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IN KENYA

CASE STUDIES

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CASE STUDY NO 1

URBANISATION IN KENYA

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URBANIZATION IN KENYA

SUMMARY OF MAIN POINTS OF THE PAPER

The basic factors relative to the urbanization are discussed:

(a) The considerable progress made in comprehensive and project planning is likely to be nullified unless there is a similar advance in implementation techniques.

(b) The present urban population is approximately 1,000,000. The need is to provide an urban structure about eight times that already existing for about 8,000,000 people by the year 2000. A large proportion of this urban population will not be able to pay for urban services.

(c) Most local authority resources are inadequate to initiate or carry out the constructional functions involved in urban development and do not have access to sufficient finance.

(d) There is a lack of co-ordination of the development in respect of the over 30 agencies which are involved in town building.

(e) There is a lack of finance and of staff for the planning and execution of projects for even the present requirements and unless effective measures are adopted a chaotic urban situation will occur.

The proposals made in the paper for consideration by Government are as follows:

(a) A more detailed policy statement is required on urban decentralization relative to national economic development.

(b) More rapid and thorough preparation of urban plans is required and there is a need to decentralize town planning to local authorities when they have the staff. In the short term the staff of the Town Planning Department should be increased and decentralised.

(c) Close integration of physical development plans and financial planning is necessary. The preparation of a proposed 5-year capital works schedule followed by a final capital works programme, in respect of each town, prepared by Ministries and other development agencies, would considerably assist in achieving coordinated development.

(d) An integration of housing schemes with the necessary engineering services to form one project is becoming increasingly necessary.

(e) The adoption of site and service schemes for a large element of the housing requirements is essential.
(f) Co-ordination of all the agencies involved is of paramount importance. This together with the construction of services and the co-ordination of urban development generally could be the responsibility of a new "Ministry of Urban Development."

(g) The financial allocation for urban development to be centralized under one authority as far as possible particularly in respect of engineering services.

(h) A programme of technical aid and training should be adopted to bring about as a minimum, an Architect/Town Planner, Engineer and Building Inspector for each Local Authority. As an interim measure such staff with the exception of the Building Inspector could be placed at Provincial level to be made available to local authorities and the Building Inspector to be government employee seconded to local authorities.
URBANIZATION IN KENYA

REASON FOR STUDY

There is an increasing awareness amongst the authorities concerned that the implementation of development plans, which involves the construction of urban infrastructure including services and the building of projects by many development agencies, requires urgent attention if serious delays and a worsening of the urban development situation in Kenya is to be avoided. It is a matter for concern that the considerable improvement in comprehensive planning and project planning is likely to be frustrated unless there is a corresponding advance in co-ordinating the construction of all the items of urban development necessary to bring about the proper development of towns.

2. The purpose of this paper is to briefly review the main factors in the urbanization process, to examine the shortcomings in the present processes, and to make recommendation for the review of the technical and administrative aspects of infrastructural development.

3. A further reason for the paper is the need to develop a co-ordinated action programme to give practical effect to the proposals for urban development contained in the Kenya Development Plan 1970/74.

URBANIZATION IN THE WORLD CONTEXT

4. Statistical information indicates that the urban population of the world is increasing at the unprecedented rate of 6.5% per annum, that is to say, the number of people living in towns is doubling every eleven years! This 'urban explosion' is being experienced both in the developed and the under-developed nations. In the wealthiest countries, failure to match increasing private prosperity with coconi-
tant expenditures in the public sector has often resulted in traffic chaos, death dealing air and water pollution problems, slum housing for the economically weak and other urban ills. In the poor nations however, explosive urbanization has usually resulted in municipal resources, financial, technical and administrative, being completely overwhelmed by the problem of providing even the most basic of services and shelter to the lower income groups, who invariably make up the vast bulk of the urban immigrants.

5. While planners and developing agencies in these countries are busily defining "minimum standards of public housing," for which there are sufficient public funds available to house only a fraction of those needing it, the majority of the new urban immigrants, desperate for shelter, are building the most squalid shacks, squatting illegally wherever they can find a piece of vacant land, without sanitation, without a water supply, without refuse disposal facilities, without even roads to permit the passage of a garbage cart. Thus the favellas of South America, the bustees of India and the bidonvilles of North Africa grow and grow until they become social and political problems of immense proportions.

URBANIZATION IN KENYA

6. In Kenya, while the urbanization crisis has not yet reached the dimensions to which it has grown in countries like India, a dispassionate examination of this country's demographic tables reveals that between the censuses of 1962 and 1969, Kenya's population grew at the rate of 3.4% per annum, a rate which, if continued, will result in a tripling of the nation's population to a total of 30 millions within 30 years.

7. Recent Regional studies by the Town Planning Department of the relationship between available agricultural land and the rate of population growth in several provinces of Kenya have shown that the pressure of population density in many
areas will reach serious proportions during the next thirty years. Stated simply, there will just not be sufficient land for all, or even most, of the grandsons of today's farmers to become farmers themselves. Some of them may be able to obtain land in resettlement schemes but preliminary studies of soil potential throughout Kenya reveal that the amount of land with surplus population absorption capacity is less than might be imagined due to low rainfall, unsuitable soil conditions and other factors, and the bulk of future generations will need non-agricultural employment.

8. Another study by the Town Planning Department approaches the problem of the probable future rate of growth of Kenya's towns from the opposite angle, by examining projections of urban job formation, made by economists under varying assumptions regarding the nation's overall demographic and economic growth. According to this study, if current targets for economic growth are achieved and national population growth is reduced to 3% per annum, 7½ million people will be living in towns in Kenya out of a total population of 24-30 millions by the year 2000 and the average urban income will be 4½ times greater than today. Such a rate of urban growth, which is comparable to the actual experience of many countries in Asia and South America, would result in 8 times more people living in towns in the year 2000 than there are in 1970. In other words, even if current standards are not improved, the existing urban fabric, housing, schools, shops, factories, water pipes and sewer lines, will have to be multiplied eight times in the next 30 years.

9. Nairobi and Mombasa will grow to be metropoli of 3½ millions and 1½ millions respectively; there will be 9 towns in Kenya with more than 100,000 inhabitants compared with 2 in 1970 and some 45 towns with more than 10,000 population compared with only 9 in 1970.

10. The stark implication of these figures is that the 'urban explosion' in Kenya is much closer than most people realize. The causes of urban immigration in Kenya are
complex. In part it is due to normal economic expansion which creates new urban jobs and tends to raise urban wages. Another important factor, however, is that Kenya, which was under-populated at the turn of the century, has since experienced an extra-ordinary rate of population increase due to the suppression of endemic diseases, the relief of periodic drought-caused famines and the stifling of inter-tribal warfare, until today very little fertile land is under-used. The landless and the land-poor are already making their appearance in the towns of Kenya, and crowd into existing accommodation with relatives or build the best sort of house they can, either as squatters or on cheap land, with or without services, as close to a town as possible, but usually outside the area of the town's development control. Such unplanned development, today accepted by some as an inevitable phenomenon of economic poverty, will undoubtedly become the favella or bustee of tomorrow unless prompt and vigorous action is taken by Government to provide an adequate urban infrastructure.

11. Nairobi, with its relatively wealthy tax-base and strong administration, is absorbing the greater part of the urbanization movement in Kenya. Gross over-crowding in some quarters of the city, the existence of a large squatter community in Mathare Valley and the fact that population densities in the so-called rural areas outside the northern and north-western periphery of the city are in fact denser than some residential sectors within the city, are all signs that the provision of urban infrastructure within Nairobi is not keeping pace with the demand. In Mombasa, 66% of the population lives in Swahili housing, of which 75% is unplanned, while the unplanned, unauthorised and unserviced peri-urban development around Kisumu, housing over 15,000 people, is estimated to be growing at 7.2% per annum. Such developments may constitute a serious health hazard to their inhabitants and create severe obstacles to the orderly and economic expansion of the town.

12. Although at present, the 'majengo' villages, as they are called in Kenya, are not a major social evil, their continual
expansion without adequate basic urban services, such as water supply, sewerage, refuse collection and road access, is the first portent of the storm of urban crisis which is afflicting most developing countries, and which will surely engulf Kenya unless positive action on a large scale is undertaken immediately.

THE PROBLEM OF DEVELOPING AN ADEQUATE URBAN INFRASTRUCTURE IN KENYA

13. In most developed countries the responsibility for planning and development rests with the local authority for the particular town. Even in the fields of development for which they are not responsible the local authority acts as an important motive force in bringing about the required development. The installation of much of the infrastructure, especially roads, water supply and sewers, is demanded and paid for, by the citizens themselves who realise their importance for reasons of health, amenity and convenience. Local authorities also act as co-ordinators of development. In Kenya however where the urban areas have to absorb very large numbers of people with extremely low incomes, this process is not likely to be successful.

14. In the first place, of the 45 centres which are expected to grow to more than 10,000 population in the next 30 years and which will therefore require a fully developed urban infrastructure, very few have local autonomous government. Of those that have, only two or three have the technical and administrative staff necessary to plan, install and operate their own water and sewage departments; to construct and maintain their own roads and generally to co-ordinate, facilitate and control comprehensive or isolated development.

15. Secondly, the bulk of the shanty developments which urgently require planning and provision of basic urban services often lie outside municipal boundaries.
16. Thirdly, most of the dwellers in the unplanned shanty developments are recent immigrants from the rural areas. Unsophisticated in the technicalities of urban living, they often do not realise that standards of sanitation which are adequate in a rural environment may create a major health hazard at urban densities. They are therefore slow to demand proper urban services.

17. Fourthly, most inhabitants of shanty developments are too poor to pay the cost of full municipal services even if the local authority was willing to provide them.

18. Therefore the development of an urban infrastructure in Kenya which will provide all urban dwellers, including the poorest, with an adequate urban environment, well drained and supplied with water, free from the danger of epidemic disease, with adequate educational facilities, health facilities and recreation space, and designed for vehicular access by emergency services such as fire truck and ambulance and regular services such as garbage collection, requires a different solution involving more active interest and participation by Central Government than is the case in more developed countries.

CO-ORDINATION OF DEVELOPMENT

19. A wide range of agencies is involved in town planning and building and participation by the Government is of course, already very extensive in planning, financing and development of infrastructure. There is however little or no co-ordination between authorities as to the timing of the financial provision or the carrying out of development in a particular town. Generally each authority proceeds on an ad hoc basis in ignorance of the need for its service which is being created by another agency. Although the urban land use plan prepared by the Town Planning Department is so prepared as to show the likely land use and communication requirements for all the agencies and each agency is aware of
these plans, each agency develops its service in accordance with its own assessment of the needs and timing. The need for an overall co-ordinating process does not have to be argued but its attainment will probably be a lengthy process. However, there is an urgent need to adopt procedures which will avoid the circumstances where certain essential services are omitted altogether and a procedure which will inform all agencies of the needs at a given time. The normal constraints of the lack of finance at the right time, and staff shortages, especially in the technical fields, do not prevent a co-ordinated approach to this problem and co-ordination will more quickly reveal serious shortages and lead to a more economic use of resources.

THE ORGANIZATION OF THE URBANIZATION PROCESS.

20. The following paragraphs discuss steps which might be taken to deal more effectively with the situation. For this purpose the urbanization process is considered as having five phases or aspects:

(a) National Economic and Physical Planning
(b) Urban Design
(c) The Financing of Urban Development
(d) The Construction of Urban Infrastructure
(e) Planning, Building Control and Administration

(a) National Economic and Physical Planning

21. Long-range national physical planning which is the responsibility of the Town Planning Department and the Ministry of Economic Planning and Development involves firstly a comprehensive, nation-wide analysis of the size and nature of the future urbanization problem in Kenya. This, as already mentioned, has been, or is being carried out on a preliminary basis in the form of Regional Physical Planning studies and plans by Town Planning Department to give some of the conclusions already stated and a framework for ministerial development policies.
22. Secondly, national physical planning may involve the formulation of policies designed to alter the pattern of urbanization that would result from the operation of national economic forces and the redirection of physical development into areas requiring economic stimulation. While current policies on physical planning as expressed in the Kenya Development Plan 1970/74 reflect initial thinking on this subject, a more detailed policy statement on urban decentralization is essential.

23. Thirdly, a statement needs to be made of the capital investment projected for all urban services in the plan period.

24. Fourthly, if the projected requirements for such capital investment exceed the nation's estimated resources, then either a radical re-examination of the premise upon which the estimation of resources is based is called for, or the standards of housing and urban services that are planned for will have to be revised downwards.

(b) Urban Design

25. Urban design involves the preparation of development plans for individual towns based upon studies of projected function and growth and on sociological considerations such as anticipated income structure. A sound physical development plan is the first step in implementing the necessary infrastructure.

26. At present, among all the towns of Kenya, only Nairobi and Mombasa have their own planning staff, although Thika has a small team from Denmark working on planning problems on a temporary basis. All other towns in Kenya utilise the services of the Government Town Planning Department in the Ministry of Lands and Settlement. Since the staff of this Department is not sufficient to provide adequate urban planning staff for each province, the research and planning preparation for each town is not as rapid and as detailed as is necessary and the resources of the Department are inadequate to provide a comprehensive service and to plan soundly the amount of urbani-
zation that is expected to take place in the future or advise fully on implementation details.

27. It is essential for the orderly, economic and efficient use of limited capital development funds, that long-term physical plans be prepared for all the future urban centres of Kenya. These plans must programme the installation of the basic infrastructure of each centre so that the scheduled level of service is attained; so that a rational phasing of land development may be set out and a capital works budget may be drawn up.

28. Decentralization of urban design to the stage where each municipality and each County has its own architect/planner is the most effective step necessary. Meanwhile town planning will remain a Government responsibility and the staff of the Town Planning Department must be strengthened by further recruitment. Branch offices must be opened in each Province as the first step in decentralization so that a more effective and immediate planning service can be rendered at the local level.

(c) The Financing of Urban Development

29. One of the main reasons why physical planning in Kenya is not as effective as it might be is that financial planning for urban development, in so far as it exists at present, is not an integral part of the physical development planning process. The logical conclusion of an urban physical development plan is the preparation of a capital works programme, that is, a list of all the infrastructural development that will be needed in the town, the timing of each development to fit in with the logical growth-phasing, or threshold development, of the town, and the costing of each item of infrastructure so that a capital works budget might be drawn up.

30. This process which is a distinct part of capital works budgeting, but should not be confused with decision making for actual financial allocation, is so closely related to the physical planning process that a simple and effective method might be to include the necessary skills for its implementation within the Town Planning Department. The Department would produce
a schedule of development projects for each urban and rural centre, based on the physical development plan, as advice to the Ministries concerned in drawing up their capital works pro-
gramme. There would be a need for considerable co-operation be-
tween the Department, the Ministry of Finance & Planning and the operating Ministries.

31. There can be little doubt that the total annual cost for infrastructure for all the towns will far exceed the amount which the country can afford unless imaginative and ingenious methods are adopted in organizing and financing and in con-
struction and the use of materials. It will be at the planning and estimating stages that decisions must be taken to adopt standards which, while coping with the urban explosion, parti-
cularly the health aspects, will be closely related to the eco-

32. Experts who have examined the problem of developing the urban infrastructure of countries with slender economic resources and very fast rates of population growth, now agree that tradit-
ional methods of urban financing are proving inadequate to the task of providing shelter and a sanitary environment for all who need it. The failure of traditional housing policies in India has already been described. The mistake in India was to adopt a compartmentalised approach to building cities, to adopt un-
realistic standards in relation to the economic circumstances of the country, to underestimate or ignore the magnitude of the housing problem and to fail to use imagination and ingenuity in working out new fiscal policies to cope with the new problem of 'urban explosion.' Public housing was thought of as an archi-
tectural problem, while sewage and water supply tended to be thought of as luxuries only for those who could pay for them rather than as necessary urban services in the interest of public health. The result of those attitudes is that everyone in the large cities of India lives under the constant threat of an out-
break of epidemic disease.

33. In Kenya as well as in India the mean urban income is much higher than the median income, that is to say while a relatively
few inhabitants have very high incomes they are far outnumbered by those who have less than average incomes. In Mombasa, for example, 53.1% of the labour force earns less than KShs. 300/- per month and requires a dwelling costing less than K£500 or renting at less than KShs. 60/- per month.

34. The new approach suggested by Ford Foundation experts to the problem of housing and planned urban growth in Calcutta would therefore appear to have equal validity in the Kenya context. The provision of public housing and the creation of an acceptable sanitary urban environment for lower income groups must be considered as a single problem when planning the use of financial resources.

35. Some agencies have in fact been working on these lines for some time. The Mombasa Housing Report states that K£750 invested in site and service schemes would provide a healthy, sanitary environment for 50 people, while the same sum invested in public housing would provide shelter for only 5 people. It is suggested both in the Mombasa Housing Report and by Dr. K.C. Rosser, Ford Foundation housing expert in Calcutta, that indigenous types of housing built of traditional materials such as dried mud and wattle can provide satisfactory shelter as long as the environmental conditions in which they are built are adequate: as long as safe, potable water is supplied, surface water is properly drained, refuse collection is organised and sewers are built or an alternative, pollution-free system of sewage collection (such as water-tight pump-out tanks) is operated and enforced. In other words, well-designed and administered site and service schemes are now advocated by international experts as the most effective way of utilizing public funds for low income housing where resources are limited.

36. The foregoing deals with the planning and estimating stages and it is necessary to consider the second aspect of the financial problem which concerns the actual allocation of funds for the approved projects.

37. The present arrangement whereby each Ministry is responsible
for initiating its own works programme is obviously the most practical and effective means available for dealing with annual and five-year development budgeting and spending. There is a need for co-ordinating this process and a need to fill certain gaps, particularly in initiating and constructing services. These gaps appear to exist primarily because of the inability of local authorities to initiate the construction of such services.

38. The dual functions of co-ordination and construction of infrastructural development by development agencies, which provide engineering and social services for towns, are closely related and, in the context of the overall urbanization problem, are so vital as to probably require the setting up of a new Ministry to be responsible for both these functions. It might also be the function of such a Ministry to take over the preparation of the capital works schedule and estimating based on the town plans as referred to in paragraph 30. The proposed function of the new Ministry is best summed up in the title "Ministry of Urban Development."

39. Alternatively, these functions might be assumed by a new department in the Ministry of Housing. The co-ordinating function would be an entirely new one and new staff for this would be necessary. The construction of services and the centralizing of funds under the new department of the Ministry of Housing would be a practical and workable arrangement. A similar case might also be made for the new department to be centred, as an alternative, in the Ministry of Works. For obvious reasons, particularly the fact that the Ministry of Housing and the Ministry of Works are already fully committed as specialist agencies, these alternatives would be less effective than the setting up of a separate Ministry.

40. As to whether the new Ministry (or the new department) would loan funds to local authorities for the construction of services or carry them out itself is a detail. There are many precedents, in, for example, the Roads Department and the National Housing Corporation as guides to the most practical methods.
(d) The Construction of Urban Infrastructure

41. The construction of the massive amount of urban fabric which will be required during the next 30 years will involve a tremendous marshalling of finances and resources, but at the same time it will present tremendous opportunities for the development of local building firms and industries including the manufacturers of brick, cement, glass, water and sewer pipe, sanitary fittings, electrical fittings, etc. The building and construction industry alone is expected to create employment for no less than 382,000 persons in Kenya by the year 2000.

42. One of the major constraints which will have to be overcome will be the shortage of technical personnel, hydraulic and civil engineers, surveyors and skilled construction supervisors in particular. It is therefore of particular importance that the available professional and technical personnel be deployed to the maximum advantage.

43. A programme of technical aid to staff each local authority, particularly in respect of each municipality, urban centre and rural centre, with a qualified engineer, architect/planner and a building inspector is necessary. As a short-term solution it seems that as a minimum there should be available at the provincial level an architect and an engineer to assist the local authorities who are unable to employ such staff.

44. Part of the technical aid project would involve the training of sufficient technicians, particularly building technicians, in sufficient numbers to enable the staffing of every local authority. Sound courses for such training already exist at the Kenya Polytechnic.

(e) Planning, Building Control and Administration

45. Apart from sound administrative and professional staff, there is a definite need at the local level for a service dealing with advice to developers, the inspection of plans, the supervision of building works, and advice to Councils on matters concerning planning and building control. The building of un-
authorised dwellings and shops which is becoming so serious can only be countered by positive action at the local level and a qualified building inspector employed by government and attached to the local authority would be able to play an important part in this work. A considerable contribution to the solution of this problem has been made by the publication of model building by-laws, but without qualified staff to administer these by-laws very little progress is likely.

CONCLUSION

46. The overall solution to the problems of rapid urbanization involves many complex factors which have to date defied solution in any country in the world. It is acknowledged that this paper is by no means exhaustive of the subject but every effort has been made to put forward some practical means towards achieving substantial improvement.
Problems of Rural Development in Kenya

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PROBLEMS OF RURAL DEVELOPMENT IN KENYA
A SOCIOLOGICAL CASE STUDY OF SOCIAL CHANGE IN THE KANO PLAINS

Introduction
In Kenya, as well as in many developing African countries today, there is growing need for transition from tradition to modernism. This need is more urgent in the rural areas than in the cities and towns which are already being modernised although their modernisation is still below the level of adequacy when compared with some standards in the developed countries.

Transition from tradition to modernism is a necessary step in the developing countries in order to bring about rapid social and economic development in these countries with a view to raising the levels of living of the masses in the countryside. Kenya and other developing African countries are technologically backward, grossly uneducated and desperately poor. The problem in these countries today is that the increasing rate of population growth exceeds the rate of growth of economic development of food production needed to sustain that population. This rate of population growth, which is about 2.5% in developing countries today, is a major obstacle to economic development in many developing countries. The rate of population growth in Kenya in 1962 was estimated to be approximately 3% and this year (1970) this percentage has increased. This percentage increase represents the difference between the birth rate and the death rate.

The developing countries have realized that in order to combat technological backwardness, poverty, illiteracy and a low standard of living among the masses, appropriate programmes for rural modernisation and development are needed, and some are under way.

These programmes include provision of adequate water, the establishment of resettlement schemes, and land consolidation for the inhabitants of rural areas, to mention just a few of these rural development plans.

The demographic problem which developing countries are facing as an obstacle to social and economic development is that of slowing the rate of population growth in order to
allow the development of economies which usually lag behind such increases in population growth.

Rapid and effective social and economic development in developing countries presupposes subordination of tradition to modernism. But experience demonstrates that in many developing countries, traditional institutional resistance does not allow this prerequisite of subordination of tradition to modernism to take place; consequently chances of social and economic development are greatly reduced. In traditional agrarian societies such as those found in developing countries there are certain familial arrangements, attitudes, beliefs and customs which offer formidable resistance to modernisation and to the desirable rapid social economic development. For example, in these countries there is little motivation for restricting fertility. Many children are preferred to a few, and the desire is that as many children as possible should be born, since they are regarded by the parents as a security, especially during old age. Thus, the struggle is that of keeping these children alive. There is little interest in family planning as a way to alleviate or eliminate the problems that too many children create in a poor family.

Resettlement schemes in the rural areas of Kenya, as a way to bring about rural development, sometimes involve land consolidation and villagisation or settlement of people in townships or miniature urban areas. This particular aspect of rural development is very important to sociologists who are interested in studying social and cultural change which is concomitant with the transformation of life from indigenous traditional rural way of life to the more modern urban-like way of life. Transformation of rural agriculture involves land consolidation, so that instead of many scattered small holdings, the rural inhabitants are encouraged to consolidate the land and modernise their agricultural methods of crop production for cash and consumption. When a resettlement scheme of this kind is actually established, some social and cultural change is inevitable. It entails the extirpation of tradition in favor of modernity. This involves eventual social and cultural change.
If in the incipient stages, transformation of life from rural-traditional to urban is introduced abruptly without proper planning, some socio-economic problems are bound to arise. These socio-economic problems can adversely interfere with the whole object of raising the standard of living of the population in the countryside, and the social and cultural way of life of the people. Thus an effective and satisfactory way of bringing about this transformation of life will not materialise.

A quick and effective way of realizing a smooth transformation from tradition to modernity would be elimination or alteration of institutional constraints which impede development. But because it is very difficult to eliminate institutional constraints overnight, certain socio-economic problems are bound to arise if such resettlement schemes are suddenly instituted in rural areas in a developing country like Kenya.

The inhabitants of rural areas in Kenya are aware of the consequences of transforming their life from rural to urban. They are particularly conscious or sensitive about the adverse consequences that might follow when their rural traditional way of life is extirpated. This is, in fact, the reason why in some areas there is resistance to modernity and to social and cultural change. This also means that it is difficult or even impossible to institute economic development whose objective is to raise the levels of living of rural people if such resistance exists.

The Luo people of the Kano Plains suffer from annual floods which make tillage of their land impossible during the rainy season. As a consequence there is constant famine in this area. Moreover, the floods make homes uninhabitable and this aggravates the suffering of the people. In order to help the people in the Kano Plains it is necessary to implement resettlement schemes in which land would be consolidated and floods controlled. Irrigation schemes would have to be established in order to supply the land with the necessary water for crop cultivation during the dry seasons. In fact, there is a programme of resettlement in the Kano Plains which involves settling people in townships so that residential...
areas are separated from the consolidated land used for the cultivation of rice. This is the Ahero Pilot Scheme in the Kano Plains. This resettlement scheme represents a transformation of life from indigenous rural to the modernised as a way to create economic development that would realise the desired result of raising the standard of living of the populace. Only a small portion of the total population of the Kano Plains has been resettled in townships at the Ahero Pilot Scheme.

This sociological research in the Kano Plains has first attempted to find out the reasons for the resistance against change toward modernity in the entire population. The obstacles to social and cultural change among the Luo of the Kano Plains who have not been absorbed into the resettlement schemes have been analysed. Also analysed are the socio-economic problems which have emerged among the section of population which has been resettled in the Ahero Pilot Scheme townships. These two aspects of this research are the main subject matter of this treatise. The object of this research was to find out the social and economic problems of rural development in the Kano Plains.

**Traditional Luo Way of Life Outside the Ahero Pilot Scheme**

In order to understand the impact of change from tradition to modernity on the inhabitants of the Ahero Pilot Scheme who have been resettled in townships and the reasons for resistance to social and cultural change among the entire population which has not been resettled in these townships, a cursory examination of the traditional Luo rural way of life in general is necessary.

Traditional Luo agriculture entails scattered and fragmented pieces of land which are held communally by members of a clan and cultivated by individual families in the clan. Subsistence agriculture is the order of the day. Individual clans communally own their land in one place as distinct from another piece of land communally owned by members of a different clan. Individual ownership of land by each family
within the clan is allowed. But each family in the Luo tradition has not always consolidated its land. The land is usually scattered in such a way that each family may have different acres of land existing in several different places within the clan land. Subsistence farming in the area outside the Ahero Pilot Scheme entails the raising of such crops as maize, millet, beans, peas, cotton, sugar cane, rice, cassava, finger millet, and green vegetables. Most of these crops are immediately consumed while some, such as cotton, rice and sugar cane, are used as cash crops.

Livestock is usually kept by each family which in some cases includes large numbers of cattle, sheep and goats. The clan land and sometimes land beyond clan boundaries is used as free grazing ground for the livestock in the area. Thus a combination of cultivated land raising a variety of crops and livestock breeding has, for a long time, provided the daily subsistence of typical rural Luo inhabitants. This applies in innumerable cases where none of the members of a family are employed at a regular job to earn a salary or wage.

The Luo, like many other tribes in East Africa, have the dowry system in which the bridegroom transfers wealth, usually in the form of cattle, to the bride's parents before marriage is consummated. A man may marry more than one wife during his lifetime. Although polygyny is dwindling, it is practised by many people in this area. There are certain taboos that must be observed in different kinds of social and economic relationships in the Luo society in order to institute an orderly and effective social organisation.

**THE SCOPE OF RESEARCH AND DEMOGRAPHIC CHARACTERISTICS IN THE KANO PLAINS**

This sociological research which has attempted to examine the feasibility of resettlement schemes, land consolidation and the attitude of people toward social change and modernisation covers four locations in the Kano Plains, namely Kolwa Location, South-East Kano Location, North-East Kano Location and West Kano Location. A total of 703 families in
these locations have been studied. Out of these, 327 families are resettled in the Ahero Pilot Scheme and 376 families live outside the Scheme under circumstances typical of the rural Luo way of life.

The total number of families that have been resettled in six townships in the Ahero Pilot Scheme is 522. The total area covered by the Scheme is 3800 acres, of which 2500 acres form a portion of consolidated land covered by rice crop, which is the only crop the tenants have been directed to cultivate for cash. The six townships occupy the remainder of this area.

Each family in these townships is provided with a house which measures 25 feet 8 inches by 13 feet 6 inches. The immediate area surrounding each family's house is 18 feet square. Two families whose houses are opposite each other share a pit latrine which is 8 feet by 5 feet. Each house has two small rooms: a sitting room and a bedroom. There are no kitchens, stores or bathrooms.

Each family in the Pilot Scheme is provided with four acres of consolidated land which is to be used for the cultivation of rice mainly as a cash crop. The entire subsistence of the families in the Pilot Scheme depends on the income derived from the rice crop. The crop is cultivated by irrigation and it is possible to have two harvests in a year.

The Social Structure and Demographic Characteristics of the Inhabitants of the Kano Plains

Knowledge of the social structure and demographic characteristics of the inhabitants of the Kano Plains is a prerequisite to the understanding of the obstacles to economic development and to social and cultural change in this area.

Out of 703 families interviewed, 327 are settled in the Ahero Pilot Scheme and 376 are not. The attitude of the latter toward resettlement schemes and their reluctance to participate in the schemes is a reflection of their social structure and their population characteristics which are now to be examined.
Age

The age of the people interviewed varied from 15 to 85. The majority are married men and women. 339 were between 16 and 50 and these are approximately the most productive years in the labour force in rural areas of Kenya. 218 people interviewed were between 51 and 85 and the remaining 146 did not know their age. According to these statistics 48.2% of the population interviewed were in their productive years in the labour force.

Education

Out of 703 people or families (excluding their children) interviewed, 367 are illiterate. The remaining 336 have had some formal education, the level of attainment of which ranges from Standard I, which is the lowest, to Form III which is the highest. There is 52.2% illiteracy rate among the adult members of the population.

Type of Family and Marriage Relationships

<table>
<thead>
<tr>
<th>Marriage Relationships</th>
<th>Total Number of Such Families</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polygynists (Polygyny - marriage of one man to more than one wife at a time)</td>
<td>310</td>
</tr>
<tr>
<td>Monogamists</td>
<td>354</td>
</tr>
<tr>
<td>Bachelors</td>
<td>12</td>
</tr>
<tr>
<td>Widowers</td>
<td>12</td>
</tr>
<tr>
<td>Widows</td>
<td>11</td>
</tr>
<tr>
<td>People not willing to state marriage relationship</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>703</td>
</tr>
</tbody>
</table>

It has been estimated that in the Kano Plains the average number of wives per polygynous family is two, and the highest number of wives that a polygynous family has is 7.

Size of Family

It is important to know the average total number of persons in a family and the average number of children in a family in a rural area such as the Kano Plains for purposes
of planning social and economic development. A sample of 376 families was studied and from this it was found that the average number of children in a family was 6. This average includes the polygynous as well as the monogamous families and the families of widowers and widows. The average number of children per monogamous family is 5 and that per polygynous family is 6. This means that the average number of persons in a monogamous family is 7, and that of a polygynous family is 9 since the average number of wives per polygynous family is 2.

Attitude of Families Toward the Desirable Number of Children

The following figures show the attitudes of 327 families in the Ahero Pilot Scheme toward the desirable number of children in the family. Some families expressed the desire to have few children and others wanted many; different families have different conceptions of what they mean by few and many.

<table>
<thead>
<tr>
<th>Maximum Number of FEW Children in Family</th>
<th>Number of Families In Favour of this Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>FEW but could be any number</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Total 51</td>
</tr>
<tr>
<td>Maximum Number of MANY Children in Family</td>
<td>Number of Families In Favour of this Number</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>25</td>
</tr>
<tr>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td>18</td>
<td>2</td>
</tr>
<tr>
<td>19</td>
<td>1</td>
</tr>
<tr>
<td>20</td>
<td>34</td>
</tr>
<tr>
<td>22</td>
<td>1</td>
</tr>
<tr>
<td>30</td>
<td>12</td>
</tr>
<tr>
<td>32</td>
<td>1</td>
</tr>
<tr>
<td>Any number (no limit), for example from 40-100</td>
<td>165</td>
</tr>
<tr>
<td>Maximum number not stated because families find it unreasonable to do so</td>
<td>13</td>
</tr>
</tbody>
</table>

When these results are added to those of the 376 families living outside the Scheme, then the result is as follows:

- Families in favour of MANY children = 570
- Families in favour of FEW children = 131
- Families that accept both FEW and MANY children, whatever the case may be = 2
- Total = 703

**Means of Livelihood**

The 327 families who live in Schano townships derive their livelihood from the cultivation of rice as a cash crop. Of the 376 families living outside the Scheme, 356 families live by subsistence farming and 20 live both by subsistence farming and by earning wages and salaries in paid employments.
The highest income recorded from subsistence farming according to some families that grow sugar cane as a cash crop is an average of KShs 200/- a month, and the lowest is an average of KShs 10/- a month. These amounts represent the income from produce that the families sell in addition to what they consume directly.

The highest income recorded from a job is KShs 600/- a month, and the lowest is KShs 60/- a month.

136 families have stated that their means of livelihood, from whatever source, adequately satisfies their requirements while 226 families have stated that their means of livelihood is unsatisfactory and inadequate for their needs, and 11 families have stated that their means of livelihood is fairly adequate for their requirements.

THEORETICAL EXPLANATION OF OBSTACLES TO SOCIAL AND CULTURAL CHANGE AND TO ECONOMIC DEVELOPMENT IN DEVELOPING COUNTRIES

Social and cultural change in a society is an indication of the process of economic development. In other words a rapid social and cultural transformation in a traditional society can pave the way for rapid economic growth. Rapid economic growth in a developing country implies some significant structural change in the social system of the society involved.

A society which has strong institutional resistance to social and cultural change would experience slow economic growth or development.

Theoretically, and generally speaking, there are several obstacles to social and cultural change and to economic development in developing countries. One such obstacle is mass illiteracy in a population. Illiteracy implies a dearth of adequately trained and experienced people who can provide good leadership in the process of development in various fields.

Another impediment to social and cultural change and to economic development in developing countries is the closely-knit kinship situation. For example, in traditional African societies, closely-knit familial groupings have produced the
clan system which has created larger but disparate familial social groupings. These disparate parochial social orders in a society do not normally work in concert with one another when it comes to planning programmes of development which require transformation of traditional life to a new life which is congruous with requisite development. An example of how the clan system becomes an obstacle to social and cultural change and to economic development is that concerning resettlement schemes which require spatial regrouping of people in villages in rural areas. Here, members of different clans do not allow themselves to be mixed with members of other clans in villages, townships, or other planned urban areas. If large villages or townships are to be built, the clan system will present difficulties, especially if the clans are not large enough in population to warrant the establishment of a village or a township for a particular clan.

In many developing countries a large section of the population may be only semi-literate and many are illiterate. This means that the masses harbour a prescientific mentality saturated with a traditional superstitious mentality which often interferes with economic development and social and cultural change. For example, among the Luo and a number of other tribes in Kenya, if a married man and his wife die and if they owned a permanent house or dwelling, the brother of the dead man and his family cannot live in the dead man's house, even if they have no good house and desire to live in it, because of superstitious beliefs. This discourages many people from building permanent houses which require a lot of money to do so in the first place.

Also in developing countries around the world, there are found high mortality and fertility rates. But these countries are beginning to reduce their mortality rates through the use of modern medicine and consequently populations are increasing. Reduction of fertility is very difficult to accomplish in these countries because of lack of knowledge of modern contraceptive measures which makes their use impractical. Thus increase of population becomes an impediment to economic development, in that the level of living will not advance if the rate of economic growth does not exceed the rate of population
growth, and consequently there is little economic advance and a resulting low standard of living.

In developing countries, and especially in the rural areas of these countries, there is institutional or cultural resistance to reduction in fertility or the use of modern contraception because many children in the family are much valued. This means that developing countries whose mortality rates are declining are experiencing a high rate of population growth. Without a corresponding higher rate of economic growth there will be retardation in increases of standards of living. Thus overpopulation may be an obstacle to economic growth and to social and cultural change because it encourages low standards of living and stagnation.

It may be stated here that in developing countries, traditional value systems often are not receptive to or consonant with new economic development goals. Thus elements in the indigenous cultures of developing countries can be obstacles to economic development and to social and cultural change.

In many rural African areas people adhere very rigidly to traditional social institutions in which their traditional beliefs are enshrined. This means there is little deviance from established customs and ways of doing things. Under such circumstances, there is little room for social and cultural change and economic development. But audacious deviant social behaviour in a society may lead to new social institutions and the routinization of the new forms of behaviour may allow social change, which can manifest itself in new economic development, to take place.

Obstacles to Social and Cultural Change and to Economic Development

Having studied the social structure and population characteristics of the inhabitants of the Kano Plains, it is now possible to understand the obstacles that might exist whenever an attempt is made to resettle people in villages or townships with a view to consolidating their land and introducing modern agricultural methods of utilising their land. The objective in doing this is to transform rural areas into a more modern
way of life in order to encourage a more rapid economic development which in turn will engender social and cultural change as the standard of living of the people continues to rise.

A good plan for additional resettlement of the type which might be proposed for the remaining inhabitants of the Kano Plains is that which takes into consideration the appropriate farming practices in each area which would conform to the customs of the people for whom it is devised. If the plan does not consider this important factor then it is very likely to experience strong resistance from the people, especially during its incipient stages.

The inhabitants of the Kano Plains at this stage of their development are practising shifting cultivation, which is the traditional Luo system of land tenure practised within community owned clan land. This shifting cultivation entails subsistence agriculture which is inimical to modern farming methods which favour land consolidation and the use of modern farming techniques which can preserve the fertility of the soil and produce more crops from the land, thus raising the standard of living of the people. The Luo of the Kano Plains also keep livestock which are allowed to graze anywhere within clan land since land is not consolidated. This typical rural African husbandry is also inimical to the establishment of good, modern animal husbandry whose prerequisite is land consolidation - a system which makes possible proper modern utilisation of land and modern agricultural methods of farming and animal husbandry.

The actual problems and obstacles which today impede economic development and social and cultural change in the Kano Plains may now be noted here.

**Attitude of People Toward Land Consolidation**

From the figures below it can be noted that quite a large number of families are against land consolidation. This is an obstacle to the aspect of rural development concerned with introducing requisite modern agricultural methods to increase the production of the land. It is also a drawback to the
to the establishment of resettlement schemes in the Kano Plains.

<table>
<thead>
<tr>
<th>Families in favour of land consolidation</th>
<th>Resettled in the Scheme</th>
<th>Outside the Scheme</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Families not in favour of land consolidation</td>
<td>117</td>
<td>92</td>
<td>209</td>
</tr>
<tr>
<td>Families both in favour and not in favour of land consolidation</td>
<td>169</td>
<td>1</td>
<td>170</td>
</tr>
<tr>
<td>Families undecided about land consolidation</td>
<td>11</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>Total number of families</td>
<td>327</td>
<td>376</td>
<td>703</td>
</tr>
</tbody>
</table>

The 170 families that are both in favour and not in favour of land consolidation state that they are in favour of it only if the consolidation will not interfere with their traditional customs and values. The traditional Luo way of life referred to here involves the entire fabric of social relationships, customs of marriage and their system of land tenure. These families are not in favour of consolidation if its establishment would mean complete breakdown of their traditional customs such as the dowry system, the clan system and the cultivation of certain crops to which they are accustomed for their subsistence.

The clan system is another impediment to the establishment of resettlement schemes and land consolidation in the Kano Plains where families in favour of consolidation point out that this should be established clan by clan. They do not want mixing of members of different clans in villages and townships. Only 52 families out of the 376 sampled are not opposed to mixing of members of different clans in villages, townships or urban areas if, in some cases, this is the most convenient way of carrying out a programme of resettlement.

Attitude of People Toward Livestock and Dowry

The attitude of the Luo and the African in general toward his livestock is also another problem. Because of the
social customs and traditional outlook of the owners, stock is kept not only for meat and milk, but to a great extent as units of wealth and for prestige and particularly for dowry when sons wish to marry. Thus numbers of cattle are more desired than their quality and since the resettlement schemes do not favour the keeping of too many cattle because of lack of adequate land for grazing, the Luo in the Kano Plains are not ready to participate in resettlement schemes if this means a reduction in the number of their cattle or livestock.

A survey of a sample 376 families living outside resettlement schemes shows that 204 families are not in favour of reducing the number of their livestock in order to consolidate their land and live in villages or townships which would be planned for them. Nevertheless the remaining 172 families are in favour of reducing the number of their livestock provided the resettlement schemes are so properly planned that they are not a disadvantage to them.

The survey also shows that 309 families are in favour of cattle being used as dowry, 66 are in favour of money being used as dowry and 1 family is in favour of either money or cattle, whichever is more convenient.

Of a sample survey of 327 families living in the Ahero Resettlement Scheme, 171 families asserted that cattle must be used exclusively as dowry, 137 families expressed the need for using money as a more convenient dowry because of conditions prevailing within the Scheme and 19 families see the need for using both money and cattle as dowry.

The families that oppose using money as dowry argue that when marriages fail it is so much more difficult for the bridegroom to redeem his property from the bride's parents. It is much easier to redeem cattle because their number is usually known and they can be identified. Moreover they live and multiply. Money is not so easily redeemable. The families not in favour of cattle as dowry assert that since life in village and townships on resettlement schemes precludes the keeping of livestock, it is now nonsensical to say that cattle should continue to be used as dowry.
Attitude of People Toward Birth Control

Population increase without a corresponding increase in food production is one of the problems of development and one of the causes of underdevelopment. In a very poor country, population increase is even more hazardous than in a comparatively rich country. In view of this it is important to know the attitude of people toward birth control in order to know how to plan resettlement areas to accommodate the population that must be resettled.

In the Kano Plains, of a sample 703 families interviewed, 204 are in favour of birth control, 485 are not and 14 are undecided as to what is desirable.

The fact that villages and townships built to accommodate the population to be resettled may not have enough houses to absorb the increasing population makes the people decide not to participate in resettlement schemes. This is an obstacle to modernisation, economic development and social and cultural change. If a family in a resettlement scheme is allowed to own only one house, the Luo people as a whole in the Kano Plains have indicated that they will not accept such a resettlement scheme. The ownership of only one house in the scheme will make it impossible for the Luo to practise their customs of social relationships. For example, grown children over the age of about eight years are not allowed to sleep in the same house as their parents. No two co-wives can share the same house or live in it; each must have her own house. No relative can live in the same house formerly occupied by his dead brother, father, uncle, cousin, or any other relative, except if the dead person was a parent and his children are still young, they may be allowed to live in their parents' house.

Very low levels of education among the people interviewed also has a lot to do with their attitude toward birth control. They feel that modern birth control techniques as explained to them are too cumbersome and indeed almost impracticable as far as they are concerned. Furthermore their religions teach them that God commanded mankind to be fruitful, to multiply and fill the earth. Therefore they believe that people should have as many children as God wants them to have. Family plan-
ning at this stage in the development of the Luo of the Kano Plains does not make much sense to many of them.

Age

Resistance to social and cultural change and to economic development in the Kano Plains also emanates from the age structure of the population. The older the people the more traditional in outlook they are. The younger people and children are not so resistant to change as the older ones. In the Kano Plains as in many parts of Kenya, the young people are usually either attending secondary boarding schools, secondary day schools and primary schools, or they are employed in towns where they settle. Consequently the resettlement schemes immediately affect older people who can either decide to be resettled in townships under a new environment and circumstances or reject the scheme involving resettlement altogether.

Poverty and Illiteracy

The people of the Kano Plains object to the resettlement schemes in the manner suggested above by pointing out quite rightly that in the first place the establishment of these resettlement schemes presupposes a supply of adequate finance and capital, technical guidance and skill, and adequate knowledge of how to manage and run the schemes. The Ahero Pilot Resettlement Scheme has given them some idea about what these resettlement schemes are like. The people point out that since they live mainly by subsistence agriculture they are too poor to initiate such resettlement schemes on their own. They want the Government to assist them financially and with necessary technical guidance and skill if these resettlement schemes are to be successfully established. But when this assistance from the Government becomes available, the people realise or at least suspect that the Government may impose on them certain rules and regulations which will interfere with their traditional customs and ways of doing things. This fear, which is not always unfounded, is the cause of very strong resistance against land consolidation and participation in the resettlement schemes. This is not surprising,
where one finds 51% illiteracy among the population studied and where Standard IX is the highest level of formal education attained by some people.

The people themselves find it hopeless trying to transform their lives since they are too poor and illiterate to effectively participate in the programme of resettlement which will require money, a lot of energy, and determination. Illiteracy deprives them of the insight and foresight to realise the advantages of resettlement schemes, and poverty is an obstacle to the actual establishment of such schemes which require money for buildings, fertilizers, irrigation and many other requirements of labour needed to institute a resettlement scheme along the lines of modern agricultural techniques of production and the general elevation of standards of living.

Lack of proper education means that the people cannot dispel ignorance which is the breeding ground for superstitious beliefs which in themselves are inimical to economic development and social change.

Interference with Traditional Agriculture

The people of the Kano Plains have expressed their concern over the likelihood that their traditional subsistence agriculture would be interfered with when resettlement schemes are established and their land is consolidated. They point out the example of the Ahero Pilot Scheme where land has been consolidated and the tenants are each given four acres of land where they may cultivate rice only. This restriction is not acceptable to the people who have not been resettled. If they are resettled they want to be allowed to cultivate a variety of crops for consumption and cash. If this condition is not to be fulfilled then they are not willing to be resettled.

Again, the people are not willing to accept resettlement schemes that will dictate that they do not keep livestock. Money economy cannot immediately replace other kinds of economy from which rural people derive their livelihood simply because these people lack skills and education which can make them employable in salaried jobs. Consequently they
depend on their livestock which augment their food and which they use as dowry. Furthermore, the resettlement schemes would limit the land space available for the grazing of cattle. This means that the number of cattle kept would have to be greatly reduced, or the people would not be allowed to keep them at all, as in the case of the Ahero Pilot Scheme.

Difficulties Concerning Some Luo Customs

Another factor which makes the Luo of the Kano Plains unenthusiastic about participating in resettlement schemes has to do with their customs of hospitality and charity which have their root in what is called 'African Socialism.' Traditionally, any poor landless persons can be given a plot of land to till for a period of time, by a relative or a neighbor, as a loan without any strings attached, after which he is required to leave the plot for its owner to continue tilling. This is a great help for a person who otherwise would not be able to earn a living at subsistence level.

Under resettlement schemes this kind of charity is not possible as each individual is given only a restricted amount of land which is probably only enough for his family. There will not be any such unoccupied land designated as clan land which any member of the clan may claim as his, provided he gets permission from other members of the clan.

SPECIFIC PROBLEMS OF THE AHERO PILOT RESETTLEMENT SCHEME

The people in the Ahero Pilot Restllement Scheme are living under different circumstances from those in the typical rural areas. Here the people have been resettled in townships and their land has been consolidated in an attempt to raise their standard of living by practising modern agricultural methods of cultivating rice as a cash crop.

There are socio-economic problems that the inhabitants are no longer experiencing as a result of this resettlement and these are discussed below.
Social Problems

First, there is the problem of space in the houses provided to accommodate all members of a family. Each house is 25 feet 8 inches by 13 feet 6 inches and contains only two very small rooms. An average family of six people cannot comfortably live and sleep in these houses. There are some families with more than ten persons and in such cases living in the house becomes very uncomfortable. All the 327 families interviewed expressed very great concern about lack of enough space for the size of the families.

This lack of adequate housing has engendered other social problems which have their root in traditional Luo customs. For example, the polygynous families point out that according to custom it is unthinkable to make two or more co-wives live in the same house. Yet in the Pilot Scheme, conditions make it imperative for a man to live with his wives in only one house. Outside the Pilot Scheme, a man traditionally builds as many houses or huts as he has wives. Thus in the Scheme, where many co-wives are compelled to live together, their jealousy of one another has caused a great deal of discord and instability.

Further, they complain that under these conditions, unlike the past, it is very difficult for them to have an easy palaver about or with their husbands. The co-wives find it almost impossible to carry out any intrigue against their husbands if they think that such a plan would help them to a better relationship with their husbands. A palaver involving co-wives as a way of putting pressure on their husbands so that they will give them more or better economic support, or as a way of making social relationships more cordial is not uncommon among Luo families. This is now impossible when all members of the family live in the same house and find themselves together at a time when the co-wives could more conveniently discuss their family problems in private in another house in the homestead.

The polygynists in the Pilot Scheme who find it intolerable to make two or more wives live in the same house have to find an alternative which is not at all satisfactory. They allow only one wife to share the house built for them by the
Government and they have to find other homes for the rest of their wives. They resort to the help that their relatives who live outside the Pilot Scheme can give them. Some of these relatives who have extra houses in unrestricted areas agree to house some of these wives. Even if the men involved are able to find land elsewhere on which they can build houses for their wives, this state of affairs is very inconvenient as the men cannot live together with their wives and children in the same homestead as has been the tradition. This means that members of a polygynous family are now forced to scatter and separate. Furthermore if the relatives that can help do not have enough land, then the polygynists have to buy land and this becomes another financial burden.

Another problem is that of housing grown up children who, after about the age of eight, are not allowed to sleep in the same house as their parents. Normally the girls sleep in their own dormitories in a separate hut or house and the boys do the same but this is not longer possible in the Pilot Scheme where only one house is provided. Consequently parents now find themselves sleeping in the same house with their children, contrary to Luo custom. The solution to this problem is to find other places where these children can sleep. This they can find outside the Scheme only if they are lucky. Again, it is only their relatives or friends who live outside the Scheme who may sympathetically help them. If such help is possible, it may, in many cases, involve going a long way from the Pilot Scheme area to find a place to sleep. This can be hazardous for the children since they may be attacked and beaten or robbed as they go. Young people living in the Scheme are very much concerned about their plight in this regard.

Again, many people in the Scheme complain that it is no longer possible for them to live with some of their closest relatives. This has come about because land consolidation and apportionment excluded some families so that they can no longer live in their former area taken by the Pilot Scheme. These landless people have to live elsewhere while their more fortunate relatives had land allocated to them and live in the Pilot Scheme. Related Luo families customarily live
together in close proximity. But the Pilot Scheme township arrangement has not provided for all members of a family and their relatives to live together as they did before the establishment of the Scheme. They miss the warm friendly interrelationships that relatives provide.

In the Pilot Scheme there is also the problem of providing early education for children of the people living in the townships. The people point out that there are no nurseries provided for their children and consequently they are not getting their formal elementary education. The townships cover a wide area in the Pilot Scheme and so it is necessary that nurseries and primary schools be built in each township to provide the elementary training that these children need.

Health Problems

Another problem existing in the townships is that concerning living conditions in the houses and the immediate compounds surrounding the houses. The houses are very poorly constructed because the walls are not properly plastered or cemented and the earthen floors harbour plenty of flies. During the rainy seasons the ground is swampy and, because the walls and floors are not plastered, there is seepage through them which makes the houses damp and cold and very unhealthy for the occupants. Moreover, constant seepage makes the walls crumble and this is very dangerous to the occupants of the house.

The pit latrines have the same defects. In addition, they are not deep enough and they get filled up with water during the rainy seasons. This causes malodorousness and can cause spread of diseases.

The compounds in the townships are generally bushy. There is tall grass which harbours plenty of mosquitoes, the number of which has increased because of stagnant water in the drains used for irrigation. In traditional homes, a large bonfire with cowdung used as fuel would help in getting rid of mosquitoes at night but this method of control is no longer possible since there are no cattle kept to provide the dung.
It was mentioned above that the township compounds are generally bushy. The township dwellers in the Pilot Scheme argue that they have no time to clear the bush and make the compounds tidy because they are too preoccupied with the cultivation of rice in the fields. They point out that unless they put a lot of effort and energy into this work they have no way whatsoever of earning a livelihood. They add that since their homes are in the township, the Government should employ people to cut grass, sweep, and keep the whole township clean. They argue that after working in the fields all day they have no energy left to engage in the work of tidying township compounds.

Economic Problems

Economic activities in the Ahero Pilot Scheme have also engendered some problems of an economic nature. Each family in the Scheme has four acres on which only rice may be cultivated as a cash crop and their only source of livelihood comes from this crop. Regulations do not allow the cultivation of other crops for sale or consumption nor do they permit the keeping of livestock. The latter were a source of milk and beef and power for help in plowing of fields. Sheep and goats provided mutton and goat meat respectively, for a family's consumption. Moreover, all these animals are traditionally used as dowry in marriage arrangements in Luo society, a practice which is becoming increasingly difficult in the Scheme since livestock are no longer kept. Also in times of financial difficulty, the livestock could be sold for cash, a practice no longer possible in the Scheme.

Before the implementation of the Pilot Scheme, the average gross income per acre per family in this area was KShs 60/-. This amount was the average income from a cash crop that could be sold in the market. But now in the Scheme, the average gross income per acre per family from the harvested rice is KShs 500/-. This shows an appreciable rise in income per family and it would indicate that families in the Ahero Pilot Scheme are now better off economically than they were before. The per capita income is now higher than before the Scheme was introduced, in the case
of the families which have harvested rice once or twice and sold it. But a close examination of expenditure incurred by any individual family in the Scheme indicates that the families spend the bulk of their income on some payments which almost completely exhaust their resources so that the remaining amount of money cannot satisfy their most vital needs for food, clothing and other necessities of daily life.

An example of the foregoing will illustrate the economic condition of the people in the Pilot Scheme.

Of 327 families interviewed, 250 had not harvested their first crop of rice by June 1969. 77 families had harvested their rice once or twice by this time. To date, those who have not harvested their rice and those who have not yet been allotted any acres to till are being given KShs 60/- per month allowance by the Government for their subsistence.

In April 1969, the highest number of bags of rice harvested by a family in the Scheme was 135, and the lowest number was 67. The prevailing price at that time was KShs 33/- per bag. This means that the family which harvested 135 bags of rice received a total gross income of KShs 4455/- and the family which harvested 67 bags received KShs 2211/-, during a period of about 5 months when the rice was in the field before it was sold. But the immediate compulsory expenditure of each family in the Scheme gives the real net income of the families considered:

**Expenditure (Deductible from Gross Income of the Families)**

<table>
<thead>
<tr>
<th>Items</th>
<th>Amount of money payable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of water made available for cultivation</td>
<td>KShs 800/- per harvest; for 2 harvests a year = KShs 1600/-</td>
</tr>
<tr>
<td>House rent</td>
<td>KShs 400/- per harvest; for 2 harvests a year = KShs 800/-</td>
</tr>
<tr>
<td>Fertilizer</td>
<td>Depends on how much fertilizer is used</td>
</tr>
<tr>
<td>Loans from Government</td>
<td>Depends on amount borrowed</td>
</tr>
</tbody>
</table>
The notable thing about the precariousness of the economic condition of the families in the Pilot Scheme is that they do not have any other source of livelihood apart from the meagre income they get from their rice. The entire members of a family, the average number of which is six, must depend on this income for food, clothing, school fees for children, dowry, travel, and a multiplicity of needs that must be supplied to maintain life. The inadequacy of the means of livelihood has been emphatically expressed by all 327 families interviewed. This assertion is correct despite the fact that quite a number of families have pointed out that the average monthly income per family is higher than it was before they entered the Scheme. One may wonder why this is so, but the answer is simple.

Families in the Pilot Scheme are not allowed to cultivate any other crops besides the rice cultivated for cash. Formerly these people could raise many other crops for consumption whereas now they have to buy everything they eat. Furthermore they no longer have livestock to augment their need for cash and food. Thus there is much famine in the Pilot Scheme. Complaining of this, families point out that at present they cannot remedy the situation because of the Scheme regulations. They are so busy attending to the cultivation of their rice crop to pay for their expenses that they have no time to engage in other economic activities that might augment their income. There is no individual freedom of engaging in economic activities of various types. The families also point out that the daily routine in the Scheme is rigid and unalterable and becomes monotonous after a little while.

Because of famine there is discontent with the Scheme on the part of the families that live there. Many people look emaciated because of hard work in the fields and little food to eat.

A number of marriages have been broken since the establishment of the Scheme because the women cannot tolerate famine and other economic problems involving short supply of the basic means of livelihood. Women and children suffer and the men who are their husbands and fathers cannot support
them. Consequently the women leave and find husbands elsewhere outside the Scheme. In several township clans housing 326 families, there have been 20 divorces between June 1968 and June 1969. This is a very high rate of divorce in a rural Luo area, since divorce is a very rare phenomenon in many rural areas of Kenya. This high rate of divorce has not been experienced before in this area, so it can only be attributed to the already stated socio-economic problems prevailing in the Resettlement Scheme.

The precarious economic situation also manifests itself in too much beer drinking on the part of the men, especially those who have not yet been given their land to cultivate and who receive a subsidy of KShs 60/- from the Government. These men are undergoing a period of disorganization because they do not know what to do with themselves since they have nothing with which to occupy their time. A man in the Pilot Scheme admitted that he and his friends are compelled by circumstances to drink more than they did before in order to assuage their hunger and forget their problems.

Another interesting phenomenon pertains to the would-be brides who have been lured by rumours of the good financial prospects of the rice cultivators. The men tell the girls about the probability of their becoming rich in the Scheme, and the lure of the new houses and the attractive external appearance of the townships contribute to the ease with which the girls accept the marital proposals of the men. These girls, however, do not understand the real circumstances in the Pilot Scheme until they have gone to stay with the men for a while to test the truth of their good prospects. But soon the women find that the good money that these men receive is very quickly expended and the men remain with nothing to feed them. The result is that these women leave, often times without any notice, and in a number of cases it has been reported that they steal any amount of money that their would-be husbands may have had at the time.

Another important point that must be noted here to indicate a change in the life of the Luo people in the Scheme
is that pertaining to hospitality as a cherished custom. The people in the Scheme point out that now, because of economic hardship, the families do not offer hospitality toward one another. This means that they now do not freely offer meals to their visitors or invite them to stay overnight because they have little food and no room where they can sleep. As a result, people from outside the Scheme cannot visit their relatives in the Scheme as frequently as they did in the past. Those already living in the Scheme do not find it convenient to visit or to invite one another into their homes and chat with them over meals as has always been done. In other words, there is increasing selfishness in the Scheme. This state of affairs is characteristic of town or city life where economic life is much more complex than is the case in a purely rural area.

CONCLUSIONS AND SUGGESTIONS FOR IMPROVEMENT

The problems of rural development as discussed here indicate that initiation of resettlement schemes in Kenya and in any other developing African country will not be successful unless the pattern of life of the people is taken into consideration and used in planning the transformation from traditional life to modernised life. At the present stage of rural development, a smooth and carefully planned evolution from tradition to modernity is necessary. A sudden radical change which does not take into consideration the way of life of a people who are mostly uneducated and illiterate is certain to disrupt their social organisation and physical and moral well-being.

Mass education and enlightenment of rural people in all the basic needs and requirements of modern life must be the prerequisite to the establishment of such resettlement schemes as those which involve building townships in rural areas. The establishment of townships in rural areas should not dictate the immediate abolishment of certain well-established African customs such as polygyny, without suitable alternatives taking the place of the abandoned
customs. Polygyny will die a natural death as life in townships becomes increasingly more difficult for men to support their wives and children in the face of increasing higher standards and costs of living. But in the incipient stages, such resettlement programmes must avoid large-scale discouragement and destruction of firmly rooted African customs. The mentality of rural people should be changed slowly through education.

Social change is inevitable and even desirable, but this will come about gradually as new developments are introduced. Force, which uses radical methods to bring about change, will fail to create the desired results of raising the standards of living of the population and, at the same time, it will destroy their customs and social organisation at the outset. Perhaps through mass education and persuasion rural people could be taught to accept institutional changes in their familial, economic and social orders as a preliminary step prior to the introduction of resettlement schemes where life is radically different from the traditional system. If this is done, transformation from tradition to modernity is more likely to be smooth and successful.
KENYA

CASE STUDY NO 3

PHYSICAL PLANNING AND DEVELOPMENT IN KENYA

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PHYSICAL PLANNING AND DEVELOPMENT IN KENYA

In most developing countries the necessary resources for providing for the economic and social needs of the people, which is the basis for creating an acceptable standard of environment, are extremely limited. Economic development and the provision of social and administrative services to a desirable standard has to be carefully planned so as to provide optimum benefit.

This short paper describes the physical planning work being undertaken by the Government Town Planning Department in securing a rational distribution of urban development throughout Kenya as a framework for creating optimum environmental standards.

THE PLANNING PROCESS.

1: The responsibility for Regional and Urban physical planning in Kenya rests with the Town and Country Planning Department in the Ministry of Lands and Settlement. The Department of Lands, Settlement, Survey, Land Adjudication and Squatter Commission are also all grouped under this Ministry, an arrangement which enables close coordination of land use planning.
The planning work of the Department is an integral part of the comprehensive planning process which is seen as a continuous process of initiating and guiding development so that the optimum use is made of the nation's human, material and financial resources in the take of improving the economic, social and physical environment of the people of Kenya. It involves the collection of statistical data concerning the existing environment; the analysis and correlation of this data; the formulation of economic and physical objectives in the light of national policy and the local needs of the people expressed through the District and Provincial Planning Committees, and the translation of these objectives into a system of priorities and a programme of capital works. This programme, when approved by the Cabinet is then implemented through the various Ministries and development Committees. Change is thus effected in the environment and the process starts again with the collection of new data.

The prime agency of data collection is the Statistics Division, Ministry of Economic Planning and Development which conducts the Census of Kenya, recording vital information on the population, its distribution, age structure, employment, migration, etc., and which continuously records data on agricultural and industrial production, imports, exports, prices, wages, public finance and related factors of the economic environment. This data provides the raw material
of ECONOMIC PLANNING, the formulation of a blue print for economic action.

1:4 Parallel to this process, the Town Planning Department is concerned with PHYSICAL PLANNING of the environment, that is the infrastructure necessary to provide health, education, commercial facilities, administration, communication and other services to the people and the grouping of this infrastructure into a rational hierarchical network of towns. Physical planning data is collected by means of field surveys by the Town Planning Department. The plotting of such physical data and its correlation with the distribution of population, land use, economic activity and communication routes enables the adequacy of the existing infrastructural network to be analysed and proposals made for its improvement. This must be followed by the preparation of detailed plans for each Urban Centre.

1:5 PHYSICAL PLANNING which includes inter alia SOCIAL infrastructure, has to be coordinated with ECONOMIC PLANNING to draw up a list of priorities and a capital works programme which may be called the COMPREHENSIVE PLAN.

1:6 The foregoing clearly reveals the need for very close coordination between the Town Planning Department and the Ministry of Economic Planning and Development together with operating ministries and provincial and district teams at both the planning and implementation stages. A consider-
able degree of coordination has already been achieved and is being developed on the following lines:

(1) Regular liaison with the Ministry of Finance and Planning at Ministry and Provincial levels including consultations on development projects and agreeing priorities for planning work.

(2) The appointment of a Physical Planning Officer to each Province who will be a member of both Provincial and District planning teams and development committees.

(3) Consultations with the planning and development teams of operating ministries.

(4) Participation in the design stages of statistical gathering including the Kenya Census.

Regional and Urban studies completed to date have enabled the drawing up of the Department's short and long term programme of work necessary to secure coordinated physical development in a wide field of development activity. The integration of this work with development projects in other fields, such as in industrial and agricultural development, will enable the preparation of integrated economic social and physical plans at the National, Provincial, District and Urban levels.

The Department's programme of work is therefore based on the following overall tasks:

(1) Preparation of Regional Physical Planning Studies for each Province followed by the preparation of a National Physical Plan.
(2) Provision of a planning service to provincial planning teams and provincial and district development committees.

(3) A planning service to all ministries concerned with physical development and to the Commissioner of Lands and Local Authorities including the preparation of long term and detailed plans for towns and other growth centres and site selection for individual projects.

(4) The preparation of additional detailed physical planning studies within the framework of national and provincial plans for specific development projects so as to facilitate the optimum use of resources, and

(5) The recording of changes and the revision of plans as a continuous process.

BACKGROUND TO PHYSICAL PLANNING

2:1 Before describing actual planning work undertaken or being undertaken, it is necessary to set down some of the major factors influencing development in Kenya.

2:2 The seven Provinces of the Republic of Kenya together cover an area of approximately 225,000 square miles, well over 60% of which is arid land while less than one tenth experiences a rainfall in excess of 30" per annum.

2:3 Consequently, most of the population and economic activity of Kenya is concentrated in the Coast strip, the
Highlands and Nyanza Province which together constitute less than one third of the entire country.

If the population, approximately 10 million at present, continues to increase at the existing rate of 3% per annum, by 1982 it will reach 16 million and exceed 26 million by the end of the century. This at present predominantly rural population growth, must soon have serious implications for future urban form and development throughout the country.

The 1962 Census revealed that the percentage of urbanisation, although rapidly increasing, is extremely low with only 23 Urban Centres having a population of more than 5,000 containing 8.6% of the population, and only 34 centres with a population of more than 2,000. However the 1969 Census revealed that urbanisation was increasing at an average rate of 7.2% per annum and in some individual cases the increase is as high as 10%. The 1962 figure of 670,945 in towns of 2,000 had increased to 1,096,154. This means that a town of 25,000 population could have a population of 250,000 before the turn of this century, and that within a similar period over 30% of the total Kenya population could be living in towns. It is interesting to note that about two-thirds of the present urban population is concentrated in two large towns - Nairobi and Mombasa - and that on present trends the population of greater Nairobi will be in the region of
4½ million by the year 2000. In Kenya as a whole the indications quite clearly point to the probability of a need for urban infrastructure some eight to ten times that existing today by the year 2000 — roads, sewers, water supply, social and commercial buildings.

2:6 If medical facilities continue to improve, lowering the birth rate, while little or no family planning is introduced, it is reasonable to plan the development of town and country on the basis of the foregoing statistics.

2:7 The Government recognises that a direct contribution to a solution of the problem of migration to urban centres lies in the development and re-development of rural areas and this is in fact taking place on a very large scale and one of the main principles of the Town Planning Department's Regional studies therefore is directed towards a more convenient and logical siting of infrastructure in the rural areas at selected centres. Nevertheless the planning of all the major towns in Kenya is carried out on the basis of an increase in population of between 7% and 12% per annum.

REGIONAL RESEARCH AND PLANNING

3:1 Regional planning studies have been completed for most of the 7 Provinces based on a methodology for Regional work which was evolved and written up before work commenced. This work has been undertaken by a small team of 4 qualified
planners and supporting staff over the last five years. Inevitably the work has involved the collection and review of a considerable amount of data from government records and in the field, and the assessment of trends in population growth and migration and in other fields relevant to short and long term planning.

3:2 The problems revealed in these studies are those that arise inevitably in a rapidly growing agricultural population where land resources are limited, the underlying urgent need being to counteract these forces by adopting well thought out and applied planning and development strategy within the limitations of resources available.

3:3 The main contents of the individual provincial studies may be summarised as follows: -

(i) An analysis of population growth, distribution and movement related to agriculture, urban development and other factors.

(ii) Evidence of a maldistribution of existing social services relative to population distribution both within Provinces and between each Province.

(iii) A new and more rational distribution of towns of different sizes, functions and levels of importance so as to create a more balanced rural/urban relationship so providing a framework within which development agencies may carry out their policies for development
in such a manner that will produce a coordinated logical development pattern throughout the country.

(iv) Proposals for preventing both the overscattering and overconcentration of social and economic development to facilitate the creation of nodes of economic activity.

Note: In one Province, for example, 35% of the Dispensaries, 40% Secondary Schools and 100% Tea Factories are not located in any urban centre thus they do not contribute to the urbanisation process.

(v) The principle of a long term growth pattern of towns and a primary road network which is effective and economic.

3:4 Although every endeavor is made to base this work on sound statistics, these are not always available and it is evident that periodic review of this type of work together with the keeping up to date records of new development will be necessary.

3:5 Each Regional (Provincial) Study contains basic survey information charts for each centre in the Province which enables accurate and rapid assessment to be made of not only the content of centres but by plotting this information against the population distribution maps permits a clear appreciation of where the gaps in services exist. The studies therefore follow up this information by including a schedule which gives all the growth points selected and the main infrastructure which must be developed in the centre so as to
adequately serve the population. Maps are also included showing the detailed location of all Health and higher educational establishments and the existing communication systems and daily bus services.

**URBAN PLANNING**

4:1 The Department's Urban planning programme is confined to those centres which have been selected as growth points in the Regional studies. This programme is indeed extensive consisting of some 40 Urban Centres, 141 Rural Centres, 276 Market Centres and over 600 Local Centres.

4:2 The terms Urban Centre, etc. have been used to define in order of importance more clearly than existing terms, the function of centres within the Region which may be summarised as follows:

_Urban Centres_ (to serve a population of 100,000 - 150,000) are typically the administrative headquarters and main commercial centres for a whole district. They usually have a complete range of infrastructural development at the highest level, including public water, sewer and power systems and are the focus of the regional transportation pattern.

_Rural Centres_ (to serve a population of 30,000 - 40,000) are typically Divisional Headquarters, having an administrative function at the level of District Officer, District Court and Police Post; a social function at the
level of Health Centre, Secondary School and Community Hall although they usually lack library service. Most Rural Centres have Postal Service, part-time Banking service and a Petrol Station. They are usually located at nodal points in the local transportation pattern.

Market Centres (to serve a population of 8,000 - 10,000) usually have no administrative function except a Police Post. While they have a reasonably well developed retail and Barter Market facilities, a Secondary School and a Health Centre or Dispensary.

Local Centres (to serve a population of 4,000). Local Centres serve a strictly local area and usually have a few shops and a small Barter Market, plus a Primary School and sometimes a Dispensary.

4.3 The minimum services and infrastructure necessary for each centre has been listed in accordance with a schedule of minimum services and infrastructure considered necessary, for example, and Urban Centre needs -


Social Services: Hospital, Secondary School (to Form VI), Public Library, Social Hall, Cinema.

Transportation and Communication: Post Office with 24 hour telephone exchange, fully equipped Service Station,
Bus Station (More than 50 trips per day), Airstrip.

Commerce-Industry: Wholesale and Retail Shops, Grade A Produce Market, Full-time Bank, Residential Hotel, Industry employing more than 500 people, Electricity, Public Water Supply, Sewer System.

4.4 The growth points selected in the Regional studies together with their suggested infrastructural requirements forms the basis not only for the detailed physical land use plans but also as a guide to local development committee when discussing the siting of new schools, health facilities and other development.

4.5 A standard method of investigation and planning technique has been worked out and this has led to the fairly rapid preparation of comprehensive reports and plans for several of these centres.

4.6 This work generally establishes firstly, a long term growth pattern for the centre as a framework for services and for very substantial increase in accordance with known population and other statistics. A short term development plan within this form is then prepared which ensures that development is encouraged over the next 5 years in a pattern which does not restrict future development potential. One of the important elements within the development plan is the
zoning of a series of town residential community units on a provided site and service basis. Bearing in mind that there already exists a strong tendency to drift towards towns in search of 'urban' employment, this zone will cater for the anticipated excess in demand which cannot be met by normal housing programmes either in terms of finance or construction or indeed the ability of the individual to pay.

4.7 It is already evident from these plans that several towns require boundary extensions involving many hundreds of acres of land and decisions are required to be made on the question of whether such land should be brought into government ownership or left in private ownership subject to planning control.

DEVELOPMENT OF RESOURCES

5:1 Government policies in the development fields are directed towards achieving higher social and economic standards for all sections of the community, in the rural areas as well as in the towns and the Town Planning Department is therefore involved in a wide range of activity in actual development projects. The more important development schemes concerned are briefly described in the following paragraphs.

5:2 Extensive agricultural schemes including irrigation projects are in operation or in course of development. The Government, for example, has completed a settlement scheme
involving the subdivision and servicing of over one million acres of land previously developed for large farms. The average size of holdings is approximately 30 acres and small farms have therefore been provided for over 30,000 farmers and their families giving a total population of over 250,000 people who have been moved into the new areas from other over populated zones. The Town Planning Department has been closely involved in this scheme, producing over 600 original large scale maps and 8,000 prints for use by field staff and has sited and designed over 100 new social centres to provide for the social needs of the new farmers.

5:3 Very extensive areas of land have been involved in land adjudication schemes which basically involve the consolidation of agriculturally uneconomic fragmented portions of an owner's land into one area. Suitable deduction is being made as a contribution to the land requirements of village centres and roads. Several million acres have already been adjudicated and considerably greater areas are at present programmed.

5:4 Due to the existing scattered siting of markets and social services and the difficulty of obtaining sufficient land to set aside for new and enlarged social centres, the Department has so far not been able to make a satisfactory contribution to this planning work but it applies the normal Regional planning principles in studying these areas and making proposals for improving the concentration of services into Urban Centres.
The Government is pursuing an energetic policy to attract new large industries throughout the country. The rationalisation and dispersal of industrial development is complicated, and there are many difficulties to be surmounted before industry can be satisfactorily decentralised from Nairobi and Mombasa. Nevertheless it is Government's intention to work towards a more even spread of development. Large towns are vigorous in their efforts to attract industrial enterprises and the government has set up appropriate machinery for developing small local industries. The Department's plans for individual towns offer a considerable degree of flexibility to enable sufficient areas to be made available for considerable industrial expansion and it is consulted in the early stage in regard to the location of new industrial enterprise.

A survey of Kenya's housing needs has been completed and has provided the basis for the formulation of a realistic policy. The country is faced with an enormous urban and rural housing problem and if shacks and slums are to be avoided and a replacement programme is to be implemented large capital funds must be made available. In Urban areas alone the number of new houses required annually is in the order of 10,000. Housing programmes and land use plans for a five-year period have been completed for all large and medium sized towns. Site and service schemes are included in these programmes.
A housing research unit has been established with particular reference to research into forms of construction and building materials which can compete with the low-cost traditional forms which are in many ways unsatisfactory consisting mainly of mud and wattle construction to very low standards.

5:7 The tourist industry is expanding at a very considerable rate. Its development requires the provision of improved communications, lodges and hotels, airports, roads and water supply, and constant efforts are being made to plan the development of such infrastructure on a more coordinated basis than in the past. The Department has played a major part in presenting the authorities concerned with the results of its detailed investigation into the Kenya Coastline which pinpoints likely tourist growth centres and the infrastructural improvements required in order to provide reasonably serviced areas. In addition preliminary proposals have been made involving the setting up of a national recreation play area 30 miles from Nairobi which is intended to anticipate possible future demands for weekend enjoyment by the very considerable population which will be centred in Nairobi by the year 2000.

CONCLUSION

6:1 It may be seen from the foregoing that the contribution which physical planning can make in the achievement of the government's aims of improving the economic, social and environment of the people is vital and that the government
Town Planning Department within its limited resources is covering a wide field of activity via this service. A very great deal remains to be accomplished, particularly research into economic aspects and into implementation of plans. One of the main constraints is in the field of staff numbers and training. The Department has only twelve qualified officers with an overall total staff of forty. Until local personnel can be trained, reliance must be placed on overseas recruitment under bilateral technical aid programmes. Several countries have participated in this work and continue to provide limited but extremely able planners and it is hoped they will continue to do so for some years.

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