower and technical knowledge. Development programmes are being conceived for a region in which the facts of geography are even more decisive than in the more developed parts of the world.

Agricultural transformation calls for urgent mobilization of latent production forces, in the first place by making optimum use of the land, water, and cattle, and secondly, by mobilizing the labour force. But such mobiliza-

tion is possible only if the obstacles arising from the natural, economic, and human environment are overcome.

In more developed parts of the world the professional contribution of geography finds expression in the institution of regional and urban planning. Planning at this level is the culmination of varied contributions for which geography is an essential educational preparation.

In many developing countries of Africa, and in particular in East Africa, participation of professional geographers in the solution of problems of development is not restricted merely by manpower limitation but also by the general unawareness of the practical or applied aspects of the discipline. The image in underdeveloped parts of Africa of geography as a discipline contributing only to our knowledge of the environment and man in it does not allow for the vast contribution that professional geographers are now making in the transformation of the developed parts of the world.

Geography occupies a strategic position in a drive that must be made towards a more rational and fuller use of the resources of the land and manpower to achieve higher standards of living in Africa. It is the meeting-ground of all the major problems that face Africa today, both within the continent itself and against the world setting. But the contribution of university geography, like that of many other disciplines, must rest on a secure foundation laid in the school system of the nation and guided by a dynamic philosophy of development. The geographers and the teachers of geography must consider the ultimate social purpose of their work. This is increasingly being underlined by the growing emphasis on the development of the rural areas of our East African world.

The wider aim of geographical education is to form part of a planned effort to develop an understanding of other people the world over. In schools the common aim of the teacher of geography, with other subjects, is to train future citizens to think wisely about political and social conditions in a world which must accommodate many differences. This is the aim of a broadly based geographical training. However, such a purpose is far from constituting the total challenge of professional geographer in developing countries. On the basis of general geography must be built a degree of specialization without which the practical application of the discipline to problems of development would not be realized. Specialization is vital if geography is to play an effective role in extending our intellectual horizon and in contributing to the practical

problems facing the developing continent of Africa in her revolutionary setting. With their task properly conceived and with suitably trained manpower, geographers in East Africa and other parts of Africa are on the threshold of developments that will once more prove the importance, or the critical role, of the discipline in the wider intellectual framework of the development of mankind.

In these selected essays dedicated to Professor S. J. K. Baker, the holder of the first Chair of Geography in the University of East Africa, it is hoped that readers will find evidence for the practical relevance of the activities of geographers. It is also hoped that a clear picture will emerge of the theoretical framework of their task, within the general intellectual framework of university education in this part of Africa.

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