ENVIRONMENTAL IMPLICATIONS OF RURAL POPULATION SHIFTS IN BOSSO AND WUSHISHI LOCAL GOVERNMENT AREA OF NIGER STATE.

BY

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PGD/GEO/98/99/027

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MINNA, NIGER STATE.

APRIL 2000.

DEDICATION

In memory of late Mr. Thomas Zhiri and Mrs. Kaka Nnawo Sarah Zhiri.

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A PROJCT SUBMITTED TO THE DEPARTMENT OF GEOGRAPHY, SCHOOL OF POST GRADUATE STUDIES FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA NIGER STATE.

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CERETIFICATION

This is to certify that this project is an original work undertaken by me, Paul Alassan Zhiri PGD/GEO98/99/027 has been prepared in accordance with the regulation governing the preparation and presentation of project in the Department of Geography, Federal University of Technology, Minna, Niger state. Relevant work by other authors are duly given acknowledgment and accorded credit in this research work.

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ABSRACT

Nature has endowed man with many resources of which their distribution and use have been man's major concern. The study area been endowed with rich agricultural Lands, viable streams, rivers and its virile population.

Of all resources, Land is one of major resources. Since man decided to seek better shelter, good food and good are clothing. He discovered that the resource at the source has been over stressed, therefore needs relief. The primary aim of moving aim of moving out is purely on farming in order to enhance his economic power. There is no doubt, that with the practice of agriculture at the destination he will leave some Land marks there, thereby creating land degradation. Invariably poor human interaction with environment gives rise to it all.

What comes to mind is how to proffer solution to those problems created by him. To some is to look for alternative and to others is to watch and see what tomorrow will bring.

A new agriculture technique of farming is employ by migrants as a way of controlling land degradation created by him.

To arrived at a reasonable number of immigrants with in the study area three sets of questionnaire were designed and local governments, authorities, to sample the size of the immigrates.

From the findings it was discovered that people move from eastern part of the study area than the western part of it. The western has more land fertile for agricultural production. The immigrants are not aware of the dangers created by them as a result of agricultural practices.

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This project therefore, focuses attention on the environmental implications of rural population shifts with a view to identifying the causes, their impact and consequent problems or otherwise and making recommendations towards ameliorating them.

1.1.2 STATEMENT OF THE PROBLEM AND JUSTIFICATION

Shelter, food and clothing are basic human needs, in order to satisfy these needs, man often moves from one location to another, due to the fact that resources and unevenly distributed world wide. And where the resources are available, the exploitation will depend on the level of technological know how and social organization.

Population mobility and the exploitation of the natural environment by man especially in Nigeria calls for concern because the way and manner the environment is being used is not in tune with international acceptable standards.

This culminated in widespread environmental problems, which include soil erosion, deforestation, and desertification, flooding among others. The uncontrolled population growth and mobility have also serious implications as regards aforementioned processes.

The consequences of environmental problems, which are already being felt by others, call for much concern from all in order to employ checks and balances. There must be a balance between man's environment and other component of the earth, which must be sustained. It will ultimately lead to greater benefits for man and the ecosystem as a whole. It is often said that prevention is better than cure. Therefore, the cost of preventing environmental hazards is insignificant compared to the cost of rectifying it.

1.1.3 THE SCOPE AND LIMITATION OF STUDY

As already stated above, the study covers two local government areas of Niger State, namely Bosso and Wushishi Local government areas. The issues of rural population shifts and their impact on the environment shall be taken into consideration.

1.1.3.1 LIMITATIONS

As usual with other research undertaking this research is not with out problems in the cause of data collection.

The problem of local government officials in not releasing information on time, and some immigrants are being skeptical about the program.

It is imperative that the limited time available and cost of moving up and down has indeed affected the comprehensiveness of the work. Hence, the data collection was limited to Bosso and Wushishi local government areas of the state.

1.1.4 AIM AND OBJECTIVE

1.1.4.1 AIM

The study is aimed at evaluating the impact of rural population mobility on the physical environment and advancing some solutions to the problems.

1.1.4.2 OBJECTIVES

The above aim shall be achieved through the following objectives.

(a) To assess the gains and losses of population within the study area since 1970.

(b) To analyze the effects of rural mobility on land use management.

(c) To assess the impact of emerging land use on the environment.

(d) To make proposal and recommendation towards more effective measurement of natural resources.

CHAPTER ONE

1.0 BACKGROUND STUDY

1.1 INTRODUCTION

Population Mobility is a continuous process, which is invariably, related to human activities and occasionally to natural processes. In pursuance of his day to day needs, man interacts with his environment and in doing so could affect it in diverse ways.

Nigeria, being a developing nation has most of the population dwelling in rural areas. This population engages mainly in primary production activities. That is, the rural populace relies much on the natural environment for their livelihood. Among these, agriculture is the most vital and predominant activity.

Nigeria with approximately 98.0 million hectares of land is liberally endowed. However, the equally large number of people (especially the rural sector in Nigeria has to contend with the limited resources available.

The continuous rise in human numbers and limited natural resources available calls for concern among well meaning people such that the deterioration of the environment can be reduced. This is only possible if the populace is made aware of the implications of its action and in actions, when the environment is progressively degraded the inhabitants are forced to migrate. Those that remain become disenchanted as they experience decline incomes and standards of living, unemployment and general threat to the environment.

The segment of the inhabitants that migrate may sooner or later set in another process of environmental degradation in their host communities. Hence, unless with proper management of the environment and effective and sustainable population policies, the natural environment will continue to be at the receiving ends.

1.1.5 METHODOLOGY

1.1.5.1 METHOD OF DATA COLLECTION

Data souring shall be from primary and secondary sources.

(i) Primary source: Reconnaissance survey was conducted on the project site with a view of identifying and observing biophysical and social environment and taking inventory of existing features, and to ascertain the existing features, and to ascertain the level of man activities on the biophysical environment with respect to immigrants. Three sets of questionnaire were designed to source information from the indigenous the rural populace, migrants and the local government authorities. The questionnaires were designed in order to source for adequate data based on environment and the people.

(ii) Secondary sources: These include information from materials such as books, journals, research paper etc that have direct or indirect bearing.

1.1.6 SAMPLING METHODS

Sampling provides least cost and rapid methods of data collection. Results of researcher based on sample surveys can be as equally accurate as in total survey. The assumption behind sampling is that characteristics of the whole population can be inferred from the properties of parts of the population.

(i) Population. The aim is to find out the total number of immigrant within selected villages in Bosso and Wushishi Local government areas. My interest is not in the total population of the people of the two local governments, but that of immigrants. The sampling elements were used to determine the population and information about the household.

1.1.7 SAMPLE SIZE

There are various techniques of random sampling like, systematic, cluster stratified. The sample size was adopted in data collection on the field. The head of family household was asked about the size or the number of his household. It was based on this that I was able to arrived at a reasonable population of immigrants within the selected villages of the two local Governments.

CHAPTER TWO

2.1 THE MOBILITY OF MAN

Migration or the movement of people from one location to another has been taking place since the origin of man. During recorded history it has not only increased in volume but has also involved steadily lengthening distances. With this amount and diversity of migration has come a corresponding necessity to identify and explain such movement. (Lewis 1974, Koshinski prothero 1975). Of course, this is not an entirely new development because, as long ago as the 1880s, Ravenstin (1885, 1889), using birth place statistics contained in the 1881 census of England and Wales, suggested that migration could be generalized into seven 'laws'

1. The majority of migrants move only a short distance, and consequently there is a generally displacement of persons producing currents of migration in the direction of the great centers of commerce and industry.
2. The process of absorption is created by movement from immediately around a great city, creating from gaps, which are filled from more remote areas. This also means that few migrants will be found in cities from areas progressively further away.
3. Dispersion has similar features and is the inverse of absorption.
4. Each main current of migration produces a compensating counter-current.
5. Long distance migratory generally go to large cities.
6. Urban dwellers are less migratory than rural dwellers.
7. Females are more migratory than males. Although this highly generalized framework refers very much to Late Victorian Britain, it does emphasize that in any analysis of migration it is necessary to consider at least three inter-related

elements. The place of migration, its causes, and its selective nature (Grigg1977). Since the publication of Ravenstein's Law no one researcher has attempted to produce such a comprehensive frame work, although individual parts have been analyzed in a more sophisticated manner (lee, 1960).

The mobility of organisms, including man, so impressed Friedrich Ratzel (1984-1904). One of the founders of modern human geography, that he visualized geography as essentially a Bewegunslehre-a science of movement, of circulation. In man's association with the earth the time span is long, but the usable space limited. From this relationship Ratzel inferred that human groups must have traversed the more accessible parts of the earth over and over again, mixing biologic features and diffusing culture traits.

Spatial mobility takes many forms. Some of these are normadism, transhumance, commuting, and recreation towel. The first two are decreasing in significance, the latter two increasing. Another form is the flow of transient laborers who leave home to a season or even a few years in another place. These temporary moves are commonly called labour migrations. Strictly speaking, the term migration should be reserved for the movement for persons from one place to another for the purpose permanent settlement. How ever, the movement of workers and also of refugees-intended as a temporary shift may well result in permanent changes of residence. Hence, the line between migration proper and some other forms of mobility can not be drawn sharply.

For some time geographers were contents with describing and explaing migratory flow in terms of distance decay, as expressed in the gravity model and its later derivative, the intertwining opportunity model. However, even with the inclusion of additional social-economic factors, usually with in a regression equation, it was

found that such formulations achieved a fair degree of prediction only at the aggregate level. Ter Hied 1963); Willis 1974). This caused disquiet. Hagaerstrand 1970:8), for example, claimed that nothing truly general could be said about aggregate regularities until it has been made clear how far they remain invariant with organizational difference at the micro-level. Comments such as this stimulated many researchers to conceptualize the migratory process in terms of 'push' and 'pull' forces and to seek information, in surveys, on what motivates individuals to resolve these contradictory forces in a particular way Lewis 1982. Yet even this procedure fails to determine whether there are any systematic influences those condition migration decisions and fails to suggest by what evaluative process individuals arrive at decision whether to migrate (Pryor 1975). What is evident is that people differently located in space and social structure have different degree of knowledge about, different perceptions of, and are able to benefit to different extends from opportunities at places other than those in which they currently reside (Jones 1980). Given that is so, then simply asking questions about motives reveals little about the mechanics of the migration process (Taylor 1969). In response to these criticisms the last decade or so has witnessed the emergence of a more behavioral approach to the study of migration and, in particular, urban residential site selection (Adams and Glider 1976; Michelson 1977; Clark 1981). Such an approach argues that migration occurs because individual believes that will be able to better satisfy their aspirations in a location other than the one at which they are resident. In other words, the decision to migrate is made on the basis of perceived opportunities (with different locations providing different level of opportunities to different individual and groups) (White and Wood 1980; Coupe and Morgan 1981).

2.1.1. DIFFERENTIAL MIGRATION

Migrations are selective, and by differential migration we mean the tendency for certain elements of the population to be more migratory than others. Obviously migration streams vary a great deal in their selectivity according to the character and degree of specialization of the stream as well as the stage of it evolution, but on the whole migration is selective of people having a certain combination of traits rather than an individual trait.

The most accepted migration differential is certainly that of age, for in both internal and external migrations late adolescents and young adults are usually preponderant, often migrating to their first job. Fortunately, they're new environments that do other age groups. But even this generalization breaks down in some instances, where migration streams are composed of other adults and old people e.g. migration to retirement.

Bold generalization are that in advanced countries short distance migrants are predominantly female while long distance internal migrants are predominantly male; on the other hand, in many undeveloped countries both internal and international migrants are predominantly male.

The marital status of migrants has also changed in developed countries. At one time migrants were mainly single-they are still so to day in under developed countries but note there is more and more migration of females looking of better houses, schools, social conditions and jobs. Consequently family size is a selective factor of migration. Migration is also more common among certain occupation groups than others. Professional classes are proportionally more migratory than either skilled or unskilled workers. Unemployed persons tend to be more migratory than employed

persons. Migratory selection also takes places by nationality and educational attainment, and in general the process of selection depends more upon conditions at the destination than upon those at the place of origin, for migration which has a strong push stimulus tends to be less selective than migration which is mainly responsive to pull factors. As ethnic diversity, for example, is commonly associated with specialization of occupation and variations in socio-economic status (e.g. West Indians and Irish in Britain) as well as social segregation, the destination of such migrants is quit circumscribed.

2.1.2 INTERNAL MIGRATION

MEASUREMENT

Direct measurement of internal on a national scale is only possible in countries where a migration question is posed at the census or where there is a system of residence registrations. This is the only satisfactory basis for calculating the volume and direction of migration streams. Alternatively indirect measurement are possible.

(a) by comparison of two good constructive censuses, either by the "vital statistics methods" which estimately the total net gain or loss in population of a community as a result of migration by subtracting total inter censal changes, or by the "survival ratio method" which estimates the proportion of the population which should be expected to survive at the second census and determines the difference between this surviving expected population and the actual population and

(b) By comparison of place of birth statistics with present residence. The disadvantages of these methods are that we do not known when the migrations occurred, the numbers of moves and the effect of mortality upon the

migrations. We are sometimes compelled to supplement data by simple survey.

2.1.3 TYPES OF MIGRATION

Five major types of migration can be recognised in Africa.

They are:

1. Rural-rural migration
2. Rural- urban migration
3. Urban –urban migration
4. Urban- rural migration
5. International migration

2.1.3.1 Rural – Rural Migration:- This is a very important type of movement in Tropical Africa, evidence from Ghana and Nigeria shows that about 60 percent of people leaving one rural area and up settling at least for some time, in other rural areas (Udo 1982). Examples of group actively the Isokos, the Urhobos, the Hausas, the Nupes, the Gwaris, the Igbiras in the middle belt of the country, the Ibos in the south. Rural-rural migration is mainly a response to limited opportunities in the source areas, especially the shortage of good agricultural farmlands. It could also arise as a result of an escape from witchcraft, of oppression or some social stigma. At the destination, the migrants engage in various types of activities including those considered being inferior by the Local inhabitants. They are engaged in local crafts, share cropping, or work as laborers in private farms, plantations, mines etc.

2.1.3.3. Rural-Urban Migration has generated more discussion than any of the other

Types of migration. This is because the number of people involved is very large

And the resultant urban growth is spectacular, if not overwhelming. The bulk of rural-urban migrants consists of young educated people, though the level of the education is often not sufficiently high to fit them properly into the urban economy. Thus the sheer scale of this type of migration has constituted a great burden to the urban center while at the same time depriving the rural areas of their able-bodied and educated young men and women.

2.1.3.3 Urban-Urban Migration is of less significance than rural-urban migration. It Occurs as people go on transfer from one urban center to another, and as people migrate from the smaller urban centers to the larger ones, which have greater economic opportunities. Urban-urban migration is more common in countries like Nigeria, which have a large number of urban centers.

2.1.3.4 International Migration consists of movement of people from one country to another, and of people from one continents (e.g. Europe and America) into Africa. These movements have been on since the colonial era. Since indigence, many embassies have been established and elite from various continents has migrated into Africa engaged in diplomatic service, or commerce and industry. African themselves have moved from one country to another. For example, according to Ghana census of 1960, over 850,000 persons or 12 percent of the 6.7 million population were of foreign origin, the vast majority of them came from the neighboring countries of Togo (200,670) Burkina Faso (194,570) and Nigeria (190,780) (Udo 1982). Before the expulsion of aliens from Nigeria in 1983, there was an estimated one million Ghanaians in the country.

2.1.4 MOTIVES FOR MIGRATION

The motives for migration can be classified into two-the economic and the social. These two are (a Economics considerations (b) social consideration.

Economic consideration constitutes the most important motive for migration. As far back as the 19th century. Ravestein reputed as the pioneer of demographic studies, emphasized the importance of economic considerations when he observed that "Bad or oppressive laws, heavy taxation, and unattractive climate, uncongenial social surroundings and even compulsion slave trade, deportation, all have produced and still producing currents of migration, but none of these currents can compare in volume with that which arises from the desire inherent in most men to better themselves in material respects"

Hence (1970) makes a similar observation in his discussion of migration in African. According to him. "Among the factors which led to the change attitude toward migration, the important was the increasing desire of Africans to acquire the materials and cultural out look of modern life"

The rising exceptions and changing values of the people have created new demands for goods and services which an increasing number cannot obtain in their districts of origin, and they are obliged to migrate to areas where their expectation can be more adequately met (Udo, 1982). The expectation of a job in industry or public service has been a paramount consideration for large-scale migration to the cities where most of the opportunities exists. Some migrate as "target workers" with the purpose of earning money to solve a particular problem, e.g. the payment of bride price.

2.1.4.1 SOCIAL CONSIDERATION:

Other reasons apart form economic also helps to explain migration: - They include

1. The desire to escape from some social stigma, for example when some are is convicted of adultery, stealing or witch craft. In many villages in parts of Iboland for example, some people are still culturally isolated as Osu because they are descendants of slaves who were dedicated to the earth god (Udo, 1982). This category of people can easily migrate away from home and thereby create a new image for them.
2. The desire to escape from excessive parental control and customs and traditions which is cumbersome to observe.
3. The desire to attend higher institutions (e.g. University or Polytechnic) which are located away from one's home land.
4. The desire to escape witches is wizards.
5. The desire to move to an area with more served recreational and cultural facilities for purposes of tourism or better living.
6. The movement of women to join their husband.

2.1.5 IMPART OF MIGRATION (SOURCE AREAS)

Migration necessarily makes an impact upon the areas of origin in terms of the absence of those who have migrated. Their contact with the home areas while they are away, and their eventual return.

Migration has also led to several cases of broken homes as the male-heads move out on sojourn. This is particularly so in central Africa and southern African where African workers are not usually allowed to migrate with their wives to the mines and farms located in the European Reserves. On the whole, migration has led

to the disorganization of the social cohesion, which has always existed in the rural areas.

Migration has however brought certain benefit to the source areas.

At times migration frees rural land from population pressure, so that more land, and hence more food, become available to those left behind more food, become available to those left behind in the countryside. However even if more land is available shortage of farm labour owing to migration many militate against the ability of farmers to increase their holdings. Besides, given the peculiar nature of he African land tenure system, the migrants do not usually relinquish their title to the land they owned in the village, as a result villagers left behind can not really farm such land.

2.1.6 IMPACT OF MIGRATION (DESTINATION)

Migration has brought much lasting change to the receiving areas. According to Udo (1982) the most obvious change in the rural destinations appears to be increasing economic activity shown by rising production figures in mineral and agricultural exports from such areas. And for the urban centers, which receive the bulk of the migration, the changes have been really enormous, resulting in the rapid urbanization.

1. Migration increases the population of the receiving areas. And since migrants are usually at their prime of life (falling within 15 are 45 years) migrants provides a much needed manpower for the economic development of receiving areas.
2. Because most migrants are in the reproductive age, birth rate tends to be influenced. Prostitution is also encourage.
3. By bringing together people of different races, languages and religions, certain conflicts tend to arise, at times result in violence.

4. Migration may be responsible for the spread of diseases e.g. influenza, syphilis, gonorrhea and acquired immunity deficiency syndrome (AIDS).
5. Migration has resulted in accelerated urbanization with the attendant problems of housing shortage, urban congestion, high cost of living, unemployment and under – employment

2.1.7 MAN AND HIS ENVIRONMENT

With the rapid growth of the world's population, many societies have been demanding more from the earth's resources and affecting its land surface at ever-increasing rates. Prehistoric evidence shows that in Paleolithic times the early hunter gathers used fire and, accidentally or internationally, burnt extensive areas of forest.

The early agronomists burnt large areas of land to create farm or pasture modified the soil by plugging, altered the drainage by irrigation, introduced or bred new animals and crops, and altered the natural vegetational structure of many regions. In more recent times, humans have destroyed enormous tracts of natural vegetal, excavated large areas of land, greatly modified the landscape, and even created new land.

Unfortunately some renewable resources are being used at rates that exceed the speed at which they can be regenerated. Now here is this more apparent than the destruction and the forestation before station of the rain forest. A hectare of forest can be destroyed within an hour, but it may take several decades for the forest to regenerate itself. A report published in 1991 by the UN food and Agricultural organization estimates that the current destruction of the tropical rain forests is occurring at a rate of 40 billion acres per year, mainly as a result of human activities.

Secondary effects complicate the problem. For example rapid degradation of the forest soil accompanies deforestation, the nutrients being wasted out by rain. In

addition, the organic compounds are no longer replaced in the soil. It may take decades of slow regeneration before the soil can support a forest again. Other effects may lead to changes in slope stability, the amount of soil erosion, increased sediment washed into rivers, changes of climate within a small region, and the increased occurrence of floods.

There are many examples of how uncontrolled or excessive exploitation of the lands natural resources (including vegetation, fossil fuels, minerals, water, and land) can have a profound effect on the natural environment, both in terms of ecosystems and the aesthetic beauty of landscapes.

2.1.8 HUMAN IMPACT ON VEGETATION

Vegetation is important to humans as a primary source of food, as a building material, in manufacturing industries, as fuel and as medicine. Early in human history, people gathered plants and began to cultivate selective types. With agricultural activity came the associated changes in the shape of the landscape.

The first human impact on vegetation, which is still prevalent, is the use and misuse of fire. Even though over half of the fires that occur are natural, resulting from lightning strikes or spontaneous combustion of decaying organic material, the rest can be attributed to accidental or deliberate burning by humans. Accidental fires, camp fires, trains, motor vehicles and arson, deliberate burning is used to clear land, though it can be used to help improve the quality of soil arid regions through adding fresh organic material, or as an aid to reduce widespread fires, fives cause a reduction in natural vegetation, they threaten wide life, humans, and property. Fire produces secondary problems with the clearance of vegetation, such as soil erosion, flooding, and wind erosion.

The domestication of animals also has a major impact on the land surface. Heaving grazing of cattle leads to trampling and compaction of the soil, reducing its capacity to hold water and altering its structure. Ultimately this leads to soil erosion, both by wind and water. Selection grazing of particular plants may lead to changes in the nature of the vegetation cover.

Major problems are created when humanstry to rear domestic animals in regions not suited to their life style, especially when they alter the natural vegetation to grass land. This is particularly true of large areas of Brazil where the rain forest has been cut down to produce pastureland.

2.1.8.1 DEFORESTATION

Deforestation involves the deliberate removal of forest to create new agricultural or urban land, to provide wood for building, and manufacturing industries, for the exploitation of minerals, and fossil fuels, to create reservoirs for water supplies and hydroelectric energy, to build high ways, for fuel, or as a result of defoliants used to help rain forests are in less developed countries, many of which are in conflict or at war with adjacent countries. Unfortunately, the economy of most of these countries is dependent to a large degree on the exploitation of the rainforests. At present, for example, one of the most destructive projects will decimate over 2,000km^2 of Brazilian rainforest. This is the construction of a reservoir and hydro electronic plant at Tucurui in the Amazon Brazil believes this will help reduce its expenditure and dependence on fossil fuels need to produce electricity which constitutes a major part of Brazil budget.

Unfortunately, there are many problems associated with such constructions. Clearance of such huge areas for forest usually takes the form of large scale flooding.

The trees are just left to not in the floodwaters. Their decay leads to acidification of water, which produces poisonous hydrogen sulfide and explosive methane gasses. Others problems includes the spread of diseases such schistosomiasis and malaria which are associated with large water bodies.

Internationally little is being done to control deforestation, although on national scale many countries are beginning to enforce legislation controlling the degree to which logger can be exploit the forest. Unfortunately, many of these restrictions are difficult to enforce or are unrealistic.

Humans have clear forests once covered most central Europe, but during the eleventh century a major phase of deforestation which 200 years almost cleared most of the forests in Europe. The rate at which these tropical and equatorial rainforest are being cleared is frightening. A few thousand years ago rainforest covered about 14 percent of the land's surface whereas today they cover only 7 percent. Much of this has been lost over the last 200 years, most after the Second World War. In a study by the UN food and Agricultural organization published in October 1992, the most through to date and involving satellite and aerial photograph reconnaissance in 88 countries it was estimated that the rainforest are disappearing at the rate of one acre per second, equivalent to the combined size of England and Wales being lost annually.

There are many interwoven complex local issues involved in the deforestation of the tropical rainforests, land owners and others involved in exploiting the rainforest for quick profit have little concern for long term survival of their environment.

Deforestation also occurs in the tropical zones of the world. Perhaps less advertised than the destruction of the rain forests is the human threat to Brazils unique savannas. Burma (1991) has pointed out that about 3 million square km of Brazil an area longer than the Mediterranean basin-consists of non forest habitat. Numbered

amongst those are the wonderfully named cerrada, the caatinga, and campo Rupert, all of which can be grouped under the term savanna. Because these areas do not have the obvious luxuriant vegetation and diversity of species seen in the rain forests, they have tended to be regarded as trash vegetation and hence open to thoughtless exploitation.

Deforestation not only affects the immediate rainforest and its ecosystem, but if may also have drastic consequences on adjacent regions. This is well illustrated in Jamaica where deforestation on steep slopes has led to intense soil erosion and land sliding.

2.1.8.2 DESERTIFICATION

Deforestation and the degradation of other vegetation, particularly near the margins of deserts, have caused once fertile/vegetated land to become barren in a process called desertification. Factors that contribute to the expansion of desert regions also include bad land management and poor farming techniques.

Desertification and its associated problems are devastating many parts of the world, especially developing countries. These include the desert margins of the Sudan, the Sahel region of the southern Sahara desert, the Gobi desert in China, and the Kalahari in southern Africa. The margins of these deserts have advanced as much as 100km in the last couple of decades. The United Nations Environmental program (UNEP) has calculated that about 60 percent of the 3.3 billion hectares of agricultural land out slide humid areas are affected to some degree by desertification.

Although the United Nations claims that desertification, caused by human activities, is continuing to intensify, many argue that this may not be true (peace 1992). The United Nations World map of desertification identifies key areas of desertification but states that the margins of error fall within ±10 percent (UNEP 1992)

Many scientists also argue that desertification has not occurred as a result as a of human activities (Hulme 1989), and that land degradation attributed to cattle herding and overgrazing, particularly around watering holes, does not lead to desertification in the Sahel region (Pearce 1992). They believe that cattle herders posses an innate knowledge and sensitivity towards the land, and therefore contribute little to its degradation. Instead, they argue that the apparent effects of desertification may be result of natural fluctuations in global and regional climate, such as droughts, which are inherent to dry lands. Street-perrott and perrott (1990) argue that fluctuations in aridity are due, at least in part, to the development of the North Atlantic Deep water (NADW), which is an important control on precipitation in North Africa.

There are natural 'bad land', semi-arid landscapes severely eroded and dissected into fantastic geometrical shapes of pinnacles and deep gullies, for example in the USA along the Grey bull, river in the Bighorn Basin of Wyoming or the Big Bad Lands of south-western Dakota, along the white and Cheyenne river on the eastern and southern edges of the black hills.

Other regions have experience, and still suffer similar problems. Drastic changes in farming practices, the trend toward monoculture, increased mechanization, and other bad farming practices are usually to blame. Effect are often seen in developing areas where conservative traditional methods of subsistence farming are frequency replaced in favor of crops that can be sold quickly for ready money. These crops are often not suited to the region and result in environmental degradation.

2.1.9 HUMAN IMPACT ON SOIL

Soil is another great natural resources. It is a combination mineral and organic matters, structurally arranged in layers, and capable of supporting plants, and animal

life. Soil can not exist with out plants are dependent on soil for support, air water and nutrients.

Soils are highly variable in nature. This variation includes their structure, layers, colour, range of particle sizes, chemistry, nutrients, acidity, temperature, water content, thickness, organic content, and its associated biota. These properties vary because of differences in the parent material, climate, topography, organic content, and amount of time it has had to develop. Changes can happen very easily, having profound effects on the soil and the landscape such as vegetation reduction, soil erosion, slope instability increase flooding and more sediment in rivers. The major changes induced by human activities include chemical changes (Salinization and Laterization), structural changes (compaction, hydrological changes, and soil erosion).

There are many changes with in a soil, which can be initiated by humans. The most widespread and problematic are salinization and Laterization. Salinization involves the accumulation of salts such as sodium chloride potassium chloride, calcium sulfate, and sodium carbonate with a soil. This makes the soil alkaline, caustic, and generally restricts or inhibits plant growth.

Salinization may occur naturally in semi arid are areas where evaporation or direct from soil exceed precipitation. Irrigation also enhances salinization by increasing the height of the water table in immediate and adjacent areas over which irrigated water is spread. This leads to the evaporation of water from within the soil, providing a process by which soil salt can be concentrated and drawn towards the ground surface. With the rapid expansion of irrigation schemes in the last 20years, the UN estimates that as much as 25 percent of irrigated areas have become affected by salinization, making it a major land management problem. For example, the

percentage of soil affected and waters logged amounts to 50 percent of the irrigation areas in Iraq, 23 percent, in Pakistan, 30 percent in Egypt, and 15 percent in Iran.

Laterization of the soil is a major problem in the tropics where soils are enriched in aluminum and iron oxides. These metal oxides accumulate due to strong tropical weathering.

Humans also alter the chemistry of soils by the addition of organic or artificial fertilizers. This may also be detrimental to the soil, especially if the fertilizers are increase applied. This may lead to the deterioration of the soil, a reduction in vegetation, soil erosion and other associated phenomena.

By far the greatest impact on the soil is caused by soil erosion. The various causal factors that may initiate soil erosion such as deforestation, grazing, salinization, lateriazation, and compaction. Many of factors are interlined and should not be

Considered isolation accelerated by bad farming techniques, urbanization construction, mining, wars and fires.

Much can be done to pay to retard soil erosion and conserve soil resources. These include vegetation, crop management, slop runoff control, construction of gabious and retaining walls, and dissemination of information regarding, much to be achieved with regard to the correct use of one the most valuable natural resources.

2.2.0 HUMAN IMPACT ON THE OCEANS AND SEAS

The oceans and seas cover more than two thirds of the Earth's surface. They contain submarine trenches that are deeper than highest mountains, life almost certainly evolved from the sea, and there is still more species diversity in the sea than any where else on Earth. Many of the food chains or food webs starts with organisms inhabiting the seas and oceans. The ocean atmosphere system regulates global

climate. It is a sensitive thermostat. The seas and oceans are a rich food and mineral resources, but over exploitation and pollution threaten this vast wilderness. Human still tends to feel that the vast of the sea makes it an ideal dumping ground for vitally every type of waste, including toxic chemicals and nuclear waste.

One of the areas of growing concern is the future exploitation of the sea floor. Breuer (1991) makes a good case for the international adoption of a strategy for the seabed. There are large mineral resources, for example in the form of manganese nodules.

The United Nations convention on the law of the seas are 'common heritage of human kind which can not be appropriated by any individual, institution, or country, must be managed by and for the benefit of mankind as a whole; must be reserved for exclusively peaceful purposes.

2.2.1 HUMAN IMPACT ON THE LAND SCAPE

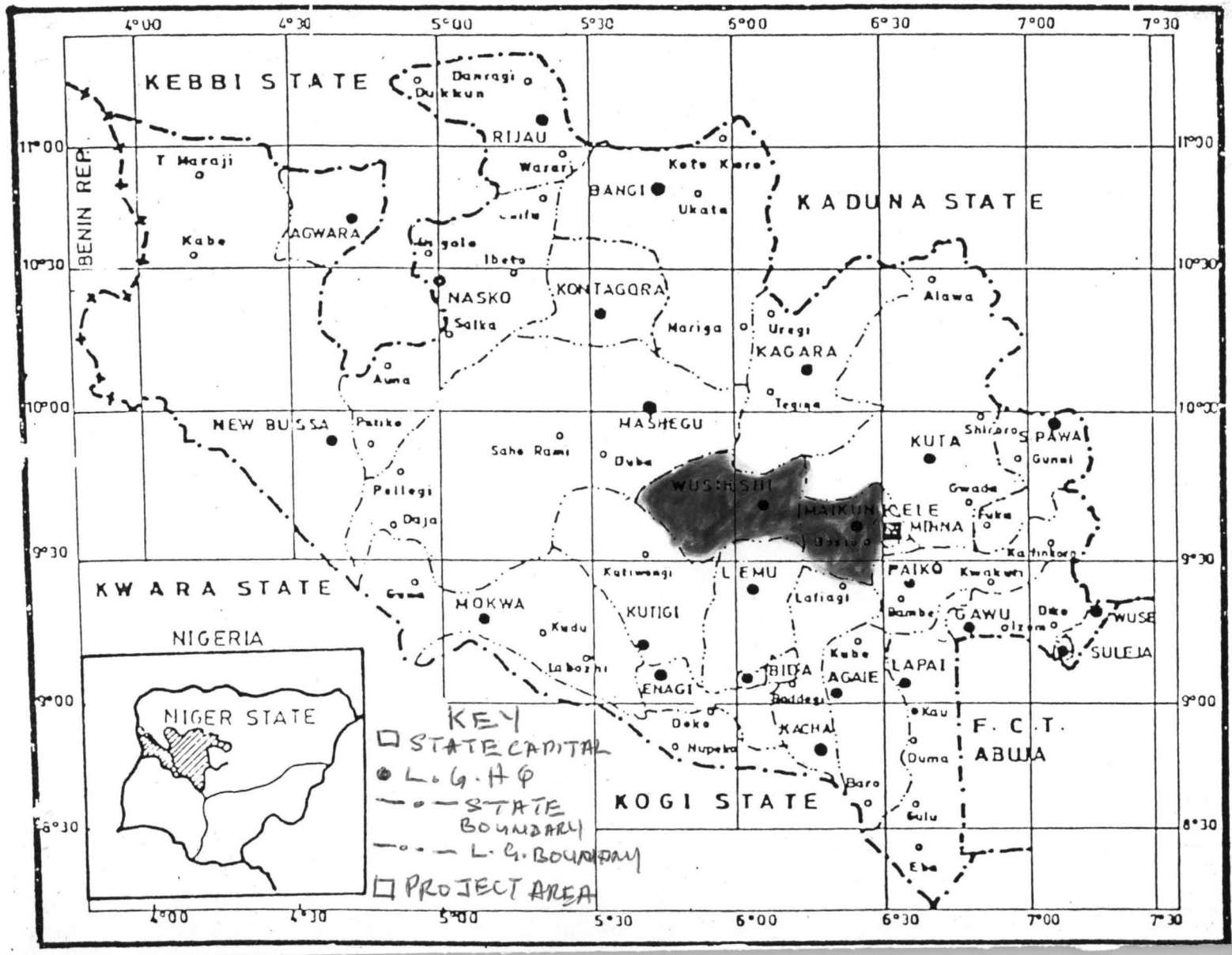
The Land's surface is an important resource allowing us to build settlements, produce communication links, and have farmland and recreational areas. It is also beneath this land that mineral resources and fossil fuels are to be found. But in order to exploit these we have had to cut away at the land surface and dump the rock waste, which in turn creates new landforms.

Human activities are continually modifying the landscape, creating pits, ponds, spoil heaps, terraces, cuttings, embankments, dykes, cannel's, reservoirs, and areas of subsidence. War also causes dramatic and significant landscape modifications. Geomophologists consider humans as an important landforming agent and refer as geomorphologic anthropogenic agents. Many consider that for large regions of the world humans are an important factor in contributing to the landscapes we see today.

The rapid increase in population has placed great demands on the available living space. The trend towards urbanization has led to an increase in the size of settlements at an incredible rate and the exploitation of marginal lands. In the latter, natural processes constitute a hazard to people settling in these regions. Rapid deforestation and devegetation, resulting in soil erosion, flooding, and other associated problems often accompany advances into these areas.

The pressure for land has become so great in some regions that new land has been created by coastal reclamation. This is particularly well illustrated in settlements such as Hong Kong, which has one of the highest population densities in the world.

Fig1: LOCATION OF THE STUDY AREA IN NIGER STATE.



CHAPTER THREE

3.0 BACKGROUND TO THE STUDY AREAS

3.1 PHYSICAL CHARACTERISTIC

3.1.1 LOCATION

The study area lies between Latitude 9^0 20^1 and Latitude 9^0 50^1N and Longitude 5^0 40^1 and 06^0 30^1E.

The study area is also bounded by following areas, in the East Kuta, Minna and Paiko ard in the south Lemu and part of Kutigi and in the west is part of Kutigi and part of Mashegu, Kagara and Kuta.

3.1.2 CLIMATE

It experiences distinct dry and wet season. The wet season which last for about 200 days starts from April to October. Average rainfall is 1227mm with July and September recording the highest rains of 226.3mm recording the highest rains of 226.3mm and 248.8mm respectively.

The cold harmattan winds usher in the dry season, which gradually becomes hot between March and May, just before the rains set in.

The monthly temperature is highest in March at 31.1^0C. and lowest in August at 26^0C. Respectively. The study area is blessed with moderate climatic condition thorough out the year, which make agriculture productive.

3.1.3 VEGETATION

The whole area lies in natural vegetation. The area is characterized by a predominantly woody and grassland scattered have and there. Due to population pressure of this area from a long time back, human activities have fondly modified

local vegetation at places. The local vegetation of the Areas shows woody, shrubs and grasses, which has given way to open lands as a result of agricultural activities by man. This has encouraged land degradation in the areas.

3.1.4 GEOLOGY AND SOIL

The soil type in this zone is coarse sands and clay soils. The soil in this areas are made up of up land and depositional soils. The up land soils over lie thick sandstone and the major part consists of gently undulating plains with very deep soils.

Most soils are classified as ferri which normally occupy the higher elevation of the terrain and at lower levels (steep slope pass into ferruginous tropical soils which in the valleys are replace by weakly developed soils of depositional and hydromorphic soils).

3.1.5 TOPOGRAPHY

Apart from visible hills in some places such as Maikunkele, Bosso and Zungeru the area generally looks gentle and flat which make agriculture productive.

3.1.6 THE PEOPLE

Bosso and Wushishi Local Government areas are among the twenty-five local Government created by the then Federal Military Government far easy development. Bosso local government area has a population of 92,236 at the 1991 census. The people are predominantly Gwaris who are mostly hard working farmers. They are however other tribes who came to settle in the area either as a civil servants, traders etc.

The eastern part of the study area witness an influx of people as a result, being close to seat of Government.

A visit to the site shows that the youth are always on their own but look back when the need arises

In the eastern part of the study area most of the rural /dweller still live in their old traditional houses. Gwari's are industrious and they are hard working people. They are great farmers and their major farm produce is yam, others are millet, Guinea corn, maize, cassava and vegetation.

According to them their land is now weak as a result of continuous farming. The area has improved since its creation. There are primary secondary and few tertiary institutions in the area. Two good major roads exist in the local government. The one from Minna to Wushishi via Bida and Minna via Bida.

The religions practiced by them are Christianity, Tradition and Islam. Wushish Local Government Area had a population of 195, 420 (including Mashegu Local Government) in the 1991 census.

The major tribes that make up the area are Fulanis, Hausa, Nupes and others. Their major occupation is farming, fishing and petty trading. They have very vast land which is the carrying capacity, inspite of influx of people to the area they still have vast land to cultivate.

Wushishi is about 74 kilometer from Minna the people of the area produce rice, millet, Guinea corn, maize, beans and fish.

They have primary, secondary and tertiary institution in the area, which has improve their people a lot.

The climate and vegetation are good for agriculture production.

The religion of the people is Christianity and Islam.

3.1.7 ECONOMIC BASE

The study area is situated in a agriculture belt. As a result of this location, agriculture forms the dominant occupation around these areas and in fact through out the whole Niger State. The following form the major agricultural produce in the areas includes yam, Guinea corn, millet, maize, rice beans and vegetable etc.

Other forms of occupation include the tertiary and secondary sectors. However, the tertiary sectors tend to employ more people compare to secondary sector. This could be due to the fact that the younger generation are increasing better attracted to the sector partly through the benefit of their educational opportunities, and partly become of the huge number of job opportunities made available in tertiary sector by public investment in education and social services by the Federal, State and Local Government.

CHAPTER FOUR

4.0 DATA ANALYSIS

The pattern and the factors responsible for the movement.

4.1 INTRODUCTION

MIGRATION: The push-pull theory has often been employed to explain the movement of migrants. It is generally observed that migrants. It is generally observed that migrants originate mainly from areas which migrants originate mainly from areas which experience certain environmental degradation, therefore in a sense, these migrants are "pushed" from their home areas. Such problems at source includes poor soil fertility, population pressure, improved economy, social, farming purposes, fishing and trading.

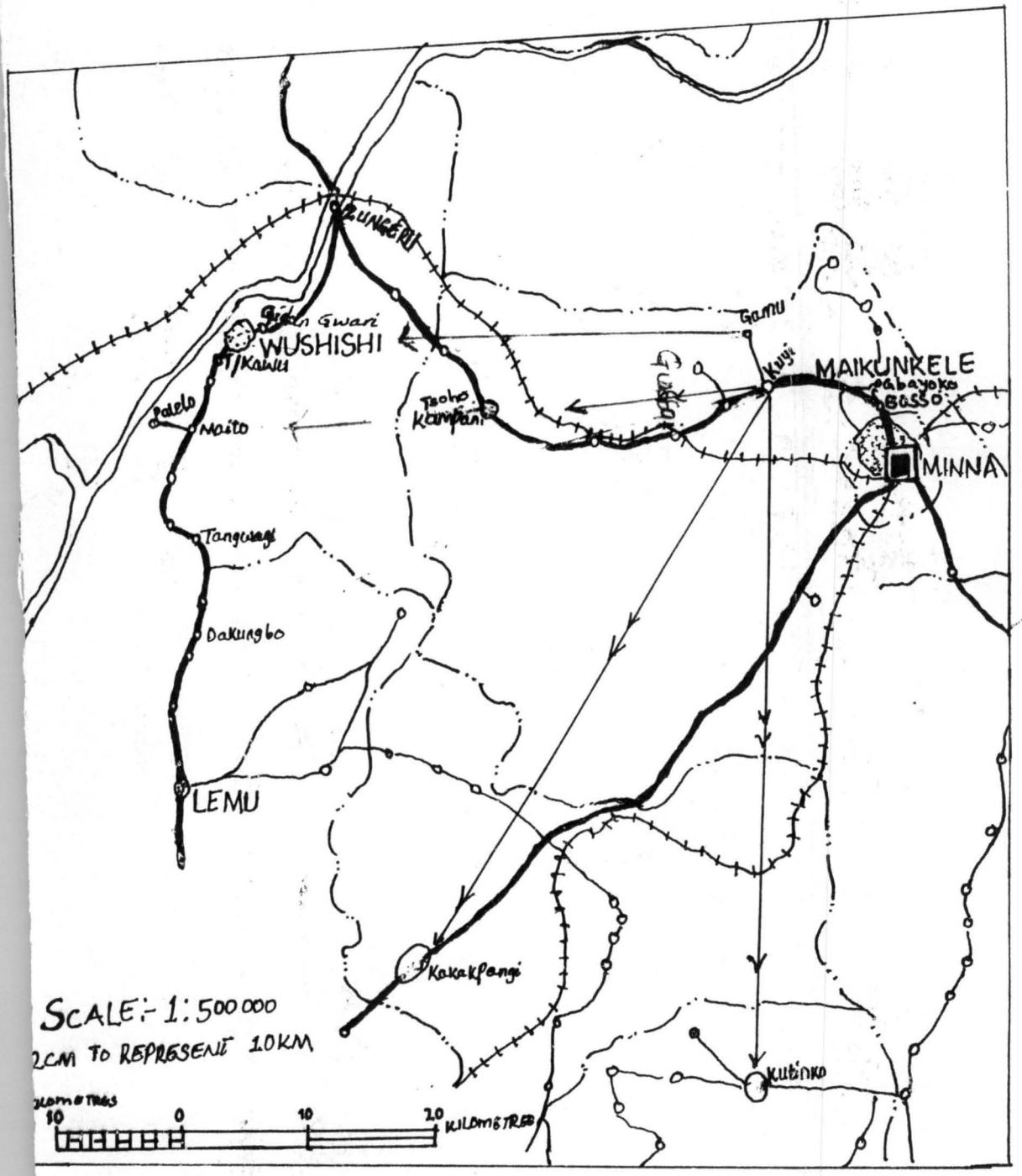
Table 4.13 FACTORS RESPONSIBLE FOR MOVEMENT

Value lable	Frequency	Percent
Poor soil fertility	45	58
Population pressure	32	42
	77	100:00

Source of data. Field record.

Poor soil fertility: As a result of continuos cropping for a period of time, it will definitely affect the soil quality and the production too. Table 4.13 shows that, complain about poor soil fertility. This might come to their notice as a result of poor harvest, they had from the farm. Since majority of population around that areas are farmers, it would be notice than that a lot of farming activities will take place year in year out and this is their only occupation that they rely on. If their means of survival is been threading, then there is likely hood that another alternative source have to be

MAP EXTRACT SHOWING THE PATTERNS OF MOVEMENT IN THE STUDY AREA.



KEY

- LOCAL GOVERNMENT BOUNDARY
- RIVERS/STREAMS
- RAIL LINE
- FEDERAL ROADS
- STATE ROADS
- STATE CAPITAL
- OTHER TOWNS/VILLAGES
- MAJOR TOWNS
- MOVEMENT DIRECTION

found. You will see table 4.19 which shows number of immigrant in Wushishi area, it was discovered that 227% of immigrants moved to that area as a result of abundant land in the area and is also fertile for agricultural purposes too.

In the eastern part of the study area. Their major crop is yam and yam needs a lot of nutrients from the soil, which make the soil weak easily.

4.13.2 Population pressure:- It is quite interesting to note that since the creation of Niger state in 1976, a lot of people have been coming in either as a or civil servant, business people or others. There is tendency that some of them would like to support their families with little farming, therefore the abundant land they have enjoying before have now been reduced to a certain percentage which will now make them to seek alternative source some where else.

They have do move to where they could get. From Table 4.18 it shows that Gbayiko and Bosso constitute about 88% which is quite big when one compares the numbers of immigrants that moved from that area. May be it may be one of the reasons where there is so much movement of people from that area to other parts of the state. They are really loosing people other areas.

Table 4.14 FACTORS RESPONSIBLE FOR MOVEMENT

Value lable	Frequency	Percent
Improved economy	59	76. 60
Pressure from home	18	23. 40
	77	100:00

source of data: field records

4.14.1 Improved economy: - Every farmer wants economic power to improved is Present status. A situation whereby he needs that and this and is aim is hot achieved at home, then there is nothing stopping him from going out to seek for better shelter,

good cloth, good food and other better things of life to support him Table 4 .1 4 shows that majority of immigrants are leaving their home for another place is to improved their living standard. They depended of farming which is their main occupation and if that occupation on which your depended on is not longer meeting your requirement of life then you either change or live to where that occupation can help you out. The family problems are catching up with him, so he has to seek greener pasture some where else. Nobody wants to remain poor, since he still strong and can move about to search for his daily bread leaving is place of birth for improvement of his life is not a sin.

4.14.2 Pressure from home:- May be some of them are the only strong people around in the family, either to stand for some thing or most of the responsibility has been so much for him to carry, then the only alternative that remain for him is to leave the area and free from those social stigma attached to him. Many people are leaving for various reasons but some will turn out to say some that will make people believe them. From the table 4.14 show a little significant point that people leaving their place of birth as a result pressure form home

Table 4.15 FACTORS RESPONSIBLE FOR MOVEMENT

Value lable	Frequency	Percent
Farming purposes	63	81.82
Fishing	11	14.30
Trading	3	3.90
	77	100:00

source of data: field record.

4.15.1 Farming purposes:- From table 4.15 shows that majority people are leaving Their home is purely on agricultural purposes. What is responsible for this?

Table 4.13 talked about poor soil fertility, population pressure since at their end the soil can no longer hold their crops and feeding their families is becoming difficult and population pressure is catching up with them, there is a need to seek for better place to farm and meet up with day to day chanlleges. If you see table 4.18 people from the eastern part of the study complain about their land been over stress as a result of continuous cropping.

4.15.2 Fishing: About 14.3 percent said their aim of leaving their area is to come and catch fish and support their family with. Table 4.18 shows that people from Magama/Rijau said they are partly for fishing are partly for farming, since two of them go hand in hand. 14.3 percent shows how significant fishing business can move people from their area to another place.

4.15.3 Trading: People from Sokoto Kebbi and Imo are here purely on trading to Enhance their daily life. From table 4.18 it shows only 17% out of the total population are here, it quite significant, their impact will be felt as time goes on

TABLE 4.16 FACTORS RESPONSIBLE FOR MOVEMENT

Value lable	Frequency	Percent
Land shortage	58	75.3
	58	75.3

source of data. field record.

4.16.1 Land Shortage: Every body has different reasons for what is making him to move out. It shows from table 4.16 that majority says that the land is there for them to use before the creation of Niger State. A lot of people have come in during these

period of creation and many have engage in one thing of the other in order to survive. In the study area of the eastern part a lot of project are sited there such as temporal and permanent site Federal University of Technology, Minna (10,000 hectares). Minna international air port sited in Maikunkele Bosso Low-cost and Federal Housing Authority at Bosso. All these project take a lot of land being used by the indigenes for they're farming purposes.

It's now a big problem for them, because the number of farm lands they use to farm before have now, been taken away from them. What remains now is to back alternative elsewhere.

TABLE 4.17 FACTORS ATTRACTING PEOPLE TO AN AREA

Value lable	Frequency	Percent
Abundant land and fertile	65	100
	65	100

Source of data. Field record.

Value lable	Frequency	Percent
Traditional ruler	42.	93.3
Individual	3	6.70
L.G.A	0	0
	77	100:00

source of data. field record.

Value lable	Frequency	Percent
Economic activities	77	100
	77	100:00

source of data. Field record.

TABLE: 4.18 VILLAGES OF INITIAL RESIDENCE OF IMMIGRANDS AT THE SOURCE.

Village of initial residence	L.G.A. & Others	Number of people	Percentage
Gusasai	Bosso	40	16.12
Nakpan Kudu	Bosso	37	15
Tsohou Kampani	Bosso	41	16.56
Kampani	Bosso	29	12
Gamu	Bosso	117	47.2
Kuryi	Bosso	59	24
Gbayiko	Bosso	110	44.34
Bosso	Bosso	108	43.54
Magama/Rijau	Magama/Rijau	210	84.7
Imo	Imo	1	30
Sokoto	Sokoto	16	6.5
Kagara	Kagara	100	40.31
kebbi	Kebbi	25	10.07

Source of Data: Field record.

Table: 4.19 PRESENT RESIDENCE OF IMMMIGRANT AT DESTINATION.

LOCAL GOVERNMENT AREA	NUBER OF PEOPLE	PERSENTAGE
Wushishi	563	227.36%
Bosso	142	57%
Lapai	87	35%
Agaie	41	16.50%
Katcha	60	24.00%

Source of Data: Field record.

VILLAGES OF INITIAL RESIDENCE OF IMMIGRANTS AT THE SOURCE

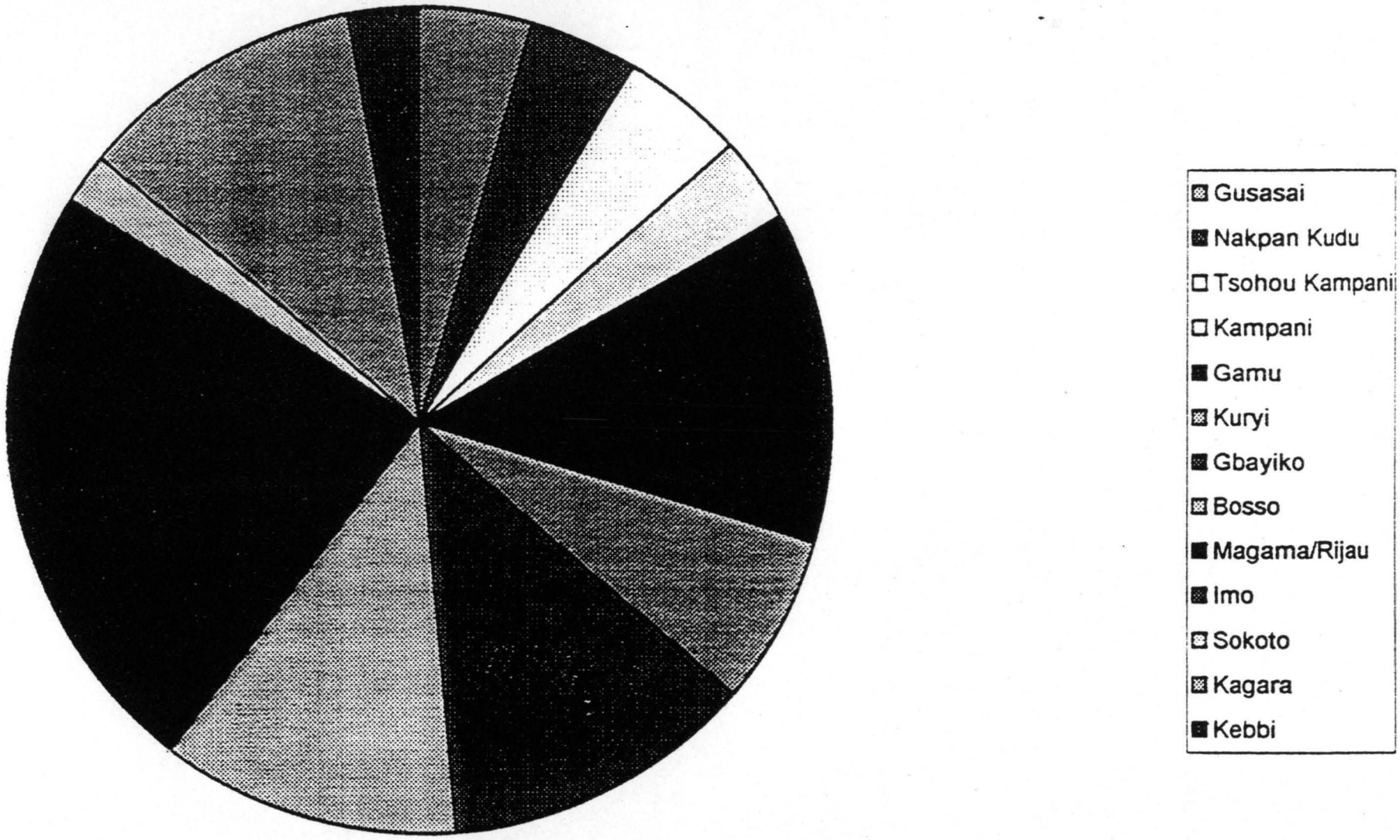


Fig. 3 Pie Chart Showing Villages of Initial Residence of Immigrants

4.17.1 ABOUNDANT LAND AND FERTILE

From shows that there are abundant land else where, where some land shortage. Table 4.18 Shows that western part of the study has abundant land and fertile which shows about 227% which is quite big. Other areas where they have move land are Bosso with 57% Lapai with 35%, which shows that there are, still land for cultivation. Those are crying to meet their daily needs can go to such areas and farm.

4.17.2 POLITICAL: The atmosphere in the western part of the study area shows great understanding among the host communities and the immigrants. The acquisition of land was make easier for immigrants to have access to land farm as well as residential too. And interview conducted with the village head of Tunga Kawo confirmed that whenever people comes for Land they are not deny the use of it. This has greatly enhance the performance of agricultural production. Table 4.17 can testify to this.

4.17.3 ECONOMIC ACTIVITIES: There are various market for their farm product. They don't need to travel long distance before getting market for their product. At Zungeru there is now yam market, so the immigrant are save from coming to Minna or Beji to sell their farm product. Table 4.17 shows that immigrants enjoy their farm produce as a result of ready made market for them at the destination.

4.20 AGRICULTURE SYSTEMS

4.21 LAND CLEARING METHODS

Before embarking on any farming system the land development must take place, it depends on how land is clear and how it affect the environment and how it is manage to sustain the agricultural productivity.

Table 4. 22 method of bush clearing

Value lable	Frequency	Percent
Manual bush clearing	30	56.6
Bush burning	16	30.2
Bull dozen /Tractorization	7	13.2
	53	100.00

source of data. Field record.

4.22.1 Manual Bush Clearing: This is being used by peasant farmers in clearing their land before planting from table 4.19 of shows that majority people are using it and seems to be simple and cheat for farm clearing. Trees an cut down without doing any damage to the soil . After getting the cut down last thing do is to put fire on it.

4.22.2 Bush Burning: It seems that even though quick and popular some people don't like to use as manual bush clearing because it only 30.2% that uses oil. In bush burning a large area of land is easily cleared. The soil nutrient is gone and flora and fauna have disappeared form the scene.

4.22.3 Bulldozer / Tractorization: This is a modern method of bush clearing for those who have the means to do it. This method a lot of topsoil is removed. In this method although the percentage is 13.2 all the trees and grasses are totally removed from the site. The is expose to intensive heat. Flora and fauna are destroyed.

Table 4.23 AGRICULATURAL SYSTEMS

Value lable	Frequency	Percent
Shifting cultivation	21	27
Rotational fallow	24	31.17
Inter cropping	17	22.1
Mixed farming	5	6.5
Continuous cropping	6	7.8
Fishing	4	5.2
	77	100:00

Source of data. Field record.

4.23.1 SHIFFING CULTIVATION: Shifting cultivation is the most rudimentary form of agriculture. It involves an area till all the available farm sites convenient to the settlement are used, further cultivation will earn very meager returns because the soil is no longer fertile. From table 4.23 is the second largest from the table it seems that it widely practices among the migrants. This system shows that land is expose are all nutrients in the soil are gone. Since large area of land will be cleared for the farming exercise, wind, sheets are gully erosion will take place. Although farmer moves to another place to farm it will take time before returning back its original form. Deforestation will take place.

4.23.2 ROTATIONAL BUSH FALLOW: A system where by the farmer after Farming for a particular period allows the farm to rest for period of years says 3-4years. There is also planted fallow, this is where farmer divides his land into segment, some are planted where some are left unplanted. Majority of the migrants are use to bush fallow. They said that this even depends on population pressure around the area. Different types of crops are planted to enhance to productivity of the crops.

4.23.3 INTER CROPPING: This is a situation where multiple cropping is cultivated at the same time: This is 22.1% of the total respondent. This system goes with other agricultural system, if one crop fails another one will not fail. It protects the soil from intensive heat. They said it reduces the risk caused by diseases and pests.

4.23.4 MIXED FARMING: This is a combination of animal rearing and at the same time farming. It is a good system because the animal will provide nutrient to the farm already used up. From table it shows only 6.5% it means that not many people practice it, may be as a result not having animal to rear or they may think of capital intensive. If the migrants can practice it, it would be good for them, since it would go side by side.

4.23.5 CONTIUNOUS CROPPING: Continuous cropping is part of other agricultural system. This days when fertilizers available continuous system can practice extensively but they said it should not be one crop alone. The soil in this system has been extensively exposed to sun and the nutrient in the soil gone. Although it is only 7.8% it means that people are still practicing up till to day. They said they don't mind the effect it would have on soil; their own is how to get farm product.

4.23.6 FISHING: Fish has been a traditional source of protein in our homes. Migrants said that it is quick way of making money when every body need to prepared soup every day. They said they have not use any chemical in killing fish. I know no body will like to tell the researcher that he uses chemical to kill fish.

Table 4.24. RESIDENTIAL ALLOCATION

Value lable	Frequency	Percent
Residential allocation	47	100
	47	100

Source of data. Field record.

4.24.1 RESIDENTIAL ALLOCATION: Since majority of migrants either temporal or permanent will need place to build houses as their resident places. A visit to Gidan Gwari, Tunga Kawo shows that they are in new places been cleared by them. From look of things a forest has to be destroyed before any building can be put up.

Table 4.25 EFFECTS ON LAND USE

Value lable	Frequency	percent
Farm size (1.1-3ha)	15	27.3
Farm size (3.1-4ha)	40	72.27
	55	100:00

4.25.1 **DEFORESTATION**: As migrants continue to acquire land for agricultural purposes, it is believed that there will be land clearance since they can not plant their crops inside bush. Table 4.19 shows as various system of farming, and to carry out any system you need to clear land. Table 4.25 also shows us number of hacter of land acquired by our farmer even though it is small. From the table it shows that 55 respondent acquire land. If 55 x 4 hacter of land is put together we shall get 220 hacter of land clear by the migrants. It would be discovered that there will be deforestation in the area.

(a) It would reduced biological diversity

(b) It would change the local environment (micro climate)

(c) There would be desertification

(d) There would erosion

4.25.2 REDUCED BIOLOGICAL DIVERSITY

Deforestation gives rise to loss of biodiversites through species extinction both in flora and fauna. There is a remarkable reduction in capacity of breed improved crops varieties and also the inability to make some plants economic crops.

4.25.3 CHANGES IN LOCAL ENVIRONMENT (MICRO CLIMATE)

Due to soil degradation there are changes of water flow from catchment areas. Owning to sedimentation brought about by soil erosion. The water reservoirs are heavenly sedimented giving rise to excessive overflow of the river banks giving rise to a drastic reduction in water intake of to a reservoirs. Again because of the massive deforestation due to clearance and over longer, the forest can no longer serve as buffers to wets lands forests and as protective cover to river and streams. Following this changes there are possible changes in rain fall characteristic affect the climate of the place.

4.25.4 **AIR POLLUTION**: According to table 4.18.1 one of the methods employed by the migrants is the use of five to clear bush before farming. It is obvious that there will be air pollution as a result of their burning. Carbon dioxide will be pump into the air by them.

4.26 DISCUSSION

4.26.1 AIR POLLUTION

The immigrants may not know that they are introducing some particles into atmosphere as a result of their action.

(i) Emitting gases and particles into atmosphere especially through the burning of fossil fuel, domestic industrial heating and transportation.

(ii) Burning of waste products

(iii) Through plugging and overgrazing. These activities can release dust in the atmosphere rises in dry winter. Weather in addition to that which is naturally present in the atmosphere.

(iv) Gases such as carbon dioxide, cfcs, Nitrous-oxide, Methane and ammonia are capable of absorbing out going radiation from the earth surface and thereby raising tropospheric temperature and creating the so called green house effect.

4.26.2 LAND POLLUTION

Land pollution occurs through the addition of specific pollutants and through alteration in such away as to renders it unsuitable for its best-zoned use. Under condition of uncontrolled use, land could become a hazard or nuisance to the adjacent population.

Land pollutants comprise, refuse dumps or scatter waste materials, rubble from demolition, unusable striped soil, exposed erodable soil, and rock mining operation others include, junked material, waste oils, soil cutting caused by quarrying operations.

It may not be all that I mention above, I let them released that dumping of waste materials, throwing of bad water and any waste product that is not good will have bad effect for them.

(i) That they will be breeding disease carriers (rats, flies, mosquitoes by storing decomposing organic matter and liquid sludges

(ii) Increasing run off erosion and flooding which can result from removal of vegetation cover.

(iii) Producing aesthetic effects such as bad odorous causes by dumping organic matter.

(iv) Killing of valuable or rare vegetation and wild life by dumping of oil, rubble and similar materials.

(v) Producing a general unsightliness such as resulting from dumping of waste materials.

(vi) Contaminating ground waters and surface waters by leading and run off from accumulations waste materials being dump.

4.26.3 WATER POLLUTION

Water pollution occurs when there are concentration of particular pollutants in water for sufficient period of time to causes certain effects.

As a result of their activities water can be polluted by domestic and agriculture activities. The domestic work done by women got water polluted. Agriculture practice by, men such as apply of fertilizer herbicide, insecticide are waste down and got water polluted. With pollution the quality of water is reduced. You will see floating material, the colour of the water will change. Since quality have change it will also have other side effects as

(i) Causing or increasing corrosion of surfaces with which the water comes into contact

(ii) Encouraging the growth of undersiable biological life, often in excessive quantities.

(iii) Interfering with the recreational uses of water for bathing, boating. Etc

(iv) Rendering the water unsuitable for other uses such as industrial and irrigation.

CHAPTER FIVE

5.0 SUMMARY OF FINDINGS, RECOMMENDATION AND CONCLUTION.

5.1 SUMMARY OF FINDINGS.

- It was discovered that more migrants are from eastern part of the. Study than the Western part of it.
- Immigrants are not aware of their action as regards to environmental. Hazards Created by them as a result of intensive farming system enback upon by them in the Course of their stay.
- The ease with which immigrants acquire agricultural land, coupled with the manual understanding and friendliness exhibited amongst the host community and the immigrants, do not only enhance agricultural production and economic activities but also create understanding between the tribes within the study area.
- Local governments don't seems to care about what is going on as regards whether the immigrants are in their community or hit. There is no official record in immigrants coming in or going out.
- The western part of the study area have abounded and fertile land for use. The population pressure has not reach that area.

5.2 RECOMMENDATION

- Further research should be carried out in the remaining villages not covered by this research.
- A research should be carried out in other local government areas of Niger state.
- A body should be established with in the local government areas

to monitor the movement of immigrants both coming in and going out in order to have proper record and which will help them in their planning.

- The forestry officers in local government areas be directed to teach the immigrants on how best to maintain a good environment by Planting trees and it's benefit to man kind.

5.3 CONCLUTION

Since man can not be a slave to the environment on which he lives, he can not fold his hand while he dies of hunger. Men need good shelter, clothing and food. There is a need for him to till the land and as he embarks on the exercise there he leaves a landmark on it. With these happenings the land is degraded, therefore there is a need to enhance it to avoid further determination, otherwise he will face danger in feature.

5.3.1 PRINCIPLES OF SOIL STRUCTURE MANAGEMENT.

APPROPRIATE RESIDUE MANAGEMENT

The essence is ensure additions of organic matter to the soil through the incorporation of plant residues. One way of achieving this is the practice known as green maturing where live vegetation, as in bush fallow or planted fallow is ploughed into the soil. These organic materials on decomposition produce a host of products such as lignin, fats and waxes, protein amino acids and humid acids. These organic compounds often have an attraction for the negatively charged particle into the soil and to be a binding force. Another method is the practice commonly referred to trash farming. For this, residues of harvested crops, for instance maize are left standing while new crops are planted among them. A variation of this practice is where the

residues are cut down and cooked into soil by plugging. This is known as stubble mulching.

(B) USE OF APPROPRIATE CROP ROTATION

An appropriate crop rotation. With respect to soil structure management, is one that must include a sod-farming crop with in. For instance, continuous cropping of a soil to root and tuber e.g. cassava or yam, will promote structural degradation because of soil disturbances during harvest. However, with the inclusion of a cereal or a grass fallow in the rotation, the degradation there will not only be broken but also reversed.

(C) ADOPT THE IMPROVED FALLOW SYSTEM

The principle here is to cultivate particular plant species known to promote soil aggregation instead of the natural regrowth during the fallow period grasses are some cover crop species are known to serve this purpose.

(D) MINIMIZE THE USE OF HEAVY FARM MACHINERY ON THE LAND

This will minimize or eliminate the problem of soil compaction, destruction of soil aggregates by crushing under tractor tire and farm implements and direct removal of aggregates through the scraping of the topsoil.

(E) MAINTAIN A GOOD VEGETATION COVER ON THE SOIL SURFACE THROUGH OUT THE CROPPING SEASON.

This will ensure protection against raindrop impact, which causes structural breakdown. At no time during cropping seasons should the soil be left bare.

(F) APPLICATION OF FETERLIZER

This will enhance the performance of crop. The application of the feterlizer should not be too much other wise it wills the crop.

(G) EROSSION CONTROL

There should contour farming it will prevent water run –off down slope. It will encourage infiltration of water into the soil.

Strip cropping, by planting different types of crops in separate strips along the contour.

Windbreaks should be provided to reduced wind velocity.

(H) AFFORESTATION

The farmers should be encouraged to plant trees as a way of bringing back the forest to it's normal position.

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APPENDIX

QUESTIONNAIRE FOR THE IMMGRANTS

(1) Name of village .....

(2) Local Government Area .....

(3) How long have you been here? 1-9 □ 10-20 □ 21-30 □ over 30 years

(4) Are you permanently settled? Yes/No

(5) Are you on temporary basis? Yes/No

(6) Why did you decided to move out from your place of birth? (1) Poor soil (2) population pressure (3) family problem.

(7) What motivated you to this part of L.G.A. (1) Fishing (2) Hunting (3) Farming

(8) Are you aware of any other immigrants around this place? Yes/No

(9) What is the size of your family? 2 □ 5□ 10□ 25 □

(10) Movement to this place is by individual ( ) group ( )

(11) Who informed you about this place? (1) Relations (2) Friends (3) News.

(12) Has your economy improved since you left your village? Yes/No

(13) What is your occupation? (1) Farming (2) Hunting (3) Fishing

(14) Have you acquire any hand here? Yes/No

(15) State the purpose for which the land is acquired? (1) farming (2) Residential (3) both

(16) Can you tell us how many they? (1) 100 (2) 250 (3) 300 (4) 350

(17) How did you acquire this land? (1) Traditional ruler (2) individual (3) L.G.A

(18) What is the mode of allocation? (1) Rental (2) Cash & Carry (3) Mutual understanding

(19) What is size of the size of the acquired land (1) 1ha (2) 3ha (3) 4ha (4) 6ha

(20) Who determine the size of the acquired land (1) Traditional (2) Individual

(21) Do you pay any royalties to the host communities?

(22) To whom?

(1) Community leader (2) L.G.A (3) Individual

(23) Is there any regulating body supervising the process of land allocation and the land use. Yes /No

(24) What type of farm clearing method the you use?

(1) Bush burning, (2) Heavy soil moving equipment, (3) Tree felling, (4) Chemical method.

(25) What type of vegetation do you found here before now?

(1) Woody, (2) Grass land, (3) Thick forest.

(26) Do you experience shortage of land as a result of population pressure? Yes/No.

(27) Any land dispute? Yes / No.

(28) Any health problem as a result of population pressure? (Yes/ No.

(29) What effort do you put in towards soil replenishment.

(30) What is your attitude toward afforestation?

(31) How do you prevent past and diseases?

(32) What type of cropping method do you adopt?

(33) Do you move from one farmland to another? Yes /No

(34) What about the land fertility (1) Is very fertile, (2) Fair, (3) Not fertile

(35) Any problem of soil erosion as a result of farming method? Yes/No

(36) Have you experienced any drought? Yes/No

QUESTIONNAIRE FOR INDIGENES

1. L.G.A.....

2. Are you aware of any immigrants around this place? Yes/No

3. Names of settle villages /Tribes

.....

.....

.....

4. For how long they been here? 1-9 ( ) 10 – 20 ( ) 21 – 30 ( ) over 30yrs (

5. Are you aware of what they do for a living? Yes/No

4. If yes what is their occupation

.....

7. How do they acquired their land for farm/residential Traditional rulers ( ) Local Government ( ) Individual ( )

8. Is there any regulating body in the process of land allocation? Yes/No.

9. Are you aware of any family that move out from this place to another place? Yes / No

10. Can you tell us the size of the family?

.....

.....

11. Any land shortage as a result of population pressure from migrants? Yes / No

12. Do you see any changes in vegetation since their arrival? Yes /No

13. How they improved the economy of your community? Yes / No

14. Is there any cordial relationship between you and the immigrants? Yes /No.

15. Do you join hand with immigrants for community development? Yes /No

16. Do they pay loyalties for the land acquired? Yes /No