



# Federal Republic of Nigeria

## CHAPTER 1



### Niger Delta Region Land and People



“..With information comes understanding  
with understanding comes knowledge...

-Cable news network (CNN)

# Chapter 1

## The Niger Delta Region: Land and People

### A. Characteristics of the Region

#### 1. Introduction

This part of the Master Plan provides a general overview of the people and land of the Niger Delta Region of Nigeria. It covers the characteristics of the people, the political and administrative institutions and structures and the region's social, economic and natural environment. More detailed information on all the aspects of the region is contained in Volume 2 'Sector and Key Topic Studies' (CD Rom), which accompanies Volume 1, Parts 1 to 8, of the Niger Delta Regional Development Master Plan report.

Seen from either the national or international

perspective, the Niger Delta Region (NDR) of Nigeria is a unique region. As the world's third largest wetland, it is characterized by significant biological diversity. It also contains the bulk of proven oil reserves

#### 1.1 The Region

The region situated in the southern part of Nigeria and bordered to the south by the Atlantic Ocean and to the East by Cameroon, occupies a surface area of about 112,110 square kilometres. It represents about 12% of Nigeria's total surface area and it is estimated that by the beginning of 2006 its population will be over 28 million inhabitants.

The region comprises nine of Nigeria's constituent states (see Table 1.1 and Map 1.1):

This part of the Master Plan provides a general overview of the people and land of the Niger Delta Region of Nigeria



Akassa, Bayelsa State: A typical waterfront in the Mangrove Swamps of the NDR

**Table 1.1: The Nine States of the Niger Delta Region**

State	Land Area (square kilometres)	Population (Projected to 2005)	Capital City
Abia	4,877	3,230,000	Umuahia
Akwa Ibom	6,806	3,343,000	Uyo
Bayelsa	11,007	1,710,000	Yenagoa
Cross River	21,930	2,736,000	Calabar
Delta	17,163	3,594,000	Asaba
Edo	19,698	3,018,000	Benin
Imo	5,165	3,342,000	Owerri
Ondo	15,086	3,025,000	Akure
Rivers	10,378	4,858,000	Port Harcourt
<b>Totals</b>	<b>112,110</b>	<b>28,856,000</b>	

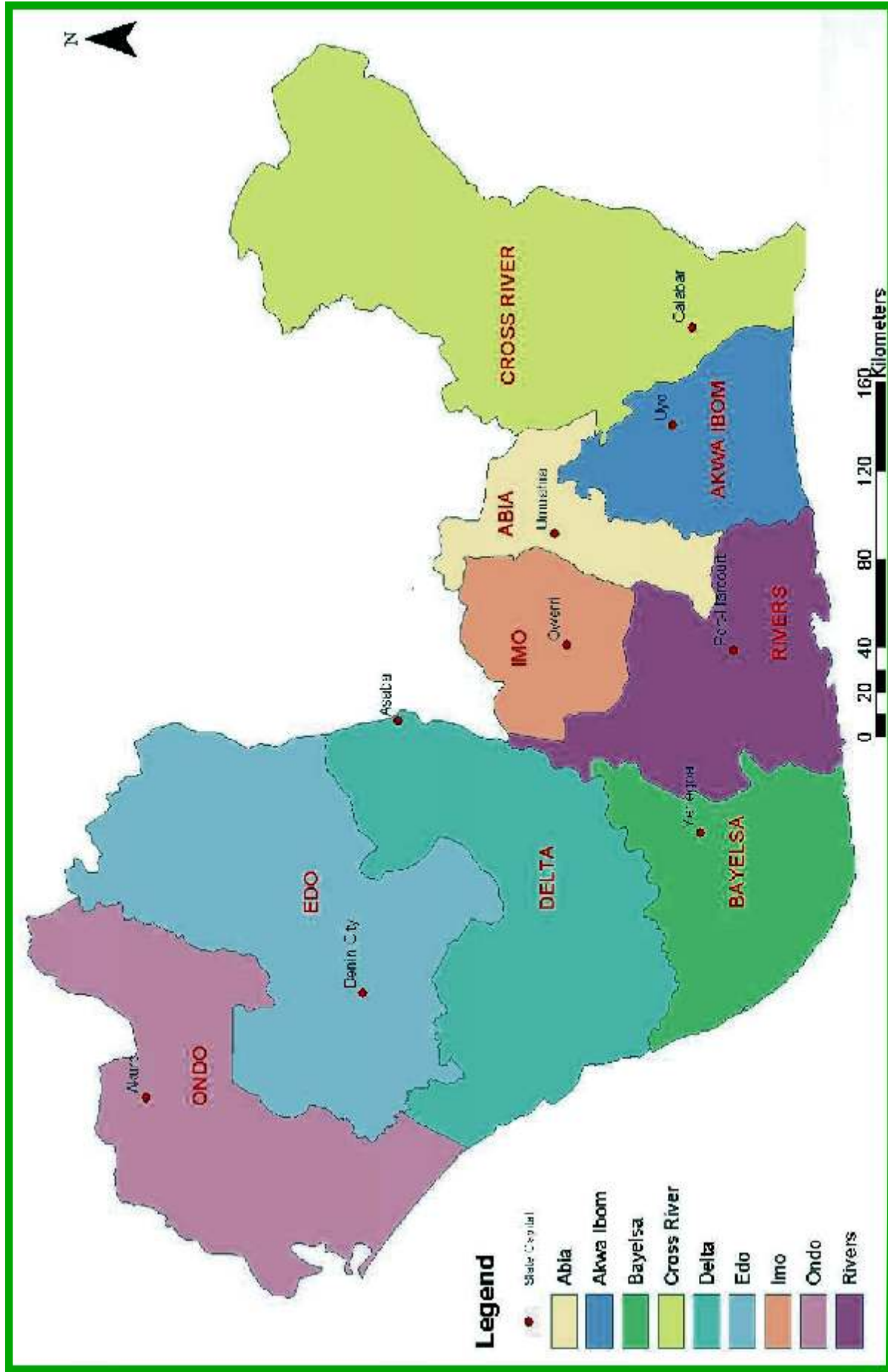
Source: GTZ population projection based on 1991 census & NDRDMP Demography & Baseline sectors study; Agriculture and Rural development sector study

The region situated in the southern part of Nigeria and bordered to the south by the Atlantic Ocean and to the East by Cameroon, occupies a surface area of about 112,110 square kilometres



Commercial activities along Creek Road market Port Harcourt Rivers State

Map 1.1: States of the Niger Delta Region



## 1.2 Administrative Structure

Nigeria has a vertical three-tier administrative structure comprising the Federal Government (with a Federal Capital Territory, namely Abuja), 36 State Governments and 774 Local Government Councils. The 1999 Constitution of the Federal Republic of Nigeria distributes power among the three tiers: exclusive powers (Federal); concurrent powers (Federal and State Governments); residual powers (State Government and Local Government). The constitution guarantees the existence of a democratically elected system of local government, even though the State Government can make laws for certain functions of such councils.

Under the present presidential democracy, the federal government comprises three arms: the executive, the legislative and the judicial arms, which act as checks on each other. The principle of separation of powers provides for the separate election of the President and National Assembly members. Thus the executive does not emanate from the legislature, but bills from the legislature would ordinarily require the President's assent in order to become Acts. The President may however be overridden by the legislature, if he withholds his assent after 30 days. The judiciary is an adjudicator in cases of conflict between the legislature and the executive. This structure is replicated at state and local government levels.

In the Niger Delta States, as in other States in the federation, administration of affairs at the state level is vested in the elected Governor, a Deputy Governor and a cabinet of appointed Commissioners, which constitute the State Executive Council. Special Advisers, Assistants, Advisory Committees and the state bureaucracy or the civil service and parastatals assist in the discharge of state functions. The State has a unicameral legislature i.e. the House of Assembly with elected members from different constituencies working together to determine the laws of the State. The State judiciary consists of customary courts of appeal, Magistrate courts, and High Courts from which appeals go to the Federal Court of Appeal. At the Local Government level, an elected chairperson assisted by supervisory councillors administers the government. The elected members of the Local Government Council form the legislative organ at this level. The councils can make by-laws in the area of their jurisdiction. Area or customary

courts form the judiciary at the local government level.

An aspect of the administrative structure of the Federation, which is of importance to the inter-governmental relations, is the distribution of resources. Under section 16 of the 1999 constitution, all revenues of the Federation are paid into the Federation Account. Among the principles for the distribution of the funds in the Federation Account are derivation (not less than 13%), equality of states, internal revenue generation, landmass, terrain, population density and ecological damage. These revenues are shared vertically among tiers of government and horizontally among states and among local governments. There has been no approved change in the revenue allocation formula since military rule, in which the Federal Government was allocated 48.5%, States 24%, local governments 20% and special funds 7.5 %.

The advent of democratically elected representatives at the local, district, and ward levels has subordinated the traditional structure of government, which features family/clan representation with traditional leaders playing effective advisory roles within specific areas. Nonetheless, every community is still headed by a chief or king. The chiefs of all the clusters form the council of chiefs, headed by a king/ traditional ruler (officially recognized by the Nigerian Government).

The internal structures of a small community living in a single settlement and the structures of the community belonging to a larger village community spread out over several settlements are typically the same. Both men and women of most communities are subdivided into the youth and the elders, the latter being committed persons who are more advanced in age and have actively contributed to the development of the community and have to be recommended by other elders or the chiefs/traditional ruler. The "elders" (women and men) have a high status in the community because of their experience and often make the decisive contributions regarding important activities at the community level. However some youth movements are increasingly challenging the status quo due to the perceived inaction of the elders with respect to securing anticipated communal benefits with government and corporations..

The internal structures of a small community living in a single settlement and the structures of the community belonging to a larger village community spread out over several settlements are typically the same.



People of the Riverine part of the Niger Delta

The pattern of settlement in the Niger Delta Region is largely determined by the availability of dry land and the nature of the terrain. Low relief and poor ground drainage are the primary factors responsible for the low number of large settlements in the region

### 1.3 The People

The very rich culture and heritage of the region is based on the presence of about 40 different ethnic groups speaking 250 languages and dialects. The numerous ethnic groups include Ijaws, Ogonis, Ikwerres, Etches, Ekpeyes, Ogbas, Engennes, Obolos, Isoko, Nembes, Okrikans, Kalabaris, Urhobos, Itsekiris, Igbos, Ika-Igbos, Ndoni, Oron, Ibeno, and Yorubas, Ibibios, Annangs and Efiks. Other groups include Ibibios, Anang, Efiks, Bekwarras, Binis, etc. The heritage of the people is reflected in modes of dressing, marriages, traditional culture and festivals.

The traditional economic activities of the communities fall into two main categories:

- ✍ Land based type on the drier parts at the northern end of the Delta, which includes farming, fishing, collecting and processing palm fruits, as well as hunting
- ✍ water based type of economy at the southern parts of the Delta including fishing and trading, with a less diversified economy.

The diverse ethnic groups living in the region have a long history of participation in trade and travel, which has led to the widespread exchange of ideas and art forms, among the various groups and with the Western nations.

### 1.4 Settlement Pattern

The pattern of settlement in the Niger Delta Region is largely determined by the availability of dry land and the nature of the terrain. Low relief and poor ground drainage are the primary factors responsible for the low number of large settlements in the region. The larger settlements are found in the interior parts of the Delta, which

has better drainage conditions and accessibility. In the mangrove swamp zone, the main settlements such as Port Harcourt, Sapele, Ughelli, and Warri, have developed on islands of dry land that intersperse the zone with settlements being located at the head of the navigable limits of the coastal rivers or estuaries.

In total, there are 13,329 settlements in the Niger Delta Region. The average population of 13,231 of these (99% of the total) falls below 20,000 people. Settlements of fewer than 5,000 inhabitants constitute nearly 94% of the total number of settlements and only 98 settlements, that is less than 1% of the settlements, can be truly regarded as urban centres according to their population sizes. The main towns in this category include Port Harcourt, Warri, Asaba, Benin, Akure, Calabar, Uyo, Umuahia, Aba, Owerri and Yenagoa.

The predominant settlement type in the Niger Delta is small and scattered hamlets. The vast majority of settlements comprise largely rural communities in dispersed village settlements. The typical community consists of compounds, which are closely spaced groups of small buildings housing 50 to 500 people, most of whom are farmers or fisherfolk. There are also larger settlements, which are usually separated from other clusters of rural residences by their outer, rotational farmlands, oil palm or rubber plantation, bush, or stretches of secondary forest. These towns are usually located along roads, which radiate from a 'core' where churches, schools, market places and other functions are situated. Most rural settlements lack essential amenities, such as medical facilities, efficient marketing services, adequate shopping facilities, good water, power supply and good transportation systems.

The region-wide distribution of the total number of settlements by size is illustrated in Map 1.2 below.

The predominant settlement type in the Niger Delta is small and scattered hamlets. The vast majority of settlements comprise largely rural communities in dispersed village settlements.

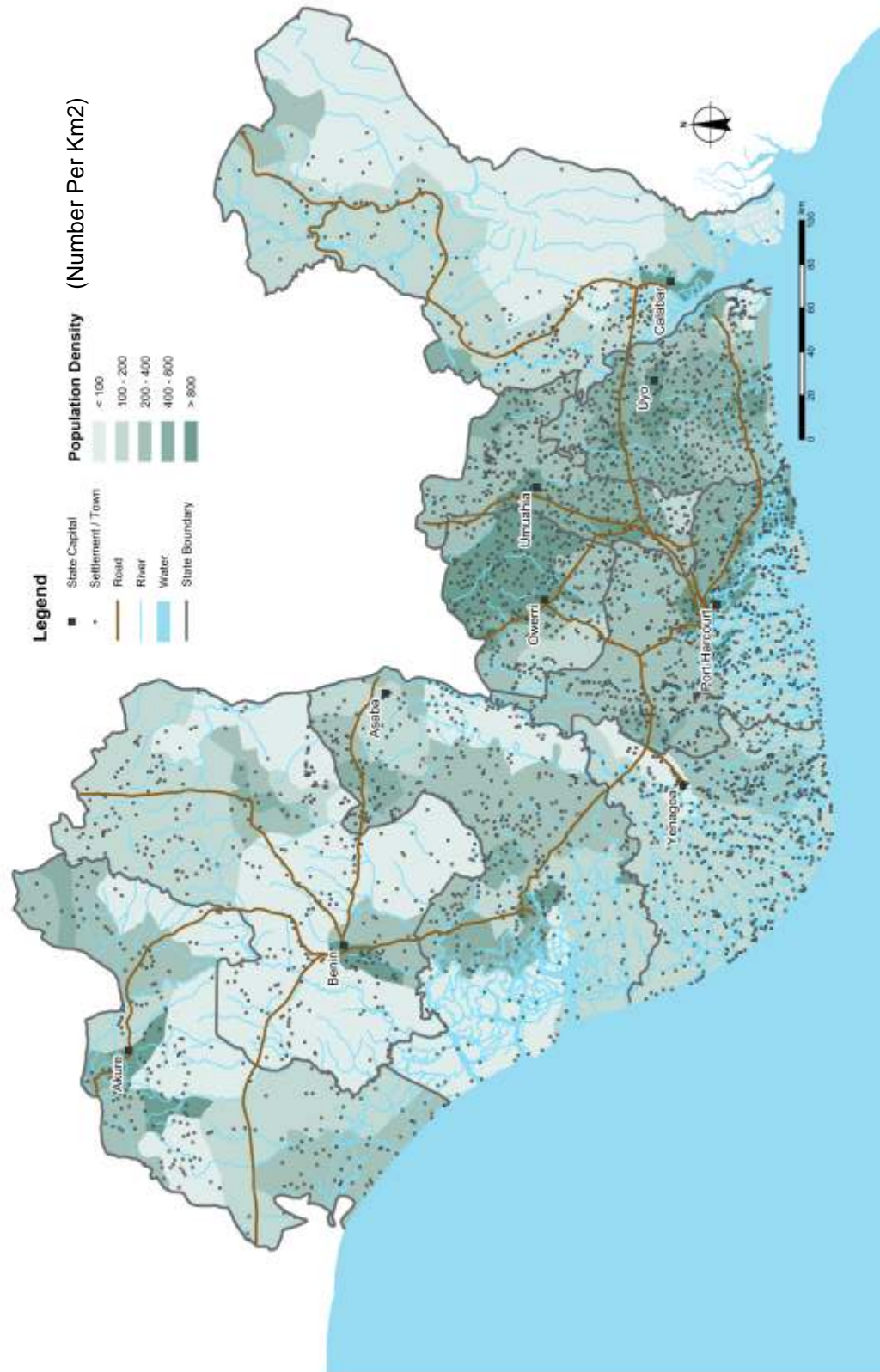
Table 1.2: Population Projections (High) for the Niger Delta States

State	2005	2010	2015	2020
Abia	3,230,000	3,763,000	4,383,000	5,106,000
A/Ibom	3,343,000	3,895,000	4,537,000	5,285,000
Bayelsa	1,710,000	1,992,000	2,320,000	2,703,000
C/River	2,736,000	3,187,000	3,712,000	4,325,000
Delta	3,594,000	4,186,000	4,877,000	5,681,000
Edo	3,018,000	3,516,000	4,096,000	4,871,000
Imo	3,342,000	3,894,000	4,535,000	5,283,000
Ondo	3,025,000	3,524,000	4,105,000	4,782,000
Rivers	4,858,000	5,659,000	6,592,000	7,679,000
<b>Total</b>	<b>28,856,000</b>	<b>33,616,000</b>	<b>39,157,000</b>	<b>45,715,000</b>

Source: GTZ projections (2004) based on National Population Commission Data



Map 1.2: Population Density and Settlement in the Niger Delta in 2004

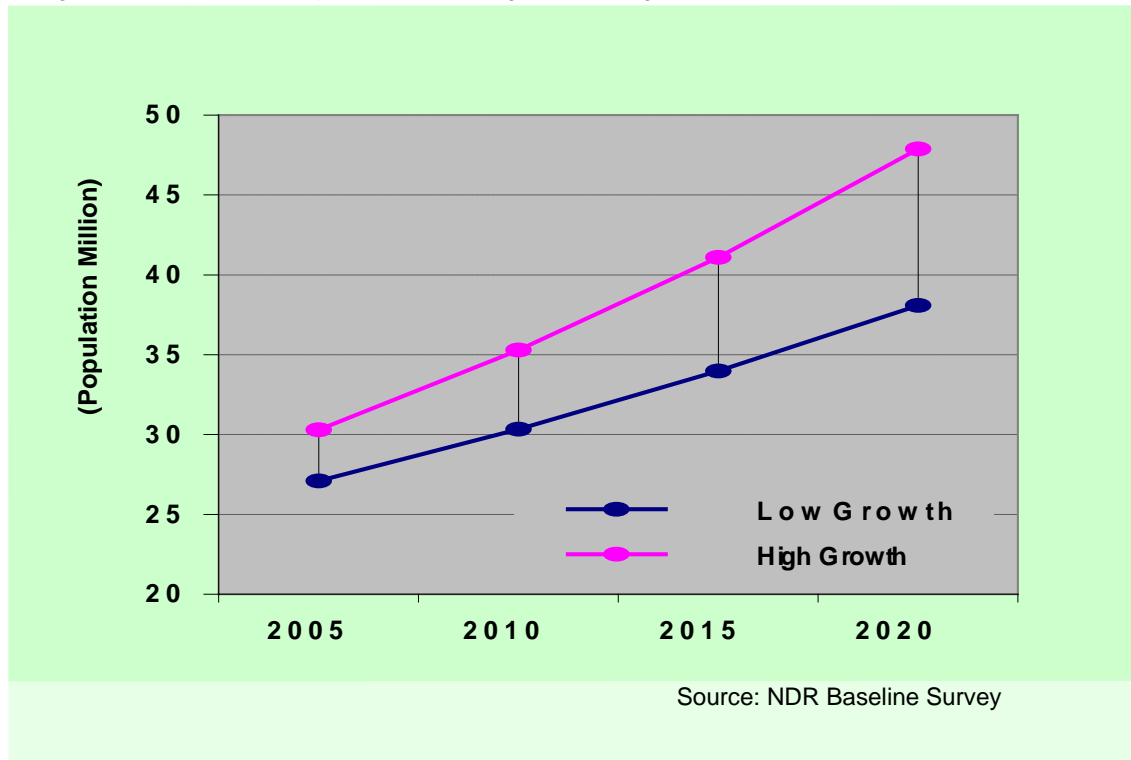


## 1.5 Population

At the time of the 1991 Census the total population for the Niger Delta Region was about 20 million, or about 23% of Nigeria's total population. Projections by Government Departments using an annual growth rate ranging between 2.0% and 2.9%, indicate that the total population in 2005 will be nearly 27 million. However, the Master Plan Baseline sample survey, conducted in 2003, shows that the average annual rate of population growth in most communities,

based on the household fertility and mortality data, is about 3.1%. This would mean that in 2004 the population of the Niger Delta Region amounts to about 30 million. Projected to 2015, it is expected therefore that population will increase to between 41.5 m and 48 million, depending on the growth rates applied (that is a high growth rate: 3.1%: or a low growth rate using a declining rate of between: 2.9% -2.5%).

Figure 1.1: Population Projections for the Niger Delta Region (2005-2020)



## 1.6 Demographic Characteristics

### Age Structure

A dominant feature of the structure of the population of the Niger Delta Region is its significant level of young people with over 62% of the population below the age of 30 years. Adults in the age group 30-69 years make up only 36% while those aged 70 years and above constitute just 2% of the population.

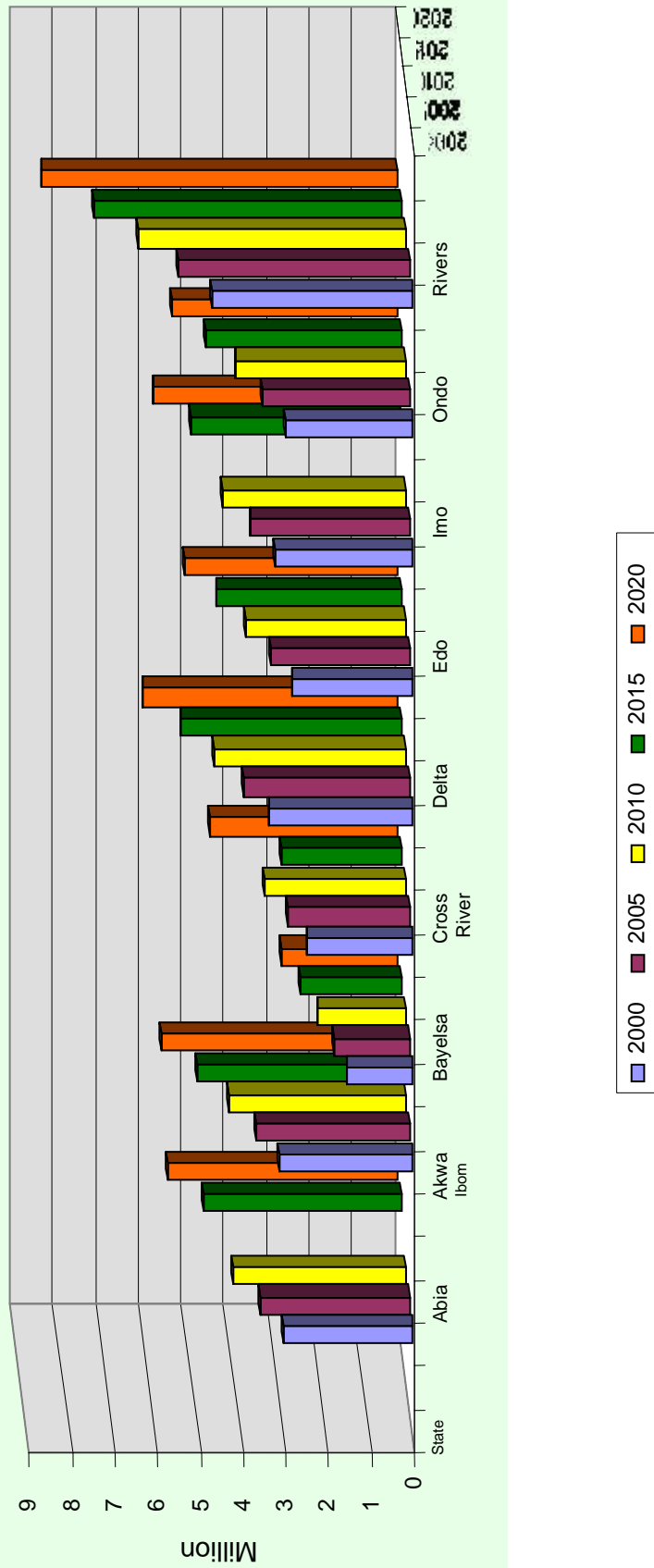
### Composition of the Population and Households

Surveys carried out in the course of developing the Master Plan show that there are more males (54%) than females (46%) in

the Niger Delta Region. Similarly, there are overwhelmingly more male (93%) heads of households than females (7%). The average household size is 6 persons with considerable variations among the individual States, Local Government Areas and senatorial districts. Generally, household sizes are larger in the rural communities (an average of 8 persons per household).

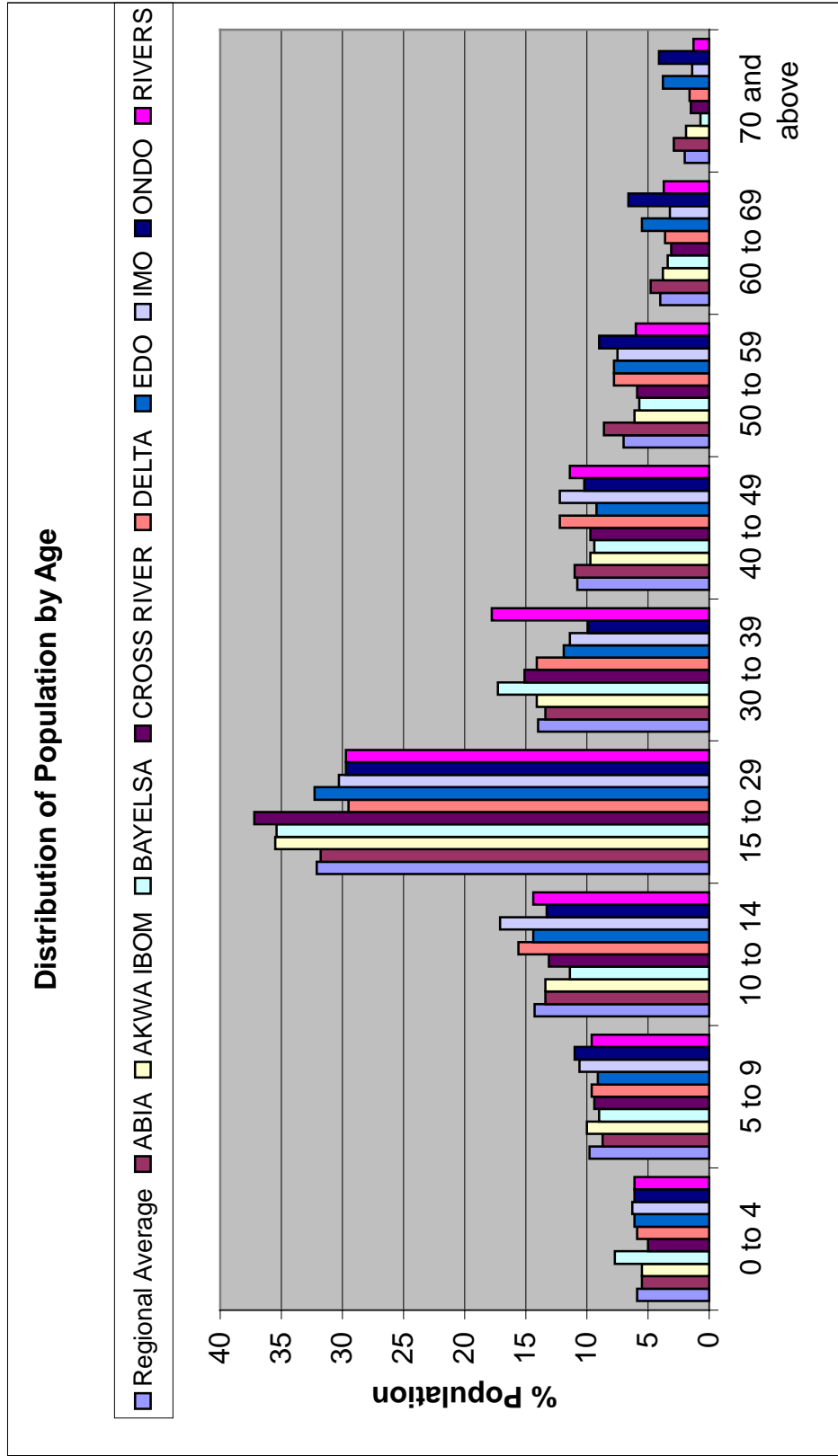
Figure 1.3 shows the percentage distribution of household members according to age composition. Imo and Delta States have higher percentages of people in the 14 years and below category, while Edo (4%) and Ondo (4%) have higher proportions of people aged 70 years and above, compared with the other States.

Figure 1.2: Projected Population of Niger Delta States 2000-2020 in millions



Source:GTZ projections 2004 based on national Population Commission Data and growth rates

Figure 1.3: Percentage Distribution of Household Members According to Age Composition



Source: NDR Master Plan baseline survey

## Life Expectancy

In the late 1970s when Nigeria was at the peak of the oil boom, life expectancy at birth rose to 60 years. However, the situation has deteriorated since the mid-1980s with the onset of a decline in the national economy. The best national estimates, which also apply to the Niger Delta States, indicate that life expectancy had dropped to 47.5 years in 1999 and 46.8 years in 2000. Life expectancy also tends to be lower in the most deprived communities in the extreme wetland areas in the Niger Delta Region, such as the Barrier Island Forest Zone and the Mangrove Swamp Forest Zone, where access to health care is poor.

## Infant and Maternal Mortality

Nigeria has one of the worst infant mortality and survival rates in the world. Infant mortality rates are 105 per 1000 live births and for every 1000 live births in the country about 178 children die under the age of 5 years. According to UNICEF almost 1 in 5 children in Nigeria die before they are 5 years old. This is 30 times higher than in industrialized countries.

Nigeria also has one of the highest maternal death rates in the world. There are reportedly 704 -1000 deaths per 100,000 women. This means that of the approximately 2.4 million live births, about 17,000 women (lower limit) die due to complications during pregnancy or birth. This is 10 times higher than in industrialized countries.

The mortality rates in the Niger Delta Region do not differ from the depressingly high national levels.

## Population Density

The average population density in the Niger Delta Region is currently 265 people/km<sup>2</sup> compared to the national average of about 255 people/ km<sup>2</sup>. There are, however, significant regional variations. Imo State, for example, has more than 700 persons km<sup>2</sup> while in some other States the density is comparatively low, such as Cross River State where there are 120 persons km<sup>2</sup>. These differences in density reflect also the physical environment: good upland soils have a much higher carrying capacity than mangrove swamps and lowland forest.

Land, in relation to the population, is relatively scarce in the Niger Delta Region and as population increases, the pressure on land for all purposes including agriculture increases accordingly. The highest pressure on land is in the coastal vegetation zone with a population density of 0.46 ha/person followed by the derived savannah zone with 0.49 ha/person.

## Migration

Nigeria's rural-urban migration rate of 5.3% per annum is reported to be among the highest in the world (NEEDS document, 2004).

Analysis of migration in the Niger Delta Region shows that about 79% of the surveyed heads of households are non-migrants while the remaining proportion can be classified as migrants that is, persons residing in places other than the place of their birth or home towns. There are however significant variations among the States, LGAs and senatorial districts. The States with the highest proportion of migrants are: Delta (29.3%), Ondo (27.7%), Rivers (27%) and Edo (21.3%). Akwa Ibom State has the lowest migrant population of 7.4%.

With an estimated 88% of rural dwellers in the Niger Delta Region living below the poverty line, more and more people are being pushed out of the rural areas into the urban cities and towns in search of a better life. The migrants from rural to urban areas are predominantly the most physically active, especially products of the primary and secondary schools who are often unable to fit into traditional fishing and farming, nor readily find other white or blue-collar work in the rural areas.

The magnitude of the exodus from rural areas to urban centres has had serious consequences: including environmental degradation, overcrowding, spread of communicable diseases, poor sanitation, pressure on transportation, and food insecurity.

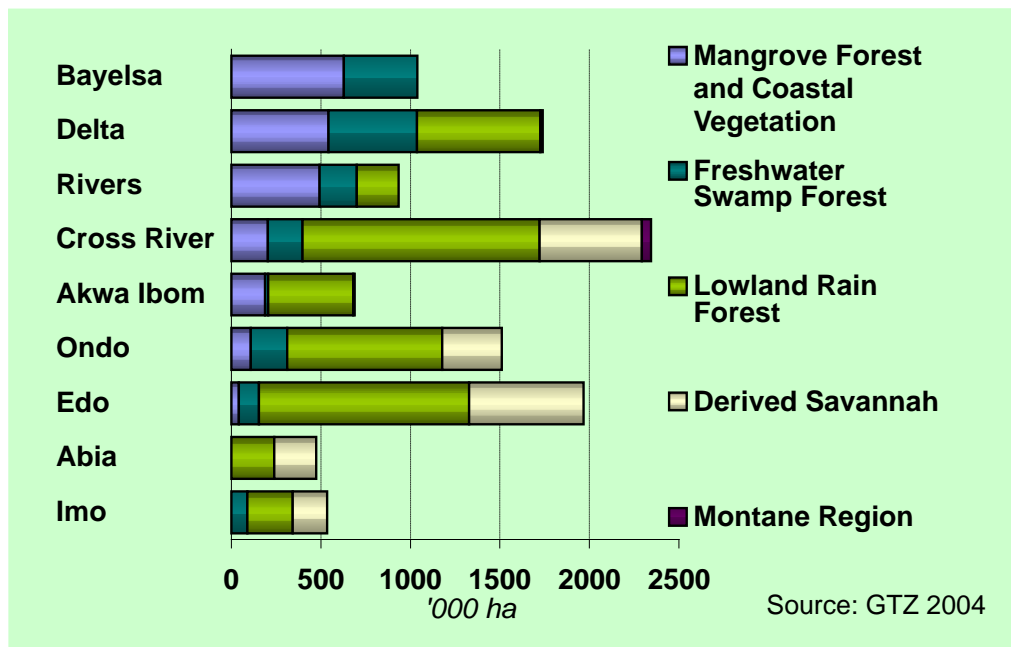
Nigeria also has one of the highest maternal death rates in the world. There are reportedly 704 -1000 deaths per 100,000 women.

## 1.7 The Natural Environment

### 1.7.1 Ecological Zones

The Niger Delta Region is a rich and diverse mosaic of ecological types. There are five distinct ecological zones ranging from the barrier island forest and coastal vegetation areas through to Montane habitats. Figure 1.4 and Map 1.3 show the major ecological zones, defined mainly on the basis of vegetation.

Figure 1.4: Areas of Ecological Zones by States of the Niger Delta Region



The dominant vegetation is fresh water swamp forest with occasional Small salt marshes, where sea water washes over beaches. As they poorly drained and sandy soils are not conducive for farming there is little direct conversion of forest to agricultural land

**Mangrove Forest and Coastal Vegetation Zone:** A chain of low sandy barrier islands protects the coast of the Niger Delta, between the Benin and Imo estuaries, less than a meter above high-tide level. The dominant vegetation is freshwater swamp forest with occasional small salt marshes, where seawater washes over beaches. As the poorly drained and sandy soils are not conducive for farming, there is little direct conversion of forest to agricultural land.

Sandy outcrops with freshwater vegetation also occur farther inland, within the mangrove zone. Like the barrier islands, they provide fresh water, which is critical for human habitation of the coastal and mangrove zones.

The Mangrove Forests occupy inter-tidal land in a broad zone of tidal creek behind the barrier islands. This is different from what obtains in some other regions, where mangrove forests occur only as a thin band along the coast and are exposed directly to seawater.

The Delta's mangrove zone is up to 40 km wide but it narrows in flood-dominated estuaries where the discharge of the Niger dilutes and pushes back tidal saline waters. The details of the interaction between tidal and river waters differ for each estuary and river-system, and account for many local ecological variations in the mangrove ecosystem of the Delta.

Typical mangrove forests in the Delta consist almost entirely of the red mangrove tree with its characteristic stilt or prop roots. The trees grow tallest along creek edges where fresh mud is deposited. In the old-growth back swamp areas, trees are very stunted; especially in areas not receiving nourishing waters from the ocean or the Niger flood. The back swamp may have other smaller mangrove species, such as the white mangrove and the black mangrove. Higher areas of the swamp contain unique salt fern and salt grass and are bounded by an area of shrubs and small trees. Several of these 'semi- mangrove' species tend to colonize cleared areas, including dredge spoil.

The mangrove floor is important to innumerable smaller flora and fauna. Many invertebrate species, such as crabs, certain shrimps, clams and eel like fish, live hidden in burrows. Soft organic mud in shallow depressions and near the creek edge provides habitation to microscopic algae; and this as well as decomposing mangrove leaves and associated micro-fauna, provide food for many larger animals characteristic of the mangrove forest including crabs, periwinkles and mudskippers, joined by birds at low tide, and by fish and shrimps at high tide. These include visitors from other regions - birds from Europe, fish from offshore waters all illustrating the global importance of the mangrove system.



An aerial view of a Mangrove Forest

The Swamp forests, which are subject to the silt-laden 'white water' of the Niger floods, have very high fishery and agricultural potential.

**Fresh Water Swamp Forest Zone:** The zone covers approximately 17,000 km<sup>2</sup> or about half of the Delta Region. The zone is the region's major source of timber and forest products and contains important areas for rare and endangered wildlife. There is great variation in the ecology and development potential of swamp forest types, depending on hydrological characteristics.

The Swamp forests, which are subject to the silt-laden 'white water' of the Niger floods, have very high fishery and agricultural potential. Within this white water sector, there are two broad zones: (a) the Upper Delta or Flood Forest zone and (b) the Swampy Tidal Freshwater zone. The 'Upper Delta' or 'Flood Forest' zone (Aboh to Bomadi and Oporoma)

has large sandy river channels, high flood levels and numerous floodplain lakes. These features, including flood-free levees, back swamp and cane forests, help give the zone a high diversity of habitat types. Large areas of the forest are also inundated during the floods, becoming vast seasonal nursery areas for fish. The shortened season for farm crops is compensated for by the fertile silt from the flood, which allows for annual farming without fallow periods. Between the flood forest and the mangrove zone, lies a permanently swampy, tidal- freshwater zone with more narrow and muddy channels (the 'transition' or 'Marsh forest' zone).



A Village in the fresh water Swamp in Delta State

In areas unsuitable for farming, a few minor vegetation types persist in semi-natural condition. These are swamp forest in seasonally flooded depressions

**Lowland Rain Forest Zone:**

This zone occupies the non-riverine or 'upland' areas, which flank the delta. The natural rain forest of the area has been largely cleared for agriculture, and the dominant vegetation types are now farm-bush, a mosaic of cropped and fallow areas, usually with many oil palms, and plantations, mainly oil palm and rubber. Open farmed areas lead to the entry of invasive grassland or 'savannah' species. Some forest species can survive in old fallow land but most have disappeared due to shorter fallow periods

attributable to the demands of an increasing population.

In areas unsuitable for farming, a few minor vegetation types persist in semi-natural condition. These are swamp forest in seasonally flooded depressions, riparian forests along the edges of rivers, and occasionally savannah-like grasslands as in the Sobo plains and in the vicinity of Obagi. These areas are however increasingly under pressure for marginal farming of short-season crops and wood.



Palm Oil Plantation, Rivers State



**Derived Savannah Zone:** This is found in the northern parts of the Niger Delta Region. The vegetation type in this zone appears as re-growth after the original rainforest has been cleared for agriculture. It comprises

Savannah type grasses and shrub, with a few scattered trees. Due to constant human pressure it is virtually impossible for trees to grow to maturity.



Derived Savannah Vegetation

**The Montane Zone:** The zone is confined to the north eastern part of Cross River State around Obudu / Sankwala area. The high altitude location of the zone - approximately 900 to 1500 m above sea level means that species diversity is not as great as in the other tropical high forest although floristic

diversity is enhanced by the presence of many species of herbs and shrubs.

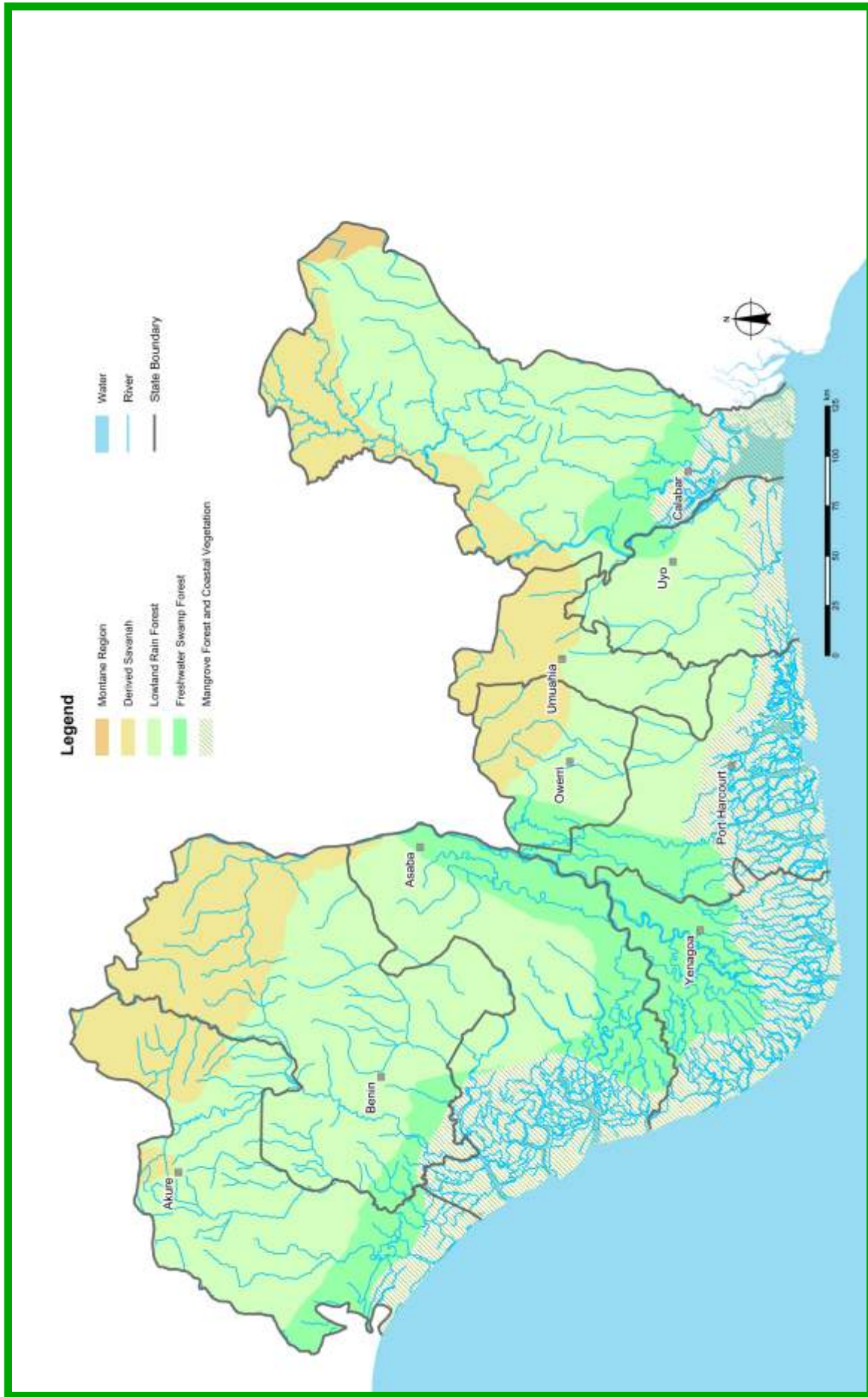
The uniqueness of this ecological zone in terms of its natural resource and bio-diversity exclusivity makes it one of the important areas with high eco-tourism potential.

The uniqueness of this ecological zone in terms of its natural resource and bio-diversity exclusivity makes it one of the important areas with high eco-tourism potential.



Obudu Cattle Ranch in the Montane Ecozone

Map 1.3: The Ecological Zones of the Niger Delta Region



Source: DSL 2004

## 1.7.2 Climate

The climate of the Niger Delta Region varies from the hot equatorial forest type in the southern lowlands to the humid tropical in the northern highlands and the cool montane type in the Obudu plateau area.

The wet season is relatively long, lasting between seven and eight months of the year, from the months of March to October. In the northern and north-western parts of the Niger Delta Region, the rains may be delayed by as much as four weeks, thereby extending the dry season which, in recent times, tends to last some four to five months. There is usually a short break around August, otherwise termed the "August break". The dry season begins in late November and extends to February or early March, a period of approximately three months.

During the dry season, the northeast trade wind blowing over the Sahara Desert extends its dehydrating influence progressively towards the equator, reaching the southern coast of Nigeria in late December or early January. The period is known as the "Harmattan", which is more noticeable in some years than others.

Mean annual rainfall ranges from over 4,000mm in the coastal towns of Bonny and Brass in Rivers and Bayelsa States respectively, and decreases inland to 3,000mm in the mid-delta around Ahoada, Yenagoa and Warri in Rivers, Bayelsa and Delta States, respectively; and slightly less than 2,400mm in the northern parts of the region such as Imo and Abia States. In the north western portions including Edo and Ondo States, annual rainfall ranges from 1,500 2,000mm.

Temperatures are generally high in the region and fairly constant throughout the year. Average monthly maximum and minimum temperatures vary from 28°C to 33°C and 21°C to 23°C, respectively, increasing northward and westward. The warmest months are February, March and early April in most parts of the Niger Delta Region. The coolest months are June through to September during the peak of the wet

season.

## 1.7.3 Soils and Soil Fertility

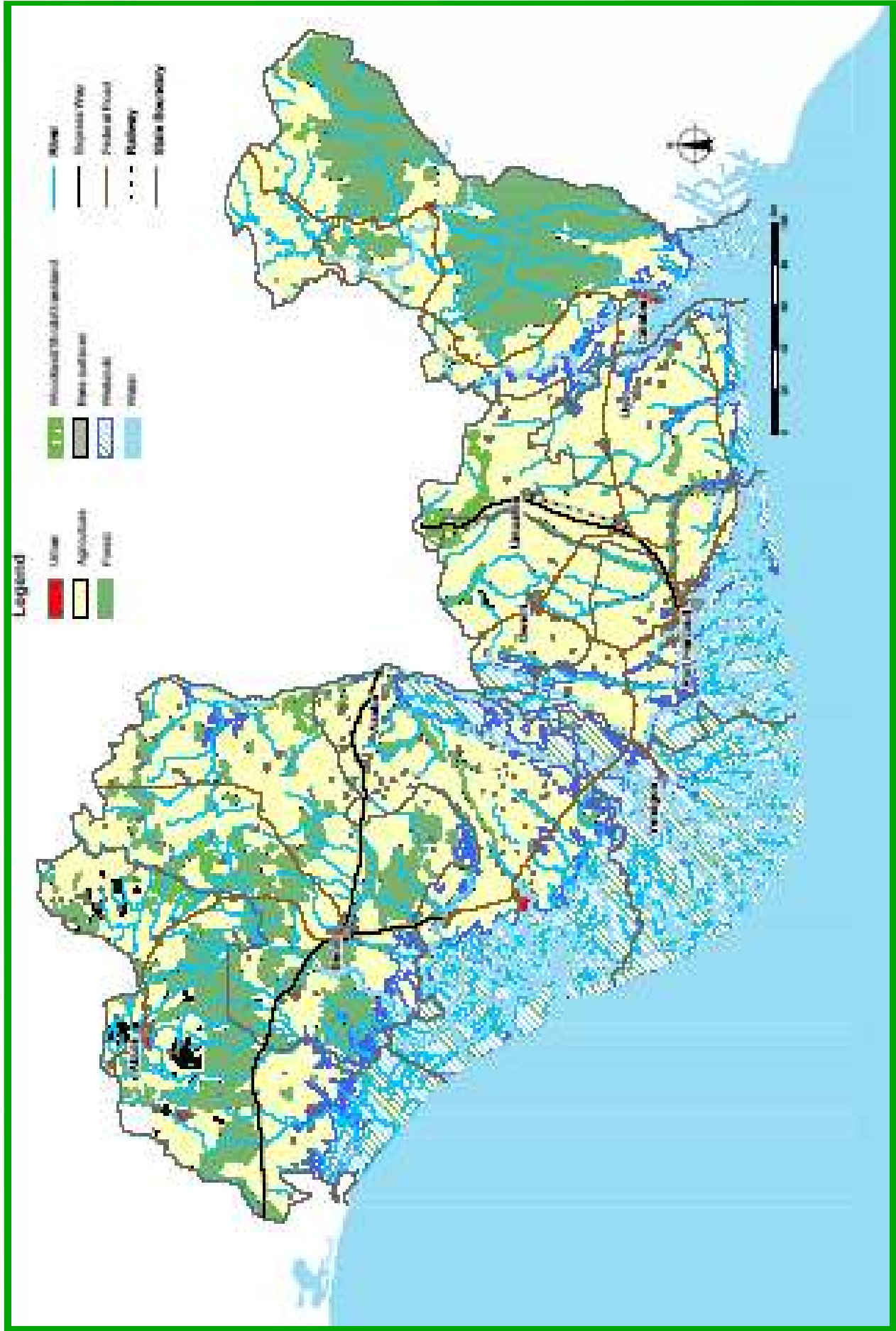
Soil fertility in the Niger Delta Region varies considerably for the top soil (0-30 cm) and the sub-soil (30-100 cm) from location to location with implications for the quantity and type of fertilizers needed for optimal production. Over 60% of topsoils of the mangrove forests and coastal vegetation zone are of low fertility compared to about 90% of medium fertility topsoil for the derived savannah and the freshwater swamp forest zones. The montane zone has the highest proportion (87.8%) of highly fertility top-soils. For sub-soils, the highest proportions of land with relatively high fertility are found in the derived savannah and the rain forest zones (roughly 70%) highlighting their suitability for tree crops. (see Maps. 1.2 and 1.3).

As a natural process, flooding as described elsewhere in this report, plays a significant role in the build-up and sustenance of the biota and soil improvement through silt nourishment. The reduction of the sediment load of the major rivers in the Region due to upstream dams not only impacts negatively on agriculture in the flood areas but also tends to exacerbate coastal and river bank erosion.

Historically, communities in the region have adopted cultural practices compatible with the flood regimes and the associated fluvial processes. But, with the increase in population pressure, accompanied by urbanisation, industrial development and agricultural expansion, the subsisting equilibrium has been altered dramatically, leading to a situation in which flooding is impacting negatively on the land and people of the region. The result is that the area of arable land that can no longer be cultivated owing to annual floods and drainage problems has increased.

The wet season is relatively long, lasting between seven and eight months of the year, from the months of March to October. In the northern and north-western parts of the Niger Delta Region

Map 1.4: Soil Fertility in the Niger Delta Region



Source: DSL 2004



A Forest Reserve/National Park in the NDR

### 1.7.4 Protected Conservation Areas

The four major categories of statutorily protected and other conservation areas in the Niger Delta Region are:

**Forest Reserves.** There are about 1,275 registered forest reserves in Nigeria, of which IUCN and World Conservation Monitoring Centre has recognized 966, and over 70 of these are found in the Niger Delta Region.

**Limited-Access Strict Nature Reserves.** The strict limited-access nature reserves include areas such as the Afi Mountain Wildlife Sanctuary (AMWS). Created out of the Afi River Forest Reserve and gazetted by the Cross River State Government in 2000 in recognition of its biological value, the AMWS is home to the Cross River Mountain gorilla, *gorilla dielhi*, recognized as a distinct and critically endangered subspecies of gorilla. Another Strict Nature Reserve in the region is located at Usonigbe in Edo State with an IUCN Management Category of 1a.

**National Parks and Game Reserves.** There are over 40 gazetted wildlife reserves in Nigeria, out of which 14 are National Parks. Seven of these game reserves and two National Parks (the Cross River National Park and Okomu National Park) are in the Niger Delta.

**Traditional-Use Conservation Areas.** These areas include numerous areas of lands used

traditionally for hunting or gathering, for pastoralism and agropastoralism, or for religious, sacred, and cultural purposes. In the Niger Delta Region, such areas are usually in the form of sacred groves which represent a significant incentive for community participation in biodiversity conservation and a link with local heritage. Sacred groves are small clumps of forests (typically less than 2ha) standing as relics of former isolated oases of vegetation surrounded by urbanization and other land use forms.

There are about 1,275 registered forest reserves in Nigeria, of which IUCN and World Conservation Monitoring Centre has recognized 966, and over 70 of these are found in the Niger Delta Region.

## 1.8 The Regional Economy

### 1.8.1 Overview

The economy of the Niger Delta Region is largely driven by the informal sector in terms of percentage of people engaged. About 80% of all employed persons in the Niger Delta States, in the households surveyed for the Master Plan study, are engaged in the private sector, with the greater proportion working in the informal sector. The public sector, though predominant in the volume of expenditure, employs a much smaller proportion of the employed persons in Niger Delta States with the public/semi-public sector accounting for nearly 10% of the household members employed.

#### Medium and Large Industry

In the Niger Delta Region, major

manufacturing plants are located mainly in Rivers State while the other parts of the Region do not have much lesser presence of medium or large scale industrial plants. There are various factors behind this including a weak economic base, an over-dependence on the primary sector and uncoordinated efforts to develop industry, which continue to deter investors. Moreover, several of the early post-independence set of industrial firms had substantial government equity interests, and have declined or shut down with poor management. A few are being privatized and reactivated by new shareholders.

### Small Industry and Enterprises

The informal sector plays a significant role in the economy of the Niger Delta Region. At least one out of every three households is involved in the informal sector. Over 95% of the informal enterprises in the region are sole proprietorships focusing on wholesale and retail trading, which are the most common activities in the informal sector as is evidenced on almost every street in the cities, towns and villages where traders sell a diversity of wares. Some sell from shops and kiosks while others hawk their products or display them in traditional open markets.

A survey of 2,377 small enterprises within the Niger Delta Region (*Demography and Baseline Sector Report, 2004*), found that 26% are in agriculture, 30% in manufacturing/ traditional crafts, 39% provide tertiary services and 4% are engaged in multiple enterprises (that is two or more services). About 16% of the enterprises employ just one person, 45% employ two to five persons, 22% employ six to ten persons, while 11% employ 11-20 persons, 5% employ 21-35 people, while 1% employ over 36 people.

The most serious inhibiting factors to the growth of existing small industry and the start-up of new ones include lack of capital or access to bank credits and loans, inadequate Infrastructure (i.e. especially electricity), security and the flood of imports since the deregulation of the Babangida regime in the late 1980s.

### Employment

The highest proportion of people employed is engaged in the Agriculture, Forestry and Fishing Industry, which accounts for 44.2%. Trade or selling activities constitutes 17.4%; education and health, 7.1%; services, 9.8%; administration, 5.4%; transport, 2.2%; construction, 2.8%; while a combination of other activities accounts for 11.1%.

While the overall level of industrial development in the Medium and Large Scale Industries sector is rather low, the Niger Delta Region still hosts some key industries, including three refineries, two petrochemical plants, one liquefied natural gas plant, two liquefied petroleum gas plants soon to come into production, a fertilizer plant, a major steel plant and three gas-fired electric generating stations.

Oil, and recently gas production, generates the greatest proportion of the foreign exchange and internal revenue earnings of Nigeria's Federal Government. The crude oil sub-sector accounts for 90-95% of export revenues, over 90% of foreign exchange earnings and about 80% of government revenue. In addition, gas, which was hitherto flared, is beginning to make more contributions to Nigeria's earnings: in 2001 gas export earned a total of US\$ 1,197.0 million.

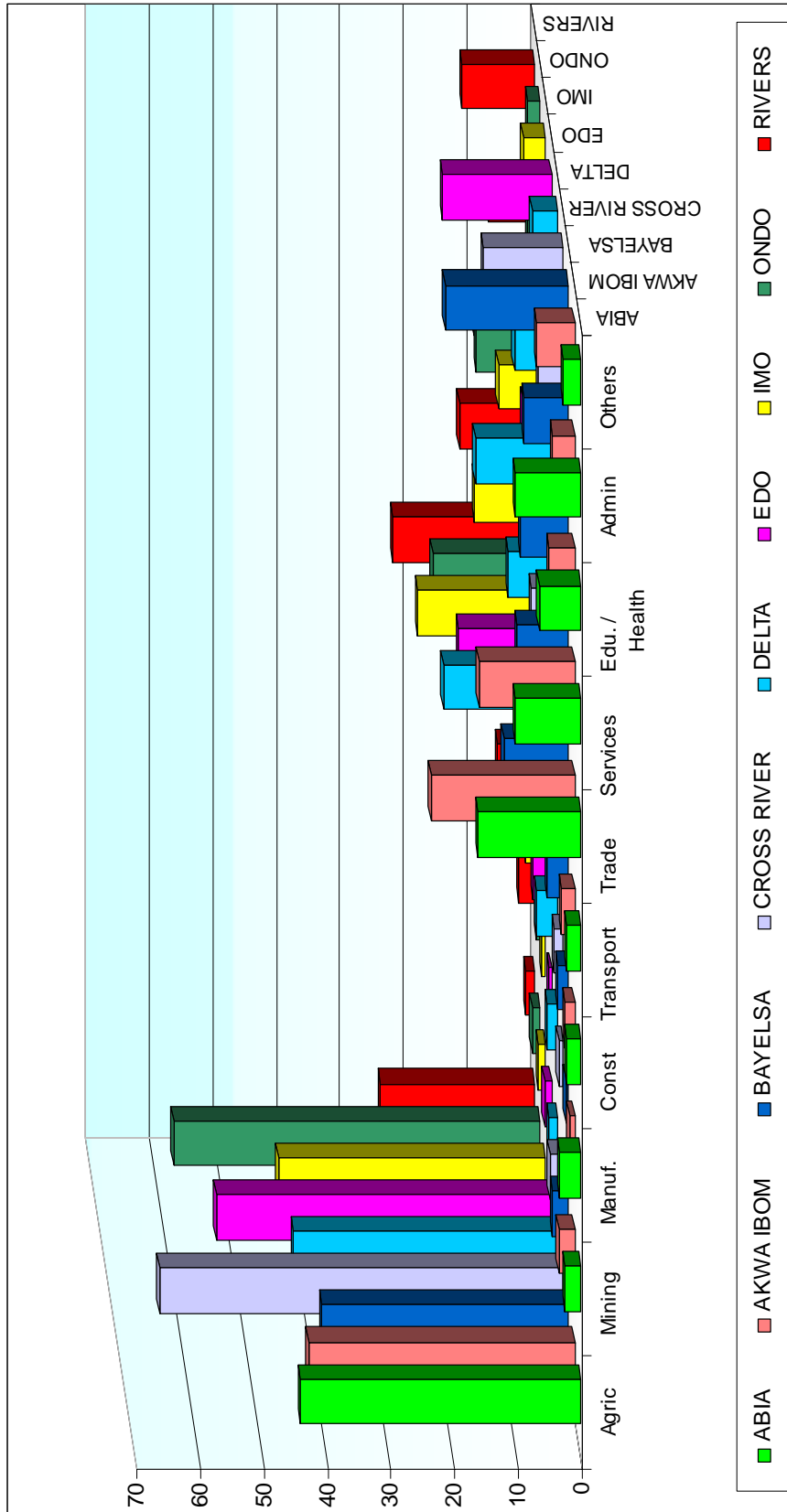
Despite the dominance of oil in the region, agriculture remains the highest employer of labour. However, there are variations between the States, as reflected in Figure 1.5. Over 50% of the people are actively engaged in agriculture in Cross River, Edo and Ondo States. In Bayelsa and Rivers States, the proportion of the people employed in agricultural and other related activities is less than 40%. Trading and selling are quite significant in Akwa Ibom, Imo and Rivers States where over 20% of the employed household members are so engaged compared with the position in Cross River State where the figure is less than 10% of the employed.

### Income Levels

The measurement of income level is generally a major problem in Nigeria because of the reluctance of respondents to give accurate information on their real income. Moreover, there are problems in quantifying the real income of the rural working population because a good proportion of their produce is consumed directly and does not enter the market. Allowing for the difficulties of measurement, the Master Plan estimates of earned income per month in the formal sector, which excludes individuals' consumption directly from their production activities, indicate that about 46% of employed persons in the surveyed households earn less than 5,000 Naira per month. The proportion declines to 20% in the income group 5,001 to 10,000 Naira per month and falls to 11% within the 10,001 to 15,000 Naira income range. The proportion of the employed declines further to 9% in the 15,001 to 20,000 Naira income group, while only about 14% of

Over 95% of the informal enterprises in the region are sole proprietorships focusing on wholesale and retail trading

Figure 1.5: Percentage Distribution of Employed Household Members by Industry of Employment



Source: NDRDMP Demography & Baseline Survey Sector Report 2004

respondents earn 20,000 Naira and above.

There is a variation in the level of income of the employed household members among the States. The proportion of the employed household members earning less than 5,000 Naira a month is highest in Cross Rivers State (70%), Akwa Ibom State (57%) and Imo State (55%) with over 50% earning less than 5,000 a month in the other States. On the other hand, Bayelsa States (9%), Delta (11%), Ondo (13%), and Rivers (14%), have the highest proportions of the employed household members earning 20,000 Naira and above.

### Unemployment

Even allowing for the unreliability of statistics relating to unemployment levels, it is evident that unemployment in the region is

significant. At the time of the baseline and other sector studies, using data from 2000, the national average unemployment rate stood at nearly 5%. Except In the Niger Delta Region, the unemployment rate fell below the national average only in Abia, Edo and Ondo States, with other States showing significantly higher rates, Figure 1.6 (for example, 18.2% in Akwa Ibom, 19.1% in Rivers and 16.6% in Cross River)

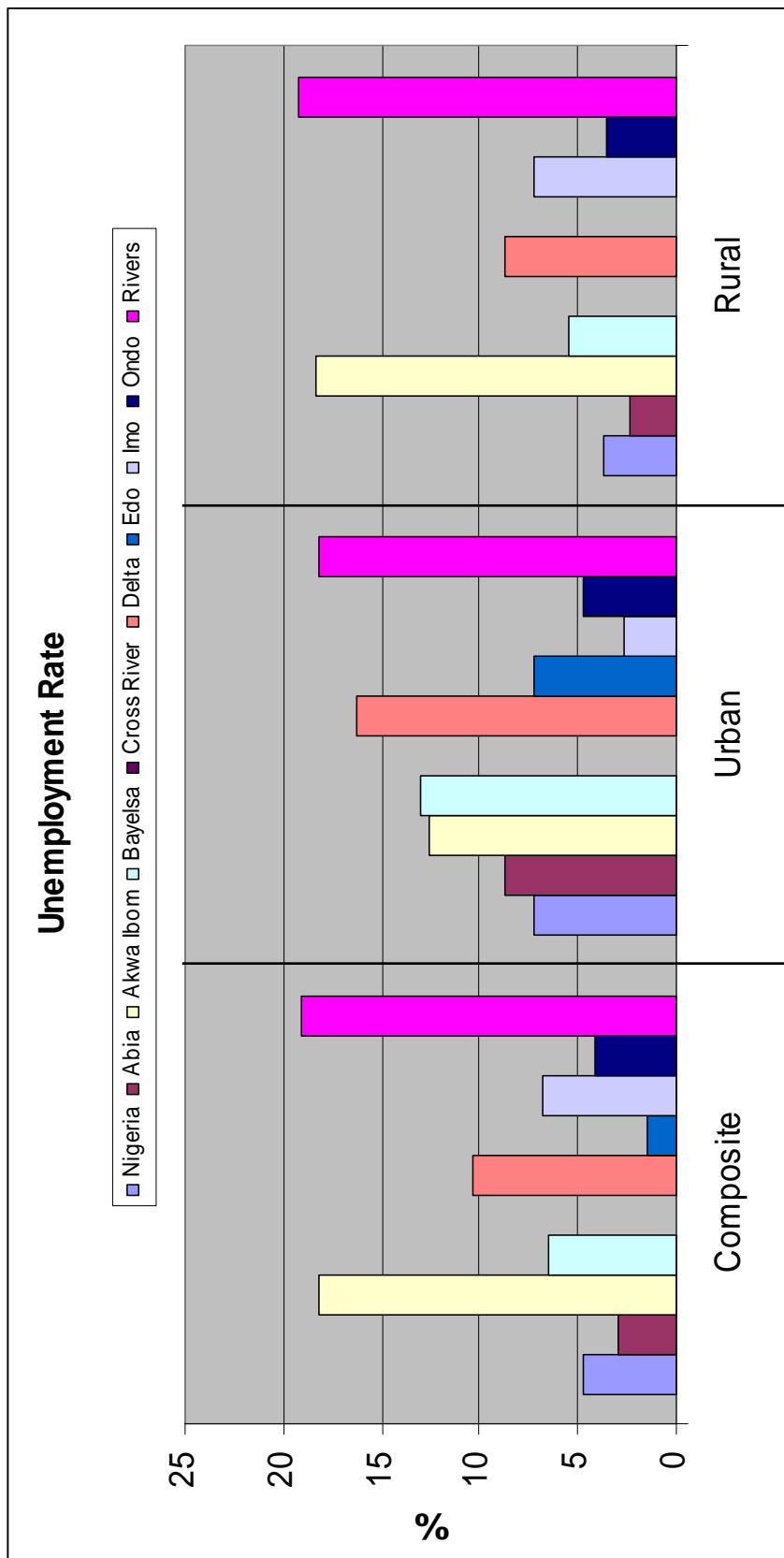
The measurement of income level is generally a major problem in Nigeria because of the reluctance of respondents to give accurate information on their real income.



Some rural dwellers queuing for free medical outreach



Figure 1.6: Unemployment Rate in the Niger Delta Region, 2000



Source: Social welfare Sector Report, 2004

## 1.8.2 Key Sectors of the Regional Economy

### Oil and Gas

The Petroleum industry, is the backbone of the Nigerian economy, accounting for over 90% of total foreign exchange revenue. Estimates of the total crude oil reserves vary, but are generally accepted to be about 35 billion barrels.

Nigeria is the seventh largest producer in the world and the largest in Africa. Current daily production of crude oil is slightly above 2 million barrels (90 million tons per year) from just over 240 producing fields totalling over 600 wells. Most of it is produced from the prolific Niger Delta Region.

The product is exported through seven terminals, and a number of floating production vessels. There are about 606 onshore oil fields, most with less than 100 million barrels per day of extractable reserves. Map 1.5 shows the location of the oil exploration and appraisal and development fields in the Niger Delta Region.

Current Government policy is to raise total reserves to 40 billion barrels of crude by 2010, while daily production is targeted at 4 million barrels by 2007. Nigeria's production has been boosted by the development of a number of high-volumedeepwater blocks including Shell / Exxon Mobil's Erha, Elf's Amenan Kpono. Current investment in exploration is concentrated in the offshore deepwater zone of the Niger Delta including

Bonga and Agbami fields located in about 1,000 metres of water.

Production from joint ventures (JVs) accounts for nearly all (about 95%) of Nigeria's crude oil output, with the other 5% attributable to the indigenous companies operating the marginal fields. The largest JV operated by Shell, produces nearly 50% of the Nation's crude oil. The Nigerian National Petroleum Corporation (NNPC), the State-owned oil firm has a 55% interest in Shell plus 60% stake in each of Chevron-Texaco, Exxon Mobil, Agip and TotalFinaElf. The government has two major funding arrangements for oil production JV and production sharing contract (PSC). Table 1.3 shows the overall JVs stake, their outputs per day and other oil and gas related production activities.

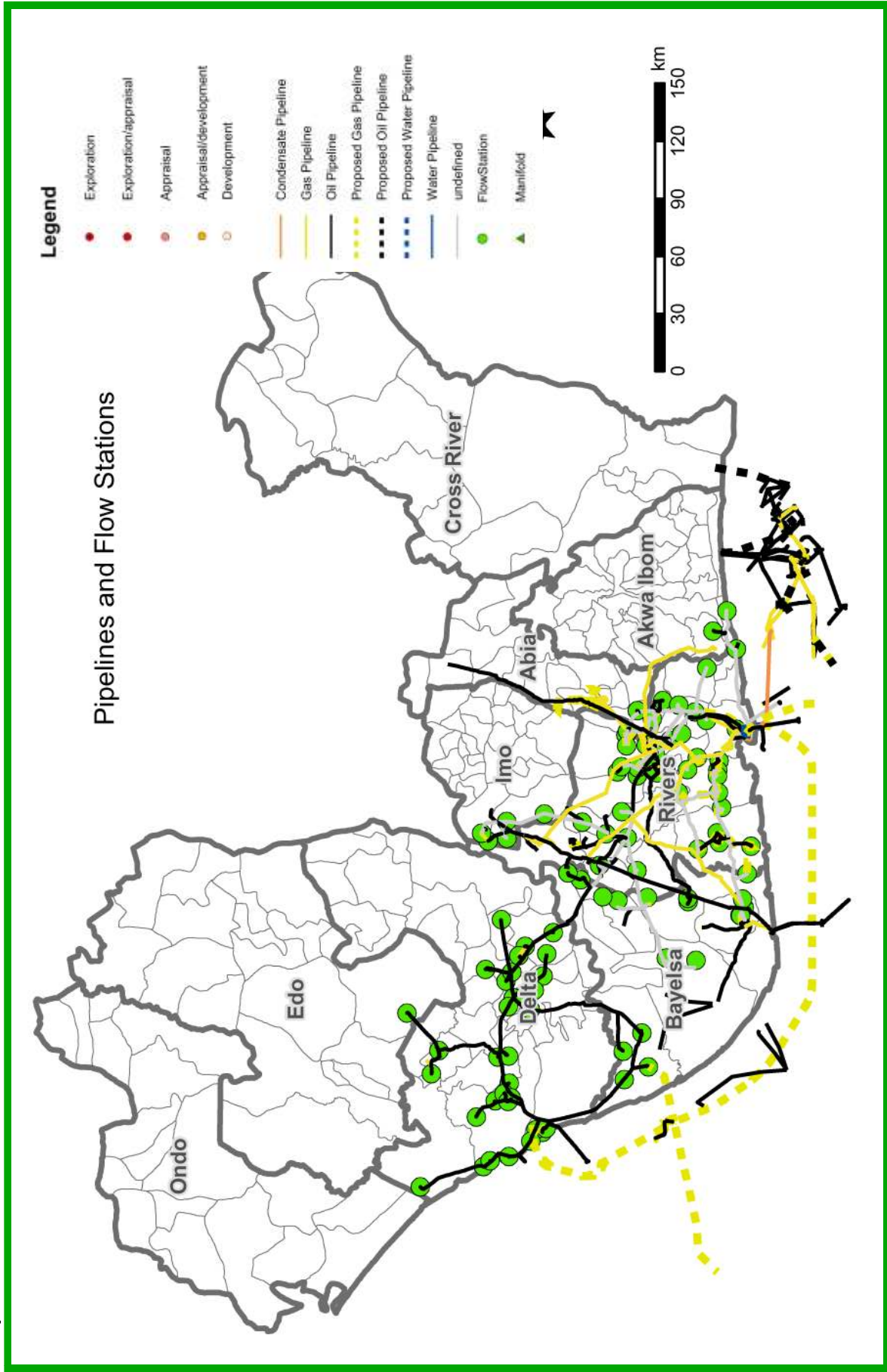
The Central Bank of Nigeria (CBN) data show that gas export earned the nation \$27.8 million in 1999, \$578.7 million in 2000 and \$1,197 million in 2001. With nearly half a century of oil exploration and production, Nigeria has built up a considerable hydrocarbon infrastructure with over 3,000 kilometres of pipelines in the Niger Delta. These pipelines link over 280 flow stations across the region. Nigeria also contains an estimated 4.5 trillion cubic metres of proven natural gas reserves from onshore / offshore fields and the swampy areas of the Niger Delta Region. However, due mainly to inadequate gas infrastructure, 75% of associated gas is flared and 12% re-injected. Nigeria has set a target of zero flare by 2008. Shell, Elf and Agip are all developing projects which will gather gas from their various fields, and the project is expected to process 750 million cubic feet of gas daily.

Current Government policy is to raise total reserves to 40 billion barrels of crude by 2010, while daily production is targeted at 4 million barrels by 2007



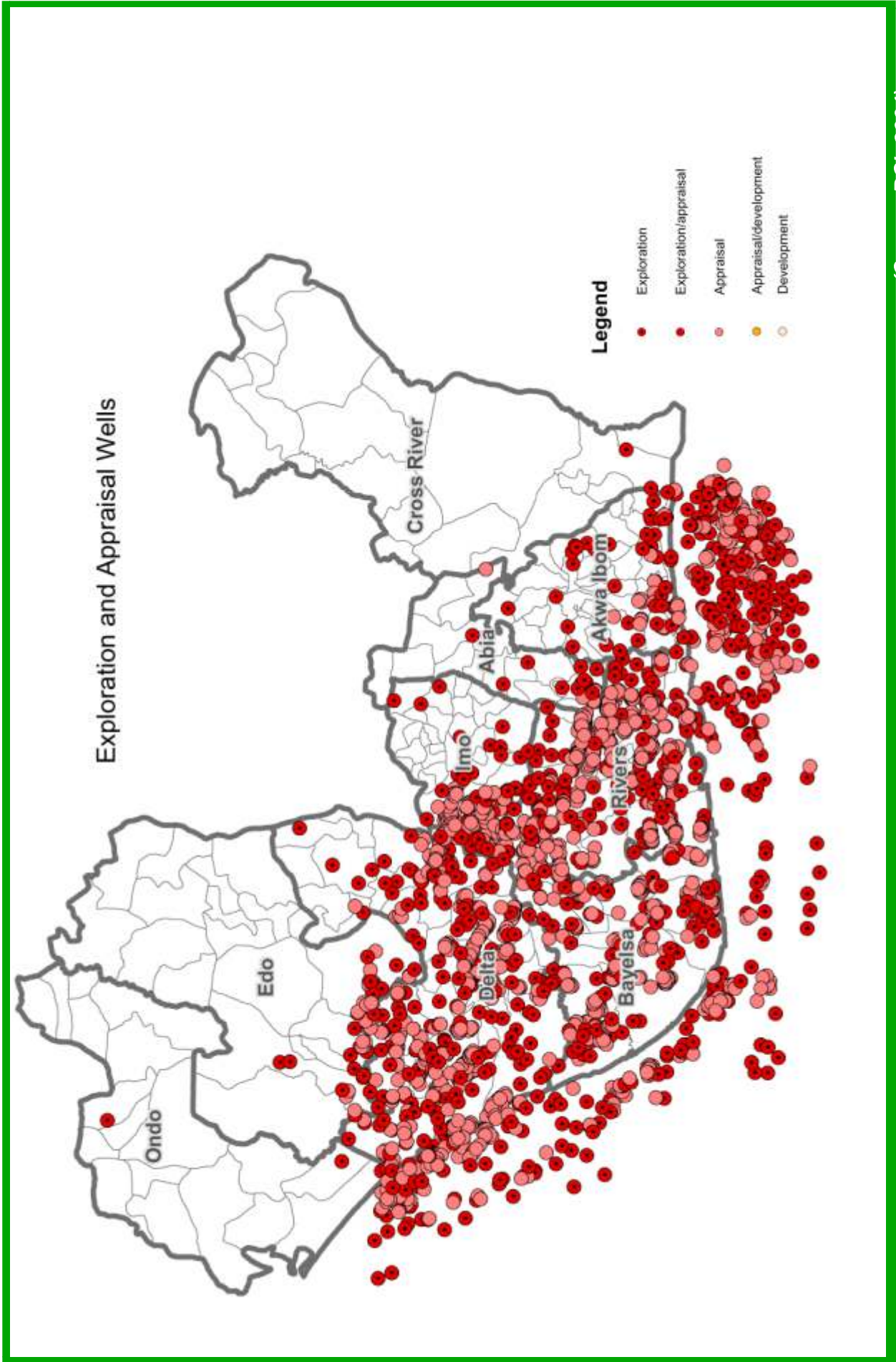
Source: Shell Nigeria

Map 1.5: Distribution of the Onshore and Offshore Oil and Gas Sector Activities



Source: DSL 2004

Map 1.6: Location of Oil Exploration and Appraisal Fields in the Niger Delta



A number of major gas projects are on stream, some under way, and many more are being planned. The largest and most significant of these projects is the Liquefied Natural Gas Project (LNG) located at Bonny Island in Rivers State. The LNG project, with a development budget of approximately \$4 billion, is a joint venture with 4 shareholders NNPC (49%), Shell Gas (25.6%), CLEAG, a subsidiary of Elf (15%), and Agip (10.4%). Other gas projects include the Escravos gas-gathering project developed by Chevron to recover associated gas from its offshore fields in Delta State. Another major project is the development by a Mobil / NNPC joint venture of the Oso NGL (Natural Gas Liquids). The most recent of these, is a proposal for development of LNG in Brass, Bayelsa State by the Phillips / Agip / NNPC Joint Venture.

Several distribution schemes are planned to help promote consumption of natural gas. The proposed \$580 million Ajaokuta-Abuja-Kaduna pipeline will supply natural gas to central and northern Nigeria, while the proposed Aba-Enugu-Gboko pipeline will deliver natural gas to parts of eastern Nigeria. Shell and its partner, Nigerian Gas Company (NGC), have earlier connected 30 firms in the Agbara / Ota industrial areas of Ogun state.

Up to the end of 1964, Shell-BP was the only

company producing crude oil in Nigeria. The number of producing companies has now increased to 11, with a total of 159 oil fields, which produce from 1481 oil wells. Presently, the Shell Petroleum Development Company of Nigeria Limited (SPDC) still accounts for more than half of the total production. Joint Venture contracts with the state-owned Nigerian National Petroleum Company (NNPC) also account for more than 90% of oil production in the country.

Though four refineries (Port Harcourt I and II, Warri, and Kaduna) have a combined installed capacity of 438,750 bpd, problems of sabotage, fire, poor management and lack of maintenance have sharply decreased actual output. The lack of adequate refining capacity in Nigeria has been a key factor in the shortage of petroleum products to the populace. This often leads to national crises, as in February 2004, which coincided with a strike by oil workers. However, with the completion of maintenance work at Port Harcourt refinery, the repair programmes at the Kaduna and Warri refineries, as well as the current privatisation programme, it is hoped that petroleum products scarcity will be reduced.

A number of major gas projects are on stream, some under way, and many more are being planned. The largest and most significant of these projects is the Liquefied Natural Gas

**Table 1.3: Oil and Gas: Summary Profile (2004)**

<b>Contribution of crude oil export to national foreign Exchange</b>	<b>Over 80%</b>
<b>Average daily crude oil production</b>	<b>2mill BPD</b>
<b>Number of oil wells drilled in the Niger Delta Region</b>	<b>5,284</b>
<b>Number of flow-stations for crude oil processing</b>	<b>257</b>
<b>Length of oil and gas pipelines in the region</b>	<b>Over 7000 km</b>
<b>Number of export terminals</b>	<b>10</b>
<b>Land area within which the network of pipelines are located</b>	<b>31,000 Sq km</b>
<b>Number of communities hosting oil / gas facilities</b>	<b>Over 1,500</b>
<b>Gas flares-out target date</b>	<b>2008</b>
<b>Number of petroleum training Institutes in the region</b>	<b>1</b>
<b>Number of free export / industrial zones in the region</b>	<b>2</b>
<b>Number of gas plants in the region</b>	<b>10</b>
<b>Number of marginal oil fields farmed out to local companies</b>	<b>30</b>

The Niger Delta, is even richer in natural gas than oil. The gas reserves are placed at more than 3 trillion cubic metres. There is an estimated 124 trillion cubic feet (Tcf) of proven natural gas reserves (the ninth largest in the world) but due to a lack of infrastructure, 75% of the associated gas is flared and 12% re-injected to enhance oil recovery. The Government is committed to end associated gas flaring by 2008. A number of natural gas and distribution projects, including the natural gas facility in Bonny Island and the development or plans for additional LNG facilities, such as the West Niger Delta LNG, will help promote consumption of natural gas in Nigeria and opportunities for export.

The construction of a West African Gas Pipeline (WAGP), which has been the subject of discussion for many years, could also aid the commercialization of flared gas and, in addition, create between 10,000 to 20,000 primary sector jobs in the region. New power supplies, fuelled by gas from the project, are likely to stimulate the growth of new industries, and studies suggest that the industrial growth has the potential to generate additional 30,000- 60,000 secondary jobs. In addition to the \$1billion investment (WAGP and power facilities) already projected, it is estimated that there could be approximately \$800 million in new industrial investment in the region.

Most of the oil and gas operating companies in the Region have various community development programmes to support development in their areas of operation.

Such programmes have helped to provide much-needed support in education, agriculture, health, social welfare, micro-credit and small business development, etc. However, the programmes have also suffered from poor structure, lack of sustainability and have sometimes exacerbated local conflict. Some of the companies have therefore begun a strategic shift to improve the sustainability of their programmes, including working in greater partnership with communities, NGOs and the NDDC.

### Agriculture and Fishing

The farming systems in the Niger Delta are principally traditional subsistence crop farming. They are characterised by small-sized farm holdings of less than one hectare per household. Cassava remains the largest grown crop produced followed by yam and maize

Fertilizers, agro chemicals and improved seeds are not readily available and have not been widely adopted. Harvesting methods are manual, while, processing/storage facilities are grossly inadequate. This leads to significant losses resulting from spoilage.

The number of Delta families involved in livestock production (goats, sheep and poultry) is quite low, especially commercial production. There is, however, an increasing level of awareness as to the income potential of this activity, and as a result, poultry, rabbit and pig production is now being taken up by an increasing number of farming families.

The Niger Delta, is even richer in natural gas than oil. The gas reserves are placed at more than 3 trillion cubic metres. There is an estimated 124 trillion cubic feet (Tcf) of proven natural gas reserves



Snail Harvest in Farm at Tabaa Ogoni, Rivers State

In the fishery sector, the Niger Delta provides the largest shrimp grounds in West Africa. Though, inshore demersal fish remains an important resource, there has been a progressive decline in inshore industrial trawls. Coastal fishermen also exploit pelagic fishes in the region in addition to demersal resources. Using canoes and a variety of passive gear, coastal artisanal fisheries generate a substantial supply of fish on account of the sheer numbers of fishermen involved and man hours invested.

Fishing elsewhere is traditionally divided between riverine and floodplain fisheries. Floodplain ponds are owned by individuals, families or communities. Fishing rights are in some cases sold for specific seasons or years, sometimes to other ethnic groups practiced in special techniques. Riverine fishing is more open but often subject to communal regulations on a seasonal basis. In recent years, illegal fishing practices, using explosives (in creeks and rivers) or pesticides (in freshwater swamp channels) have become common in some areas, and communal efforts to stop these practices are often frustrated by low levels of enforcement from civil authorities.

At present, there exists a wide gap between the demand for, and the local production of fish, regardless of the fact that the region has an area of about 750,000 hectares patently suitable for fish farming. Consequently, Nigeria is now the largest importer of fishery products in West Africa.

### Forestry

The economically significant resources are timber for saw logs, electricity transmission poles, building poles, bamboo, fuel wood and chewing stick. Saw logs are available mainly in the freshwater swamp zone. Very few areas of lowland rain forest remain in the Niger Delta: most of these have been converted to farmland. The coastal beach ridge forest with species similar to those of the rain forests is another source.

However, given the small extent of this area, the resources available are limited.

In many areas of the Niger Delta, cultural groves characterised by preserved forest areas are common. These usually serve a number of cultural purposes and are preserved as the habitation of traditional deities and 'evil forests'.

Other types of non-timber forest resources that are also important to the local economy include oil palm, raffia palm, various fruits, such as bush mango, spices, various roots, tree barks, a variety of leaves, various climbers, and animal protein sources like giant snails and wild game. Rural dwellers rely to a large extent on non timber forest products for their vegetable and protein sources.

### Solid Minerals

While the Niger Delta is mainly associated with oil and gas production, the region is also endowed with several solid minerals. Map 1.7, which illustrates the location of the main deposits of solid minerals in the region.

The vast reserves of non-renewable resources include granite, barites, marble, clay, gypsum, phosphate rock, feldspar, limestone sand and gravel. However, only a few of these minerals are currently being exploited. Previously significant foreign exchange earnings from coal, gold, tin, columbite, tantalite, lead, zinc and wolf Amite, were reduced dramatically with the onset of the oil boom and the neglect of the solid minerals in favour of oil production.

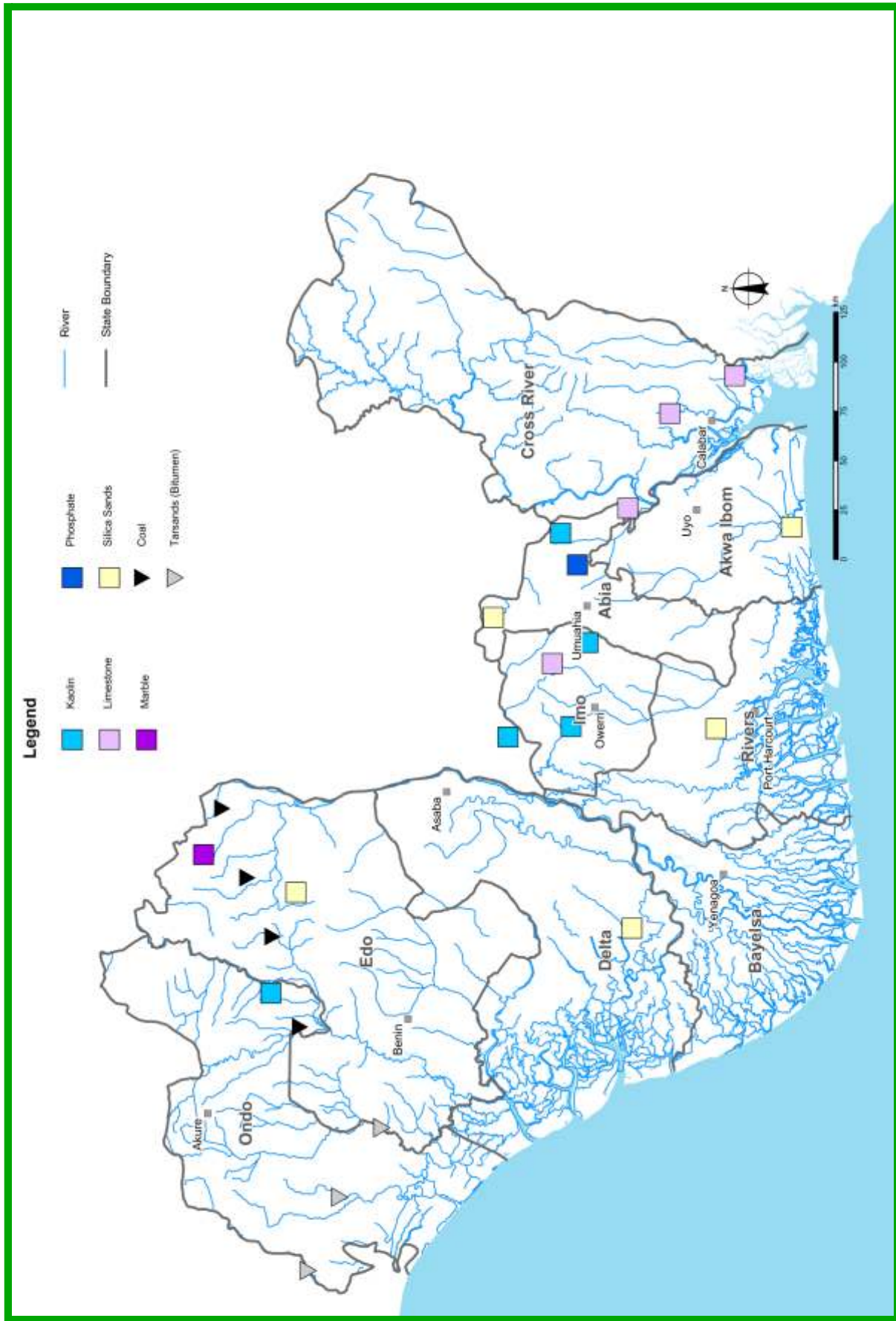
The sector is generally neglected and a significant quantity of minerals and revenue are lost to illegal mining activities

Fishing rights are in some cases sold for specific seasons or years, sometimes to other ethnic groups practiced in special techniques.



A typical Rain Forest in NDR

Map 1.7: The Distribution of Solid Mineral Resources in the Niger Delta Region



Source: DSL 2004



## Traditional Industries

Traditional industries in the Niger Delta include canoe carving, pottery, cloth-weaving, mat-making, thatch making (roofing materials), palm oil processing, food processing (garri, fufu and starch from cassava), and local gin distillation. The main characteristics of these industries, found in

varying proportions throughout the region, are that they are based on manual artisanal technologies, local inputs and skills (transferred chiefly through family upbringing and not via formal training or education).



Traditional Weaving in Okigwe, Abia State



A Basket Weaver in Ikot Epkene, Akwa Ibom

Traditional industries in the Niger Delta include canoe carving, pottery, cloth-weaving, mat-making, thatch making (roofing materials), palm oil processing, food processing

## Tourism

The Niger Delta Region possesses a wide variety of places whose history, culture, landscape, and ecology have the potential for generating a vibrant tourism industry. These include areas such as Ogoni Land in Rivers State, and Kaiama and Odi in Bayelsa State, which epitomize the 'Niger Delta cause' worldwide. There are numerous sites in the region that are famous for their cultural, historical and ecological features. Table 1.4

shows a list of potentially attractive sites. They portend great potentials for sustainable tourism that could further drive the economy of the Niger Delta Region. In particular, Cross River State possesses a great abundance of tourism interest that is currently being developed by the State Government.

Table 1.4: Potential Tourist Attraction Sites in the Niger Delta Region

State	Attraction
Abia	Arochukwu Caves National War Museum Akwette Weaving Centre Long Juju of Arochukwu Azumini Blue River Tourist Village Museum of Colonial History
Akwa Ibom	Ibena Sand Beach/Mobil Oil Treatment Plant Ekpo Masquerade Festival, Ibom Golf Course (on-going) Oron Museum
Bayelsa	Oloibiri Oil Museum (Planned) Brass Beach Slave Transit Hall, Akassa Sea Turtle Breeding Ground, Akassa
Cross River	Kwa Falls Agbokim Falls Obudu Cattle Ranch Coercopan Cross River National Park Drill Ranch, Tinapa (on-going) Ekpe Masquerade National Museum Rock with foot prints Mary Slessor House/Tomb
Delta	Chief Nana's Palace Koko Port Escravos Beach Ethiope River Forcados Beach
Edo	Fugar Caves Okomu Wildlife Sanctuary Igwe Festival Igun Bronze Casting Oba's Palace Ramat Park Sakpoba Holiday Resort Asoro Shrine Samorikal Hills
Imo	Oguta Lake Holiday Resort Ikeji Festival, Arondizogu Palm Beach Holiday Resort Zoological and Botanical Garden Amusement Park
Ondo	Idanre Hills Owo Museum Opale Iloro Water Falls
Rivers	Isaac Boro Park Monument of King Jaja of Opobo Port Harcourt Tourist Beach Ifoko Beach Okrika Aquatic Stadium



Traditional Boat Regatta



Traditional Dancers- Moni of Abonnema, River State

the cultural heritage, conservation and ecological tourism attractions that are present in all States and some, especially Cross River State, have a great abundance of features of tourist interest

The above list illustrates just a very small fraction of the cultural heritage, conservation and ecological tourism attractions that are present in all States and some, especially Cross River State, have a great abundance of features of tourist interest. Moreover, the high number of expatriates and well-paid Nigerians in the private sector present a viable, largely untapped potential for developing tourism in the Niger Delta Region. However, as highlighted elsewhere in the Master Plan report, roads, connectivity and

security must be improved if the potential of tourism for expatriates and those that could afford it is to be enhanced.

## 1.9 Infrastructure

### 1.9.1 Transportation

The transportation system in the region (Map1.8) is based on:

#### Water transport

Water transport is a very significant means of transport in the region. Transport along the inland waterways is usually by outboard engine boats, in-bound engine boats, speedboats and hand-paddled dug-out canoes, which are now usually used for movement over short distances and for fishing activities across several nautical miles. The cost of water transport is typically higher than for road transport and transport time often longer compared with road. Ironically, one of the reasons for higher cost of water transport is the scarcity and higher cost of petroleum products in most riverine

areas. The absence of efficient mass transit vessels is also an important factor in this regard. Many water borne goods also require the use of additional modes of transport before reaching their destination, which adds to the cost and time. The problems that limit the usefulness of the inland waterways as effective transport links include a high rate of silting of the channels, inadequate river port infrastructure, physical obstructions such as wrecks, snags and rock outcrops, and a history of inadequate levels of investment.

The seaports of the region play vital role in Nigeria's foreign trade. Indeed, apart from the ports of Lagos, all other ports are in the region and account for about 94% of the cargo loaded in Nigerian ports.



Water Transport in Bayelsa State

### ● Seaports

The seaports of the region play vital role in Nigeria's foreign trade. Indeed, apart from the ports of Lagos, all other ports are in the region and account for about 94% of the cargo loaded in Nigerian ports. However, the contribution to cargo discharged is only about 17%; the significant difference between the two figures is attributable to the prominence of the loading of oil at the terminals. Port Harcourt, Onne, Warri and Calabar are the leading conventional seaports in the region while Qua Iboe, Bonny, Brass, Forcados and Escravos are the main oil terminals. The problems of the Niger Delta ports are similar to those of the inland waterways, compounded by the under-utilization of the ports, a drastic decline in exportable agricultural products through such ports as Warri and Burutu, and increased preference for the ports of Lagos (Apapa and Tin Can Island).

### ● Roads

The road system is made up of three inter-related systems, the Federal, State and Local Government roads. The Federal network comprises the highest order dual-carriage and single-carriage roads such as the East-West road from Lagos to Calabar, Port Harcourt-Enugu, Benin-Abuja and Port Harcourt-Onitsha. State roads are more extensive than the Federal system including single carriage intra-city roads in the main urban centres, and others connecting the major towns. Local government roads, the lowest order roads, are usually unpaved feeder roads. In addition to these are roads built by oil operating companies either for their host communities or to provide access to their locations (which also provide service for communities). However, many roads or stretches of roads are in poor condition - around 40% of the total length of road in the region falls into this category. While many of the communities in the upland areas of the state are reasonably accessible by road, most in the wetland areas remain without roads and are difficult to reach (see Map 1.8).



Commercial Road Transport in Benin-Ore Road

A notable feature of intra-urban transportation in the big cities of the Niger Delta Region is the severe dearth of major mass transit provision for commuters.

Within rural settlements, the condition of roads and their suitability for vehicles vary considerably. This is partly due to two main factors. First, most of the roads within the settlements are neither tarred nor well graded; and secondly most of the village roads lack side drains, which mean that surface water normally runs into the roads and footpaths, thus accelerating erosion and rendering them virtually unusable in the rainy season.

There are a few State-owned transport companies such as Edo Line and Delta Line but transport services are provided by mainly private operators. The common modes are minibuses, taxis and motorcycles, which are very significant for rural, inter-settlement and intra-urban transport.

A notable feature of intra-urban transportation in the big cities of the Niger Delta Region is the severe dearth of major mass transit provision for commuters. Thus large numbers of small mini-buses, cars and motorbikes jostle through the cities with rising cases of accidents especially involving motorbikes. Traffic congestion has also worsened in most of the cities in the last five years with serious implications for air quality, especially as most vehicles, including

motorbikes, are imported used vehicles, which is what most of the few who own vehicles can afford.

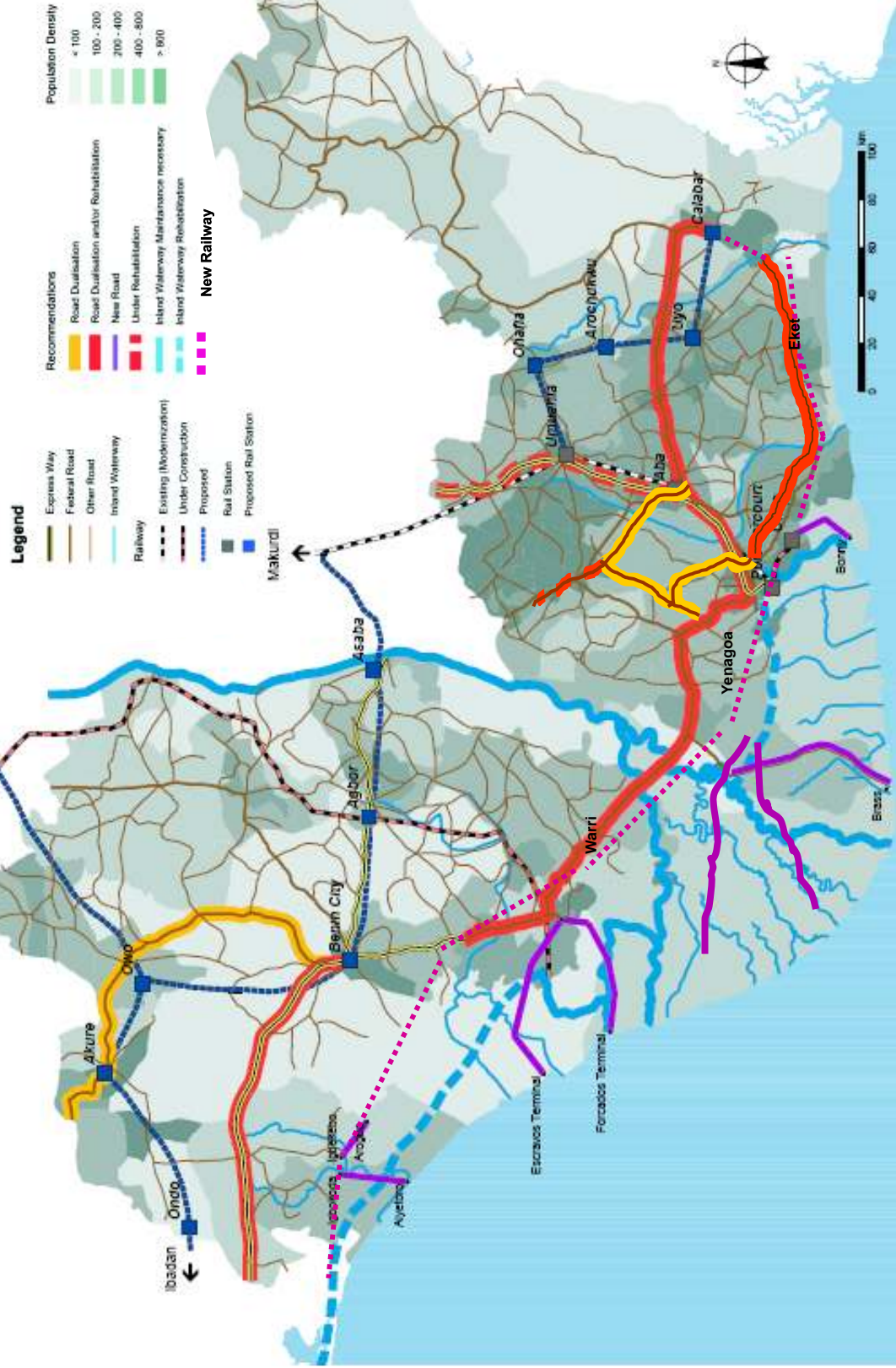
- **Rail**

The Niger Delta lacks rail transportation. The only available rail line, which is narrow gauge and was built in the colonial era, runs north from Port Harcourt through Imo and Abia States on to Enugu and parts of northern Nigeria. There is, however, a standard gauge rail line under construction from Warri (Delta State) through Edo State to the Ajaokuta Steel Plant in Kogi State. The system is largely inaccessible to a predominant proportion of the areas and people of the Niger Delta. The narrow gauge track restricts effective operation compared to the more modern and more effective standard gauge.

- **Airports**

Of the 19 domestic airports in the country, five are in the Niger Delta Region. Shell Petroleum Development Company owns an additional airport at Warri. Two of Nigeria's five international airports are also located in the Region (Port Harcourt and Calabar).

# Existing & Recommended Transportation Network for the Niger Delta





A Rural Household in the Riverine Area

Major constraints to improving housing supply and conditions in the region include grossly insufficient budgetary allocation to the sector; poor implementation of existing policies



Demonstration Housing Project in Aggrey Road, Port Harcourt

Major constraints to improving housing supply and conditions in the region include grossly insufficient budgetary allocation to the sector; poor implementation of existing policies; corruption and mismanagement of funds; problems of land acquisition; the high costs of building materials; and the severe

dearth of mortgage financing.

### 1.9.2 Energy

Access to reliable energy supplies in the Niger Delta Region is extremely poor. National Electric Power Plc. remains the

major source of electricity supply, except in Bayelsa State, which is not yet covered by the National Grid. The unreliability of the supply, however, means that there is extensive reliance on expensive back up generators.

Over 36% of households in the Niger Delta States have no access to electricity supply as a source of power. There are also marked differences among the States and the Local Governments Areas. Generally, communities within large settlements have better access to electricity than their counterparts in rural dominated localities, while oil companies provide electricity for some communities within their catchment areas. Few communities are served individually via communal effort.

### 1.9.3 Water Supply

Communities throughout the region also suffer from a weak infrastructure for the efficient and effective delivery of water supply and access to potable water. The vast majority of the settlements in Niger Delta States depend on springs and wells for their water supply and some rural settlements particularly the larger ones depend on water from boreholes.

Factors underlying the poor water situation in the region's include problems in the operation of the state water system, lack of effective urban planning, inadequate attention from government to the sector and limited involvement of the private sector in water resources management and service provision. Problems relating to state water agencies and their network include, limited coverage; low level of priority attached to the effective management and expansion of the water works; inadequate funding; poor revenue generation such as ineffective mechanisms for the collection of water rates; low political will to effect significant expansion of the scope and reach of existing water services and establish appropriate innovative schemes to boost water supply.

The challenges of addressing water supply problems in rural areas are not helped by communities' limited knowledge of the characteristics of safe water as well as the relationship between water and health.

### 1.9.4 Communication and Telecommunication

Only about 10% of the Niger Delta Region is served by the national postal system and the number of telephone users per 100 people is one of the lowest figures in the world. Difficulties in providing services due to hilly and swampy terrain are exacerbated by inefficient power supplies and inadequate

investment finance.

GSM services are, however, increasingly improving telecommunication for those that are able to afford the services

### 1.9.5 Waste Management

Municipal and industrial waste management are among the most pressing environmental problems and health hazards in Nigeria today. In cities like Port Harcourt, Aba and Warri in the Niger Delta, only a small proportion of the solid wastes generated is collected by public or private agencies that have the capacity to ensure their safe disposal. The rest of the wastes, including toxic and hazardous materials, are disposed of indiscriminately, by dumping either at open and unprotected sites usually located within the cities, in public drainage systems or in streams and creeks. Some incineration is practiced through open burning at the backyards of residences.

The situation is fairly different in rural areas. The consumption patterns here are still compatible with the traditional systems of domestic waste disposal: mainly composting of the largely biodegradable materials in open surface dumps. In rural riverine communities the most common practice is to dump domestic wastes into the creeks.

Only a few corporate bodies have properly engineered sanitary landfills or waste recycling plants.

The inadequate provision of proper sanitation facilities reportedly accounts for 7% of all deaths and diseases worldwide, with children and women being more at risk. Such problems are present in the Niger Delta because of the total lack of facilities and capacity for waste management and rapid population growth with the attendant accelerated pace of urbanization. The region is faced with a myriad of waste management related problems. The more critical of these include the difficult, mostly water-logged and inaccessible terrain that leaves very little land available for development, the high level of environmental pollution from the oil, gas and other industrial activities, and the intractable problems of solid waste management especially within the overpopulated semi-urban and urban areas. Most of the oil production and industrial activities generate large volumes of solid and hazardous liquid and gaseous wastes leading to the pollution of the air, water and land.

With only about 11% of the houses having access to formal and effective disposal service provided by government and private sector agency, the adverse consequences of the waste generation and their improper disposal are severe on both the people and

Communities throughout the region also suffer from a weak infrastructure for the efficient and effective delivery of water supply and access to potable water.



the environment.

## 1.10 Services

### 1.10.1 Education

The adult literacy status of the Niger Delta States is around 78%, which is significantly higher than the national average of 54%, although marked differences exist among the States.

Public sector schools still provide the main education facilities in the Niger Delta States. The surveys carried out for the Master Plan indicate that 82% of pupils attend schools owned by the government while 10% attend privately owned schools. Community-owned schools cater for 2% of the total pupil population, while only 6% of pupils attend schools owned by religious organisations

The government education sector in the region is burdened with serious structural problems, and these have accelerated the proliferation of private schools and withdrawal of children from public primary schools. The quality of education which has been declining for years has also compounded youth unemployment, conflicts and other socio-economic challenges. Against the background of widespread unemployment, some observers have aptly referred to the schools as 'Restive Youth Factories'.

The major constraint to good quality administration and schooling at the primary, secondary, adult and tertiary levels is poor funding with the attendant poor infrastructure maintenance, low morale of instructors, inadequate teaching aids, and poor teaching and learning facilities. This calls for urgent intervention in the provision of much-needed teaching and learning tools such as

chalkboards, charts and posters, special equipment for science, information technology, home economics and sports.

The number and quality of staff at all levels remain an issue in the region. The number of qualified teachers in schools is grossly inadequate to cater for the teeming population of pupils, resulting in a high teacher / pupil ratio in schools across the region. This highlights the need for more teacher training and re-training.

Student enrolment at all levels in both public and private sectors is high and most classrooms, particularly those of public schools are overcrowded. However, the drop out rate among students in the region is also high. Students often have to travel long distances to school and this often has a negative impact on their attendance and performance.

In higher education sector, the region is endowed with a number of Universities that provide a wide range of opportunities for graduates (see Map 1.9). However, owing to falling standards and quality in recent years from industrial crises, serial protracted school closures, poor funding and poor facilities, increasing numbers of students are pursuing higher education in Ghana and South Africa.

The higher education sector also suffers from the general relative weakness of departments delivering education and training in engineering and the sciences, which are critical for socio-economic transformation.

The major constraint to good quality administration and schooling at the primary, secondary, adult and tertiary levels is poor funding with the attendant poor infrastructure maintenance



A Primary School Classroom, Tungbo, Bayelsa State

### 1.10.2 Housing

Housing is one of the key factors in regional development. The number of dwelling units reflects the size of population; the location of dwellings reflects the location of economic activity, the transportation system and the ability to travel between residence-work-services, which in turn is related to the income level of the residents; dwelling size and type related to the residents' household size, culture, and level of income, again reflects economic activity. The resultant living standards (the quality of building and services, the internal and external densities) may then play a part, for example, in the ability of children to learn and develop, in social unrest, or the opportunity to develop home business.

The housing problem is a matter of crucial concern in the Niger Delta Region. In brief, the problem is the need to ensure an adequate supply of houses in quality and quantity to match ever-growing demand so as to produce rents which are reasonable to meet the resources of various income groups within the community and which are equitable in terms of returns to investors in housing.

Housing condition and supply are characterized by an inadequacy for which combinations of social, economic, demographic and technological factors are responsible. Throughout the cities in the region, statistics show quite clearly that urban dwellings are, in general, overcrowded, lacking in most elementary amenities and surrounded by a deplorable urban landscape situation. In Port Harcourt, for example, about 30% of the population, which accounts for more than 350,000

people, live in shanty towns.

More than 70 per cent of present households have an average of eight occupants. The number of persons per dwelling has been on the increase in the main towns. Thirty percent (30%) of the households live in two rooms and 40% in a single room, each of which houses an average of 6 persons. Thirty one and a half percent (31.5%) of the housing stock are with electricity and water. Similar unsatisfactory situations have been found for infrastructure such as roads, social services and sewage. The most unsatisfactory situation is still getting worse due to the impact of population growth and urbanization.

Supply, on the other hand, for a number of reasons, has not kept pace with this demand. In the urban areas the increase in demand, especially due to the rural urban migration, cannot be satisfied by the rate of construction.

In the rural areas, the problem is one of quality a problem of finding the means to provide houses which are relatively cheap and within the means of the rural folk and yet of sufficient high quality to satisfy modern-day standards.

Traditional rural housing in the Niger Delta States has always been 'compound' style development consisting of many rooms facing on to a private internal courtyard, a housing type that is likely to be important well into the future. In Cross River State, for example, 65% of houses are of the 'compound' type. In Edo and Cross River States, these compounds with a large house at the front, contain double-banked rooms

The housing problem is a matter of crucial concern in the Niger Delta Region. In brief, the problem is the need to ensure an adequate supply of houses

Table 1.5: The Housing Needs of the Nine States of the Niger Delta Region

STATE	Housing Units	Land Requirement
Abia	134,606	4,711
Akwa Ibom	150,410	5,264
Bayelsa	70,017	2,451
Cross River	119,305	4,176
Delta	161,700	5,660
Edo	135,578	4,745
Imo	155,155	5,430
Ondo	140,421	4,915
Rivers	198,989	6,965

opening off the courtyard. Housing in the rural areas is generally devoid of essential amenities like electricity and water. As with urban housing, walls are mostly constructed of cement (63.5% of houses), while the rest are mainly mud and bamboo. There is less overcrowding but amenities are poor. Many of the buildings use latrines in the bush, while only 11.2% have toilets with septic tanks. House floors are mostly made of mud with very few houses having cement flooring; as for electric power supply, only about 28.6% of houses are linked to power lines.

Rural housing has always been constructed by informal sector builders on plots which were property of the owners, but to which they only have traditional land rights. These plots do not necessarily correspond with official plans. They tend not to conform to building and planning regulations on such matters as leaving set space standards, quality of construction material and waste disposal. Even in the urban centres in most states, housing development during the 1990s to date has shifted more significantly from standards than in earlier years, due to weakening law enforcement and administrative deficiencies. The Rivers State Government, for instance, has recently tackled the case of haphazard commercial development by widespread demolitions, a necessary measure but also a very costly and avoidable waste in a country and region with severe capital shortage and widespread poverty. Roads in even the most

recently developed residential areas are hardly wide enough for two cars to pass each other or for one car to turn around, a major set back in emergency situations.

The problem of scarcity of housing and overcrowding is much less than that of urban areas, and is virtually negligible. However, the quality of building materials and the structure of the buildings as well as the inadequacies of vital infrastructure such as potable water and light make for poor living conditions.

### Housing Needs and Delivery

One of the major issues facing the Region is the delivery of sufficient good quality housing to meet the needs of a rapidly growing population.

The present housing needs in the Niger Delta Region States would require the provision of 607,345 new dwelling units with a future annual requirement for 324,600 new dwelling units. This figure for the present housing need adopts an average occupancy rate of about two persons per room.

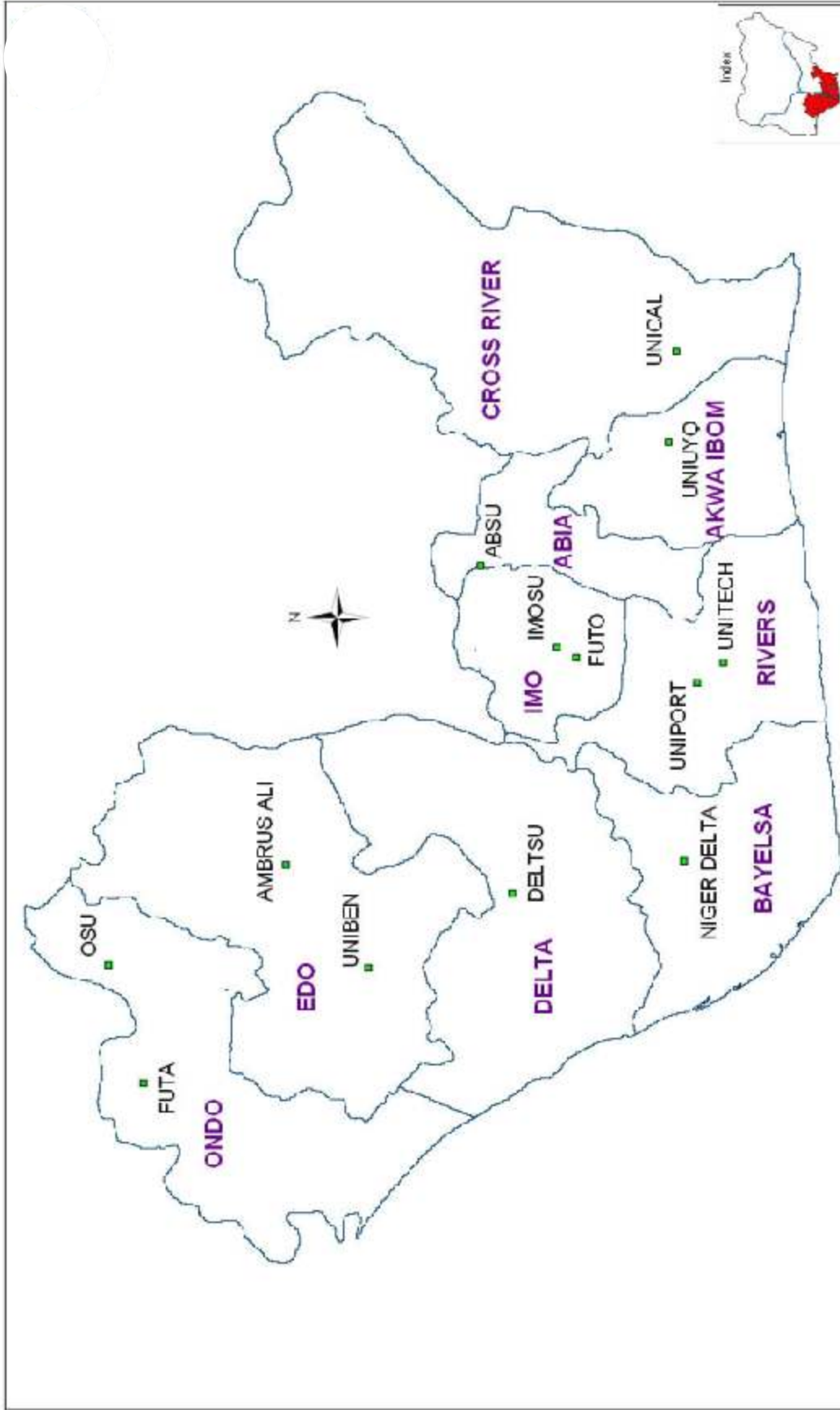
The associated land requirement is given in the Table below:

One of the major issues facing the Region is the delivery of sufficient good quality housing to meet the needs of a rapidly growing population.

Table 1.6: Estimated Land Requirement per State (Ha) up to 2015

STATE	Year 2003	Year 2007	Year 2011	Year 2015
Abia	77,764	105,473	119,132	134,606
Akwa Ibom	65,171	117,817	133,120	150,410
Bayelsa	30,337	54,844	61,968	70,017
Cross River	51,693	93,452	105,590	119,305
Delta	70,063	126,661	143,112	161,700
Edo	58,744	106,199	119,993	135,578
Imo	67,227	121,534	137,319	155,155
Ondo	60,936	109,992	124,278	140,421
Rivers	125,410	155,127	176,114	198,989

Map 1.9: Location of Universities in the Region



### 1.10.3 Health

Water-related diseases are one of the most critical health problems in the Niger Delta and the health issue most closely linked with environmental degradation. Although few water-quality studies exist, the data available on water-related diseases, water supply, and waste management practices illustrate that water contamination and associated diseases are a problem throughout the Niger Delta Region.

Water-related diseases represent at least 80 per cent of all reported illnesses in the region. Malaria followed by other water-related diarrhoeal diseases such as dysentery, typhoid and cholera are the most common cause of morbidity at the various health establishments in the region. The people of the Niger Delta still suffer from other debilitating diseases such as Yellow Fever. Water-related health issues are also linked with environmental degradation. Although few water-quality studies exist, the data available on water-related diseases, water supply, and waste management practices illustrate that water contamination and associated diseases are a problem throughout the Niger Delta region. Poor sanitation and a general low access to potable water are primary reasons why diseases attributable to poor human waste disposal are common in the Region. While water is ubiquitous in the region, potable water is difficult to find, especially during the dry season and this leads to disease outbreaks. In addition, 30% of the Region is located in brackish or saltwater ecosystems, as noted previously. During the wet season, the high water table and flooding degrade water quality by increasing human and other waste contact and creating pools of stagnant water

Malnutrition is also a major health problem, especially among under-five children where about 10-12 per cent of them are severely malnourished, 18-23 per cent moderately so, and 30-40 percent mildly malnourished. These data are supported by a perceived lack of correct breast-feeding methods, faulty weaning practices and household food insecurity.

About 5.4% of Nigerians between the ages of

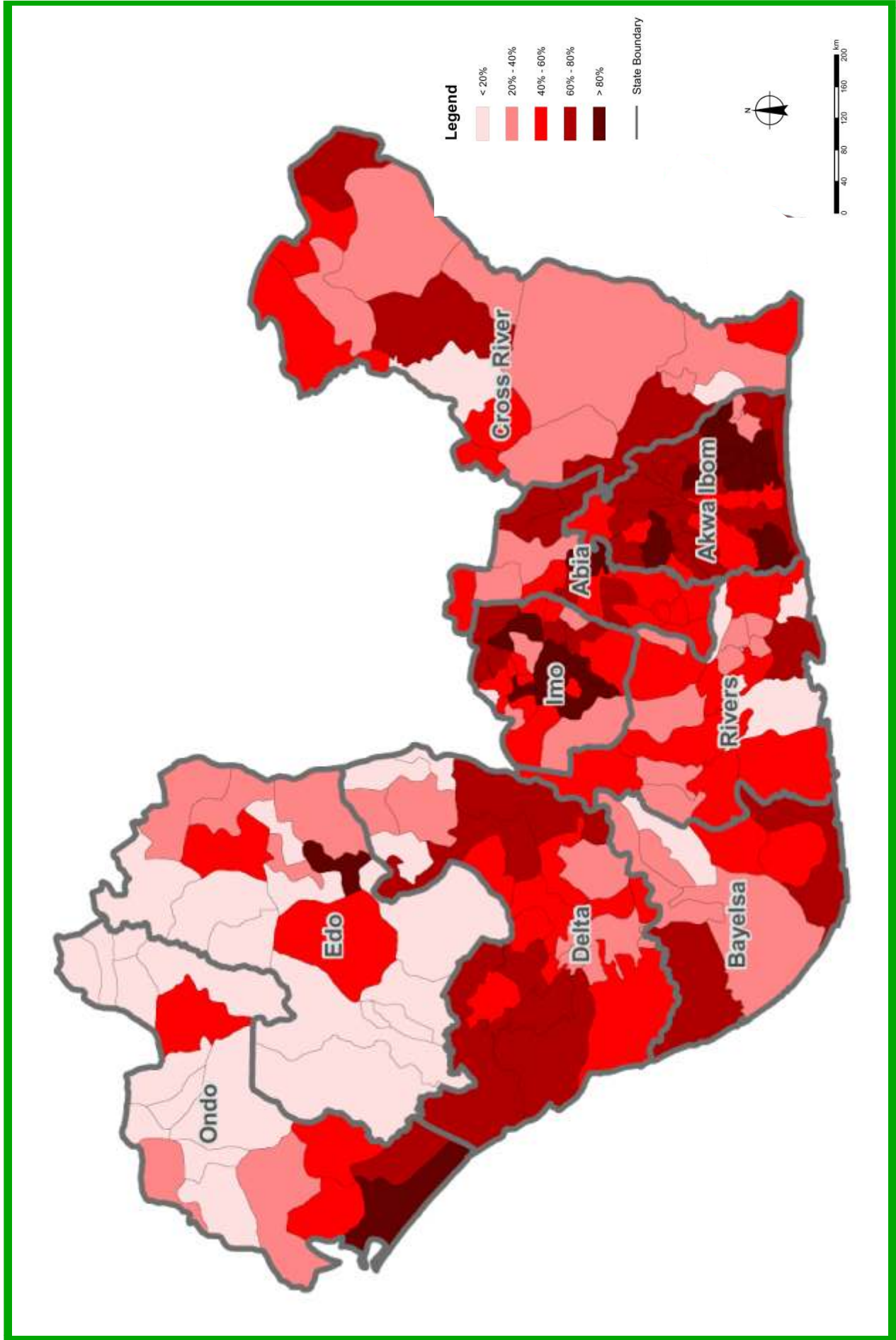
15-49 years are living with HIV/AIDS. This means that an estimated 2.7 million adults between the ages of 15-49 years are infected with HIV. Projections show that by 2009 some 5 million Nigerians will have developed AIDS and that both rural and urban areas are affected. The scourge of HIV/AIDS is also on the increase in the region. For example, the incidence in three States Cross River, Rivers and Akwa Ibom exceeds the national average of 5.4%, with Cross River State reporting the highest rate among all states in Nigeria at 12% according to the most recent data (NACA, 2004).

The implication of this HIV/AIDS scenario places additional burden on medical care provision, increases the number of orphaned children, reduces the availability of labour (as it involves the active and productive work force) and ultimately has an adverse impact on economic development. It therefore poses a major threat to the Region, which must be quickly combated.

The levels of health care facilities in the Niger Delta States include specialist hospitals, general hospitals, primary health care centres, maternity centres, health posts, dispensaries and a host of private hospitals and clinics. The most widespread of these facilities is the primary health centre, the typical health facility in the rural communities. However, in the urban centres and major cities private clinics predominate. Specialist hospitals are located in the major urban areas while general hospitals are located in both major and medium sized urban centres and Local Government headquarter towns. While the Federal and State governments mainly own the specialist hospitals, some of the general hospitals are owned by Religious Orders, who have an interest in providing health care facilities in the rural areas and by private sector organizations especially in the urban areas.

Water-related diseases represent at least 80 per cent of all reported illnesses in the region. Malaria followed by other water-related diarrhoeal diseases such as dysentery, typhoid and cholera are the most common

Map 1.10: Distribution of Households that require more than 45 minutes to nearest Health Facility



## B Development Challenges and Opportunities

### 1.11 Development Challenges

The foregoing sections set out the general situation in the many areas of society and economy that combine to give the Niger Delta Region its unique position in Nigeria and worldwide. The following section of this report highlights the challenges and development opportunities in the region that mirror the preceding profile of the region and its people.

All the positive and negative factors affecting the potential for sustainable development in the region are examined in much greater detail in other parts of the Master Plan and addressed in policies and proposals that aim to meet the enormous but not insurmountable challenges facing the region and its people.

As stated by many national and international commentators the Region is a paradox of poverty amidst plenty. Its socio-economic problems include:

- Widespread poverty with about 70% of the population on or below the poverty line
- A very low level of industrial development
- Unemployment
- Poor health and 20% child mortality rate which is amongst the highest in the world
- Inadequate transportation structure with movement and access to settlements being hampered by a poor road network and difficult conditions especially in the riverine areas
- Absence of electricity supply in many riverine areas and regularly interrupted supply across all areas
- Poor telecommunications
- A shortage of land for development
- Inadequate health and education facilities
- Ineffective waste management and inadequate sanitation facilities
- Social restiveness and conflict

Moreover, the exploration and exploitation of oil involve a number of activities that directly affect the lives of the oil-producing communities. This adverse impact is not only limited to the physical environment with its sensitive and fragile ecosystem, but also the socio-economic life of the communities. It touches, for instance, their relationship with their land as farmers, their swamps, rivers and creeks as fishermen, and their cultural and spiritual life.

The key development challenges are to provide an enabling environment through actions that promote and continue to improve the economic growth and sustainable development of the region. They include:

#### Poverty reduction

Multi-sectoral action is urgently required to alleviate widespread poverty, achieve the Millennium Development Goals (MDGs), and fulfil the regional vision of transforming the Niger Delta from its turbulent, underdeveloped, and environmentally degraded past to Africa's most peaceful, most prosperous and most pleasant region thus contributing to the national vision of making Nigeria Africa's strongest economy.

#### Security and Public Law and Order

The general perception of the Niger Delta as a region rife with violent conflicts, kidnappings, random killings and general disorder needs to be changed. This is desirable for the development process as private sector investment can only be attracted to, and thrive in an area where security of life and property is assured.

#### Good and transparent governance

The determination of governments and other stakeholders to partner in the rapid development of the Niger Delta Region must be complemented by effective, accountable and transparent governance at all levels. There is urgent need to rebuild largely eroded faith in the integrity, intents and capability of governments among the populace and global community.

#### An efficient and effective institutional structure

Development efforts in the Niger Delta are also constrained by weak, inefficient and dilapidated institutional capacity. There is lack of adequate trained manpower, effective and transparent working practices and systems and established institutional norms and values. Corruption is rife and societal institutions have decayed to such an extent that the challenge of developing an efficient, transparent and accountable civil service and a strong judicial, legal and regulation capacity is an outstanding priority task for the region.

Public bodies and financial institutions must be sensitive to the special needs and aspirations of the communities of the region in a complementary relationship with the government and the people, through an effective institutional framework, including cross sector partnerships that encourage collaboration and consultation. Efficiency of public institutions and reforms aimed at pruning the excessive overhead and operational costs in public service institutions, need to be given priority attention.

Development efforts in the Niger Delta are also constrained by weak, inefficient and dilapidated institutional capacity. There is lack of adequate trained manpower, effective

### **Tackling the causes of low economic growth**

Other than in the oil and gas sector, the Niger Delta Region has not registered any significant economic growth in recent years. Entrepreneurs, both domestic and foreign, have tended to perceive the area as a difficult place to do business, and have made minimal investment outside of the oil and gas sector. Investment and local business growth have been discouraged by inadequate access to finance, capital and credit, poor infrastructural facilities, unfavourable macro-economic conditions, low managerial and technical capacity and communal conflict and industrial unrest.

Traditional small-scale agriculture, which stands as a mainstay of the majority of the rural population, is characterized by low productivity, low income levels, minimal domestic savings and lack of investment capital. The modern sector is dominated by external interests and is heavily reliant upon a single extractive commodity, which accounts for more than 90% of the export earning of the region and the nation.

The region has some key large scale industries related to the oil and hydrocarbon sectors. These include refineries, petrochemical plants, liquefied natural gas plants and a fertilizer plant. Numerous economic activities revolve around these industries, which employ the bulk of the industrial work force in the region. However, these provide limited employment opportunities and have not been able to absorb the growing workforce of the region.

The other major employers in the region are the Federal and State governments who invest heavily in infrastructure and large-scale projects. A slump in government revenue, high debt repayment schedules and disproportionate allocations to the region coupled with weak tax bases, high recurrent expenditure schedules and wasteful spending have limited, over time, the abilities of the government sector to invest in the area or generate gainful employment to any appreciable degree.

The private sector remains small, weak and fragmented and is concentrated in food and beverages, small-scale manufacturing, mining/quarrying, construction, transport and distributive and marketing services. The sector's ability to form medium and small-scale industries that generate direct and indirect employment opportunities has been very limited and is constrained by a lack of capital and credit facilities, decaying infrastructure and inefficient institutional practices among other factors.

### **Diversification of the regional economy**

Apart from the oil and gas extractive industries, the region has not been able to develop alternative region. The essential challenge is the regeneration of areas of economic activity, such economic activities. The dominance of the oil industry perpetuates the weaknesses associated with the narrow economic base of the as palm oil, which have suffered from neglect; intensive efforts to create more efficient practices in agriculture and aquaculture; better use of the region's immense potential for solid mineral production; the promotion of tourism; and the progressive growth of manufacturing to reduce input dependence and create jobs. There is also the challenge to improve the level of local content employment in the upstream operations of oil and gas industry, which is dominant but has few domestic economic linkages. It is also important to pursue increased downstream operations, which have even greater potential to generate jobs and stimulate growth of the local economy.

### **Improvements to and maintenance of infrastructure**

The development of transport infrastructure, telephone, waste management system, and electricity in the region has generally been neglected. Communication and accessibility for most of the population has also been very poor.

The most common and effective transportation mode in the rural areas is by water in canoes and small boats. In recent times, emphasis has been placed on urban road transport, with less regard to rural transportation development, especially water transport - for example, modern jetties hardly exist - which is essential for the movement of the majority of the rural population. As a result, there is immense difficulty of movement of people and goods in the remote rural areas.

Apart from a few State-owned transport companies, transport services are provided by private operators. The common sub-modes are minibuses and cars (taxis) and motorcycles. Buses commonly referred to as luxury buses are very common in the eastern delta where they operate between the large towns. Motorcycles are also a significant part of the intra-urban transportation system in many Niger Delta cities. Railway lines pass through only three cities out of the nine states in the region.

The severe lack of telecommunication infrastructure continues to stifle the advancement of the information technology. Many of the rural communities in the region remain largely unconnected and are

The private sector remains small, weak and fragmented and is concentrated in food and beverages, small-scale manufacturing



consequently unable to take advantage of the modern trends in telecommunications and technology, which can be major enabler for rural development.

Similarly, the power sector in the Niger Delta is characterized by growing disparity between demand and supply. About 72% of the households in the region are not connected to the national electricity network. The rate of connection is even lower for some of the rural communities.

Waste management is another most pressing problem. The region is faced with a myriad of waste management related problems. There is high level of environmental pollution from the oil, gas and other industrial activities, and the intractable problems of solid waste management especially within the overpopulated semi-urban and urban areas.

The sorry state of energy, water supplies, telecommunications, road and rail transport system, as well as water transport severely hinders the development of all areas in the region. It also raises the cost of starting and maintaining a business, and makes local production uncompetitive. Concerted action is urgently required to remove the threat of weak infrastructure acting as a brake on development.

### **The demographic challenge**

The region's total fertility rate is among the highest in Nigeria. This has an adverse effect on the health status of mothers, children and the larger community. The population growth rate exceeds the agricultural and economic growth rate, thereby, portending increasing poverty in the medium-to-long-term. The youthful age structure of Niger Delta States' population, reflected in the predominance of people who are less than working age, places a heavy dependency burden on the working population. These patterns indicate that the burden borne by the economically active person is higher than is economically desirable. Interventions that focus on improving access and demand of birth control services and expanding access to improved quality of maternal and child health services, need to be initiated.

### **Unemployment and underemployment**

The majority of the working population of the Niger Delta Region is self employed in commercial activities including agriculture (farming and fishing), trading, logging and associated wood processing, traditional craft, raffia palm tapping, raffia thatch, weaving of cloths, mats and baskets, metal works and blacksmithing. There are also economic activities relying on indigenous knowledge, like canoe carving, distilling and

traditional medicine. However, these activities have remained small-scale, incomes low and opportunities few. The modern industrial sector employs only a fraction of the labour force of the region, while the organized indigenous private sector has not been able to generate employment opportunities to any significant degree.

The resulting development challenge is not only the need to reform the economy for enhanced economic growth, but also to empower citizens and revitalize the social fabric of society in the Region.

The lack of gainful employment, especially among the youths is not only an economic issue but has become a major security concern and an underlying cause of conflict and violence in the region. Any failure to address this issue will severely undermine efforts to promote inward investment and the economic development of the Niger Delta.

### **Creation of opportunities for youth and for women**

As mentioned previously, the socio-economic disadvantage of youth and women in the Niger Delta is a pressing issue that needs to be addressed as one of the main priorities for action in the Master Plan.

The empowerment of both of these groups in the democratic decision making processes, the development of civil society and in the pursuit of sustainable development, is essential to the region's economic and social prosperity. Exclusion of either group would be a tragic waste of the rich human resource and talent that youth and women possess.

### **Improving the health of the population**

Very high mortality rates of children, Malaria and the rapidly increasing incidence of HIV / AIDS are serious but not insurmountable challenges. However, if appropriate interventions to counter these scourges are not taken the very fabric of society in the region and its economy, which is so dependent on human capital, will come under ever increasing threat.

The health sector is beset with problems including poor hygiene, little or no health information and education, and grossly inadequate capacity for service delivery. There is an inadequate provision of hospitals, clinics, primary health centres, properly trained and motivated health personnel, and effective operational plans for health management. In much of the most remote hinterland, there is a complete absence of any formal health service. The majority of rural communities lack access to the most basic and simple modern medical care, including basic first aid.

The lack of gainful employment, especially among the youths is not only an economic issue but has become a major security concern and an underlying cause of conflict and violence in the region.

The health care sector needs to be expanded, decentralized and modernized. New health facilities need to be built, especially in the hinterland areas, and a significant number of existing facilities have to be refurbished

#### **Lack of basic social services**

Social welfare as a public responsibility is largely absent in the region. Care for persons in need is still mainly an issue of family solidarity, with support of the extended clan and the larger community, in severe cases. Even though a number of charity organisations have established schools for the handicapped and the blind, and some non-governmental organisations engage in supporting special vulnerable groups such as orphans, the growing number of AIDS orphans will further aggravate the issue of social welfare for vulnerable groups.

Especially in the rural areas, welfare of the seriously ill, as well as of the mentally and physically challenged, remains a family and community responsibility.

#### **Human resources**

There remains a great challenge of creating conditions in the educational system to enable the valuable human resources of the region to be used to their full potential, particularly capacity building programmes to empower women and youth, improve the health of the people, and strengthen their education and enterprise abilities, particularly in the ICT knowledge economy.

#### **Lack of popular participation and Civil Society empowerment**

Promoting development, reducing poverty and strengthening democracy and good governance practices cannot be achieved by government and its institutions alone. It requires the full participation of the people of the Niger Delta and partnership of the civil society community of the region. It is only in the process of active participation of ordinary people, and broadly based collaboration of the public / private sector and civil society, that the problems of the Region can be adequately addressed and eventually resolved.

One of the principal challenges of the Niger Delta development effort must be to build, strengthen and consolidate a system of democratic participation. As highlighted in the discussions at the conference and follow up workshops on 'Creating an Enabling Environment for the Sustainable Development of the Niger Delta Region' (2001-2003), the key challenges to development can only be effectively tackled through effective sustainable partnerships.

For desired changes to take place, the people, the government, the private sector, civil society and everyone that has a stake in the development of the area need to come together and to work together in a participatory process that adheres to the principles of accountability, transparency, equity and mutual benefits.

#### **Sustainable development**

Striking a balance between the demands of unfettered economic development and the precious history, culture and environment poses a considerable challenge to all stakeholders with regard to the future level and pattern of development of the region. A major challenge also is to curtail the detrimental impact of oil and gas operations, including gas flaring. In addition to other industrial and municipal wastes, the heavy dependence in the rural areas on felled tree logs for energy and the indiscriminate felling of timber also pose major challenges.

### **1.12 Development Potential**

The great development potential of the region is widely acknowledged within and without the region. In the words of Mr. Abdoulaye Janneh, UNDP Assistant Administrator and Director, UNDP Africa Region:

"The Niger Delta area is particularly blessed with abundant human and material resources. The people are creative and industrious. The land is rich and fertile."

Given proper policy and good governance involving effective private sector and civil society contribution the Niger Delta has enough potential to surpass even the socio-economic and human development objectives set out in the Millennium Development Goals (MDGs) and national strategies like the NEEDS. In fact, achieving those targets is considered the minimum possible development threshold for the region.

Besides its tremendous oil and gas wealth, the Niger Delta Region is endowed with a large number of working age population, potentially cultivable land and fishery resources. If properly exploited and combined with strategic and optimal policies and programs, the region can overcome the unemployment and underemployment crises that have blocked the path to development and threaten to tear apart the very fabric of its society.

The development potentials of the Niger Delta Region are by no means hypothetical. They are very real and the most salient of these realities is discussed here following the sector approach applicable to the entire planning process. It is also important to note that the objectives and specific goals or

"The Niger Delta area is particularly blessed with abundant human and material resources. The people are creative and industrious. The land is rich and fertile."

targets that accompany the presentation of the development potentials of the region are the products of a highly iterative process of stakeholder consultation at different levels in both rural and urban areas. The objectives and goals represent the dreams of the village farmer and fisherman just as much as they cover the ambitions of the urban business executive and the government.

### 1.13 Opportunities

#### Primary Agricultural Production

The potential of the Niger Delta Region in the area of primary agricultural production is immense. It is important to re-iterate the fact that just before the oil boom of the 1970s, over 50% of Nigeria's foreign exchange earnings came from primary agricultural production. Moreover, in the years preceding the glut, Nigerians were not under the threat of starvation due to a gaping food production deficit as they are today. Suffice it to say that a good percentage of the food production that earned good income for the nation and secured her people from starvation was attributable mostly to rural farmers in the Niger Delta Region, with about 70% of the population involved.

The Niger Delta Region produces a variety of cash crops and food crops. The cash crops are palm fruits, from which palm oil and palm kernels are derived, rubber and cocoa as well as groundnuts and pineapples.

Nigeria was once the world's largest producer of palm oil. This activity was largely centred on the Niger Delta Region, hence, the area was named the "Oil Rivers", long before the advent of crude oil. The Oil Palm remains one of the most important cash crops in the region, and could serve again as a major driver for the economic development of the region. Successful examples of what can be achieved can be found in the oil palm plantations owned by the respective governments of Bayelsa, Imo and Rivers States ( Bayelsa Palm, Ada Palm and Risonpalm), and a few others owned by private investors. These investments have proved to be not just profitable to the investors but also valuable to the local economy through substantial job creation and linkages with other activities. Palm oil and kernels can be used for a variety of products including soap and pomade. Indeed there are by products for every part of the palm tree. Although there has been some modernization of the industry, as in Risonpalm and Adapalm, the potential of oil palm has not been fully exploited.

The two other main products in the region are rubber, which is mainly produced in Delta and Edo States, and cocoa, which is produced

mainly in Cross River and Ondo States. The vast domestic and international markets for oil palm products, rubber and cocoa are yet to be fully exploited by the region.

The major food crops that could be developed more efficiently are cassava, yam, plantain and cocoyam. There is also enormous scope for rice production, which is fast becoming a major food crop in the region. A number of important fruits are also produced in the region. These include pineapples, oranges, grapes, lime, lemon, guava, paw paw and bananas.

The critical need is for modernization of production activities and the creation of the appropriate conditions to attract youth to agriculture, especially in the face of aging farming / fishing population.

The extent to which the potential of the agricultural sector can be harnessed will hinge on the success of agricultural modernization in the face of serious deficiencies in socio-economic and physical infrastructure. Ecological degradation occasioned largely by oil activities, declining productivity and inefficient land tenure systems are also severe problems hindering development. Even so, recent satellite images of the Niger Delta Region indicate that in general, less than 50% of land available for growing crops has been put to use. This significant underutilization of such a large area of land indicates a huge potential for agriculture.

#### Agricultural Processing and Rural Enterprises

Poor preservation is one of the major problems of the agricultural sector. With abundant food production, development in the region could receive a further boost from the industrial processing of such foodstuffs. Cassava, yam, maize, plantain, etc. can all be processed. Similarly, the various fruits can be processed into fruit juice. Cocoa can also be processed into different kinds of beverages. As described previously, the processing of palm fruits is a major industry: palm oil and kernels have many industrial uses.

The major partners here could be the private sector, the government sector, the NDDC, local communities and the aid agencies.

#### Aquaculture

Despite various major efforts to develop aquaculture the potential of the sector remains unrealized. The fact that Nigeria is the largest importer of fish in West Africa is partly indicative of the failure of past attempts to harness fish resources and their management to meet market demand. The importance of the shrimp industry and the considerable scope for the development of fish farms in the Niger Delta points to a significant development opportunity that

Mineral resources are the primary raw materials for industrialization. Yet despite the richness of these resources the Niger Delta Region has not taken advantage of their potential.

should not bypass the region. Demand-driven private sector-led intensive fish farming (starting with Catfish *Gariépinus Lazera*) can be embarked upon to close the wide gap between the fish produced via capture and culture technique and the quantity demanded. Additionally, public-private sector synergy could be the key to unlock the potentials for fresh and salt-water shrimp/prawn culture.

### **Livestock: Production and Processing**

There is considerable scope for investment in modern methods of animal husbandry particularly of sheep, goats, chicken, and ducks, which are presently reared through traditional livestock ownership and management. There is also scope for the rearing of other animals including pigs and rabbits. Snail production is another line of emerging productive activity. The recent ban on importation of poultry products by the Federal Government has increased supply deficits, raised prices and enhanced great potentials (and imperatives) for profitable local poultry farming.

### **Forestry**

The timber resources of the Niger Delta are diminishing rapidly along with other forest products. There is a need for the enforcement of laws protecting the forest reserves alongside a massive programme for replanting of trees in the region.

Education of the local people in terms of the importance of these reserves for their sustainable development is therefore extremely important. The key role here belongs to the various state and local governments, and community based organizations although they face major constraints due to dire poverty in the rural areas, a poor attitude to work, corruption and lawlessness.

### **Solid Minerals**

Mineral resources are the primary raw materials for industrialization. Yet despite the richness of these resources the Niger Delta Region has not taken advantage of their potential. There are abundant minerals that could be marketed in a wide range of industries. Limestone and a host of other locally available cement raw materials could be utilized by the local cement industries, especially in Edo and Cross River States. Glass sand/silica sand could be utilized by local glass industries in Edo and Ondo States. Bitumen/Tar sand could be the basis for the petrochemical and fertilizer industries in Ondo and Delta States.

In addition to these heavy industries, the availability of a large number of minerals could support a dynamic building and

construction industry, the chemical industry, and the manufacture of paint, ceramic products as well as other manufacturing processes. Common industrial minerals such as sand, clay, and marble could also be more intensively utilized. High quality sand for glass making exists in many areas.

Crushed rock, gravel, sand and clay are ubiquitous building materials widely used for rural and urban dwellings, and in the construction industry for civil engineering works such as roads, buildings, bridges and dams. The Basement Complex furnishes a rich source of crushed rock, which is augmented with basalt, dolerite and limestone in some places. Laterite is a common building and road-surfacing material. River gravel of various sizes is widely available as aggregates and building materials, especially in Akwa Ibom and Cross River States.

### **Oil and Gas**

At an average production cost of USD\$4 per barrel, increasing local content and participation policy could mean the expenditure of a good part of nearly three billion USD annually in the region, with vast multiplier effects and substantial job creation. In the mainstream sector, currently there are only three petroleum refineries in the region two in Port Harcourt, Rivers State and one in Warri, Delta State. There is scope for more private sector petroleum refineries to fill huge supply gaps in Nigeria. Some of these new refineries could be designed primarily for exports and place Nigeria and the region in a position to supply the needs for refined products to the whole of the West African sub-region.

A petro-chemical plant is already located at Eleme in Rivers State but there is scope for more petro-chemical plants and other downstream operations in the region. The products of this industry are important for the plastics and allied industry and could serve a market that extends to the whole West African Region.

Gas is a relatively clean energy resource. The Niger Delta has even more gas than crude oil but much of this gas is wastefully flared with huge environmental consequences. There is only one gas plant in the region the LNG plant at Bonny, Rivers State, with a second plant planned for Brass LGA, Bayelsa State. More gas plants could cater for demand in West Africa and elsewhere and take full advantage of the predicted benefits from the construction of the West Africa Gas line.

### **Fertilizer Production**

Fertilizer production presents another development opportunity. There is only one

The Niger Delta could be a major tourist attraction: It is rich in cultural, historic, landscape and ecological interest and vast areas that could take advantage of the growing worldwide demand



An offshore Oil Drilling Ring in the NDR

fertilizer plant in the region, located at Onne in Rivers State. Others could be developed to cater for national and international demand.

development to be sustained in the long term.

These opportunities and the strategies for realizing them are examined in detail in the Parts 2-8 of the Master Plan.

### **Tourism**

The Niger Delta could be a major tourist attraction: It is rich in cultural, historic, landscape and ecological interest and vast areas that could take advantage of the growing worldwide demand for sustainable eco-tourism at the grass roots level. The lack of infrastructure, violence and insecurity, however, need to be seriously addressed, as they would otherwise undermine development potential in this viable sector of the Niger Delta economy.

### **1.14 The Challenging Reality**

From the preceding review it is clear that there are real opportunities for development in the Niger Delta Region to advance on a more diversified basis and for that