Resettlement adjustment patterns to rural development programs: The case of Tiga dam in Kano State of Nigeria

by

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In Nigeria, the government is the major initiator of projects to improve the economy and of efforts to reform or modernize the society. These projects consequently are designed with little or no consultation with the people who are to be affected by them. One of such projects, the subject of this thesis, is the construction of Tiga dam in Kano State which resulted in the relocation of about 12,000 people. In the thesis, relocation of rural people (resettlement) is conceived of as a development project and a perspective was developed that rural communities undergoing compulsory resettlement respond in the same general fashion irrespective of their sociocultural background and of the policy of resettlement authorities. This theoretical framework includes problems of socioeconomic adjustment, perception of the conditions and opportunities created by the project and factors affecting the displaced persons' responses to a development project.

Data were obtained by means of personal interviews with 344 household heads selected at random in four new villages. Percentages are employed to report certain aspects of the

study. Gamma (y) as a measure of association of ordinal data is used to analyze some relationships while Pearson correlations and multiple regression procedures are used to analyze interval level measures.

Problems of socioeconomic adjustment were found to be those that concern the social and economic well-being of the relocatees—farmland, housing, water supplies and so on. It also was found that, in general, the affected persons viewed the various conditions and opportunities created by the project as having beneficial effects.

It was found that same variables tended to affect perceptions of the conditions and opportunities created by the project and apprehension of new communities. Size of farm and involvement in project activities in particular were found to be important determinants of perception of the conditions and opportunities created by the project and apprehension of new communities.

Size of farm, length of awareness of inundation, knowledge of agencies and their roles, length of residence on the project, involvement in project activities and vested interests served by the project were found to be positively and significantly related to attitudes toward the project. The variables in the model explained about 44% of the variation in attitudes toward the project. However, involvement in project activities, length of residence on the project and size of farm operated by the relocatee, together, explained more of

the variation in attitudes toward the project.

The implications of the study for sociological theory, research and planning applications are discussed.

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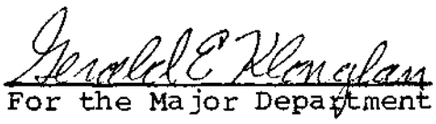
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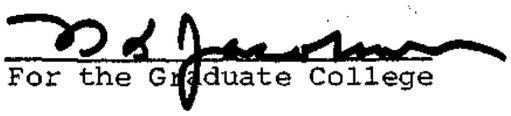
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CHAPTER I. INTRODUCTION

The past two decades has seen the initiation of a series of large river control projects in many parts of the Third World. Many of these projects have been defended as multi-purpose water control, but most of them are conceived in response to specific needs for power or flood control. In Africa, examples of large man-made lakes abound. Kariba in Zambia and Rhodesia (Zimbadwe) was the first of such lakes to be constructed and, since its completion in 1958, other big dams and lakes have been completed in Ghana (Volta), Egypt (Aswan), Nigeria (Kainji and Tiga), and the Ivory Coast (Kossou). These projects involved the relocation of about 300,000 rural people in these countries. Recently, the Federal Government of Nigeria has divided the country into a number of river basin development authorities and plans are on the books for the construction of more dams in the country.

The dams and lakes in these countries have been planned largely for development purposes, although recreation, fisheries, and other secondary objectives have been widely advertised. The construction of dams and the creation of man-made lakes has as a consequence the relocation of people from one rural area to another since those people living above the dams had their lands inundated and made inaccessible for their use. The relocation process has, however, remained a trial and error procedure since there are no explicit guide-

lines for its implementation. Few studies of a sociological nature of past and present resettlement efforts have been made, and this, the creation of man-made lakes, has a profound effect on the way of life of local residents, particularly farmers, fishermen and traders. For example, as of 1970, only one important series of papers has been published on the human consequences of dam and lake building in the tropics. These are anthropological studies conducted by Elizabeth Colson and Thayer Scudder (Bennett, 1974).

Frequently, man-make lakes lead to the introduction of some badly needed economic and social changes. Such changes pertain to redistribution of land to form economic farm units, all of which may not only directly affect human relationships but also have a major influence on the economy.

Relocation of rural people (resettlement) is conceived of as a development project aimed at regrouping and relocating scattered small communities into larger and more viable ones in order to benefit from a number of services that will be impossible to provide if the scattered communities are left ungrouped. As a development project, however, it constitutes development from above in that it is conceived and planned by the national governments or regional agencies and superimposed upon a local population which has virtually no voice during the stages of feasibility studies, planning and implementation. In fact, this has become characteristic of big dams in the tropics (Scudder, 1973a). Relocation of rural people also

1 million acres of land in the river basins during the wet season. This land cannot be cultivated. It is believed that these problems can be overcome by proper water conservation and irrigation, and the Government Four-Year Development Plan (1970-1974) placed great emphasis on such measures. The plan provided for the construction of dams in the upper reaches of the rivers, from where the land lying downstream of the dams can be irrigated throughout the year. These dams would also control the water entering the flood plains, and make possible the cultivation of the 1 million acres of river basins.

The pioneer scheme for controlled irrigation in the state was established on the Kano River, south of Kano City. This involved the construction of a dam across the Bagauda stream from where water is being used both for Kano City water supply and for a pilot irrigation scheme at Kadawa.

Based on knowledge and experience gained from this pilot project, the state embarked on a vastly larger and more ambitious scheme. From feasibility studies, it was established that a vast area of land could be irrigated from a dam at the Tiga Rapids on the Kano River. The dam constructed stretches for four and a half miles and the lake created provides enough water to irrigate 180,000 acres of land in the Kano River Basin. Water from the lake also supplements the Kano City supply and will generate 15,000 kilowatts of hydroelectric power.

The construction of the dam which began in 1971 and was

completed in 1974 was meant to benefit two groups of the rural people living around the area. One group found downstream is to benefit from the irrigation facilities made available for the development of agriculture. The other group is made up of the people who were displaced and have to move to a new environment to settle and eke out a living. The former villages and hamlets of this second group were regrouped into seven larger communities and provided with a number of amenities and facilities, aimed at improving the living conditions of these people. This relocated population can be further divided into four categories for analytical purposes. They are (1) the relocatees themselves, that is, those undergoing relocation as a result of the dam construction and its subsequent inundation, (2) the hosts, that is, those among whom the relocatees are settled, (3) other river basin residents, who are neither relocatees nor hosts, and (4) immigrants (Scudder, 1976). However, in the case in point, host and other river basin residents do not constitute a significant group since the relocatees were resettled in unoccupied areas away from the river basins. The immigrant population, at least at the time of the study, were mostly temporary workers on the project and were not included in the study. Thus, our sample consists essentially of the relocatees.

The creation of the Tiga Dam, the area of study, has affected about 12,000 people in the relocatee category who have been resettled in seven new villages. This study which

is part of the larger study of the role of resettlement schemes in rural development looks at this group of affected persons and addresses itself to the questions: What are the problems of socioeconomic adjustment of persons displaced by man-made lakes? How do they perceive of their new environment and what factors affect their attitudes toward the relocation project?

Data were obtained by means of personal interviews with 344 household heads selected at random in four villages of the relocated communities. Data were also obtained through discussions with resettlement authorities and representatives of the various agencies that were involved in the decision-making concerning the relocation procedures. Fieldwork which started in July 1975 was completed in December 1976.

Objectives

The impact of the creation of a lake is quite dramatic and involves a lot of stress. The stress could be defined as physiological, which is demonstrated by increased morbidity and mortality rates, and psychological in terms of "grieving for a lost home syndrome" and in terms of anxiety that characterizes the resettlement problem. Stress could also be defined as sociocultural in terms of reduction of the people's sociocultural inventory, that is, of the number of behavioral patterns which the relocatees utilized prior to their removal as well as in terms of the undermining of local

leadership at the very time that the relocatees need strong leaders to facilitate the resettlement process (Scudder, 1973a, 1976). In addition to these types of stress, people have to move to new areas to find new opportunities to eke out a living that satisfies them. While planners may work with variables that on paper appear to be relevant, the net effect of the planning exercise may be a living environment that does not concur with the ideas of the people who are the dramatis personae. Such situations may lead to instability in the area affected (at best represented by a high degree of emigration) or to general apathy on the other hand because of the feeling of having been deprived of the basic requirements to carry out a reasonable life. Neither of the two phenomena appear to have occurred in the Tiga area, which in itself may be considered a degree of success.

Irrespective of whether one wants to speak about success or lack of success, after any planning exercise, one ought to evaluate whether the plans proposed have been carried out according to the planning, or whether the situation that has been created for the people for whom one has planned is acceptable or on both. In the present context, the second type of evaluation is the one that has the main attention.

In the Tiga area, villages have been planned along new insights, plots for residential buildings have been allocated according to the number of people to be housed, social relationships in the old areas have been taken into account in

settling people in the new villages; hamlets and other smaller units have been grouped together to form larger units for which social services have been made available, land has been allocated to farming families on an acre-per-adult-per-household basis in contiguous plots. People have been left to put up their own houses. Financial compensation has been given for property lost and established authority patterns have been maintained. The great majority of settlers are now living in seven new settlements, a minor number has left the area altogether with an unknown destination and a third group has decided to resettle on the shores of the new lake in areas that allowed intake of new population on a small scale[1]. Up until now in the new settlements, plots and residential areas are still available for those who have not taken up residence yet but who might be inclined to do so in the future.

The degree of success of a development project such as the resettlement scheme being studied here is partly measurable as the acceptability of the new living conditions by the participants. This acceptability may be a function of:

1. The extent to which the new environment satisfies the needs of affected people;

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[1]Attempts to interview this last group proved abortive because those approached felt that they would be reported to the government for their refusal to move. Thus an important source of data was missed. However, it seems that these people are likely to take up their plots in the new villages as evidenced by the fact that during the study more and more people have begun to return to the villages to build up their houses.

2. The actual support that has been given by the authorities during the moving and settling stages as well as in the post settling stages;
3. The degree to which the new environment and living climate is considered to be equivalent to the conditions obtained in the old sites; and
4. The degree of communication between the authorities and the people involved as well as the extent to which the people affected have been participating in the decisions concerning their new life.

From the foregoing, the following objectives of this study may be derived:

1. To study problems of socioeconomic adjustment that were encountered while moving and resettling as well as problems facing the relocated people and the community as a whole in the new areas. In other words, to identify the nature of these problems.
2. To study the perception of the farmers of their new environment and the opportunities created or made available in absolute terms as well as in terms relative to the conditions obtained in the old sites. This includes the degree of satisfaction with housing arrangements, physical layout, land availability (and quality), the presence of social amenities, and opportunities for trading and marketing.
3. To study factors affecting displaced persons'

(forced migrants') perceptions, attitudes and acceptance of new residential locations.

Justification

The justification for undertaking the study is essentially to provide guidelines as to how to plan and resettle people displaced as a result of dam construction. Investigations of factors affecting relocatees attitudes toward projects, opinions and perceptions of the new environment may offer a good basis for future comparative studies when relocatees have lived in the resettlements for a longer period of time. Since changes in the Tiga area have been recent, people might still remember the difficulties through which they went and the adjustment problems may still be part and parcel of the daily lives of the people. Discovering these now will enable us to provide more realistic recommendations to areas in which similar exercises are to be made in the near future. This becomes more important since Nigeria is now embarking on river development projects.

Many studies have observed that settlement schemes can be seen as a form of rural development policy (Moris, 1968; Apthorpe, 1968; Lumsden, 1973; Palmer, 1974). As such, the situation of the schemes is relevant to development studies, because "it is, first of all, a case study in the kinds of evaluation which are relied upon by administrators in making rural development policy" (Moris, 1968: 79). Further,

it is a topic about which social scientists have little explicit theory. The findings of the study may thus contribute toward developing a theory of resettlement or of people adjusting to a new environment because they have been forcefully moved from their original homes.

CHAPTER II. REVIEW OF LITERATURE AND THEORETICAL FRAMEWORK

Introduction

The review of literature is organized according to the objectives of the study stated earlier. Before this is undertaken, it is necessary to identify types of relocation schemes undertaken in different parts of Africa. This is to reveal the type of phenomenon we are dealing with in the study, and hopefully to make choices between alternative forms of population relocation clearer and easier to make (Chambers, 1974).

In Africa, anthropologists have been in the forefront in the studies of population relocation. These studies have led to various classification of population relocation projects, with each classification emphasizing certain characteristics of the schemes for its analysis. There is, however, no common pattern for population relocation schemes. Haynes (1965), studying settlement and other agricultural schemes in northern Nigeria, arbitrarily divided the schemes into three groups; namely, (1) hill tribe resettlement schemes, (2) land use schemes, and (3) water use schemes. Using organizational characteristics as the basis of classification, Moris (1968) grouped the schemes into three categories as (1) land settlement which occurs in response to a program of infrastructural investment and are usually organized by government departments as temporary measures, (2) land settlements which consist of

individualized settlement schemes, where farmers are members of organized residence groups, but without specialized assistance or supervision at a higher level, and (3) land settlement which includes settlement schemes and a coordinating agency with specialized administrative functions vis-a-vis settlement activities. In this latter group, the agency often bears prime responsibility for the individual settlement schemes. Using land settlement models, Apthorpe (1968) distinguishes between irrigation and drainage models. The irrigation model, an example of development from above, assumes that there is a flat, dry expanse of otherwise empty and unproductive land, and that if there are any people on this land at all, they constitute merely a sporadic transient population, economically poor. Water is all that is needed to bring the land to life. Complications are recognized, but these are seen to be amenable to solution on the one hand by technology and on the other by social discipline on the part of the workers or farmers concerned. Resistance is not anticipated in this model. The drainage model takes account of the fact that the area may be peopled and that land does exist, but no customary rights are attached to the land, water or fishing. Accordingly, what is required is to drain the land and then set up some form of work organization to achieve the required output.

Reviewing the above and other classification, Chambers (1969) has argued that population relocation schemes can be

classified into three categories as follows: (1) Incorporative schemes, such as the Zande scheme and the Kenya Million-Acre Scheme. These schemes include large-scale land reorganization involving changing settlement patterns. The schemes incorporate different groups and as such characteristics of those affected are diverse because of the differences in ethnic and other characteristics. (2) Specific schemes, where there is deliberate recruitment or attraction of settlers with characteristics unrepresentative of a "historical" community. Usually, this specificness is the function of the express purpose of the scheme. Selection to these types of settlements could be compulsory or voluntary. Examples of these types of schemes include the Nyakashaka in Uganda and the early farm settlements in Western Nigeria for school leavers[1] and hence includes a high proportion of young bachelors. The Sabon-Gida Settlement in Shendam in what is now Plateau State of Nigeria belongs here too and was for the ex-servicemen. And (3) mass settlement schemes which include moves of people or population as a result of natural acts or acts of governments or combinations of both types of displace-

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[1]The term school leavers is usually used to refer to young people who have completed their primary school education (about 7 years of formal schooling), and who for one reason or another could not advance beyond this point. This group of young people usually migrate to towns in search of jobs and are a source of urban problems.

ment. Large-scale tse-tse fly[1] resettlements such as Anchau (Nigeria) and the resettlement operations resulting from the Aswan, Kariba, Kainji and Volta dams are examples, and so is the resettlement exercise following the creation of Tiga dam with which this study is concerned. Under these types of schemes, there is no selection of settlers, for people are moved en masse. This phenomenon is sometimes called forced migration or involuntary migration since return migration is precluded (Burdge and Ludtke, 1970; Napier and Wright, 1974).

In classifying the population relocation following the creation of the Tiga Dam, it is to be noted that the settlement pattern of a human community, be it rural or urban, is not a result of pure coincidence. The spatial distribution of the community's territory usually reflects the way of life and the social structure of the community concerned. Any change of the settlement pattern thus makes the pattern unbalanced. When such occasions arise, feelings of discomfort could crop up among members of the community and thus could encourage them to move. A disturbance of community settlement pattern, in other words, tends to disturb the existing social order.

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[1]A bloodsucking African fly that transmits microorganisms causing diseases such as sleeping sickness.

Problems of Socioeconomic Adjustment of Rural People Displaced by Man-made Lakes

Most of the population relocation studies in Africa have been undertaken by anthropologists. These studies have identified a number of problems facing displaced rural people. Population relocation following the creation of Kariba (Kariba is the first dam in Africa to create a reservoir of over 100 million acre feet in storage capacity) have been studied by anthropologists since its inception in 1955. Brokensha and Scudder (1968) reported that one of the main problems had been food shortage, which meant that the affected people had to rely on relief and government for support for a period of time. Farmers experienced problems with land clearance and in fact it took them two years before they could clear enough land for their farming needs. Morbidity and mortality rates also were reported to have risen as a result of relocation. In another study, poor soil quality was reported. This resulted in loss of cash crops, particularly by tobacco growers. The same study reported losses in livestock as well as losses of earnings from labor migration because men who normally would have gone out to work stayed home (Gwembe) to rebuild homesteads and clear new land (Scudder and Colson, 1972). A later study reported that the problem of settler dependency is "one of the most intractable that accompanies forced removal since relocatees resist and resent removal" (Scudder, 1976: 48). The affected people

tended to blame the government for the difficulties they encountered and consequently expected the government to take care of them by solving the wide range of problems that inevitably arise. Food problem was found to be particularly serious. Land shortage was another problem reported in the Kariba area. These problems have been reported to arise as a result of the stress involved in moving from one area to another, increased hardship and dependence for food aid (Scudder, 1973a).

In the Volta scheme in Ghana, problems of secure livelihood and insufficient farmland and emigration of settlers in search for new farming opportunities were reported. Poor water supply, sickness, absenteeism, inadequate compensation for crops lost and lack of establishment of a viable economic base for the new communities and inadequate provision of better health service were also reported (Chambers, 1970; Kalitse, 1973; Lumsden, 1973; Scudder, 1976). Further, Debelian (1972) reported that the settlement of different ethnic groups within the same area raised problems of social and cultural integration.

In Nigeria, it was found that people relocated following the creation of Kainji Dam experienced problems relating to changed physical environment and those arising from new cultural relations being forged. Associated with the former were included poor land both for homes and farms, deaths, and poor maintenance of roads among others, while associated

with the latter were quarrelsome neighbors, inaccessibility to social amenities and the new political and administrative structure (Oyedipe, 1973). Studying the same project, Wilson (1975) found that while some people affected by the resettlement exercise have not experienced many of the problems usually associated with relocation, adherents to traditional religions (nonbelievers in Islam and Christianity) have, however, undergone and continue to undergo stress and disorientation as a result of having been forced to leave their shrines and sacred areas. Among these people where not only the daily lives of residents, but also the social institutions of the community are governed on every level by a religious tradition tied to the immediate locale, relocation presented a serious threat to the social structure as well as to the individual psyche. The study further revealed that poor roads and isolation which made trading demanding on the traders' time were additional problems encountered. Concern was also expressed over water supply. An earlier study (Federal Ministry of Information, 1968) identified problems as those of access to communication means, new farming land, and adjustment to the new environment.

In the Aswan High Dam scheme, relatively large number of deaths was reported immediately after the displaced persons' arrival on the new site. Dissatisfaction with the houses also was reported (Fahim, 1974). Another study of the same scheme (Fernea and Kennedy, 1966) reported that the main

problem experienced was more of sharing and distributing supplies. Food prices were much higher due to the concentration of labor at the High Dam which has the effect of forcing the price of fresh food upwards and causing acute, if temporary, shortages of all kinds. Fear of rapid depletion of cash reserves and inability to secure the usual components of their diet were additional problems which led to a general feeling of discontent or disillusionment. Studying the Sudanese affected by the same scheme (Shaw, 1967), it was reported that the time lag between the treaty and movement of the people resulted in reduction in cultivation. This has the effect of creating a demand for foodstuffs which sent up prices and increased indebtedness among the people. This was paid off through the sale of animals, from compensation monies and increased remittances from abroad. The net effect of this was that people arrived at the new site with a reduced amount of capital for investment. This study also reported that agricultural production in the new site was below estimated yields and this was seen in terms of problems associated with adjustment from one farming system to another as well as absenteeism. It was further reported that even though there was a marked improvement in health facilities, nutritional deficiencies were found. Housing problems were also experienced.

Elsewhere, studies of watershed and river development projects, population relocation and highway projects among

affected persons, have identified similar problems. In a study of Kentucky rural people affected by reservoir construction (Johnson and Burdge, 1974), it was found that problems encountered were financial in that about one-third of the people studied reported that their financial situation changed for the worse as a result of the relocation. Social activities such as picnics were also affected. For most of the people studied, relocation changes was for the worse. Land purchases were less, and land newly acquired was reported to be of inferior quality and less tillable. To most of the affected persons, the desire was to resume traditional way of life. Others have found that problems encountered were expressed in terms of dissatisfaction with the new residence as it "related to its convenience to friends, family and essential community facilities, the presence of garden and its amount of privacy, as to the quality of the house itself" (Donnermeyer and Korsching, 1976: 7). Still others (Arnett and Johnson, 1976) found that forced migrants' responses centered around problems in finding a new place, moving large families, loss of agricultural life style, and moving from the general area, with the major reaction being concern over being forced to leave their homes and enter into new behavior patterns in strange surroundings.

In summary then, problems encountered while moving and resettling in a new environment have to do with the economic and social well-being of the people affected. Relocation

involves disruption of social relations, a loss of economic and social assets and sometimes isolation from home society, and traditional, often tribal, authority structures are replaced by a new administrative hierarchy. All of this places considerable stress on the settlers and are seen as affecting their adjustment in the new areas.

Perception of the New Environment and the Opportunities Created

Very few direct studies have been undertaken on the perception of the new environment and the new opportunities arising from population relocation. Also, there is a dearth in the literature as regards factors affecting these perceptions. From the scanty information available, it seems that perceptions of the new environment and the opportunities created are mixed. Wilson (1975) reported that in the Kainji scheme in Nigeria, most of the relocatees perceived the resettlement exercise in positive terms. They saw it as bringing about occupational changes and as an opportunity to benefit from public health services, land supply, housing and educational facilities. The people in fact have taken advantage of these. It was, however, noted that the elders in the community felt that the needs of the community were being neglected by those with the power to make changes. Others have reported that people view resettlement as a dismal business. Where relocation has taken place, it was reported

that the relocated population has characteristically viewed themselves as undergoing a long, unproductive, demoralized, dependent and expensive interregnum between relocation and independence. Disorder rather than development has been the initial experience (Jenness, 1969). In the same vein, Sutton (1977) reported that to relocated people economic potentiality is of little consolation.

Regarding factors affecting perception, Smith (1970) in his study of a Kentucky community found that perceptions of costs and benefits differed considerably among his respondents. Those who stood to benefit from the project (businessmen, down-river farmers, young people, and pleasure seekers were in favor of construction). In other words, vested interest is related to perception of the opportunities created by the relocation project. Similar findings were reported by Arnett and Johnson (1976).

Studies done outside this area of study, particularly in the area of adoption-diffusion research, have demonstrated that an individual's perception about ideas and objects around him is related to his socioeconomic status. This literature has demonstrated that farmers of high socioeconomic status perceive of situations differently from those of lower socioeconomic status. The general indication of these studies is that one's level of knowledge and acquaintance with the social world about him and his attitudes toward objects in this world are closely associated with one's

socioeconomic status. This lends support to the view that it is an individual's perception that determines his behavior, for if he perceives situations as real, they are real to him in all of their consequences (Rogers and Burdge, 1972). How an individual perceives a situation is in part a function of his culture, the norms of society and his various roles and status. The sociologist, W. I. Thomas (1928: 572) made this point clear when he asserted that "if men define situations as real, they are real in their consequences." The point being made is that man constructs his own reality, that man responds as such or more to the meaning a situation has for him as the objective features of a situation. To understand how people define situations then is to understand the meaning that the situation has for them and thereby to understand why people behave as they do in the situation. Perception of the situation thus will vary among the individuals affected by the project.

Factors Affecting Displaced Persons' (Forced Migrants') Attitudes Toward Relocation

Studies of relocation projects undertaken in Africa made no attempt to seek people's attitudes about these projects. Also, no studies have been undertaken to study factors related to these attitudes. Elsewhere, studies of attitudes toward watershed development, river basin development, population relocation and highway construction projects, among

affected persons, have provided a list of variables that related to people's attitudes toward development projects. Some have argued that the stress of forced removal is so great that societies respond in a similar fashion regardless of local content and national policies, that the "grieving for a lost home" syndrome applies as much to rural Africans as it does to those who are displaced in connection with urban renewal in the United States (Scudder, 1968, 1975; Sutton, 1977). It is on this basis that we are using variables studies elsewhere as affecting attitudes of affected people toward development projects.

In his study of rural and urban residents of water development projects, Photiadis (1960) found education and knowledge to be related positively to positive attitudes, while age related negatively to positive attitudes. Nonfarm people were also found to have positive attitudes toward the project. Dasgupta (1967) reported high organizational involvement, education, level of living, history of flood damage to property and knowledge of projects and purposes to be related positively to favorable attitudes among rural land owners in water development districts. Nonfarm occupants were found to have positive attitudes toward the project. Socioeconomic status and experience of flood damage were found by Becker (1971) to be associated with positive attitudes toward the dam project among rural and urban segments of a county facing a watershed program.

Burdge and Lutdke (1970) in their study of factors affecting relocation in response to reservoir development found that favorable attitudes toward the reservoir project reduce apprehension of new communities and enhance people's willingness to change to a new type of residence. They also found vested interest was related to favorable attitudes toward the project. Knowledge and socioeconomic status were found to have such relationships. These findings were interpreted to mean that vested interest was positively related to favorable attitudes and favorable attitudes have effect on migration plans in that those who have favorable attitudes toward the project will accept new residential areas.

Others have found knowledge, direct experience (Ross and Peterson, 1971; Wilson, 1973), community socioeconomic status (Wilkenson, 1966) to be related positively to favorable attitudes, while perceptions of metropolitan dominance (Kraenzel, 1957) and age (Burdge and Johnson, 1973) to be negatively related to attitudes toward projects. Length of residence and involvement in project activities were found also to relate to favorable attitudes toward development projects (Hallberg and Flinchbaugh, 1967).

There is, however, a debate about how attitudes relate to behavior. Some have maintained that if the "proper" attitude measures are used greater consistency will result. It also is reported that attitude-behavior relationships are influenced by personal and situational factors (Wicker, 1969).

In reviewing a number of studies, Ajzen and Fishbein (1973) found considerable support showing that behavioral intentions are closely related to actual behavior. Zaltman and Duncan (1977) state that an openly declared intention may have the effect of creating at least a symbolic adoption and a partial commitment to action.

Factors Affecting Acceptance (Apprehension) of New Residential Locations

Studies are rare on this particular aspect of development projects. Burdge and Ludtke (1970) looked at this aspect in terms of change in type of residence and apprehension of new communities among others and found some relationship between this variable and vested interests served, socioeconomic status and knowledge. However, when one looks at this variable as an aspect of behavior, one can posit the same relationships as found between say attitudes and the other variables reviewed.

Summary of Literature Review

The review of literature has indicated that when people are forced to move into a new environment, they face a number of problems. The problems encountered are social and economic in nature. In other words, these problems are those to do with the social and economic well-being of the affected persons. They are the problems that affect the normal day to

day life of the relocatees.

In regards to the displaced persons' perception of the new environment, the general finding reported in the literature was that those persons who are characterized by similar social and economic traits perceive situations in the same way. Those high on these traits tend to perceive of situations in more positive terms, while those low on these same traits perceive the same situations in negative terms. The literature also has indicated that people with favorable attitudes toward development projects are those of high socioeconomic status, have vested interests served by the project and have more knowledge of the projects. Further, length of residence and involvement in project activities were found to relate to favorable attitudes toward development projects. To these variables was added adequacy of compensation paid. Finally, studies have shown that some variables do relate to acceptance of change in type or place of residence (apprehension over new communities). Specifically, vested interests served and socioeconomic status have been reported to be positively related to acceptance of living in new communities. Some studies have shown knowledge of project and age to relate negatively with change in place of residence.

Theoretical Framework

The settlement pattern of a human community, be it rural or urban, is not a result of pure coincidence. The spatial disposition of a cummunity's territory usually reflects the way of life and the social structure of that community. Any change of the settlement pattern thus makes the pattern unbalanced as well as disturbs the existing social order. Persons experiencing such a disturbance face certain problems when moving and settling into a new environment and these problems are likely to affect the process of adjustment. Forced relocation is a unique occurrence, something unusual in comparison to the mundane course of most of an individual's life. It is for this reason that a forced geographic move is usually a traumatic event, and may cause both temporary and relatively permanent adjustment problems. In light of these, the framework on which this study is based is that rural communities undergoing compulsory resettlement respond in the same general fashion irrespective of their sociocultural background and of the policy of resettlement authorities (Scudder and Colson, 1979; Scudder, 1976). The similarity of response is primarily because of the extreme stress which accompanies forced removal (Scudder, 1973a, 1973b, 1975). Thus, findings reported outside Africa are deemed relevant to the African setting.

Theoretical model

The first and second objectives of the study are descriptive and as such no model is presented. The purpose of the descriptive study is to give an overview of the chief characteristics of the data so as to enable us to understand the situation in which the relocatees find themselves. The model presented, therefore, is for the analysis of the third objective of the study.

The literature review has shown that wide variations in perceptions, attitudes and behavior are frequently observed and these are often correlated with standard demographic and socioeconomic predictor variables. Regarding perception, it has been shown that to understand how people define situations is to understand the meaning that the situation has for them and thereby to understand why people behave as they do in the situation. The tendency to respond in terms of meanings is expressed in overt behavior (Landis, 1974; Lauer and Handel, 1977). Mead (1964) makes it clear that the very perception of objects is accomplished through the assignment of meanings. The way an individual perceives a situation is determined in large part by his culture, the norms of the society and his various roles and statuses (Rogers and Burdge, 1972). How we perceive a situation determines how we act. Theoretically, then, one can posit not only a relationship between perception and these factors that determine it (that is, perception), but also a relationship between perception and behavior.

In the context of the present study, the conditions and opportunities created by the relocation project are viewed as situations to which the relocatees give meaning and acceptance of change in the residential location (apprehension of new communities) is the behavior intention being sought.

Attitude-behavior relationships are seen to be influenced by personal and situational factors in the literature. Viewed in the light of the present study, the feelings of the individuals about aspects of the relocation (development) project constitute the attitudes which are to be explained, while the socioeconomic status variables, knowledge of project, adequacy of compensation paid, length of residence on the project, involvement in project activities and vested interests served by the project are the personal and situational factors. The acceptance of the new place of residence (apprehension) is the behavior intention which is seen to relate to attitudes. In a multidimensional process like rural transformation, attitudes relating to various aspects of the project among other things potentially mediate villagers' reactions to specific projects and opportunities. Moreover, since attitudes act as subjective molds to structure individual and group responses to opportunities for development and change, one would theoretically expect some relationships between perception-attitude-behavior complex. Putting together the foregoing discussion, a model is developed for the purpose of this study as presented in Figure 1.

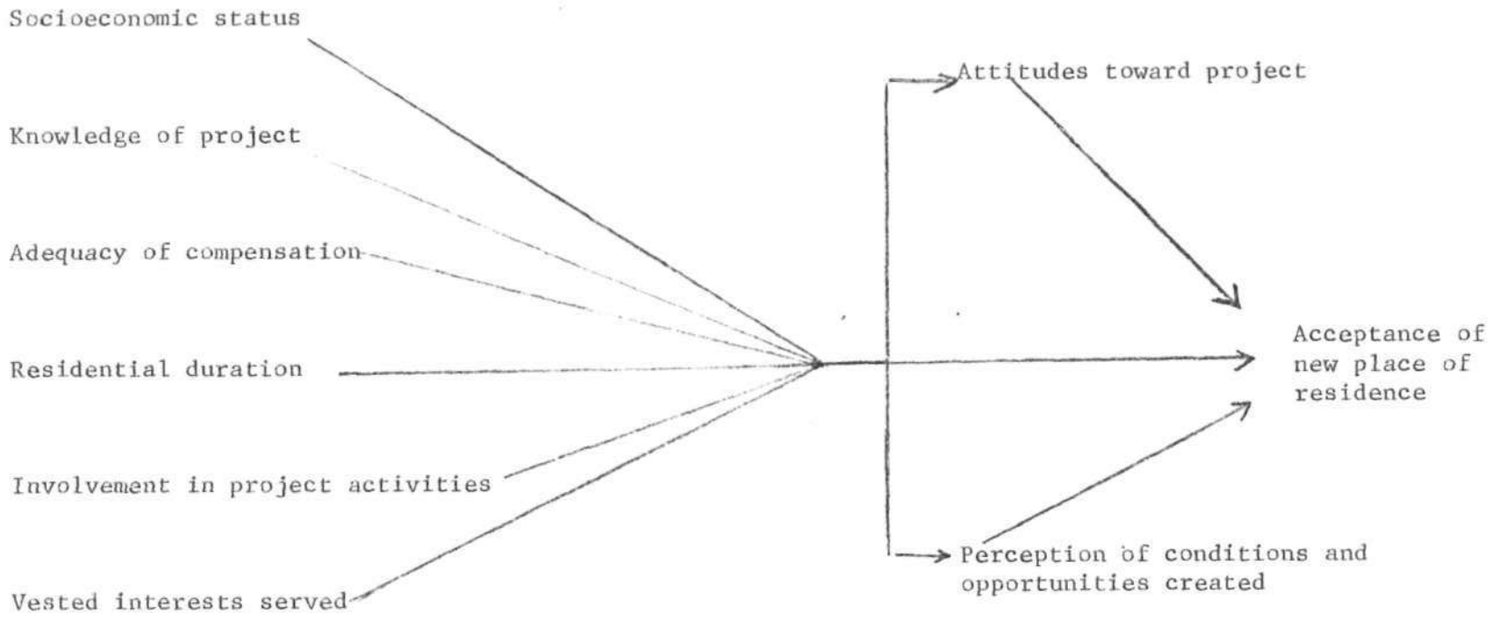


Figure 1. Model of factors affecting attitudes toward relocation project, perception of the conditions and opportunities created by the project and acceptance (apprehension) of new place of residence

In the model, the variables of socioeconomic status, knowledge of the project, adequacy of compensation paid, length of residence on the project, involvement in project activities and vested interests served are seen as the independent variables producing differential attitudes toward relocation project, perception of the conditions and opportunities created by the project and acceptance (apprehension) of the new place of residence. The latter three variables (attitudes, perception and acceptance of new place of residence) are the dependent variables to be explained. Two of the dependent variables (attitudes and perception) are seen as influencing the acceptance of a new place of residence.

The three dependent variables to be explained (perception, attitudes and acceptance of new place of residence) are a measure of success of the project and, if the variables presented in the model can explain them, the findings may go a long way to guide future planning, the assumption being that not only is there an immediate intention of action, but also that the decisions in terms of perception, attitudes and acceptance of place of residence would have some persistence over time. In a developing economy, the government is the major initiator of projects to improve the economy and of efforts to reform or modernize the society. A negative attitude by the population toward a project will obviously inhibit governmental activites. It is therefore necessary to understand factors affecting attitudes. Also, perception

and attitude studies provide one means of showing what the relocatee prefers or how he is affected by external parameters such as the relocation project or forceful removal from original place of abode. Changes in residential locations do not lend themselves to precise market quantification for cost/benefit analysis purposes. However, attitude studies are one way in which the investigator may comment on the relocatees' relative concern for such development projects as population relocation. In this way, the affected persons who would not normally get a chance to make their views known are given an opportunity to express their subjective reactions to problems they perceive. The results of such studies would provide a more rational basis for a choice of planning alternatives. Thus, future solutions might be made more responsive to the people for whom they are originally planned. Attitudes and perception studies, then, aim at discovering for a certain segment of the population just what individuals "see" in their environment, how they feel about it, what it means to them and how they would be disposed to act towards it.

Operational Indices

This section deals with the way the variables investigated have been defined and measured.

Problems of socioeconomic adjustment

There are no operational indices per se for the first two objectives of the study. Analysis is made of the responses made by the respondents as regards the problems they encountered while moving to the new sites (communities), building houses and clearing farmlands. An analysis is made also of other individual and community problems as well as of problems encountered in farming generally. Their perceptions of the conditions and opportunities are also described.

Socioeconomic Status Variables

This variable has several dimensions, but the character of the study population did not permit the use of the conventional socioeconomic status scales. In a traditional economy, measures of one's socioeconomic status depend on one's age, level of formal education, wealth, size of farm and household, social status and prestige among others. For the purposes of this study, the following socioeconomic variables were investigated:

Age (X_1)

This was measured by the age given in years by the relocatee at the time of the study. The responses varied from 15 to 80 years, with a mean of about 45 years for the sample studied.

Based on actual responses, the ages in years were

grouped into three categories, namely, young relocatees (40 years of age and under), middle-aged relocatees (41-59 years of age), and old relocatees (60 years and over) to test the hypothesized relationships.

This variable is treated as an interval level variable.

Possession of durable consumer goods (X_2)

Estimating the wealth and income of subsistence farmers is difficult. Yet present incomes and well-being represent the baseline for development and any proposal for improvement must hold out the promise of higher incomes for rural people. In some situations, development projects have met with little or no response when the peasants' personal estimates of potential benefits did not indicate that these would exceed those derived from the existing way of doing things (Roider, 1973).

To obtain a rough measure of relative material wealth, the study recorded a number of assets associated with the farm and compound. It was presumed that the relatively wealthy would have more of the items, while the poor would have less. From these data, a wealth index was constructed by assigning each item a value in Nigeria currency (Naira) as shown in Table 1. The index for each item was based on the average market cost of the item recorded periodically during the study. Not all possible items were covered, but only those which might loosely be described as major assets. Clothing

Table 1. Wealth index

Index	Asset
	Livestock
3.0	Donkey
12.0	Horse
25.0	Head of cattle
2.0	Sheep
0.8	Goat
0.15	Poultry
	Compound
2.0	Metal bed
1.2	Comfortable chair
3.0	Foam mattress
1.0	Cotton mattress
0.8	Kerosine lamp
	Chattel
400.0	Motor car/bus
45.0	Sewing machine
60.0	Motorcycle
6.0	Bicycle
0.8	Clock or watch
3.0	Transitor radio

and kitchen wares were not recorded, although these account for a considerable portion of farmers' cash incomes. Expenditures made for invisible items, notably feasting and hired labor were not reflected in wealth index nor were estimates of the cost of the house because data on these were not only difficult to obtain, but are usually unreliable.

The measure of wealth was thus defined as the cash value of a respondent's possessions of durable consumer goods. The

scores on the variable ranged from a low of 1.50 Naira ($2.31) to a high of 11574 Naira ($17361) with an average of about 291 Naira ($448) for the sample studied.

In terms of the hypotheses involving this variable, wealthy relocatees were defined as those whose possessions of durable consumer goods value ranged from ₦600 and over, medium wealthy relocatees as those whose goods value ranged between ₦200-₦500 and those with an index score below ₦200 were defined as low on the variable.

The variable was treated as an interval level measure.

Size of farm operation (X_3)

Persons affected by the relocation project were mostly farmers who relied on farming as a means of livelihood. The size of farm operated by a relocatee would appear to be an important variable in shaping his attitudes toward the project, since the exact size of farm he now operates was determined by the project authority.

In the literature, the most common appropriate measures of size of farm are area of land owned or farmed, value of farm product produced or sold and net income from farming. Farmers in the Tiga relocation project have no measure of their farmlands, they do not know amount of yields and have only a vague idea of cash incomes from farming, which they are generally unwilling to reveal. For the purposes of this study, the size of farm operation was defined as the size of

land holding in acres and was measured by the actual size in acres. Respondents in the sample had their farms measured during the study. Size of farm operation ranged from 1 acre to 66 acres with a mean of about 5 acres.

Bigger farmers were defined as those operating 7 acres or more of farm, medium-sized farmers as those operating 4-6 acres and small farmers as those operating up to 3 acres. The variable was treated as an interval level variable.

Level of formal education (X_4)

This was defined as the number of years of formal schooling a relocatee has had and was measured by the actual number of years. Few respondents have had more than four years of formal education (junior primary level).

Since the number of years of formal education for all respondents was low, higher education was defined as those who completed primary school education (7 years), medium level education as those who completed lower primary education (up to 4 years) and those scoring lower were defined as low level of formal education. For analysis purposes this variable was treated as an interval level variable.

Knowledge of Project

Theoretically, knowledge refers to the level of information concerning aspects of the projects. Knowledge has been defined in several ways in the literature. Photiadis (1960)

defined it as the amount of correct information concerning the structure and organization of projects, while Wilkenson (1968) defined it as the amount of correct information concerning the goal of the project and the role of each agency involved in the project. The extent to which the population could describe the objectives of the project and name the agencies involved with the development was defined as knowledge by Dasgupta (1967) and as level of information concerning the construction of the project and the land acquisition procedures as reflected from a 12-item scale by Burdge and Ludtke (1970) and by Burdge and Johnson (1973).

Three measures of knowledge were utilized for the purposes of this study. Two of these are measures of time the relocatee reported being aware of the events (inundation and moving) of the project, while the third corresponds to the usual measure of the variable as reported in the literature.

Length of awareness of inundation in years (X_5)

This was defined as the length of time the individual reported being aware of the inundation before it actually took place, and was measured by the actual number of years given by the respondent.

This variable was treated as an interval level variable (years). Responses were grouped into three categories, namely, those who were aware of the impending inundation for five years or more, those who were aware for 2-4 years and those

who were aware for one year or less. This categorization corresponds to long, medium and short awareness of inundation.

Length of awareness of moving to the new village in years (X_6)

This was defined as the length of time in years the relocatee reported being aware of the time of moving to the new village before the actual move took place and was measured by that length of time.

This variable was treated as an interval level measure for analyses purposes.

To test the empirical relationships, the responses in years were categorized into three as follows: those who were aware of moving for a year or less, those who were aware of moving for two years and those who were aware of moving for three years or more before the actual move was made. This categorization corresponds respectively to short, medium and long awareness of moving.

Knowledge of agencies and their roles (X_7)

This aspect of knowledge tapped the respondents' knowledge of the agencies involved and the role each agency named played in the project. For each agency correctly named the respondent received a positive score of 1 and an additional point for correctly describing the role it played. Six agencies were involved and each played a specific role, thus the score on this ordinal level variable ranged from 0 to 12.

For this variable, low knowledge was scored as those who had a score of 3 or less, medium knowledge as those who had a score of 4-6 and high knowledge as those who had a score of 7 or more, for testing the hypothesized relationships.

Adequacy of compensation (X_8)

One important, yet intangible, issue in relocation projects has been the relative satisfaction of the relocated population with respect to the amount of compensation they received for their condemned property and for the replacement of their housing. Before the respondents were relocated, they were paid compensation in kind or in cash for a number of their properties (house buildings, farms, economic trees on the farm and in the house and granaries). This variable was therefore defined as the extent to which the respondents feel they were adequately compensated and was measured by the following formula:

$$\text{Adequacy of compensation score} = \frac{\text{no. of items said to be adequately compensated for} \times 100}{\text{total no. of items compensated for}}$$

The multiplication by 100 was to eliminate fractions. The scores ranged from 0 to 100. Though no distinction was made on the relative importance of the items compensated for, the variable was treated as an interval level variable.

To test the hypothesized relationship involving this variable, relocatees were categorized into three groups,

viz., low adequacy of compensation score (20 or less), medium adequacy of compensation score (21-60) and high adequacy of compensation score (61 and over).

Length of residence on the project (X_9)

This was the length of period the respondent has been living on the project. Not all respondents had moved to the project site at the same time even though plans were made to move them at the same time. First relocatees on the scheme had been there for about 36 months before the study commenced. The measure for this variable was based on the actual number of months the respondent was living on the scheme. This measure approximates an interval level measure and was treated as such for analysis purposes.

To test the empirical hypotheses, relocatees were grouped into three categories, namely, "newcomers" to the new communities (those who have been residing in the new villages for 12 months or less, those who have been living in the communities for quite some time (13-24 months) and those who have been living in the new village since its creation (that is, those who have been on the project for 36 months). It is admitted that the period spent on the relocation project so far has not been long. These distinctions were made for analytical purposes. It is fully realized that one who had been living in a community for 3 years can hardly be called an individual with long residential duration in that community.

Involvement in project activities (X_{10})

This was defined as the extent to which the respondent participated in the project activities and was measured by the number of activities the respondent reported having participated in. Three activities required the participation of the relocatees. A fourth item was included to tap the level at which the respondents felt they were allowed to participate in setting up the new communities, and was scored on a 3-point scale. The score on this variable ranged from 0 to 6.

Again, even though no attempt was made to tap the importance of type of involvement, the variable was treated as interval for analysis purposes. Low involvement was defined as those with a score of 1, medium involvement as those with a score of 2 and high involvement as those with a score of 3 or better.

Vested interests served by the project (X_{11})

This was defined as those personal interests that might either be served or damaged by the relocation project. In measuring this variable, each respondent was provided with a list of consequences which might have affected him as the result of the relocation project. After responding favorably or unfavorably or not at all, each respondent was allowed to add to this list any personal benefits or detrimental effects of the relocation project. To develop the measure, the bene-

fits were scored as +1 and the detrimental consequences were scored as -1 and those not applicable were scored as 0. The items were then summed up to yield a net vested interest score for each respondent and a constant of 10 was added to eliminate negative values.

A low vested interests served score was defined as those with a score of 3 or less, medium vested interests served as those with a score of 4 to 6 and high vested interests served as those with a score of 7 or better, for testing the hypothesized relationships.

Perception of the conditions and opportunities created by the project (X_{12})

The concept of perception is viewed as an active response to the problematic situation. It is the process through which the human individual translates the data from his senses into internal meaning experiences. The meanings that one associates with some stimulus event through his senses is said to depend greatly upon his past social experience (DeFleur et al., 1977). In this study, perception was defined as how the relocatee interpreted the condition and opportunities created by the project relative to what obtained in his former place of residence. The conditions and opportunities investigated included facilities provided, economic advantages, opportunities for farming, selling and trading, education of children and subsidiary activities as well as how successful they per-

ceived the overall project has been. The measure for each individual is the total number of items for which he gave strong responses.

The measure approximates an ordinal measure and was treated as such for analysis purposes.

To test the relationships hypothesized involving this variable, respondents were grouped into three categories, namely, low level perception (1-3), medium level perception (4-6) and high level perception (7 and over) of the conditions and opportunities created by the project. The levels of perception of the conditions and opportunities created by the project are in terms of how strongly the relocatees feel about the conditions and the opportunities.

Attitudes toward relocation projects (X_{13})

Attitudes have been defined in various ways. A more common definition with the prevailing use of the concept is that attitude "refers to certain regularities of an individual's feelings, thoughts and predispositions to act toward some aspect of his environment" (Secord and Backman, 1964, p. 97). Viewed in this way, attitudes have affective, cognitive and behavioral components (Lauer and Handel, 1977). As used in the present study, the attitude variable looked at feelings or opinions about certain aspects of life and thinking on the project as well as about the grouping of villages. Initially, 20 items were proposed using a 5-point scale and these were

responded to by some members of the Rural Sociology section. Based on their responses, 15 items were considered good items and these were presented to a sample of the displaced persons (those not in the study sample), using a 5-point response category scale. This sample had difficulty in responding to a 5-point scale. As a result, response categories were collapsed into three and resubmitted to a smaller sample. Fourteen items were finally incorporated into the questionnaire. When these were responded to by the study sample, item analysis (Oppenheim, 1968) was done to show which items were to be retained for analysis, and the items (12) with the highest correlation (individual item to total) of .80 or better were retained to form the attitude scale.

The scoring procedure adopted was such that respondents with the lowest total points have the most favorable attitudes, while those with highest scores have the least favorable attitudes. In other words, the lower the score, the more favorable the attitudes toward relocation project and vice versa.

In conformity with what obtains in the literature generally, the attitude variable was treated as an interval variable.

For analysis purposes, responses on this variable were categorized into three as follows: high positive attitudes (1-10), medium positive attitudes (11-15) and low positive attitudes (16 and over).

Acceptance of the new place of residence (X_{14})

This was defined as the respondents' intention to continue to live on the project and was measured by five items. The variable in essence was a measure of apprehension of living in the new environment. The lower the score on the variable, the less apprehensive a relocatee is about living in the new community (in other words, he accepts or intends to continue living in the community) and vice versa. To test the relationship involving this ordinal proxy measure, relocatees were grouped into three categories, namely, those most accepting (intending) to continue to live in the new communities or less apprehensive about the new environment (1-5), medium acceptance (6-8) and low acceptance, that is, who were most apprehensive about living in the new communities (9 and over).

In categorizing the responses defined for each variable, the main consideration was to insure that the low categories distinguish significantly from the high categories. This involved insuring that the greater portion of the sample fell into the middle category, while, at the same time, making sure that each cell has at least five responses to allow for meaningful statistical interpretations. The mean of the distribution was the guiding criterion in deciding which respondents were termed low or high in relation to a particular variable. In most cases, those below the mean were scored

low, those around the mean (allowing for the above consideration) were scored medium and those far above the mean were scored high in relation to that variable.

All the items used in the study and how they were scored are presented in the Appendix.

Hypotheses

Study objectives 1 and 2

There are no hypotheses offered for this descriptive part of the study.

Study objective 3

General hypothesis: There is a relationship between the variables of socioeconomic status, knowledge of the project, adequacy of compensation, residential duration, involvement in project activities, vested interests served and perception of conditions and opportunities created, attitudes toward relocation project and acceptance of the new place of residence.

Subhypothesis 1: Perception, attitudes and acceptance of new place of residence differ significantly among relocatees of different socioeconomic status.

Empirical hypothesis 1: Age is negatively related to perception, attitudes and acceptance of new place of residence.

Empirical hypothesis 1.1: The older the relocatee, the

lower his score on perception of the conditions and opportunities created by the project.

1.2: The older the relocatee, the higher his score on attitudes toward relocation project.

1.3: The older the relocatee, the higher his score on acceptance of the new place of residence.

Empirical hypothesis 2: Possession of durable consumer goods (wealth) is positively related to perception, attitudes, and acceptance of new place of residence.

2.1: The higher the relocatee scored on wealth index, the higher his score on perception of the conditions and opportunities created by the project.

2.2: The higher a relocatee scored on wealth index, the more favorable his attitudes toward relocation project.

2.3: The higher a relocatee scored on wealth index, the more willing he will be in accepting the new place of residence.

Empirical hypothesis 3: Size of farm is positively related to perception, attitudes and acceptance of new place of residence.

3.1: The larger the size of farm operated by a relocatee, the higher his score on perception of the conditions and opportunities created by the project.

3.2: The larger the size of farm operated by a relocatee, the more favorable his attitudes toward relocation project.

3.3: The larger the size of farm operated by a relocatee, the more willing he will be in accepting the new place of residence.

Empirical hypothesis 4: Education is positively related to perception, attitudes and acceptance of new place of residence.

4.1: The higher the level of education attained by a relocatee, the higher his score on perception of the conditions and opportunities created by the project.

4.2: The higher the level of education attained by a relocatee, the more favorable his attitudes toward relocation project.

4.3: The higher the level of education attained by a relocatee, the more willing he will be in accepting the new place of residence.

Subhypothesis 2: Perception, attitudes and acceptance of new place of residence differ significantly among relocatees with different knowledge about the project.

Empirical hypothesis 5: Knowledge is positively related to perception, attitudes and acceptance of new place of residence.

5.1: The longer the period in years the relocatee reported being aware of inundation, the higher his score on perception of the conditions and opportunities created by the project.

5.2: The longer the period in years the relocatee reported being aware of inundation, the more favorable his attitudes toward the relocation project.

5.3: The longer the period in years the relocatee reported being aware of inundation, the less apprehensive he is about the new place of residence, that is, the more willing he will be in accepting the new place of residence.

5.4: The longer the period in years the relocatee reported being aware of moving to the new place of residence, the higher his score on perception of the conditions and opportunities created by the project.

5.5: The longer the period in years the relocatee reported being aware of moving to the new place of residence, the more favorable his attitudes toward the relocation project.

5.6: The longer the period in years the relocatee reported being aware of moving to the new place of residence, the less apprehensive he is about the new place of residence, that is, the more

willing he will be in accepting the new place of residence.

5.7: The more knowledge a relocatee has about the project agencies and their roles, the higher his score on perception of the conditions and opportunities created by the project.

5.8: The more knowledge a relocatee has about project agencies and their roles, the more favorable his attitudes toward the relocation project.

5.9: The more knowledge a relocatee has about project agencies and their roles, the less apprehensive he is about the new place of residence, that is, the more willing he will be in accepting the new place of residence.

Subhypothesis 3: Perception, attitudes and acceptance of new place of residence differ significantly among relocatees who were compensated differently.

Empirical hypothesis 6: Adequacy of compensation paid is positively related to perception, attitudes and acceptance of new place of residence.

6.1: The more adequately a relocatee is compensated, the higher his score on perception of the conditions and opportunities created by the relocation project.

activities.

Empirical hypothesis 8: Involvement in project activities is positively related to perception, attitudes and acceptance of new place of residence.

8.1: The more involved a relocatee is in the project activities, the higher his score on perception of the conditions and opportunities created by the project.

8.2: The more involved a relocatee is in the project activities, the more favorable his attitudes toward relocation project.

8.3: The more involved a relocatee is in the project activities, the more willing he will be in accepting the new place of residence.

Subhypothesis 6: Perception, attitudes and acceptance of new place of residence differ significantly among relocatees whose vested interests are served differently.

Empirical hypothesis 9: Vested interests served is positively related to perception, attitudes and acceptance of new place of residence.

9.1: The more the relocatee's vested interests are served by the project, the higher his score on perception of the conditions and opportunities created by the project.

9.2: The more the relocatee's vested interests are served by the project, the more favorable his attitudes toward relocation project.

9.3: The more the relocatee's vested interests are served by the project, the more willing he will be in accepting the new place of residence.

Empirical hypothesis 10: The higher the individual's score on perception of the conditions and opportunities created by the project, the greater will be his acceptance of the new place of residence.

Empirical hypothesis 11: The more favorable attitude a relocatee has toward the project, the greater will be his acceptance of the new place of residence.

CHAPTER III. METHODS AND PROCEDURES

Methods of Data Collection

Data for this study were derived from a study of household heads displaced by the construction of the Tiga Dam in Kano State of Nigeria. The study is part of a larger one on the role of population relocation in rural development. Data on population size of each new community were obtained from the Resettlement Authority.

The questionnaire schedule was administered through personal interviews from July 1975 through December 1976. Each interviewer was instructed to administer the questionnaire to the head of the household in the sample. Data were also obtained through interviews with some of the staff responsible for the relocation project. Interviews were obtained from those household heads who have already taken up residence in the new villages. Attempts at interviewing those who were still living on the lake shore were not successful because these people felt that the government would punish them and so they refused to be interviewed.

Sampling Procedures

Village selection

Seven new villages have been created in three districts of Kano State as a result of the construction of the dam which made the land formerly occupied by various villages and

hamlets inaccessible. It was decided to study at least one village in each of the districts and one additional village in one of the districts, since it has four new villages. Using a simple lottery type draw, the following villages were selected for the study:

1. Mahuta (in Tudun Wada district) is the smallest new community studied. It is located on a gravel road several miles away from the dam. Its relocated population was about 500, but at the time of the study not all the relocatees had already taken up residence in the village. Sixty-five of the 72 household plots in the village have been actually occupied.

2. Kauran Garba (in Rano district) had a relocated population of about 2000 located in 290 households, but at the beginning of the study only 180 household plots have been occupied. The village is situated on a main road (hard surfaced) and about a mile from the dam.

3. Rahama (in Kiru district) is situated at the junction of two main highways. It has a relocated population of 3000 located in 430 household plots. However, at the time of the study only 252 household plots were occupied.

4. Faruruwa (in Tudun Wada district) is situated on a laterite road. It has 3000 relocated population located in 430 household plots. At the commencement of the study, only 282 of these plots had been occupied.

All of the four villages have been provided with some facilities, though not in the same number. Table 2 provides

Table 2. Population distribution, number of households and facilities provided in the study villages

Village	District	Total relocated population	No. of house-holds	Number of households occupied at commencement of the study[a]	Facilities provided
Mahuta	Tudun Wada	500	72	65 (90%)	Road, wells, dispensary
Kauran Garba	Rano	2000	290	180 (62%)	Pipe-borne water, road-market, slaughter slab
Rahama	Kiru	3000	430	252 (59%)	Roads, wells, dispensary, primary school
Faruruwa	Tudun Wada	3000	430	282 (66%)	Dispensary, road, wells, mosque
Total		8500	1222	779 (64%)	

[a]These figures have since changed because more and more relocatees were taking up their residential plots during and after the study period.

a summary of the characteristics of the villages.

Sample size

Three hundred and forty-four (344) household heads were interviewed for the purposes of the study. This represents about 44% of all household heads who have actually taken up their residential plots in the sample villages, or about 28% of total household heads displaced by the project.

A modified version of a simple random sample known as systematic selection was used to select the respondents. This was necessary because there was no complete and up-to-date listing of all people living in the selected villages. The version used is a method of selecting units from a list or a proxy list (Warwick and Lininger, 1975). In this case, a proxy list of rows of houses found side by side along a street was used. In each of the four villages, the interval (I) was determined by the formula:

$$I = \frac{N}{n} = \frac{1}{f}$$

where N = the size of the total households in the village

n = the sample size

$\frac{1}{f}$ = the result which is the inverse of the sampling fraction, f.

Thus, respondents were selected for each village as follows:

Mahuta, 72/47 = 1.5 (2)

Kauran Garba, 290/75 = 3.9 (4)

Rakama, 430/103 = 4.2 (4)

Faruruwa, 430/119 = 3.6 (4).

The selection process in Mahuta then proceeded by selecting one house at random, the rest of the selection was by intervals of 2 (i.e., I = 2), while in the remaining villages the rest of selection proceeded by intervals of 4 (i.e., I = 4) until the required sample was selected for each village. A correction was made to reflect the actual household occupied at the commencement of the study for each village. This is why the sample size in Rahama village, for example, differs from that of Faruruwa. Even though they have the same number of households, more people had taken up residence in the latter village.

Table 3 gives some selected basic sample characteristics of the respondents.

Table 3. Some selected basic sample characteristics

Characteristics	Mean	Standard deviation	Variance
Age (years)	45	2.286	5.224
Wealth (possessions, Naira)	291	3.211	10.310
Size of farm operation (acres)	5	9.404	88.427
Level of formal education	.340	1.172	1.374
Length of residence on project (years)	2	0.973	0.946

Unit of analysis

The unit of analysis employed for the study is the individual household head.

Statistical Analysis

Means, standard deviations and variances are used to report some basic sample characteristics. In reporting the first two objectives of the study, percentages are employed.

To test the relationship postulated for the third objective of the study, Goodman and Kruskal's (1954) gamma (γ) is used as a measure of association where the dependent variable to be explained is ordinal. The principal partialling technique used in this respect is the net partial coefficient for gamma (Davis, 1967). This net partial coefficient allows one to assess the net effect of one or more control variables, thus providing an advantage over the more traditional subgroup analysis (Burdge and Ludtke, 1970; Nie et al., 1975).

To generalize about all relocatees in the project (and perhaps beyond), it is necessary to determine whether the gamma value obtained is likely to have come from a population in which the correlation between the variables is zero. To do this, Goodman and Kruskal's (1963) formula for converting gamma to a standard score is used. For convenience, the .05 level of significance is selected for statistical decisions.

To test the relationships where both the independent and dependent variables are treated as interval measures, zero-

order correlation on raw data using the Pearson correlation procedure is employed. To ascertain multiple relationships, the multiple regression procedure is used on raw data. Again, the .05 level of significance is selected for statistical decisions.

To execute controls in the analysis, the independent variables are grouped into categories as follows: socio-economic status variables (X_1-X_4), knowledge variables (X_5-X_7), project implementation variables (X_8-X_{11}). The focus of executing controls is directed at detecting the effect of each independent variable (that is, those independent variables that are significantly related to the dependent variables) in its category to the dependent variable controlling for the effects of other independent variables in that category. Each independent variable in its category takes a turn as a control variable.

CHAPTER IV. FINDINGS

Objective 1. Problems of Socioeconomic Adjustment

The relocation of rural people from one rural area to another in the Kano State of Nigeria resulted in resettlement in an area the physical, economic, and social conditions of which are to some extent different from those which existed in the former villages/hamlets of the displaced persons. Data were obtained in four villages to identify the nature and types of problems these people encountered as they endeavored to cope with the new situations and resume their "normal" way of life. Discussions with the Resettlement Authority staff and some of the displaced persons themselves provided the basis for the type of data needed to identify these problems. Information was obtained in the study villages through a set of questions that asked the respondents (1) if they encountered any problems in clearing land for their new farms and what these problems were, (2) if they encountered any problems in building new houses and what these problems were, (3) what problems they encountered individually in the new communities, the greatest of these problems and its nature (that is, how the problem affected them), (4) what problems they felt faced the communities as a whole, and (5) what are the major farming problems in the new communities and what can be done to help them improve their farm yields. These data permitted the assessment of the problems the displaced persons encountered

in the process of adjusting to the new environment into which they were forced.

Most respondents in the sample reported encountering problems while clearing land for their new farms. When asked the nature of the problem, most respondents (53.8%) reported that there were too many things to be done on the farms (removing stumps, trees, clearing weeds) before the land could be properly put to use. Slightly over 11% (11.3%) reported that the cost of labor was too high and they did not have enough funds to hire labor, while lack of manpower was identified by 4.4%, involvement in other activities by 4.7% and other reasons (such as uncertainty about living in the new villages) accounted for 7.6%. Only 7.3% of the respondents reported that they did not encounter any problems in clearing land for their farms. These findings are reported in Table 4.

How these problems were solved in presented in Table 5. The sizeable proportion of those who reported solving the problems (35.2%) said they did so by hiring labor, while 27% relied on family labor to solve the problems. Slightly over 12% (12.2%) sold some of their belongings and farm products to obtain the means of solving their problems. Other solutions (such as borrowing money, forming groups to work on each others' farm in turn) accounted for 8.7%. About 7% (6.7%) of the respondents said they still have not solved their problems as far as clearing land for the new farms was concerned.

Table 4. Nature of land clearance problems

Nature of problem	No.	%
Not applicable	25	7.3
Lack of manpower	15	4.4
High cost of labor/lack of funds	39	11.3
Too many things to be done on the farm	185	53.8
Lack of adequate farm equipment	37	10.8
Involvement in other activities (nonfarm)	16	4.7
Other reasons	16	7.6
No response	1	0.3
Total	344	100.0

Table 5. How land clearance problems were solved

Solution	No.	%
Not applicable	28	8.1
Sold belongings/farm products	42	12.2
Used family labor	93	27.0
Used hired labor	121	35.2
Problems not solved	23	6.7
Other solutions	30	8.7
No response	7	2.0
Total	344	100.0

In a number of relocation projects, houses are built for the displaced persons. However, in the case of the Tiga project, the displaced persons were compensated in cash for the loss of their old homes and were encouraged to build their own houses in the traditional way on a plot allocated in the new villages. A number of problems were encountered in undertaking this activity. Lack of building materials was mentioned by 31.1% of the respondents, lack of money/capital to buy the needed materials by 29.1%, and lack of manpower by 19.5%. Other problems encountered included lack of cooperation from neighbors (14.5%), lack of cooperation from family members (2.1%), while the residual category such as lack of storage facilities for building materials, too much work and lack of food was mentioned by 2.3% of the respondents. These findings which indicate that most respondents encountered problems while building houses are presented in Table 6.

As regards individual (personal) problems facing relocatees, poverty was mentioned most often (17.9%), followed by farm related problems (17.2%) and food shortage by 16.1%. Inadequate water supply received 13.5% of the responses while lack of school facilities for children received 8.3% of the responses. Additionally, health related problems received 6.1%, unemployment 7.3%, housing problems 6.1%, and household related (domestic) problems such as absence of family members received 1.6% of all the responses. The other category includes poor relationships with neighbors, inadequate govern-

Table 6. Problems encountered in building new houses

Problems encountered	No.	%
Lack of building materials	283	31.1
Lack of manpower	177	19.5
Lack of money/capital	265	29.1
Lack of cooperation of family members	19	2.1
Lack of cooperation from neighbors	132	14.5
Other problems	21	2.3
No response	13	1.4
Total	910[a]	100.0

[a]The total for analysis varies from sample size because respondents were asked to mention as many problems as were applicable to them.

Table 7. Individual (personal) problems facing the relocatees

Problems	No.	%
Farm related problems	228	17.2
Health related problems	80	6.1
Unemployment problems	96	7.3
Housing problems	81	6.1
Lack of school facilities for children	110	8.3
Household related (e.g., absence of members)	21	1.6
Poverty	237	17.9
Food shortage	213	16.1
Inadequate water supply	178	13.5
Others	78	5.1
Total	1322[a]	100.0

[a]The total for analysis varies from sample size because respondents were asked to indicate as many problems as were applicable to them.

ment assistance and lack of adequate facilities. This category accounted for 5.9% of all the responses. These findings are summarized in Table 7.

Food shortage was revealed to be the greatest individual (personal) problem facing the relocatees. This was mentioned by 26.7% of the respondents, closely followed by poverty (26.5%). Farm related problems was mentioned by one-fifth (19.5%) of the respondents, while inadequate water supply was mentioned by 10.5% of the respondents. Others in order of magnitude were housing problems (4.4%), health related problems (3.8%), unemployment (2.3%) and lack of school facilities for children (1.5%). These findings are presented in Table 8.

In order to determine whether these problems were a result of the relocation project, the respondents were asked for how long they have been experiencing these individual (personal) problems they have identified. The responses presented in Table 9 show that the problems were experienced by most relocatees on their arrival in the new site. First relocatees on the new site arrived about three years before the study commenced, and 96.5% of the respondents reported that they have been experiencing the problems they identified during that time period. Specifically, 25.6% of the respondents have been experiencing the problems for less than one year, 51.7% for about a year, 16.6% for the past two years and 2.6% for the past three years. Only 1.5% of the respondents reported experiencing the problems before they arrived on the new site,

Table 8. Greatest individual (personal) problems facing relocatees

Greatest individual (personal) problem	No.	%
Farm related problems	67	19.5
Health related problems	13	3.8
Unemployment problems	8	2.3
Housing problems	15	4.4
Lack of school facilities for children	5	1.5
Household related (e.g., absence of members)	3	0.9
Poverty	91	26.5
Food shortage	92	26.7
Inadequate water supply	36	10.5
Others	9	2.6
Response not codeable	2	0.6
No response	3	0.9
Total	344	100.0

Table 9. Duration of individual (personal) problems facing relocatees

Duration	No.	%
Experiencing the problem for less than 1 year	88	26.5
Experiencing the problem 1 year	178	51.7
2 years	57	16.6
3 years	9	2.6
4 years	1	0.3
5 years or more	4	1.2
Not applicable	2	0.6
No response	5	1.5
Total	344	100.0

that is, they have been experiencing the problems for four or more years.

How these problems affected the relocatees are presented in Table 10. A sizeable proportion of the respondents (40.4%) reported that the problem affected their farm production. Another 22.1% said the problems they encountered on the new site affected their relationships with others, while 11% said it affected their practicing of other activities (that is, subsidiary activities). Still another 10.8% said the problems affected their incomes. Other responses by 7.8% of the respondents included things like strained relationships with government officials and loss of property as a result of the move.

Responses to the problems facing the community as a whole parallel those mentioned individually. Poverty accounted for 23.1% of all the responses. This was followed by food shortage (21%), farm related problems (11.7%) and inadequate water supply (10.7%). Additionally, about 10% of the responses identified health related problems and unemployment as the major problems facing the community, while school problems for children was mentioned by about 6% of the responses and housing problems, family related problems and transportation were each identified by less than 5% of the responses. These findings are presented in Table 11.

One of the objectives of the relocation project was to develop agriculture. New farms were allocated to the farmers

Table 10. Nature of the greatest individual (personal) problems

Nature of the problem	No.	%
It affected my farm work/produce	139	40.4
It affected my relationships with others	76	22.1
It affected my income	37	10.8
It affected the education of my children	14	4.1
It affected by practicing other activities	38	11.0
Others	27	7.8
Not applicable	1	0.3
No response	12	3.5
Total	344	100.0

Table 11. Major problems facing the community as a whole

Problem	No.	%
Farm related problems	136	11.7
Health related problems	115	9.9
Unemployment problems	114	9.8
Housing problems	32	2.8
School problems for children	70	6.0
Family related problems	24	2.1
Poverty	269	23.1
Food shortage	245	21.0
Inadequate water supply	124	10.7
Transportation	13	1.1
Others	21	1.8
Total	1163[a]	100.0

[a]The total for analysis varies from the sample size because respondents were asked to mention as many problems as were applicable to their community.

and they were encouraged to prepare their own farms for cultivation with financial assistance from the state government. The study attempted to identify the major farming problems facing the relocatees in the new communities.

In Table 12 are summarized the major farming problems identified by the relocatees. Lack of money to buy farm inputs received the greatest mention (29.3%) of all responses. This was followed by inadequate insufficient farmland (26.1%) and lack of or unavailability of fertilizer and other inputs (10.9%). Other major problems mentioned were lack of extension service or government help (9.1%), lack of food (6.7%), lack of leadership (3.3%), lack of adequate farm supplies (3.3%), and labor shortage (4.7%).

Table 13 summarizes the types of assistance needed by the farmers from the government to increase their farm yields. Provision of extension staff was identified by 20.5% of all responses, while provision of inputs was identified by 18.4% of all responses. Adequate all-year-round water supply was identified by 13.1% and about the same proportion for loan/credit facilities and supply or provision of farm equipment. About 6% of the responses indicated the need for roads for transporting farm produce to the rural markets.

Table 12. Major farming problems facing the relocatees

Major farming problem	No.	%
Lack of money to buy inputs	275	29.3
Lack of adequate farm supplies	31	3.3
Inadequate/insufficient farmland	245	26.1
Lack of food	63	6.7
Lack of labor/manpower	44	4.7
Lack of/unavailability of fertilizer and other inputs	102	10.9
Poor soil quality	29	3.1
Lack of extension service/government help	85	9.1
Lack of leadership	31	3.3
Other	33	3.5
Total	938[a]	100.0

[a]The total for analysis varies from the sample size because respondents were asked to mention as many problems as were applicable to them.

Table 13. Assistance needed by the relocatees from the government to increase farm yields

Type of assistance	No.	%
Provision of extension staff	175	20.5
Loan/credit facilities	113	13.2
Farm inputs (seeds, fertilizers, etc.)	157	18.4
More capital in form of land	120	14.0
Farm equipment/tractors/machinery	115	13.4
Roads for transporting farm products	48	5.6
Adequate all-year-round water supply	112	13.1
Other	15	1.8
Total	855[a]	100.0

[a]The total for analysis varies from the sample size because respondents were asked to mention as many types of assistance as they would like the government to provide.

Objective 2. Perception of the Conditions and Opportunities Created by the Project

Data to fulfill this objective of the study are analyzed in two ways. The first analysis is a description of the respondents perceptions of the conditions and opportunities created by the project. A second analysis is a test of the model presented in Figure 1.

Questions for this objective were aimed at revealing how the respondents perceived of the conditions relative to what prevailed in the old hamlets and villages. Questions were asked of the economic advantages and disadvantages of the new site, how relocatees perceived of their general conditions and well-being, profitability of farming, opportunities for selling and trading in crops, opportunities for children to attend school and the relocatees evaluation of the project.

Asked if there are any reasons for the relocatees to consider the new communities where they now live more economically advantageous than the ones they left behind, a greater proportion of them (53.8%) responded positively, while about one-third (34%) considered the previous communities more economically advantageous. This is shown in Table 14. Those who responded positively or negatively were asked to give reasons. Those who responded positively viewed the grouping of the villages into viable units and the provision of new facilities and amenities as the main reasons why the new communities are more economically advantageous than the old ones.

Table 14. Perceived economic advantages of the new site

Response	No.	%
Yes	185	53.8
No	117	34.0
Can't tell	42	12.2
Total	344	100.0

Each of these responses accounted for about one-third (33.7%) of all the responses. Suitable location for the new communities was seen by 15.1% of the responses as the main reason why the new communities are more economically advantageous than the former ones. Additionally, it was revealed that good, that is, sufficient, farmland for the farmers' needs, government assistance and availability of opportunities for earning additional incomes were considered reasons for the new communities being economically more advantageous than the old ones. These responses accounted for 4.7%, 4.6%, and 3.2%, respectively, of all the responses. These findings are presented in Table 15.

For those who viewed the new communities to be less economically advantageous than the old ones, food shortage in the new site was given as the main reason by 26.7% of all the responses. Lack of sufficient/good farmland was given as the reason by 22.7% of all the responses, while lack of adequate facilities/amenities was mentioned by 15.8% of the responses

Table 15. Perceived reasons for economic advantages of the new sites

Perceived reason given	No.	%
Grouping of villages into viable units	145	33.7
Availability of opportunities for earning additional incomes	14	3.2
Provision of new facilities/amenities	145	33.7
Good/sufficient farmland for my needs	20	4.7
Government assistance	19	4.6
Suitable location for the new village	65	15.1
Other	22	5.1
Total	430[a]	100.0

[a]Total for analysis varies from the total of those who answered favorably in Table 14 (185) because respondents were asked to mention as many reasons as were applicable to them.

Table 16. Perceived reasons for economic disadvantages of the new sites

Perceived reason given	No.	%
Lack of sufficient/good farmland	75	22.7
Inadequate water supply	24	7.3
Diseases	7	2.1
Lack of adequate facilities/amenities	52	15.8
Lack of employment opportunities	12	3.6
Loss of property during the movement to the new site	48	14.5
Food shortage	88	26.7
Other	24	7.3
Total	330[a]	100.0

[a]Total for analysis varies from the total of those who answered "no" (117) in Table 14 because respondents were asked to mention as many reasons as were applicable to them.

and loss of property in the process of moving from the old to the new communities received 14.5% of all the responses. Inadequate water supply was given as a reason by 7.3% of the responses. Finally, lack of employment opportunities (3.6%) and diseases (2.1%) were cited as reasons. These responses are presented in Table 16.

When asked about the relocatees' perception of their conditions (well-being) generally in the new site, 9.3% of them felt that the relocation exercise has greatly improved their conditions, and about 40% responded that the relocation project has somewhat improved their conditions. It was revealed that 39% of the respondents felt that the relocation project has somewhat worsened their condition, while only 8.4% of them felt that the relocation project has greatly worsened their condition. Table 17 presents these findings.

Farming is the most important single occupation of the displaced persons, and a greater proportion (66%) of the respondents felt that it is profitable to practice farming in the new communities. Only about 17% felt that it is less profitable to practice farming in the new site.

Lower harvests as compared to what was obtained in the old site was given as the main reason why farming was considered less profitable. Respondents who felt this way were asked why they now obtained less harvest than what they used to have on the old site. Responses to this question centered on the nature of the land and lack of farm inputs. Responses

Table 17. Perception of relocatees' conditions in the new sites

Perceived relocatees' conditions	No.	%
Relocation greatly improved my condition	32	9.3
Relocation somewhat improved my condition	137	39.8
Relocation somewhat worsened by condition	134	39.0
Relocation greatly worsened by condition	29	8.4
Can't tell	12	3.5
Total	344	100.0

revealed that this was because farmland was still not completely cleared (48%), insufficient farmland (21.3%) and poor soil quality (9.1%). About 22% of all responses indicated that less harvest was obtained because respondents lacked funds to buy farm inputs. The results of this set of questions are presented in Tables 18 and 19.

Relocation as a development program was conceived with the aim of improving all aspects of life of those affected and this includes creating opportunities for selling and trading in crops, education of children and practicing of subsidiary activities. Respondents were asked how they felt about these in comparison to old villages.

Most respondents (61.6%) felt that the opportunity for selling and trading in crops was better than what obtained in their former villages. Another 13.4% felt that the opportunities are the same to what was obtained in the old

Table 18. Perceived profitability of farming in the new sites

Perceived profitability	No.	%
More	227	66.0
Less	58	16.9
No opinion	59	17.1
Total	344	100.0

Table 19. Perceived reasons for having less harvest

Perceived reason given	No.	%
Farmland not completely cleared	142	48.0
Lack of funds to buy farm inputs	64	21.6
Insufficient farmland	63	21.3
Poor soil quality	27	9.1
Total	296[a]	100.0

[a]The total for analysis varies from the sample size because not all respondents reported having less harvest, and more than one reason was given by each respondent who reported having less harvest.

villages. Only about 11% felt that the opportunities were worse than what they had experienced in the past.

Those who felt that the conditions were better, were asked the reasons for thinking the way they did. The presence of a large number of people was the main reason given, accounting for 36.7% of all responses given. Availability of roads accounted for 25.5%, while availability of markets accounted

for 18.5% of all responses. Favorable trading conditions accounted for 12.8%. Findings of the two questions are presented in Tables 20 and 21.

Table 20. Perceived opportunities for selling and trading in crops

Perceived opportunity	No.	%
Better	212	61.6
Equal	46	13.4
Worse	36	10.5
Can't tell	50	14.5
Total	344	100.0

Table 21. Perceived reasons for better opportunities for selling and trading in crops

Reason given	No.	%
Presence of large number of people	141	36.7
Availability of roads	98	25.5
Availability of markets	71	18.5
Favorable trading conditions/terms	49	12.8
Other	25	6.5
Total	384[a]	100.0

[a]The total for analysis varies from the sample because respondents who responded "better" in Table 21 gave more than one response.

Regarding opportunities for schooling of children, 45.6% of the respondents felt that the opportunities were good, another 30.4% felt that they were somewhat good, while 12.8% felt that the opportunities are not good at all. These findings are presented in Table 22.

Table 22. Perceived opportunities for schooling of children

Perceived opportunities	No.	%
Very good	150	45.6
Somewhat good	100	30.4
Not good at all	42	12.8
Can't tell	37	11.2
Total	329[a]	100.0

[a]Total for analysis varies from the sample size because of no responses.

In Table 23 are presented findings regarding opportunities to practice subsidiary activities. About 42.5% felt that there were now more opportunities in the new sites as compared to what used to prevail in the old sites, while 9% felt that the opportunities are the same. A substantial proportion (40%) of the respondents, however, felt that the opportunities were now less.

Finally, the respondents were asked to evaluate the performance of the project so far. Most respondents evaluated the relocation projects performance in favorable terms, with

Table 23. Perceived opportunity to continue practicing additional activity in the new sites

Perceived opportunity	No.	%
More	90	42.5
Same	19	9.0
Less	85	40.0
Can't tell	18	8.5
Total	212[a]	100.0

[a]Total varies from sample size because the question was asked only of those who practice additional activities (other than the main ones) that bring them income.

29.1% saying it was very successful and 54.1% saying it was somewhat successful. Slightly less than 17% evaluated it in negative terms, with 12.2% saying it was somewhat unsuccessful and 4.6% saying it was very unsuccessful. These findings are summarized in Table 24.

Table 24. Perceived performance of the relocation project

Perceived scheme performance	No.	%
Very successful	100	29.1
Somewhat successful	186	54.1
Somewhat unsuccessful	42	12.2
Very unsuccessful	16	4.6
Total	344	100.0

Objective 3. Factors Affecting Perception of the Conditions and Opportunities Created by the Relocation Project

To discover factors affecting displaced persons' perception of the conditions and opportunities created by the project, it was hypothesized that there is a relationship between the variables of socioeconomic status, knowledge of project, adequacy of compensation, length of residence on the project, involvement in project, vested interests served and perception.[1] Also hypothesized was a relationship between perception and acceptance (apprehension) of new place of residence. The empirical hypotheses are summarized in Table 25. Gamma as a measure of association of ordinal data is used to analyze the relationships. This statistic measures the predictability of orders of ranks associated with a second variable. It attempts to answer the question, "If we know the order of ranks on one variable for a pair of individuals, can we predict the order of ranks for that pair on a second variable?" (Mendenhall et al., 1974: 362-363). As a proportional reduction of error statistic, gamma has the property of being analogous to the coefficient of determination (r^2) and, as such, can be similarly interpreted (Burdge and Ludtke, 1970). Further, the numerical value of gamma

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[1]Throughout this analysis when perception is mentioned, the reference is to perception of the conditions and opportunities created by the relocation project.

Table 25. A summary of empirical hypotheses about factors affecting perception of the conditions and opportunities created by the project

Empirical hypothesis	Variables	Hypothesized relationships
1.1	Age, Perception	Negative
2.1	Wealth, Perception	Positive
3.1	Size of farm operation, Perception	Positive
4.1	Level of formal education, Perception	Positive
5.1	Length of awareness of inundation, Perception	Positive
5.4	Length of awareness of moving, Perception	Positive
5.7	Knowledge of agencies and their roles, Perception	Positive
6.1	Adequacy of compensation paid, Perception	Positive
7.1	Length of residence on the project, Perception	Positive
8.1	Involvement in project activities, Perception	Positive
9.1	Vested interests served by the project, Perception	Positive
10	Perception, Acceptance (apprehension) of new place of residence	Positive

represents the degree of association in such a way that a positive sign indicates that the variables increased together, whereas a negative sign indicates that as one variable increases, the other decreases.

Table 26 gives the zero-order relationships for the ordinal measures using Goodman and Kruskal's (1954) measure for ordinal association (gamma). The table reveals a positive relationship between age and perception (γ = .150), that is, there is a 15% reduction in error if one predicts ranking on perception based on ranking age. The positive gamma sign means that we predict the same rank order in the dependent variable (perception) as on the independent variable (age). This relationship is not significant at the .05 level of significance (Z = 1.13). However, the direction of the relationship is the reverse of the hypothesized relationship. As such, empirical hypothesis 1.1 is not supported. Negligible positive relationship is found between possession of durable consumer goods (a proxy measure for wealth) and perception (γ = .017), thus rendering no support for empirical hypothesis 2.1. A substantial positive association is found between size of farm operated and perception (γ = .626). This is significant at the .05 level of significance (Z = 6.54). Empirical hypothesis 3.1 is thus supported by the data. A moderate negative association is found between level of formal education and perception (γ = -.395) and is significant at the .05 level (Z = -2.21). However, since the relationship

Table 26. Matrix of zero-order relationships obtained using Goodman and Kruskal's (1954) measure for ordinal association, gamma (γ)

Variables		X_1	X_2	X_3	X_4	X_5
X_1	Age	1.000				
X_2	Possession of durable consumer goods (wealth)	.284	1.000			
X_3	Size of farm operation	.176	-.171	1.000		
X_4	Level of formal education	.325	.391	-.729	1.000	
X_5	Length of awareness of inundation	.047	-.121	.418	.000	1.000
X_6	Length of awareness of moving to a new village	.010	.051	-.299	.091	.050
X_7	Knowledge of agencies and their roles	.345	.187	.377	-.125	.234
X_8	Adequacy of compensation paid	.109	.534	-.677	.688	-.502
X_9	Length of residence on the new project	.317	.395	.214	.029	.118
X_{10}	Involvement in project activities	.259	.104	..766	-.898	.424
X_{11}	Vested interests served by the project	-.118	=.546	.598	-.561	.331
X_{12}	Perception of conditions and opportunities	.150	.017	.626*	-.395*	.197
X_{13}	Attitudes toward relocation project	.014	-.214	.401	-.881	.099
X_{14}	Acceptance (apprehension) of new place	-.054	-.301*	.620*	-.533	.144

*Significant relationships at the .05 level of significance. This was determined by converting gamma to a standard score using Goodman and Kruskal's (1963) formula: $Z = (G - \gamma)\sqrt{\frac{N_s + N_r}{N(1-G^2)}}$. For the relationship to be significant at the .05 level, the standard score must be greater than 1.96.

X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}	X_{14}
1.000								
-.500	1.000							
.232	-.179	1.000						
.399	.398	.323	1.000					
-.426	.627	-.481	.501	1.000				
-.076	-.063	-.563	-.149	.128	1.000			
-.509*	.527*	-.265	.528*	.878*	.050	1.000		
-.033	-.022	-.137	.169	.444	.426	.323	1.000	
-.311*	.122	-.507*	.324*	.742*	.413*	.645*	.658*	1.000

is negative, this indicates an inverse relationship between the variables, and as such no support is rendered for empirical hypothesis 4.1.

Table 26 further reveals a low positive association between length of awareness of inundation and perception (γ = .197). This relationship is not significant at the .05 level (Z = 1.34). Thus, in terms of knowledge of inundation, that is, length of awareness of inundation, empirical hypothesis 5.1 is not supported. A substantial negative association is, however, found between length of awareness of moving and perception (γ = -.509) and is significant (Z = -3.48). Since the association is negative, empirical hypothesis 5.4, dealing with knowledge of moving to the new site, is not supported. The relationship between knowledge of agencies and their roles and perception is in the hypothesized direction (γ = .527) and is significant (Z = 4.62). Empirical hypothesis 5.7, dealing with this variable, is thus supported. Between adequacy of compensation and perception, a low negative and insignificant relationship is found (γ = -.265; Z = -1.61). This is the inverse of the hypothesized relationship and, as such, empirical hypothesis 6.1 is not supported by the data. Residential duration relates substantially and significantly in the hypothesized direction to perception (γ = .528, Z = 4.37) giving support to empirical hypothesis 7.1.

A very strong and positive relationship is found between involvement in project activities and perception (γ = .878;

Z = 13.64). Empirical hypothesis 8.1 is thus given support by the data. Empirical hypothesis 9.1 is not supported by the data since only a negligible positive association is found between vested interests served by the project and perception.

Finally, empirical hypothesis 10 is supported, since a strong, positive and significant relationship is found between perception and acceptance (apprehension) of the new place of residence (γ = .645; Z = 7.16).

In summary, then, the data indicate the following findings presented in Table 27.

Before one can say anything categorically about the results obtained, there is need to control for alternative variables which are likely to affect the relationships discovered. Precisely which variables to use as controls is always a difficult decision to make. Some content that only variables that show an association with the independent and dependent variables under investigation be selected as control variables, because these tend to bias the results and because controlling for a variable cannot reduce the original correlation unless it is correlated with independent and dependent variables. Further, it is recommended that one looks at the theory and purpose of research to identify which variables the theory suggests might be important (Nachimas and Nachimas, 1976: 221-224; Weisberg and Bowen, 1977: 179). By definition, then, this line of thinking advocates use of exogenous

Table 27. Summary of findings of factors affecting perception

Empirical hypothesis	Finding
1.1	Not supported
2.1	Not supported
3.1	Supported
4.1	Not supported
5.1	Not supported
5.4	Not supported
5.7	Supported
6.1	Not supported
7.1	Supported
8.1	Supported
9.1	Not supported
10	Supported

variables (those independent of the rest) which might not be in the model under consideration. The number of variables that can be used as controls statistically are in essence a function of the data generated. Only those variables that one has data on can be used as controls. In this respect, alternative variables are restricted as far as this study is concerned. Four such variables are used (which by no means exhaust the possibilities)--the number and types of facilities provided (community status), urban experience, household

size, and marital status.

Studies are rare on community influence on perception and attitudes toward relocation project. Only one study reported findings on the role of community status in relocation project (Wilkenson, 1968). However, adoption-diffusion studies have shown that the type of community an individual lives in influences his perception and attitudes toward innovation (Flinn, 1970; Blau, 1960; Campbell and Alexander, 1965; Rogers and Burdge, 1962; Davis, 1968).

Moving an individual (compulsorily) to a new environment is an innovative idea and consequently may influence his perception and attitudes. Thus, this variable is used as a control. Urban experience is used as a control on the assumption that living in an urban center exposes one to a large group of people than would normally obtain in a small rural community. This exposure brings one into contact to a larger group of persons as is the case on the relocation project. Finally, size of household and marital status as demographic (background) variables are used as controls. It is assumed that an individual who moves to a new environment with his entire family and continues to be in contact with them would tend to view the situation in a more favorable way than if he were separated from this unit.

The relationships between these four control variables and the study ones are summarized in Table 28. Actual control executed is based on those control variables which relate

Table 28. Matrix of zero-order coefficients for the statistical relationships between control variables and the study variables (γ)

Study variables		Control variables			
		Community status	Urban experience	Household size	Marital status
X_1	Age	-.236	.458	-.207	.127
X_2	Possession of durable consumer goods	-.433	.619	-1.000	.474
X_3	Size of farm operations	-.419	.265	-.592	-.523
X_4	Level of formal education	.228	-.088	.019	1.000
X_5	Length of awareness of inundation	-.196	-.046	.002	-.058
X_6	Length of awareness of moving to new village	.422	.031	-.189	.360
X_7	Knowledge of agencies and their roles	-.294	.187	-.377	-.347
X_8	Adequacy of compensation paid	.155	.163	-.141	.641
X_9	Length of residence on the project	-.655	.297	.479	.224
X_{10}	Involvement in project activities	-.868	.151	.092	-.327
X_{11}	Vested interests served	.427	-.139	.439	-.678
X_{12}	Perception of conditions and opportunities	-.866	.097	.264	-.335
X_{13}	Attitudes toward relocation project	-.358	-.055	.185	-.184
X_{14}	Acceptance of new place of residence	-.649	-.019	.328	-.419

moderately or better with independent variables and the dependent variable, perception, that is, those control variables which correlated with the independent and dependent variables with a γ value = ± 0.30 or better.

Community status relates significantly with only four of the variables that were found to associate significantly with perception. Its effect on each of the original tests is controlled for and this is summarized in Table 29.

From Table 29, it can be seen that controlling for the effects of community status does not alter the relationship between size of farm and perception appreciably. It is concluded that the original relationship is still valid. With the control for community status, the relationship between length of awareness of moving and perception is reduced, but the difference is not significant, so once again the original relationship can be said to continue to be valid. In the case of length of residence on the project and perception, the original relationship virtually vanishes in the partials, thus giving rise to a spurious relationship. Finally, when the effects of community status is held constant, the relationship between involvement and perception does not change appreciably. This is to be expected since size of farm and involvement associate significantly. Under such condition, we can say that the original relationship is still valid, but that there is an interaction effect.

No controls are executed for the second and third control

Table 29. Testing for the effects of community status on the variables significantly associated with perception

Relationship	Zero-order	Partial	Difference
Size of farm and perception	.626	.577	.049
Length of awareness of moving and perception	-.509	-.317	-.192
Length of residence on the project and perception	.528	-.103	.425
Involvement and perception	.878	.506	.372

variables since they do not associate with perception.

The fourth control variable, marital status, associates appreciably with five of the variables that associate with perception. The effects of this variable is controlled to test the original relationship and the results are summarized in Table 30.

From Table 30, it can be concluded that the original relationship between size of farm and perception, length of awareness of moving and perception, knowledge of agencies and perception and involvement and perception continue to be valid when the effects of marital status are controlled for. The relationship between level of education and perception is explained by marital status.

From these controls, it can be concluded that the

Table 30. Testing for the effects of marital status on the variables significantly associated with perception

Relationship	Zero-order	Partial	Difference
Size of farm and perception	.626	.526	.064
Level of education and perception	-.395	.000	-.395
Length of awareness of moving and perception	-.509	-.446	-.063
Knowledge of agencies and perception	.527	.465	.062
Involvement and perception	.878	.863	.015

original relationship involving size of farm, length of awareness of moving, knowledge of agencies and involvement in project activities continue to be valid.

Having shown the effects of the controls for alternative variables, a further analysis is undertaken to see how each of the above relationships behaves. Hawkes (1971) has argued that Davis' partial gamma may be extended to a partial coefficient of any order. However, if many variables are controlled, there is the problem of too few cases in partial tables. To overcome this shortcoming, only those original relationships that continue to be valid are tested, in other words, only the reduced model is tested. As is shown in Table 31, the relationships between size of farm and

Table 31. Analysis of the "reduced" model of factors affecting perception of the conditions and opportunities created by the project

Relationship	Controlling	Zero-order	Partial	Difference
X_3 and X_{12}	X_6, X_7, X_{10}	.626	.117	.509
X_6 and X_{12}	X_3, X_7, X_{10}	-.509	-.194	-.315
X_7 and X_{12}	X_3, X_6 and X_{10}	.527	.042	.485
X_{10} and X_{12}	X_3, X_6, X_7	.878	.817	.061

perception (X_3 and X_{12}), length of awareness of moving and perception (X_6 and X_{12}), and knowledge of agencies and perception (X_7 and X_{12}) are reduced considerably to the extent that they almost disappear. Only the relationship between involvement and perception (X_{10} and X_{12}) is still maintained in the face of controls of other variables in the reduced model. In other words, only this relationship continued to be valid.

Factors Affecting Acceptance (Apprehension) of New Residential Locations

Acceptance of change in residential location has been viewed essentially as apprehension over new communities, that is, those most willing to accept change in residential location are those least apprehensive over the new communities.

Table 32. A summary of empirical hypotheses about factors affecting acceptance (apprehension) of new residential locations

Empirical hypothesis	Variables	Hypothesized relationships
1.3	Age, Acceptance	Negative
2.3	Wealth, Acceptance	Positive
3.3	Size of farm operation, Acceptance	Positive
4.3	Level of formal education, Acceptance	Positive
5.3	Length of awareness of inundation, Acceptance	Positive
5.6	Length of awareness of moving, Acceptance	Positive
5.9	Knowledge of agencies and their roles, Acceptance	Positive
6.3	Adequacy of compensation paid, Acceptance	Positive
7.3	Length of residence on the project, Acceptance	Positive
8.3	Involvement in project activities, Acceptance	Positive
9.3	Vested interests served, Acceptance	Positive
11	Attitudes towards relocation project, Acceptance	Positive

5.3, linking length of awareness of inundation and apprehension, for only a weak and insignificant association is found (γ = -.144; Z = 1.01). A moderate negative relationship (γ = -.311) is found between length of awareness of moving to the new village and apprehension. It is significant (Z = -1.99) but since it is the inverse of the hypothesized relationship, empirical hypothesis 5.6, linking this variable to apprehension, is not supported. Empirical hypothesis 5.9 is also not supported, for only a low association is found (γ = 1.22; Z = 0.93).

Adequacy of compensation paid is negatively associated with apprehension at a significant level (γ = -.507; Z = -3.67). Since this is the inverse of the hypothesized relationship, empirical hypothesis 6.3 is not supported by the data. Hypothesized relationships between length of residence on the project, involvement in project activities, vested interests served and apprehension are given support by the data (γ = .324, .742 and .413 with corresponding Z = 2.51, 8.33 and 3.52, respectively). Support is thus given to empirical hypotheses 7.3, 8.3, and 9.3, for all the relationships are significant at the accepted level. Finally, the effect of attitudes on apprehension is given support as hypothesized (γ = .658 and Z = 6.52). Thus, empirical hypothesis 11 is supported by the data. A summary of these findings is presented in Table 33.

The same control variables as used in analyzing factors

Table 33. Summary of findings of factors affecting acceptance (apprehension) of new residential locations

Empirical hypothesis	Finding
1.3	Not supported
2.3	Not supported
3.3	Supported
4.3	Not supported
5.3	Not supported
5.6	Not supported
5.9	Not supported
6.3	Not supported
7.3	Supported
8.3	Supported
9.3	Supported
11	Supported

affecting perception are used here to see if the original relationships still hold. Since urban experience does not relate appreciably to apprehension, it is not used as a control variable. The results of findings using the other three control variables are summarized in Table 34.

As a result of the control, the relationships between wealth and education to the dependent variable, apprehension, virtually disappear. The other relationships hold, although in some cases, there is evidence of interaction effect by

Table 34. Testing for the effects of control variables on the variables significantly associated with acceptance (apprehension) of new residential locations

Relationship	Statistic	Controlling for the effects of: Community status	Household size	Marital status
Wealth and apprehension	Zero-order	-.301	-.301	-.301
	Partial	-.039	.000	-.130
	Difference	-.272	-.301	-.171
Size of farm	Zero-order	.620	.620	.620
	Partial	.504	.560	.518
	Difference	.116	.060	.102
Level of education and apprehension	Zero-order	x[a]	x	-.533
	Partial	x	x	.000
	Difference	x	x	-.533
Length of awareness of moving and apprehension	Zero-order	-.311	x	-.311
	Partial	-.122	x	-.267
	Difference	-.189	x	-.044
Adequacy of compensation and apprehension	Zero-order	x	x	-.507
	Partial	x	x	-.342
	Difference	x	x	-.165
Length of residence on the project and apprehension	Zero-order	.324	.324	x
	Partial	-.176	.201	x
	Difference	.148	.123	x
Involvement and apprehension	Zero-order	.742	x	.742
	Partial	.473	x	.705
	Difference	.269	x	.037
Vested interest and apprehension	Zero-order	.413	.413	.413
	Partial	.198	.187	.193
	Difference	.215	.226	.220
Perception and apprehension	Zero-order	.645	x	.645
	Partial	.218	x	.591
	Difference	.427	x	.054

[a] x indicates no controls were executed.

Table 35. Analysis of the effects of variables significantly related to acceptance (apprehension) of new residential locations by category

Variable category	Relationship	Controlling	Zero-order	Partial	Difference
Socioeconomic status	X_3 and X_{14}	x[a]	x	x	
Knowledge	X_6 and X_{14}	x	x	x	
Project implementation	X_8 and X_{14}	X_9, X_{10}, X_{11}	-.507	.056	-.451
	X_9 and X_{14}	X_8, X_{10}, X_{11}	.324	.000	.324
	X_{10} and X_{14}	X_8, X_9, X_{10}	.742	.702	.040
	X_{11} and X_{14}	X_8, X_9, X_{10}	.413	.000	.413
Others	X_{12} and X_{14}	X_{13}	.645	.593	.052
	X_{13} and X_{14}	X_{12}	.658	.622	.036

[a]x indicates no controls were executed.

Table 36. An analysis of the "reduced" model of factors affecting acceptance (apprehension) of new residential locations

Relationship	Controlling	Zero-order	Partial	Difference
X_3 and X_{14}	X_{10}, X_{12}, X_{13}	.620	.016	.604
X_{10} and X_{14}	X_3, X_{12}, X_{13}	.742	.199	.543
X_{12} and X_{14}	X_3, X_{10}, X_{13}	.645	.332	.313
X_{13} and X_{14}	X_3, X_{12}, X_{13}	.658	.597	.061

and apprehension remains almost unchanged in the partials in the reduced model.

Factors Affecting Forced Migrants' (Displaced Persons') Attitudes Toward Relocation Project

To determine factors affecting attitudes toward relocation project, both the independent and dependent variables are treated as proxy interval measures and Pearson correlation coefficient and multiple regression procedures are used for statistical analysis. A summary of the empirical hypotheses is presented in Table 37.

In Table 38, the matrix of zero-order relationships obtained using Pearson correlation procedures is presented. This analysis reveals that size of farm (X_3), length of awareness of inundation (X_5), knowledge of agencies and their roles (X_7), length of residence on the project (X_9), involvement in

Table 37. A summary of empirical hypotheses about factors affecting attitudes toward relation project

Empirical hypotheses	Variables	Hypothesized relationships
1.2	Age, Attitudes	Negative
2.2	Wealth, Attitudes	Positive
3.2	Size of farm operation, Attitudes	Positive
4.2	Level of formal education, Attitudes	Positive
5.2	Length of awareness of inundation, Attitudes	Positive
5.6	Length of awareness of moving, Attitudes	Positive
5.8	Knowledge of agencies and their roles, Attitudes	Positive
6.2	Adequacy of compensation paid, Attitudes	Positive
7.2	Length of residence on the project, Attitudes	Positive
8.2	Involvement in project activities, Attitudes	Positive
9.2	Vested interests served, Attitudes	Positive

project activities (X_{10}) and vested interests served by the project (X_{11}) are significantly related to attitudes toward relocation project (X_{13}) in the hypothesized direction. The r values for these relationships are .455, .178, .211, .205, .599, and .261, respectively. These findings lend support

X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{13}
1.000								
-0.45	1.000							
.012	.031	1.000						
-.093	.065	-.195	1.000					
.045	-.250	-.075	.104	1.000				
-.092	-.049	.220	.307	.122	1.000			
-.047	.292	-.062	.145	-.467	.004	1.000		
.003	.257	-.045	.049	-.267	-.044	.378	1.000	
-.082	.178*	-.039	.211*	-.335*	.205*	.599*	.261*	1.000

for empirical hypotheses 3.2, 5.2, 5.8, 7.2, 8.2, and 9.2. The analysis further reveals that wealth (X_2) and adequacy of compensation (X_8) are significantly related to attitudes toward relocation project, but in the opposite direction of what was hypothesized. The r values for these relationships are -.184 and -.335, respectively. Since these relationships are the inverse of what was hypothesized, no support is given to empirical hypotheses 2.2 and 6.2.

Finally, the relationship between age (X_1) and attitudes (X_{13}), although in the hypothesized direction, is not significant ($r = -.037$). Similarly, weak and negative relationships are found between education (X_4) and attitudes (X_{13}) ($r = -.082$) and between length of awareness of moving (X_6) and attitudes (X_{13}) ($r = -.039$). Thus, no support is given to empirical hypotheses 1.2, 4.2, 5.2 and 5.6.

A summary of findings of factors affecting attitudes toward relocation is presented in Table 39.

No alternative variables are used as controls, since none of those employed in the previous analyses show any appreciable or significant association with attitudes toward relocation project.

Multiple regression procedure is undertaken with the main purpose of specifying the contribution of each independent variable in explaining the dependent variable. All the variables are entered in the equation on the category basis, that is, socioeconomic variables are first entered, followed

Table 40. The overall F test of factors affecting attitudes toward relocation project

	Source	DF	Sum of squares	Mean square	F
Multiple R = .662	Regression	11	96.95	8.81	22.89
R^2 = .438	Residual	323	124.36	0.385	
Standard error = .621	Total		221.31		

Based on observed values, Table 40 shows that R^2 = .438, indicating that about 44% of the variation in attitudes toward relocation project is explained by the independent variables in the model operating jointly. Further, reference to the F distribution in a statistical table indicates that the probability of getting an F ratio equal to or greater than 22.89 with 11 and 323 degrees of freedom is less than .05. It is therefore concluded that it is unlikely that the sample was drawn from a population in which multiple R = 0. The table also shows that the standard error of estimate is .621. This means that, on the average, predicted attitudes toward relocation project scores will deviate from the actual scores by .621 units on the attitudes toward relocation project scale.

As indicated earlier, the main interest of the analysis is to determine the relative contribution of each independent variable in the model. Table 41 summarizes the relevant

Table 41. Summary of regression on attitudes toward relocation on the independent variables in the model

Variable	Multiple R	R^2	R^2 change	B	Beta	Standard error	F
Age	.0437	.0019	.0019	-.0298	-.0404	.0331	0.807
Education	.0979	.0096	.0077	-.0429	-.0227	.0801	0.288
Wealth	.2312	.0535	.0439	-.0282	-.0571	.0232	1.473
Size of farm	.5022	.2522	.1988	.1169	.1608	.0406	8.318
Length of awareness of inundation	.5037	.2537	.0015	-.0061	-.0097	.0281	0.047
Lnegth of awareness of moving	.5038	.2538	.0001	-.0615	-.0422	.0656	0.877
Knowledge of agencies and their roles	.5148	.2650	.0113	.0321	.0576	.0278	1.356
Adequacy of compensation	.5431	.2949	.0299	-.0557	-.0878	.0319	3.052
Length of residence on the project	.5761	.3319	.0369	.3232	.1973	.0769	17.683
Involvement in project activities	.6618	.4380	.1061	.2429	.4382	.0315	59.374
Vested interests served	.6619	.4381	.0001	.0126	.0091	.0674	0.035
Constant				1.0359			

statistics for determining these effects.

The R values in Table 41 are the measures of the influence of each independent variable upon attitudes with adjustment made for all variables. However, since the interest is on the contribution of each independent variable and since the variables were measured in different units, the standardized regression coefficient (beta) are examined. Three variables (size of farm operation, length of residence on the project and involvement in project activities) can be seen to make the greatest contribution. Other things being equal, of these three variables, the beta values indicate that one standard deviation unit change of involvement in project activities would introduce the greatest change in attitudes, followed by length of residence on the project and size of farm operation in that order. The F test in Table 41 further shows that only the beta for these three variables is significant at .05. The other variables in the model make insignificant contributions to explaining variation in attitudes toward relocation project. It can be concluded that on the basis of the observed values, therefore, that the variables of involvement in project activities, length of residence on the project and size of farm operated by the relocatee have the greatest influence in that order on attitudes toward relocation project.

CHAPTER V. DISCUSSION, IMPLICATIONS, SUMMARY AND CONCLUSIONS

Introduction

In this chapter, findings are discussed in the light of the objectives of the study. Following the discussion of each objective, the implications of the findings for that objective are presented. Finally, a general summary and the conclusions of the study are presented.

Objective 1. Problems of Socioeconomic Adjustment of Rural People Displaced by a Man-made Lake

The resettlement policy pursued in the Tiga area has been to regroup small communities into larger nucleated ones, provide them with amenities and to develop the area. The project was undertaken in one of the most densely populated states of Nigeria. The project resulted in opening up of formerly marginal land. As the affected people grapple to eke out a living in the new environment created for them, they inevitably faced certain problems that might impede a speedy adjustment to that environment. What these problems were and their nature was defined as the first objective of this study.

It was found that most respondents faced problems in clearing land for their new farms, even though the government had undertaken to clear the land. The problems encountered in clearing the land were many and were farm-activity oriented

for the most part. They included the fact that there was too much work to be done on the farm before the land could be put to use (showing that the farms were not ready before the relocatees' arrival on the new sites), high cost of labor, lack of manpower (because people who would normally work on the farm were employed on the construction site). It was also found that the affected people were involved in other activities at the same time as clearing the land. They had to build new homes, for example. In coping with these problems, the affected persons fell back to old behavioral patterns--they used the scanty hired labor that was available, they relied on family members to provide the labor, they organized group activities by working in turns on each others' farms and sold some of their belongings to obtain capital. This coping response would tend to support the view put forward by Scudder (1973a) that when people are moved to a new environment and face crises, they tend to "adopt a security-orientation". They attempt to cope with uncertainty and to eliminate further risks by clinging to old behavioral patterns. This being a transitional period, no new ideas are tried by the affected persons.

Lack of building materials, capital and manpower were experienced in building new homes. Also, because people from different hamlets and villages were grouped together and had to build their homes at the same time, lack of cooperation by neighbors was experienced. It can be said

therefore that the problems encountered in building new homes were a result of the affected persons' inability to have access to the required resources. Even though they were compensated for loss of property as a result of the forced move, it would appear that no attempts were made in the plans to ease these problems. They were encouraged to build houses in the traditional way, but what they needed was more than encouragement. Resources required for building houses in the traditional way should have been made available or accessible.

Individual problems identified were those basic to a return to a normal way of life, and since the normal way of life is not re-established until the relocatees find themselves enjoying at least their former way of life, it could be said that two years after the relocation, the people still have not re-established themselves. Poverty, farm-related problems, food shortage and inadequate water supply were some of the problems the project sought to eliminate. They are, however, still a part and parcel of the life of the people. These problems affected the relocated people in a number of ways. They affected the economic and social well-being of the people, for they not only affected their practicing their major occupation (farming), but they also affected their relationships with others in the new communities as well as their ability to practice other occupations. Rural societies in Nigeria are known for their practicing of other crafts which are essential for the normal functioning of their

communities which are isolated from the mainstream of the urban life.

Community problems identified were in the same line with those experienced individually. This would indicate that in the new environment in which relocatees find themselves, individual and community problems are inseparable.

A main objective of the relocation project was to improve agriculture not only for those who are to use the irrigation facilities but the relocatees as well. It was found that the problems encountered are those that are certain to impede progress in agriculture. The affected people lacked money to buy inputs, they reported inadequate/insufficient farmland and nonavailability of farm inputs even if they were able to buy them. Lack of adequate extension service, government help, leadership and food were also reported. It would appear that all the ingredients needed to develop small farmer agriculture are missing in the relocated villages.

Types of assistance sought by farmers to improve agriculture are those that are exogenous to the farmers. Provision of extension service and other agricultural inputs, adequate all-year-round water supply is important for these people, for some practice dry season farming (usually growing vegetables) in the old site.

The implications for these findings should be looked at essentially from a planning point of view, because it would seem that human factors and essentials for agricultural

development were not given adequate consideration during the feasibility studies and planning stages, which seems to be a characteristic of planning in developing nations. A project is judged by its size and usually not by its impact on the affected people. The problems encountered in clearing land would imply that making the settlement area ready for the arrival of the settlers involves more than just clearing land for agriculture (Takes, 1975). In planning for movement of people en masse, the land must be levelled and plowed and water supplies laid on, agricultural supplies and equipment must be made available. Costs of these should be regarded as part of the compensation to which the evacuees are entitled.

If the decision was made not to construct houses for the relocatees as was the case in point, materials for building houses should be made available to the relocatees and should be made accessible within the project area so that the affected persons do not have to spend time looking for them. It is obvious that this has not been done in the Tiga project. It also would appear that no attempts were made to incorporate the relocatees into a single social unit as evidenced by the fact that there was lack of cooperation by neighbors, some of whom apparently did not know each other. Ways of making the people work together, such as forming cooperatives, should be encouraged in this type of situation.

Even though there has not been a problem of absenteeism on the project as is the case in many similar projects in

Africa, individual and community problems should receive the attention of the planners if the people are to continue to remain on the project. These problems are those to do with the social and economic well-being of the affected people and their communities, and they have several implications. It is apparent that these problems were not well thought of during the planning stages of the project. A new environment which people are forced into should offer them at minimum the same standard of living as they were used to in their former communities. However, when poverty, farm-related problems and food shortages are experienced by the affected persons, this indicates something wrong with the planning process. Ways should be devised to overcome these problems. Often in relocation projects, food aid is given to relocatees. This has the consequence of creating a dependence syndrome in that the affected people look to the government for food. While this is not recommended, the authorities should alleviate those food shortages by subsidizing them in the initial stages of the relocation and later by aiding the people to produce on their own.

A second implication of the findings relates to inadequate water supply. It is ironical that people who have to move to new areas to create space for water should experience inadequate water supply. During the feasibility studies, areas where people are to move should be investigated and, if they prove to be areas of water shortage, pipe-borne water

system should be laid in advance of the arrival of the relocatees. The people themselves, or at least their leaders, should be acquainted with the new areas before the movement takes place. Finally, all the other facilities that would ease adjustment problems should be provided before the move and not later as is the case in the Tiga area.

The study also showed that all these problems are a result of the relocation, since the respondents reported experiencing them when they moved to the new sites. While it cannot be assumed that these people had no problems before, it can be said that the forced move tended to bring them to the fore, and as such, in the future, attempts should be made to plan for ways to overcome these problems. Careful planning and educating the people on what to expect would go a long way to alleviate some of the problems.

Regarding farming in the new communities, attempts should be made to relieve the series of exogenous constraints perceived to be restricting agricultural production. The findings imply that there is need to set up farm service centers to provide easy and timely access to inputs and credit, seed farms should be set up and water supplies improved upon as well as an effective extension specific to each new community.

It has been argued that during the transitional period, changes should be kept simple, with the familiar being emphasized and people be encouraged to get "back on their own feet at the earliest possible moment" (Scudder, 1973a: 55).

But, as Scudder points out, this does not mean that a limited number of carefully selected changes cannot be introduced at the time of relocation through a cautious process of planning and implementation. Groundwork can be laid during the transition period for a planned program of rapid change thereafter. Provision of extension service will go a long way toward achieving this. Further, the findings regarding problems experienced in farming and the type of assistance needed by relocatees in agriculture imply that there is need to undertake base-line studies before the relocation exercise is undertaken. This would supply the planners with the type of information they need to plan better projects, for if the needs of the people are anticipated, plans will then be devised to meet these needs. Presently, however, it appears that planning for resettlement rarely begins until after the construction work has begun at the dam site, and the social cost of displacing human population as a result of dam construction has never been a factor considered when deciding whether or not a dam should be built (Butcher, 1971). In the case of the Tiga dam, it is apparent this has been the case. This is likely to continue to be the case as long as planning is from the top to the bottom.

Undertaking base-line studies before the project is implemented would provide means of analyzing changes over time when the relocatees have been fully re-established in the new areas. This type of situation provides a student of social

change with laboratory type of setting that can yield valuable information to planners and the field as a whole.

Objective 2. Perception of the Conditions and Opportunities Created by the Project

A basic contention of social psychological and rural sociological research has been that perception determines behavior, for if people perceive situations as real, they are real to them in all of their consequences. This study accepts this widely held view and tried to determine how the affected people perceive the conditions and opportunities created by the project.

Perception studies provide one means of showing what opportunities and conditions the relocatees prefer or how they are affected by such factors. The studies provide an opportunity for the relocatees to express their subjective reactions to problems they perceive. It is believed that an understanding of these perceptions could provide a more rational basis for a choice of planning strategies, thus making future solutions more responsive to the people for whom they are originally designed (Parkes, 1973).

The study reveals that most of the affected people consider the new communities more economically advantageous than the previous ones because of the grouping of the villages into viable units and because of the facilities provided. They feel that the new communities were situated on suitable areas.

Good and sufficient farmland and government assistance were some of the other reasons given by the relocatees. Since when people perceive situations as real, they are real to them in all their consequences, one can conclude that for most people the new communities provide a better living area (economically) than what obtained previously in the smaller communities. To those who felt that the old communities were more advantageous, same reasons were cited, indicating that people perceive situations differently under the same conditions. Things have to be improved upon before all people could interpret them in the same way, if it were possible.

It was found also that the majority of the affected persons felt that their well-being has been improved upon to some extent as a result of the relocation because, among other things, it allows them to continue farming profitably. However, some felt that this was not the case, because to this latter group, lower harvests have been obtained in the new sites. By and large, however, it would appear that the project has been perceived to have some beneficial effects.

In general, most relocatees felt that the opportunity for selling and trading in crops, schooling of children and practicing of other or subsidiary activities are better than what obtained in their former small communities. Finally, a greater proportion of the affected people evaluated the overall project in favorable terms. On the whole, then, one can say that the relocatees view the project to have affected

their lives in positive terms. However, it is also evident that some of the affected people felt the other way. Which people felt which way will be discovered when we look at the third objective of the study.

The findings imply that there is need to improve upon the facilities provided, there is need for more suitable farmland, more adequate water and food supplies and that the authorities should look for more ways to help improve the conditions of the affected people. Specifically, if the farm situation can be improved upon, it is possible to achieve a better standard of living since these people live by the land.

One of the aims of the project was to provide job opportunities. This will become an important factor in the future when children in the new communities now enrolled in the Universal Primary Education program begin to graduate. It is suggested that the authorities give serious consideration to improving farming and making it more attractive for the young people. For those already in the farming profession, there is need to help them establish themselves more firmly. Local or cottage industries need to be encouraged to facilitate practicing of other activities as well as to provide employment, trading and selling opportunities. The authorities have done well in providing roads, but these become meaningful only when they are efficiently or economically used. Those communities which still do not have the facilities promised should be provided with these as soon as possible. This will give

credibility to the authorities and speed up adjustment to the new environment.

Objective 3. Factors Affecting Perception, Attitudes, and Acceptance (Apprehension) of New Communities

A basic contention of the thesis has been that perception, attitudes and acceptance (apprehension) of new residential locations differ significantly among relocatees of different socioeconomic status, knowledge, adequacy of compensation, residential duration, involvement in project activities and vested interests served by the project. The results of this contention are better described in turns.

Initially, it was found that size of farm, knowledge of agencies and their roles, length of residence on the project, involvement in project activities were positively and significantly related to perception. It was found also that level of formal education and knowledge of moving to the new communities were significantly related to perception, but negatively. When control variables were introduced, size of farm, length of awareness of moving to the new communities and of agencies and their roles, and involvement continued to be significantly related to perception. On the basis of this, it is concluded that those relocatees who operate large farms, who were involved in project activities and who were more aware of the agencies and their roles perceived the conditions and opportunities created by the project in favorable terms, while

those who have knowledge of moving to the new villages perceived the conditions and opportunities created by the project in negative terms. In terms of the hypothesis, the findings are interpreted to mean that the larger the size of the farm operated by the relocatee, the more involved he was in the project activities, and the more knowledge a relocatee has about the agencies and their roles, the more favorable his perception of the conditions and opportunities created by the project, but the longer the period a relocatee was aware of moving to the new communities, the less favorable his perception.

When the effects of each of these relationships were tested in the reduced model of factors affecting perception, relationships between size of farm operation, length of awareness of moving and of agencies and their roles and the dependent variable, perception, the relationships were considerably reduced but not to the vanishing point, indicating that the relationships were to some extent still valid. The relationship between involvement and perception was maintained, thus showing it to be valid or genuine in the face of all controls.

These findings may imply that some of the variables studied do not necessarily distinguish between relocatees' perceptions or opinions about the conditions and opportunities created by the project. Other variables not studied may be related at a statistically significant level to perception. However, since the control variables used did not affect the

relationships one can conclude that some of the variables in the model are important factors affecting perception. The finding relating size of farm to perception would indicate that when a relocatee is given farmland adequate for his needs, he would think of the project in favorable terms, that is, if the project satisfies some of the farmer's economic needs, he will view it favorably. In the case of involvement, the finding would imply that when a relocatee participates in project activities, he tends to take a personal view of the situation and, as a consequence, would view that project in favorable terms. Regarding knowledge of agencies and their roles, it would imply that perhaps being acquainted with the staff of the project has the effect of minimizing the stress involved, thus enabling one to understand better what the project is all about. However, when the move to the new village becomes inevitable, the "loss of home syndrome" may make the same individual uneasy about the project and consequently lead to unfavorable perception about the project.

Another aspect of the third objective was to determine factors affecting acceptance or apprehension of the new communities. Initially, it was found that size of farm, length of residence on the project, involvement in project activities, vested interests served by the project, perception, and attitudes related in the hypothesized direction to apprehension, while wealth, level of formal education, length of awareness of moving and adequacy of compensation paid related negatively

to acceptance. When control variables were introduced, the relationship between wealth and education and the dependent variable (acceptance) disappeared in the partials, that is, the original relationships involving these variables were explained by the control variables. In the light of this, it is concluded that the larger the size of farm operated by a relocatee, the longer he lives on the project, the more involved he was in project activities, and the more his vested interests are served by the project, the less apprehensive (or the more he accepts) he is about the new community. Also, the more favorably he perceives the conditions and opportunities created and the more favorable attitudes he has toward the project, the less apprehensive he is about the new community. However, the longer the period he is aware of moving and the more adequately he was compensated for his property, the more apprehensive he is about the new community, that is, the less willing he is in accepting the new community.

When these relationships were examined on variable category basis, those involving length of residence on the project and vested interests served were explained by the other variables in the project implementation category, and so was that involving adequacy of compensation. This examination reduced the original model to only four variables related to acceptance (apprehension) of new place of residence, that is, size of farm, involvement, perception and

attitudes.

The reduced model was further examined to see how the other variables in the reduced model affected the relationships by simultaneously controlling for the other variables. The effect of the other variables on the relationship between size of farm and acceptance of new residential location was to explain that relationship, while those linking involvement and perception to acceptance were reduced considerably, but the relationship of attitudes to acceptance was maintained. This exhaustive analysis shows that involvement in project activities, perception and attitudes are important variables in explaining acceptance of new place of residence and that these variables mediate the relationship between size of farm operation and acceptance of new place of residence.

Finally, size of farm, length of awareness of inundation, knowledge of agencies and their roles, length of residence on the project, involvement in project activities and vested interests served by the project were found to associate significantly and positively to attitudes toward relocation project, while level of formal education and adequacy of compensation paid were found to associate significantly but negatively to attitudes toward relocation project. These findings are interpreted to mean that relocatees with favorable attitudes toward the project are those who operate large farms, have been aware of inundation for a long period of time, and have high knowledge of agencies and their roles

and have been living on the project for a period of time. Also, they are those who have been involved in project activities and have their vested interests served by the project. These findings are similar to findings elsewhere, for example, in the United States. Further, the findings imply that the more educated an individual is, the more negative attitudes he has toward the project and also that the more adequately a relocatee feels he is compensated the more negative his attitude toward the project. These latter findings are surprising for the opposite of the findings was what was expected. It may be that the educated are those able to understand fully the meaning of the project and some inconsistencies it might have. It is also possible while an educated person in a smaller community may be the one people look up to, in a larger community he may be just one of the many who was equally forced to vacate his home and as such may not be highly thought of. When this occurs he may interpret his fall in status in a larger community as a function of the relocation project and as such may develop negative attitudes. As regards adequacy of compensation paid, it may be that the measure of the variable is faulty or that the respondents were dissatisfied with payment for property when they compared it with what others received. Discussions with some of the relocatees indicated that there were some discrepancies in the ways properties were assessed. These might be a possible explanation for the negative relationships.

In terms of the influence of these variables in explaining attitudes, it was found that on the whole the variables in the model explained a substantial proportion of variation in attitudes toward the project. However, involvement in project activities, length of residence on the project and size of farm operated by the relocatee, together, explained more of the variation in attitudes toward relocation. This is interpreted to mean that for relocatees to develop positive attitudes toward relocation, they should be allowed to participate in project activities and should be given enough farmland for their needs. It implies also that time is an important factor in the development of attitudes toward relocation project. Attitudes should be studied when the affected persons have had some experience with the project.

When one looks at the findings of the third objective as a whole, it is clear that perception, attitudes and apprehension (acceptance of new residential location) are all related to the same independent variables, particularly size of farm operation and involvement in project activities. Since all the dependent variables when positively expressed can be viewed as a measure of success of the project, these findings are crucial to planning similar projects in Nigeria. It is often thought by many that rural people are an "amorphous" group of ill-informed and backward people. If anything, these findings show the contrary, for these people have been seen to be a collection of quite different individuals who

view situations differently.

Development projects are increasingly being dominated by the national governments in Nigeria and as such the attention of scholars and practitioners alike have been concentrated on the role of national governments and political elites in development (Hayward, 1972). However, if we are to understand the process of rural development, we need to focus considerably more attention on those affected by the project, which includes the environment in which these people find themselves. It would appear that attitudes, perception and apprehension do affect the outcome of development schemes where the projects require some response from the populace. But these do not develop in a vacuum. While they affect one another, they are also a function of several variables, particularly the levels of involvement in project activities and size of farm operation which is a resource the rural people rely on for their subsistence. When planners allocate land to displaced persons for development purposes, it should be sufficient for their needs. Too small an area would not provide the farmer with a decent livelihood and, if too much land is allocated for them and their families, it will be difficult for them to manage it properly. These points have been stressed by Christodoulu (1965) and Baldwin (1957).

Involvement in project activities also has been found to be an important variable in shaping perception, attitudes and acceptance. Involvement is a crucial variable in the

success of rural development projects. It is generally held that if rural people are allowed participation in the projects that affect them, they tend to identify with the project and invest their resources in the projects. Involvement has been narrowly defined in this study, it should be expanded to encompass people's involvement in the decision-making processes about what should be done and how, their involvement in implementing programs and decisions by contributing various resources or cooperating in specific organizations or activities, their sharing in the benefits of development programs and/or their involvement in efforts to evaluate such programs (Cohen and Uphoff, 1977). This involvement is essential if the project is to have the support of the community and if the benefits of the projects are to be realized by those for whom they are intended. As Yudelman (1976) and Lele (1976) rightly argue, even if local people do not participate directly in planning, at the minimum they should be informed of the plans designed for their areas if they are expected to consent and cooperate with program implementation. Involvement can develop self-reliance necessary among rural people for accelerated development. Involvement in project activities can be direct (community approach), whereby representatives are chosen by the people concerned, it can be through a type of model farmer approach, where selected individuals work in close conjunction with the authorities or through the involvement of local leaders since there is evidence that

local people prefer the advice of their own leaders. Involvement could also be through self-help.

However, it should be pointed out the current planning philosophy (top to bottom) is not likely to result in involving rural people in development projects that affect them. There is need therefore for a change in planning philosophy, particularly where the change is a traumatic one as is the case with rural population relocation. Planning should begin at the grass roots and up, that is, bottom-up planning should be followed.

Summary and Conclusions

This study was designed to achieve three objectives, all aimed at improving planning of rural population relocation projects. Viewed as an example of planned change, the contention of the study was that similar factors that affect this type of project elsewhere will be found in the case of Nigeria. This was generally found to be the case. Factors affecting adjustment were found to be essentially those that concern the social and economic well-being of the communities concerned--farmland, housing, water supplies and so on. It also was found that, in general, the affected persons viewed various conditions and opportunities created by the project in favorable terms, and that by and large similar factors tend to affect perception, attitudes and acceptance of the new communities.

The implications of the study are viewed at three levels. First of all, there are implications for planning purposes. The study shows that planners should take many factors into consideration when relocation projects are planned. Provision of amenities basic to the continuing functioning of the affected communities and involvement of these people in project activities were emphasized.

Secondly, there are methodological implications. It was evident that certain measures have been inadequate and that some of the variables did not relate to the dependent variables as hypothesized. Better measures are needed and some more variables need to be included in the model. It is recommended that studies be undertaken long before evacuation and continue through it so that one does not have to rely on recall data. The phenomenon like relocation project provides the social scientist with a type of a field laboratory situation where changes can be studied on a longitudinal basis.

Thirdly, there are theoretical implications. To some extent, the findings are similar to what was obtained elsewhere leading to the conclusion that rural people respond in the same way to development projects that affect them irrespective of their cultural background or planning procedures. The findings also show that people respond differently to relocation projects in terms of their perception, attitudes, and acceptance of the project. From a theoretical point of view then, it means that we have to understand more the

factors that affect these phenomena if we have to understand how people respond to development projects. Further studies should be undertaken to enable the formulation of a theory of forced migration, which will go a long way to improve future plans for similar projects.

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APPENDIX. QUESTIONS UTILIZED FOR THE STUDY

I. Socioeconomic variables:

A. Age

1. How old are you? _____ years

B. Level of formal education

2. Did you attend class in school (makarantar boko)?

Yes 1
No 2

3. If yes: How many years of formal schooling did you complete?

_____ years

C. Wealth--possession of durable consumer goods.

4. Do you have any of the following?
If you have, how many?

Item	Yes	No	Number
a. Bicycle			
b. Sewing machine			
c. Radio (transistor)			
d. Wristwatch/alarm clock			
e. Modern stove			
f. Iron or metal bed			
g. Wooden bed			
h. Foam (vono) mattress			
i. Cotton mattress			
j. Kerosene lamp			
k. Motor car/lorry/bus			
l. Motorcycle			
m. Comfortable chair			
n. Plow (garmàn shànú)			
o. Donkeys			
p. Horses			
q. Head of cattle			
r. Sheep			
s. Goats			
t. Poultry			
u. Others (specify)			

D. Size of land holding

5. Acres of farmland owned: _____ acres

II. Knowledge

A. Awareness of inundation

6. How long before you moved out of your former village did you know that your village was going to be inundated (flooded)?

_____ years

B. Awareness of moving to the new village

7. How long before you actually moved out of your former village did you know that you were going to move?

_____ years

C. Knowledge of the agencies and the role each played

8. Do you know which ministries or agencies were involved in the relocation project? Please indicate the ones you know.

a. Ministry of Works and Survey
b. Ministry of Health and Social Welfare
c. Ministry of Agriculture and Natural Resources
d. Ministry of Education
e. Ministry of Forestry, Cooperatives and Community Development
f. Kano Local Government Authority

9. Please tell us what role each of the ministries or agencies you know played in the relocation process.

III. Adequacy of compensation

10. Before you were relocated in the new site, you were compensated for certain properties. I would like to know whether or not you consider the compensation paid to you on the following adequate.

Property compensated for	Adequate	Inadequate	Don't know
a. House buildings	1	2	9
b. Farms	1	2	9
c. Economic trees on farms	1	2	9
d. Economic trees in the house	1	2	9
e. Granaries (rumbu)	1	2	9
f. Livestock pens	1	2	9
g. Other (specify)	1	2	9

D. Residential duration

11. How long have you been living on this relocation project?

_____ years

E. Involvement in project activities

12. Before you moved to this new place, did you participate in the selection of the new site?

Yes 1
No 0

13. Did you or did somebody choose for you where to build your new house in the new site?

I made the choice 1
Someone made the choice for me 2

14. When you moved to the new site, did you have to clear new land for the new farms?

Yes 1
No 0

15. As regards participation in the affair of setting up the new community as you would like to have it, which of these best describes your partitipation?

a. Have not been allowed participation at all 1
b. Have been allowed a bit of participation 2
c. Have been allowed a great deal of participation 3
d. Don't know/can't tell 9

F. Vested interests served

16. It has been said that the relocation project affects the lives of the people who have been moved away from their original homes and villages. Some of these effects could be favorable while others may not. Please tell me if the following interests served by the project have affected your life or condition favorably or unfavorably:

a. Obtaining assistance to build a new home and start a new life.
b. Crop yields as compared to what you obtained in your former village.
c. Provision of markets external to the area.
d. Provision of a road system to enable people to have access to outside places.
e. Availability of fadama or otherwise highly valued farmland.
f. Suitability of farmland allocated to you for farming.
g. Sufficiency of farmland allocated to you and your family farming needs.
h. Opportunity to practice additional (subsidiary) occupations or employment.
i. Improvement of the economic conditions of the people displaced by the lake.

17. List other ways in which the project has favorably or unfavorably affected your life or condition. Please be specific.

G. Perception of the conditions and opportunities created by the project

(I) Economic advantages and disadvantages

18. Are there any reasons for you to consider the present site as more economically advantageous than the village you left?

Yes	1
No	0
Don't know/ can't tell	9

19. If Yes: What are the reasons?

20. If no: what are the reasons?

21. In comparison to my previous village the new site has:

a. Greatly improved my condition	4
b. Somewhat improved my condition	3
c. Somewhat worsened my condition	2
d. Greatly worsened my condition	1
e. Don't know/can't tell	9

(II) Opportunities for farming

22. Do you think farming in the new site is more or less profitable than in the old site?

More	1
Less	0
No opinion	9

23. Now that you have had some harvests since coming to the new site, would you say that in general you have harvested more, about the same or less than you used to on the old site?

More	2
Same	1
Less	0
Don't know/can't tell	9

24. If less: Please give reasons.

(III) Opportunities for selling and trading in crops (agricultural products)

25. Please indicate whether you feel the opportunities for selling and trading in crops in the new site are better than, equal to or worse than in the old site?

Better	2
Equal	1
Worse	0
Don't know/can't tell	9

26. If better: Please give reasons.

27. If worse: Please give reasons.

(IV) Opportunities for education of children

28. Do you feel that the opportunities in the new site for your children to attend school (makarantan boko) are:

Very good	2
Somewhat good	1
Not good at all	0
Don't know/can't tell	9

(V) Opportunities for continuing to practice subsidiary activities

29. Do you on your own carry out some activities other than your main occupation that brings you some income?

Yes	1
No	0

30. Would you say that you now have more, about the same, or less opportunity to practice this occupation than you used to on the old site?

More	2
Same	1
Less	0
Don't know/can't tell	9

(VI) Scheme performance

31. How successful do you feel the relocation has been?

It has been very successful	3
It has been somewhat successful	2
It has been somewhat unsuccessful	1
It has been very unsuccessful	0
Don't know/can't tell	9

H. Attitudes toward relocation project

32. I would like to ask you some questions about your feelings on certain aspects of life and thinking on the relocation project. Please realize that there are no right or wrong answers. You are being asked to indicate whether you agree, are undecided or disagree with each of the statements that will be read to you. If you are not sure which way to answer, please indicate that you are undecided.

a. One as a farmer cannot plan on the relocation scheme because so many programs of assistance are still uncertain.

Agree 3 Undecided 2 Disagree 1

b. Any man prepared to work hard can get a good living on this relocation scheme

Agree 1 Undecided 2 Disagree 3

c. These days one is inclined to give up hope of achieving something on this relocation scheme.

Agree 3 Undecided 2 Disagree 1

d. Times are getting better on the relocation scheme these days.

Agree 1 Undecided 2 Disagree 3

e. Life on this relocation scheme is just one worry after another.

Agree 3 Undecided 2 Disagree 1

f. People on the relocation scheme are much distrustful of each other.

Agree 3 Undecided 2 Disagree 1

g. Farmers are left to themselves on the relocation scheme. No official cares what happens to the people.

Agree 3 Undecided 2 Disagree 1

h. It does not take long to get over feeling bad on the relocation scheme.

Agree 1 Undecided 2 Disagree 3

i. If I had a choice, I would leave the relocation scheme.

Agree 3 Undecided 2 Disagree 1

j. In the future, life on the relocation scheme will be very much easier than it is at present.

Agree 1 Undecided 2 Disagree 3

k. In order to live a better life, I should return to my former village.

Agree 1 Undecided 2 Disagree 3

l. You lived before in a village/hamlet. Now you live in a village with many people from villages/hamlets that were previously separate units. Do you consider the arrangement of grouping various villages/hamlets together into one big village as satisfactory or would you rather have seen the new village to be smaller than it is now?

I consider grouping of villages/ hamlets as satisfactory	1
I would rather have villages smaller	2
I have no opinion	0

I. Acceptance of the new place of residence/apprehension of the new communities

33. Do you feel that you will like to continue living on this project for the next five years?

Yes	1
No	2
Don't know/can't tell	9

34. Please indicate which of these best describe your feelings about remaining on the scheme?

I feel I am very much a member of this community and as such would continue to live on it.	1
I feel I am a bit of a member of the new community and as such I am not sure I will continue to remain in it.	2
I feel I am not at all a member of the new community and as such I may leave it at any time.	3

35. Now that you have been living here for sometime, would you say that you would rather have gone to another place to live?

Yes	2
No	1
Don't know/can't tell	9

36. This settlement village is about the right location and as such I feel I will continue to live on it.

Agree 1 Undecided 2 Disagree 3

37. Life anywhere else outside this scheme is better than what we are experiencing; therefore, I am not sure of my future on it.

Agree 3 Undecided 2 Disagree 1

J. Problems encountered

(I) Clearing farmland

38. Did you experience any problems or difficulties in clearing the land for your farms?

Yes	1
No	2

39. If yes: What are the problems or difficulties?

40. How did you solve the problems?

(II) Building houses

41. Did you encounter any problems when building the house?

Yes	1
No	2

42. If yes: What are the problems? Indicate as many as are applicable:

Lack of building material	1
Lack of manpower	2
Lack of funds (money)	3
Lack of cooperation from family members	4
Lack of cooperation from neighbors	5
Others (specify)	6

(III) Individual problems

43. From time to time everyone faces problems such as those listed below. What would you say are the problem(s) you are facing as an individual these days on the new site? Indicate those applicable.

Farm problems	01
Health problems	02
Unemployment	03
Housing problems	04
School problems	05
Family problems	06
Poverty	07
Food problems	08
Water problems	09
Others (specify)	10
No problems	99

44. If respondent mentions more than one problem, ask: Which of the problems you mentioned is the greatest one?

45. How long have you had that problem (i.e., the greatest one you mentioned above)?

46. What is the nature of the problem (i.e., how has the problem affected your life on the new new site)?

(IV) Community problems

47. What in your opinion are the problems that this community as a whole faces?

(V) Farm problems

48. As a farmer on this scheme, what are your main problems in farming? Please indicate three in order of magnitude.

49. What would you personally like the government to provide for farmers on the new site to help them increase their farm yields?