

National Library Reg. No 304.6
Hassan Ahmed Abdel Ati 1951
Sudan Population: Changes and challenges/ Hassan Ahmed Abdel Ati
National Population Council, Khartoum, 2013
223 pages, 24 cm
ISBN 4-40-65-99942-978
1- Sudan – Population
2- Sudan – Population Policy
a. National Population Council (Publication)
b. Address: PO Box 3995, Khartoum. Tel, (183) 285966, Fax (183) 285968
email: info@npc.gov.sd Website: www.npc.gov.sd

Sudan Population Changes and Challenges

*A summary of thematic working group reports on Sudan
National Population Policies*

**edited and translated
by**

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**National Population Council
Khartoum
Dec. 2012**

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ACKNOWLEDGEMENTS

I would like to thank the National Population Council for intrusting me with the task of editing this book, the thing that provided me with the golden opportunity to learn from the valuable information contained in the papers and reports.

Special thanks to Prof. Sit al Nafar Mahjoub, Ustaz Said Ahmed Mohamed Ahmed Taha, Ms. Khadiga El Sayed, Ms. Wisal Hussein and Habeeb Mohammed Habeeb who made my much task easier by providing all logistical support at a time much shorter that what we used to with the civil service. I am also indebted to Ustaz Ibrahim Sahl of UNFPA for his continues fellow up and support.

Thank also to Ms Samira Abdalla and Ahmed Abdel Aziz (Kabashi) who helped in typing and language check and to Magdi Al Naim for helping in translation.

Although the task wouldn't have been accomplished had it not been for the effort of all those mentioned above, the responsibility for the find product remains totally mine.

The Editor

FORWARD

Dr. Limiaa Abdelgafar
Secretary General, National Population Council

This book is a result of accumulation of papers representing eight thematic areas of population and development that were prepared to be used as guidelines in updating the National Population Policy of 2002.

Data used in these papers was based on recent data from the fifth population and household census (2008), Basic Household survey (2009) and the Sudan Household Health Survey of 2010. These papers were edited and reviewed throughout series of brain storming sessions, seminars and workshops.

The main objective of these papers is to provide opportunity for information needed for updating the National Population Policy of 2002, through reflecting the current, prospective and strategic issues and the challenges and opportunities associated with the characteristics and dynamics of the Sudanese population.

These papers constituted the backbone for the development of the first draft of the policy objectives and the situation analysis and they could as well be used as technical papers to reflect progress towards achieving ICPD+20.

The papers included in this book are written by academics, researchers, senior government staff and experts in the field of population and development.

We hope that this book contributes to a better understanding of population issues and their implications and provides a useful source of data and information to researchers, policy-makers and planners so as to help in integrating the population policy into sectoral polices and development plans.

In this regards, I would like to extend my thanks and gratitude to all those who participated and contributed to the writing and editing of this book.

Special thanks to UNFPA country office for their continuous financial and technical support.

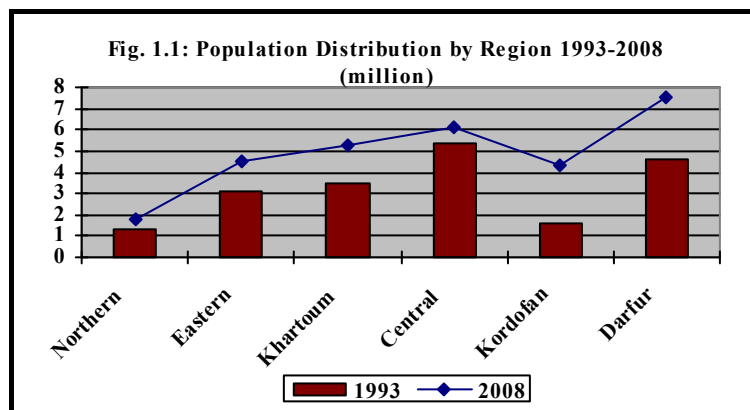
CHAPTER I
Introduction

Chapter I Introduction

Dr. Hassan A. Abdel Ati

This book contains a number of articles, which provide a summary of the output of the working groups that carried out the analysis of the results of Sudan's fifth population census (2008) and provided an account for the main characteristics of the population.

The results of the 2008 population census showed that the total number of Sudan population has slightly exceeded 31 million with the urban population constituting 29.5% of the total population. The figure implies that since the fourth population census (1993) the population has been increasing at an annual growth rate of 2.4%. As shown in Fig. 1.1 and 1.2, the population is fairly balanced between the two sexes and that population is more heavily concentrated in western and central Sudan, but Khartoum remains the largest single state in terms of population accommodating 17% of the country's total population.

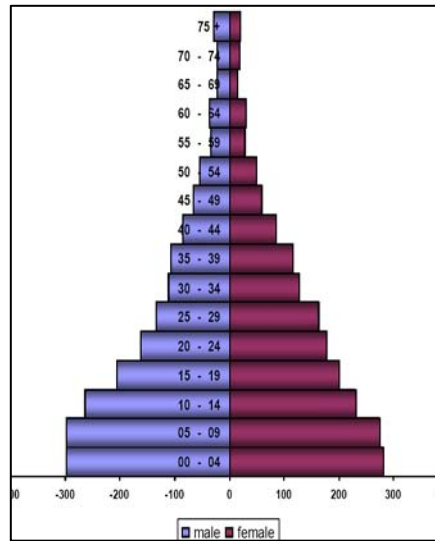


In editing the book, the main focus was on the language and on minimizing repetition as much as possible in addition to authenticating data from 2008 census and other reliable sources and we did not in any way intervene with views of the authors

In addition to this introduction, the book is composed of ten chapters, which we tried to order in a logical sequence, although all the topics are interlinked as they either provide a description of the current state of Sudanese population, an analysis of the factors influencing the structure and/or behavior of population groups and interaction with the natural, (resources), economic (activities) or socio-cultural environment (services and relationships).

Chapter Two summarizes the basic demographic characteristics of Sudan population, including the age–sex structure; number and size of households, fertility and other demographic indicators. One of the most important indicators is the increase in the number of households by about 50% since 1993, to reach 5.6 million households in 2008. The increase was mainly in the medium-size households (5-8 persons) paralleled by a decrease in the number of small and large households. Another is that about 90% of the population is under 50 years of age and 42% are children under 15 years. The chapter also highlights the drop in fertility rates among women to 5.6 compared to 6.8 in 1993. The chapter also draws attention to some very important social phenomena such as the delayed marriage age, especially among females and the rise in divorce rates, two issues that need to be debated and addressed. With a M/F ratio of 104%, the population is generally balanced but there is a marked drop in the population pyramid among males in the age group of 25–39 years, which seems to be a result of the high young males migration abroad during the last two decades. The chapter also noted the existence of several policies documents for the various population groups that are not applied.

Fig. 1.2: Sudan Population Pvramid



Chapter Three addresses the reciprocal relationships between population and the environment with regards to their effects on and by each other. One of important issues highlighted by the chapter is the deterioration of national resources which caused massive population movements during the last three decades and the consequent demographic, economic and social changes which occurred in the areas receiving migrants and displaced population. The chapter also pointed to the misuse of natural resources, including clearance of vegetation, overgrazing and exhaustion of rangelands. Another form of misuse is that caused by the development model adopted, which is characterized by imbalance in consumption and distribution and the use substances that are harmful to the environment such as pesticides and insecticides that cause water pollution. The chapter also pointed to the environmental impact of the cessation of South Sudan, most important of which are the reduction of the green area from 18% to 11% of the country's

total area, the drop in biodiversity (plants and animals) and the drop in running water sources.

Chapter Four provides an overview of the national economy with an account on the available resources and basic economic indicators. It also describes the ongoing policies and strategies and those that should be applied in the face of the current challenges, particularly the drop in oil revenues after the cessation of South Sudan. The chapter also addresses the issues of labor and employment, which should be read in conjunction with chapters on poverty, migration and education as employment directly relates to economic and political factors, especially for youth who suffer from high unemployment, acute need and political polarization.

Chapter Five discusses the issues of the poverty and social safety nets. But because poverty was not an independent theme for the working groups, the chapter does not include the geographical and social distribution of poverty or the coping mechanisms adopted by the poor to survive. Nevertheless, the chapter shows some major indicators, most important of which are that 46.5% of the population lives below the poverty line (estimated at 114 SDG per month, 2009) with huge regional variations in depth, whereas the poverty rates is 26.5% in urban area but it reaches 57.6% in rural areas and Khartoum state recording the lowest rates (26%) while the highest rate of 69.4% was recorded in West Darfur state. Another important indicator was that 61% of income is spent on food and the remaining 39% for all other needs. These figures point to the disparities' between regions and between different social group, the thing that calls for the redistribution of development projects, investment and services. The chapter briefly touches on the concept of human security and social safety nets and, based on the case of insurance institutions, it concludes that the coverage is narrow, concentrated in towns and on public sector employees, and the concerned institutions are going at a very low pace.

Chapter Six deals with population movement and migration the two most influential factors for population distribution. The chapter summarizes the reasons behind migration and displacement which include environmental degradation, deterioration of production, unbalanced development and conflicts, It shows that population movement have led to increased urbanization but negatively affected the morphology and appearance of towns and cities, as result of the increase in squatter settlements and the pressure on the available social services. The chapter points to new features that characterize current migration and migrants from past patterns. First, although Khartoum state is still the main destination for migrants, other states experienced changes in relation to migration. For example, the Northern state changed from a source migrants to a receiving state while

Gezira state changed in the opposite direction from a receiver to a source, Secondly, is the diminishing of the classical phenomenon of young male – selectivity of rural-urban migration, as migration now involves the whole family which is indicated by the sex balance among migrants. Thirdly, is the limited information about external migration whether the outgoing (mainly to the Gulf States) or the incoming migration which is predominantly illegal and mainly involves Ethiopians, Eritreans and Chadians.

Chapter Seven and Eight deal with the situations of health and education services. Both chapters point to the noticeable improvement in indicators but the poor distribution of the provided services, which directly influences their accessibility and contribute to population movement.

Chapter Nine addresses the issues of marginalized and vulnerable groups of society: children, the aged, the disabled and women. Although each of these categories is included in the general population, the special policies, development strategies and services required to mainstream them with other segments of population, warranted a separate chapter for them.

The chapter provides a detailed description for the present status of each category including its size, institutional structures and the policies and programmes that target it. The chapter listed over 20 laws and programmes targeting these categories but most of them are not activated, they lack implementation mechanisms and suffer from poor coordination between the concerned institutions. Also most of the programmes are also service more than development oriented, the thing that calls for the revision of the existing legislations, structures and programmes. What is actually needed come in details for each category in the recommendations of the chapter, and within Sudan's commitments emerging from its ratification of several international treaties and declarations concerned with right of these categories, on top of which is Millennium Development Goals (MDGs).

Chapter Ten is about nomadic groups and pastoralists whose importance stems from their ownership of most of the national animal herd and that most of the ongoing conflict in Sudan are in their areas. The chapter provides an overview of major demographic changes that accrued among nomads, which include (a) the systematic drop in their ratio to the total population, (b) the increasing trend of settlement among them, (c) their massive displacement and their move towards towns fleeing droughts and or armed conflicts, and (d) the rise in the percentage of nomads engaged in secondary activities which points to the descent in the viability of sector as a source of making a living, especially in the view of nomads' strong ability to adapt to environmental changes and to live on the very meager resource of the desert. Nomads come at bottom of the population groups with regards

to most the human development indicators, which can be attributed to the fact that most of the development efforts towards the sector, since independence, targeted the animals and not the owner or took settlement as the single entry point to the development of nomads, not taking into account nomads' views, and the absence of policies aim at integrating nomads not only in the market but also in the life of the nation. However, integration as a philosophy for programmes targeting nomads, in turn requires maintaining peace and security in nomadic regions and convincing them with the value and viability of settlement.

The Eleventh and final chapter focus on internally displaced person (IDPs) for whom Sudan holds the global record for the largest number. Successive droughts desertification and civil wars caused the displacement of millions from their home areas and forced their movement to towns, especially Khartoum where IDPs constitute about 50% of the Population. But because of the poor or lack of skills among IDPs and failure of policies targeting their integration in the urban market and urban society, the IDPs turned into a population block that contributes to the ruralization of towns. And although the state policy of allocating plots to IDPs was the first major step towards national integration, the move was defeated by the failure to make unity attractive and cessation of South Sudan. Yet, despite what seems to be harsh living conditions for the IDPs, there is a general trend among most of them to settle permanently in Khartoum, not only because of the poor situation in their home areas, but also because of the opportunities offered by the city, most important of which are the ownership of land, children schooling and access to specialized services.

Finally, it is important to draw attention to the following facts:

1. All papers and reports were written before the cessation of South Sudan and therefore some of the figures include the population of the South, especially when there is need to compare to previous censuses.
2. The data contained in the papers is either at the national or state level, the thing that raises the need for publishing the census results at the locality level, so that it can be used for planning purposes
3. Some important topics were not adequately covered by the census or the thematic working groups and because of their importance we added two chapters on nomadic population and IDPs
4. Almost all chapters ended with conclusions on the challenges and opportunities and made recommendations on the appropriate means for a population policy which would help in attaining the desired balance between today's population welfare needs and the utilization of resources in a sustainable manner, which can preserve them for future generations, and therefore, to avoid repetition and/or intervening with authors' views, we chose not to have a conclusion chapter in the book.

CHAPTER II
Population Demographic Characteristics
family, marriage and fertility

Chapter II

Population Demographic Characteristics *family, marriage and fertility*

1. Introduction:

On the eve of independence in 1956, the population of Sudan was estimated at 10.25 million but by 2008 the number had increased to 39.1 million people (including Southern Sudan), almost a fivefold increase over fifty years. According to 2008 census, the population of northern Sudan stood at about 30.9 million persons and by mid 2011 the number was estimated at about 34 million.

The annual population growth rate (2008) reached about 2.4%, which is considered a high rate compared with the global rate of population growth, estimated at about 1%. Census data showed a rise in the number of households from 3.6 million in 1993 to 5.4 million in 2008, which also recorded an increase in the average size of the household, from 5.1 persons to 5.6 during the same period.

Comparing the family size with the 1993 census figures, it has recorded a slight rise in the small families (1-4 members) from 38.5% to 38.9% in 2008. The medium-size households (5-8 members) has seen the largest increase from 42.0% in 1993 to 50.0% in 2008, with a significant drop in the large-size families (9 members and above) from 18.4% to 10.6% during the same period.

Population below the age of fifteen represents 42.1% of the total population and young people (15-49 years) 47.9%, while the population aged 60 years and above constitutes 5.6%, an indication that the Sudanese society is young. Also, results of 2008 census showed that the Male/Female ratio (number of males per 100 females) is equivalent to 104%. The Economic Dependency Ratio was estimated at 0.83 in 2011. Table 2.1 provides a summary of the most important demographic characteristics based on the results of census 2008.

Table 2.1: Selected Demographic Indicators (2008)

Indicator	Value
Total population	30,978,757
Males %	51
Females %	49
Growth rate of the population	2.4
Crude death rate (2010)	17.3
Maternal mortality rate per 100,000 (2010)	216
Life Expectancy	59.5
Sex ratio (number of males per 100 females)	104
urban population% of the total population (%)	33.2
Population age 0 – 4 (%)	14.7
Population age 5 – 14 (%)	27.4
Population age 15 – 24 (%)	19.8
Population age 25 – 49 (%)	47.9
Population age 60 years of the total population (%)	5.15
Demographic dependency ratio	0.84
Total fertility rate (TFR)	5.5
Average household size (personnel)	5.6
Women heads of households 2006 (of total households%)	28.8
Households% living below the poverty line of population,(2009)	46.5

Source: CBS, 2008 Census Data

2. The Family:

2.1 The definition of family:

The family is an entity resulting from a legal marriage between a man and a woman and it expands to include their children and also their ancestors and their clans. The household is a group of individuals living with each other and share all or some of the living arrangements. A family is the natural and safe haven for its members and the basic nucleus that maintains and develops society and qualitatively and quantitatively preserves the human race as it provides its individual members with a caring environment and cultivates in them the values and virtues of society to become righteous persons compatible with others. It is a social system characterized by generality and continuity, and there is no alternative system that can, with the same efficiency, undertake its core functions towards its members and the community. The family performs social, emotional, psychological, educational, religious, cultural, economic and biological functions, and continuously feed the community with new members. If it ceases performing these functions, that will lead to an imbalance in its composition and to its disintegration, whether it is an extended (a common pattern in Sudan), a nucleus family or a mixture between the two.

Marriage is the only way to establish a family in Sudan. Although the history of the Sudan is witness for the family capacity to maintain the stability of its members and strengthen the social fabric, statistical data and

research indicate that the family has been subjected to certain factors and internal and global changes that influenced its composition, functions, status and continuity, a matter that requires efforts by all concerned parties to take the necessary measures for protecting the family and its members because of its important role in the stability and evolution of society. That should be done through policies, legislations, mechanisms and the active, consistent and harmonious programmes that meet and cope with family/ society needs and aspirations.

Within the review of the national population policy (NPP), and considering that family issues are among the NPP priorities, although the issue is touched upon in all themes, this chapter intends to review and evaluate the themes of family, marriage and fertility and to suggest changes that will lead to the advancement of human beings and improve the quality of life of the population to secure a better future, since strategic planning is a characteristic of the communities that are looking forward to progress.

2.2 Family situation in Sudan

Many researches and statistics point to the economic, social and health pressures experienced by families and the resultant increase in unemployment rates, poverty, displacement, homelessness and delayed marriage, or refraining from marriage, coupled with rising rates of divorce and the emergence of forms of illicit relationships, besides the growing negative phenomena such as illegitimate children, drug abuse, domestic violence and the presence of a large numbers of refugees and foreigners among families. The studies also confirm the lack of health, environmental and legal awareness on the part of the family, and the spread of alien cultures with their negative effects which collide with Sudanese family values and systems of marriage and relationship between the two sexes.

Economic, social and cultural changes have caused most of family members to go out looking for education or employment, leading to many changes in family roles, functions and the status of its members. It also caused problems to some of its members, especially children, the disabled and the elderly who were denied family care. Although some interested bodies established institutions that seek to provide care and development of these categories during daytime, the effort needs to be broadened and institutionalized. Moreover, the pressures on women, given their multiple roles in the light of the lack of facilities, constituted an additional burden and affected their primary reproductive and upbringing role, and that led to low birth rates. Another point which was noted is the weakening family role in controlling the behavior of its members, and the weakness of family relationships due to diminishing opportunities for daily interaction, especially in urban areas.

External migration of the husband also has several effects on the family. Psychological pressure and burden on the wife have increased and the level of educational achievement of children and their behavior have been negatively affected, leading to the emergence of new problems such as drugs and illicit relationships, in addition to the phenomenon of exploitation by some people of expatriates' children.

One of the population problems encountered is the discrepancy between population growth and economic growth, in the presence of huge natural resources in the country, which indicates the degradation in population characteristics. Given the strong connection between the family and the community, e.g. the need of the labor market for skilled workers and expertise with good values of decent conduct, we can witness today how these rich resources attract investments and foreign labor, while unemployment rate is high among citizens. We therefore ring the bell for the possibility of encountering problems similar to what has happened in some countries, such as the Gulf States where there is a massive increase in the numbers of foreigners compared to the citizens, a situation that changes the population composition, its values and behavior and makes citizens feel aliens in their own homeland.

The situation requires a radical change in the ways of upbringing within the family and also in school curricula that should become more relevant to the labor market demand. It also requires modification of the population policy to increase population growth and balance between population and resources and the improvement of family health and social, cultural and environmental conditions, preserving of the rights of its members in all ages and status in the national social and population policies.

2.2.1 Family laws and related legislation:

The state has emphasized the importance of the family as an important pillar of its members and the community. This emphasis was stressed in the successive national constitutions and laws passed since independence. Sudan's Interim Constitution (2005) affirmed the protection of the state for the family and emphasized the rights of its members (women, children, youth, the elderly, and persons with disabilities). Also, many laws were enacted to promote the status of the family especially the (Muslim Personal Affairs Law, 1991, Non-Muslim Marriage Law, 1926 and the Child Act, 2010).

2.2.2 Strategies, policies and institutional mechanisms:

The purpose of national policies and strategies is to reinforce the status of the family and its role in providing care to its members and in the stability of society. On top of these strategies is the National Strategy for the Family

(2008), the National Policy for Women Empowerment (2007), the Women and Family sector in the Quarter-Century Strategy (2007-2031), the National Youth Strategy, the National Policy for the Elderly, the National Policy for Child Survival, the National Policy for the Disabled, the National Policy for Orphans and the National Population Policy.

Spearheading the institutional mechanisms is the Family Administration at the Ministry of Welfare and Social Security, which is the federal focal point, in addition to the family departments in the Ministries of Social Affairs in States and in some of the higher education institutions, banks, and other relevant government institutions such as the Zakat Chamber, National Councils for Childhood, Population and other civil society organizations working in this field. These mechanisms develop and implement many programmes and projects to maintain and improve the family's capacity to withstand and/or cope with the rapid and successive changes taking place. Despite these efforts, the family is still under pressure causing it to lose balance and render it unable to meet the needs of its members or perform its functions towards them and the community. This requires serious intervention through policies, mechanisms and more effective programmes to preserve the family and enable it to play its role towards its members and society.

2.3 Demographic Characteristics of the Families:

Results of the 2008 census indicate the high proportion of children and youth which means that the Sudanese society is young. Males make up about 50.6 and females 49.4%. The population pyramid also indicates shows the high fertility rate as well as the high mortality rate as is the case in most developing countries.

2.3.1 Average size of household and mode of living:

Considering that marriage is the foundation for family formation, the most important standards and factors that affect the size of the family and thus the growth of the population are fertility, migration and death. Census data in Sudan from 1973 to 2008 confirmed the rise in the number of households, the growth rate and the average family size with few differences between different States.

2.3.2 Household structure:

2008 census data revealed that 71.4% of heads of households are males and 28.6% are females with no significant differences between rural and urban areas and that is linked to the society's culture and values.

2.3.3 Household size:

Looking at family size, we find that in 2008 small households (1-4 persons) constitute 38.9% of all households, up slightly from the average in 1993. As for the medium-size households (5-8 persons), their percentage has increased from 42% in 1993 to 50% in 2008. Data also revealed the absence of significant differences between rural and urban areas. The percentage of large households (9 persons or more) fell from 18.4% in 1993 to 10.62% in 2008, and that is primarily attributed to economic and social factors and to the noticeable increase in the percentage of the educated. This distribution shows the status and/or choices of the population, the thing that requires planners' attention when drawing policies to meet the basic population needs of food, education, health, housing, and jobs.

2.3.4 Mode of living:

According to the 2008 census results, settled families are the most dominant, reaching 91.4% of the total number of families. Other families include what can be called institutional families (hostels and special groups such as nomads, the displaced, the homeless and the refugees).

2.3.5 Marital status of heads of households:

Census data of 2008 revealed a high percentage of male heads of households, but the proportion of female heads of households is higher in rural areas and that is mainly due to the migration of male heads of households to towns in search of work or imposed by the female social status (e.g. divorced, widow or never married). Family formation in Sudan is governed by Islamic laws and regulations. It can be classified into two categories (a) never married and (b) previously married (married, divorced, or widowed).

The census results indicated that 91.4% of male heads of households are married, which is higher than the percentage of married women (72.8%), while the proportion of widowed women who are heads of households (81.1%) is much higher than that of male widows (1.3%). The percentage of unmarried heads of households is very limited, not exceeding 6% for males and 3% for females, as well as that of the divorced (1% for males and 5% for females). The results did not reflect any significant differences between rural and urban areas. The most striking feature is the high proportion of female heads of households (28%). While in rural areas the reason could be the migration of the husband, in urban areas it could be attributed to the loss of the husband as a result of divorce, abandonment or death. Table 2.2 below illustrates the distribution of heads of households by marital status and mode of living (2008).

Table 2.2: Distribution Of Heads of Households by Marital Status and Mode of Living

HHHs Marital Status	Rural		Urban		Total	
	Female	Male	Female	Male	Female	Male
Never married	3.00	4.84	4.99	9.21	3	6
Married	74.28	92.55	68.98	88.08	73	91
Widower	17.49	1.39	19.28	1.22	18	1.33
Absolute	4.98	1.07	6.40	1.08	5.34	1.03
No stated	0.25	0.15	0.34	0.42	0.27	0

2.3.6 Heads of households age structure:

Marriage age is one of the pointers which shed light on the situation in the society because age is an important variable in determining fertility level. The 2008 census results showed that most heads of households are in the age group (29-50 years), where married males percentage reaches 91.7% and that of females 83%. Yet, for the heads of households in the under-15-years age group, males are only 1% while females' percentage is 30%. This indicates that marriage at an early age and in age groups (24-44 years) represents 83% of total, an indication of the delayed first marriage.

2.3.7: Marital status:

In Islam, marriage is a contract between a man and a woman for the intention of permanent togetherness, and by which marital relations are permitted, together with the obligatory rights and duties involved, and the consequences that follow in the form of children and new in-laws relationships for the two parties. Although in Sudan marriage has been seen in the past by and large as a family affair, more recently individuals' choices started to emerge, especially in urban areas due to the spread of education, awareness and work as opposed to the traditional ethnic and tribal considerations of the past. What is notable also is the change in the choice of jobs and its association with scientific specialization after it was associated with family work/profession and community mode of life and the associated the easy marriage. These changes have contributed to delays in marriage and high unemployment rate. There are also the biological and instinctual needs of the human being that he needs to satisfy in a legally and socially acceptable way, and the link of that to the human reproduction (*reconstruction of the earth*). It is therefore important that the population policy seeks a balance between that and the need to remove obstacles to marriage and to facilitate and encourage it.

The 2008 census data indicated a general decline in the proportion of those who have been married, compared to the 1993 census figures and this leads to lower fertility rates because of the shorter average duration of married life. This is illustrated in Tables 2.3 and 2.4 below.

As it is clear in Table 2.4 below, there is a significant increase in the proportion of women who have never been married in the age group 15-44 years compared to previous census years, and there is also a rise among males but with a lower percentage. This has an impact on fertility and the number of children a woman can give birth to. Statistics also indicate a decline in the practice of polygamy, which may be due to the rise in living standards and the spread of education.

Table 2.3: Distribution of Population by Marital Status and Age Group

Age Group	Not Married	Married	Widow	Divorced	Not Reported	Total
All Groups	36.44	49.06	3.04	1.54	9.91	100.0
12-14	86.17	1.77	0.06	0.06	11.93	100.0
15-19	75.93	11.57	0.14	0.31	12.05	100.0
20-24	48.39	33.29	0.36	0.99	16.98	100.0
25-29	29.93	56.96	0.67	1.59	10.85	100.0
30-34	18.41	70.08	1.19	2.03	8.29	100.0
35-39	10.23	79.79	1.78	2.23	5.97	100.0
40-44	6.50	81.88	3.32	2.58	5.71	100.0
45-49	4.42	83.74	4.63	2.63	4.58	100.0
50-54	3.54	80.92	7.55	2.86	5.13	100.0
55-59	2.84	79.01	9.60	2.88	5.66	100.0
60-64	3.05	73.63	13.47	2.86	6.99	100.0
65-69	2.37	73.32	15.64	2.92	5.74	100.0
70-74	2.75	66.41	21.06	2.83	6.96	100.0
75 & Over	2.85	62.14	24.81	2.85	7.35	100.0

Table 2.4: Population Ever married by Age and Sex (1973-2008) (%)

Age Group	Male				Female			
	1973	1983	1993	2008	1973	1983	1993	2008
19-15	4.4	3.2	1.8	2.6	43.1	28.8	20.6	21.7
24-20	29.2	21.0	14.1	14.9	85.0	69.5	55.4	52.7
29-25	65.1	54.6	43.2	40.7	95.4	90.5	80.3	74.6
34-30	85.0	80.9	67.8	62.6	97.2	96.1	89.7	82.9
39-35	92.4	91.7	86.5	77.9	98.2	98.1	96.0	89.3
44-40	95.4	95.7	94.0	84.3	98.2	98.6	97.7	91.3

Regarding, the average age at first marriage, the results of the 2008 census indicated that the average age at first marriage for both sexes was 26 years (28.5 for males and 23.7 years for females). The medium age at first marriage was 26.1 years for males and 19.2 years for females. In the Northern and River Nile states the rate was higher in both the average and medium age at first marriage, while South Darfur state ranked second to Khartoum in the lowest rate for the two indicators. Early marriage is caused by low level of education attainment or the low dowries. Also, statistics show the rise in the median age of marriage compared to the 1993 census

figures, with some difference between the two sexes in different States. The 2008 census also indicated the presence of early marriages in the age group 12-14 years; a characteristic of developing societies, and the first marriage most likely ends in divorce as age progresses.

As for the dissolution of marriage, it occurs as a result of either widowhood or divorce. Divorce is legally defined as (*the dissolution of marriage contract with the explicit or implicit wording based on an intention*). “It is an abhorrent legal solution” according to Prophet Mohammed, peace be upon him, but it is permissible for reasons that may be in the interest of both parties. So long as the goal of marriage is stability and permanence, the occurrence of a few cases of divorce deserves intervention to address them and their impact on family members and on society.

The 2008 census data also showed that 49.1% of the population in the age group of 12 and above is currently married, 3% are widowed, and 41.1% are divorced. The Judicial Department of Statistics and Research confirmed that the total number of marriages before an authorized religious person or in courts in 2009 amounted to 105,379 marriages, while the total cases of divorce registered reached 46,343 at the rate of 43%. This indicates arise compared to 2005 when the total number of marriages were 88,828 and the total divorce cases 36,711, a rate of 41%. This shows the high and increasing divorce cases and this can be attributed to the increase of awareness of some of the population to register incidence of divorce or the low reporting in previous censuses due to poor public awareness.

The most important reasons for divorce include:

- Absence of a goal of marriage represents the main reason behind most cases brought before courts.
- Cultural and economic incompatibility, that despite the fact that the law and customs of the community permit engagement period to improve the selection and compatibility, some may not recognize the importance of this aspect.
- The economic conditions and the failure of some to appreciate it, in addition to the work of the women and the possibility of their material exploitation by men
- Stewardship (*Ghuwama* under Islamic law) with the demand by some women for absolute equality in rights and duties and lack of dialogue within the family
- Customs and traditions regarding the treatment of spouses to each other
- Recalcitrance of husband or wife
- Increase of women's awareness caused by the “space media” in the absence of the educational role of that media

Due to the negative impact of divorce on the family and all its members, it is necessary to expand the establishment of family and social counseling centers, reconciliation councils and exert efforts to address the economic problems.

3. Fertility:

The term fertility means the average number of birth given by a woman. It is one of the important indicators with a direct impact on the population policy and mutual impact with the rest of the demographic indicators such as mortality, family composition, marital status, education, health and others. Sudan is among the countries with high fertility rates, which led to rapid growth of the population, affecting the age and sex structure and is expected to continue for one or two generations, despite the signs of decline in fertility rates.

3.1 Fertility Rates:

Table 2.5 below shows that fertility rate in Sudan was very high until 1993, when it reached about eight births per woman, and then it began to drop reaching less than six births by 2008.

The overall fertility rate according to 2008 census is 5.5 births per woman in childbearing age (49.2%). This is lower than the overall fertility rate of 1993, which was 6.6, by 16.7%. The process of procreation, even though biologically associated with women age, it is also closely linked to some of the social, economic, cultural, and environmental characteristics of each society. The age at which a girl gets married is a key factor in the duration of reproductive period and the number of births. Also, the rising levels of divorce and widowhood have negatively affected the length of the reproductive period. The 2008 census shows that about half of all births (49%) were born in ages under thirty and 88% were for women under 40 years. This indicates the healthy situation of these babies and the avoidance of the risks associated with giving birth at an old age. Therefore, it could be argued that any policies or programmes aimed at influencing fertility, negatively or positively, must target married women in the age group 20-39 years, as this is the largest segment with a high contribution to the process of reproduction.

Table 2.5: Average No of Live births for Ever Married Women by Age (1983-2008)

Current Age	1983	1990	1993	2008
15 – 19	0.7	0.7	0.8	0.9
20 – 24	1.8	1.7	1.8	1.8
25 – 29	3.3	3.0	3.2	2.9
30 - 34	4.7	4.7	4.6	3.8
35 - 39	5.7	6.3	6.0	4.8
40 - 44	6.0	7.2	6.5	5.3
45 – 49	6.1	7.6	6.8	5.6

3.2 Determinants of Fertility:

It is important to know and study the factors that control the fertility according to the characteristics of each community and then select appropriate mechanisms to include in fertility programmes in the national population policy. Some of these factors are:

- a. Age at first marriage: women who got married at an early age and their marital life continued for a long time are likely to give birth to a larger number of babies. In other words, if the age at first marriage was lower, the average no of births is higher. Results of surveys and censuses conducted in the Sudan have confirmed that the length or shortness of the duration of marriage is the key factor for the number of births and therefore can be used by planners in the population policy.
- b. The education of women: Demographic and social research in Sudan and in other countries confirmed that women's education is a key factor in the drop in fertility level. Education level is also linked to the place of residence, urban or rural.

Table 2.6 shows the average cumulative fertility, i.e. the average number of live births per woman by age group at first marriage and the present age of women. The table shows that the average number of births for women in any present age group is inversely correlated with age at first marriage. The table also shows the average number of live births of women who have been married in the age group (15-44 years) together with age at first marriage and current age.

Results of 2008 census, as shown in Table 2.6 reveal the absence of significant differences in fertility among women with no education and those with basic education and this applies to rural and urban areas. It also indicate the low fertility of women who received secondary education or above compared to the rest of the women, regardless of their place of residence and the high fertility of women with Khalwa education regardless of where they live, in rural or urban areas. In fact it seems that khalwa education encourages high birth, in line with their interpretation of religious teachings.

Table 2.6: Average Cumulative Fertility (2008)

Age at first marriage	Current Age of Women							
	> 15	15-19	20-24	25-29	30-34	35-39	40-44	45-49
> 15	1.38	0.89	1.77	2.86	3.84	2.77	5.23	5.63
15-19	0.75	1.07	2.50	3.93	4.91	5.93	6.41	6.77
20-24		0.6	1.73	3.34	4.58	5.54	6.02	6.45
25-29			0.98	2.00	3.46	4.52	4.99	5.46
30-34				1.31	1.92	3.40	4.10	4.57
35-39					2.11	1.74	2.98	3.52
40-44						2.28	1.55	2.24
45-49							3.31	1.33

Previous studies and censuses indicate the low fertility of women who received secondary education and above compared to those with lower education. Education has direct impact on women's fertility as it increases the awareness of women and their aspirations to undertake productive and community roles rather than be confined to the reproductive role. Educated women use family planning techniques as part of their consideration of their health, the health of their children and the economic conditions of their families.

**Table 2-7: Women Average Fertility (45-49)
by Level of Education and Mode of Living**

Level of Education	Total	Urban	Rural	Nomadic
No education	5.9	5.9	6.0	4.9
Not completed Basic School	5.8	5.5	6.1	3.8
Basic School	5.7	5.6	5.9	5.5
Intermediate	4.9	4.7	5.2	5.3
Secondary	4.2	4.1	4.5	4.5
Post-secondary	3.4	3.4	3.7	4.7
Khalwa	6.1	6.1	6.3	4.8

Although breast-feeding is a natural contraception and a mechanism for family planning, in addition to its health and psychological benefits for the mother and the child, women's work and aspirations led to the drop in breast-feeding. Also, education delays the age of marriage and thus reduces women's reproductive period and the number of births, as the relationship is reverse between women's education and age at first marriage. It is also clear from the data that the increase in women's education and engagement in economic activities, especially in modern professions, have contributed to the drop in fertility level in Sudan (Table 2.9).

**Table 2.8: Average Cumulative Fertility for Women (45-49 years)
by Age and Level of Educational at First Marriage**

Level of Education	Age at first marriage						
	Total	> 15	15-19	20-24	25-29	30-34	+35
Total	5.6	6.8	6.5	5.5	4.6	3.5	3.1
No education	5.9	6.9	6.6	5.6	4.8	3.9	3.5
Not completed Basic School	5.8	5.8	6.6	5.5	5.0	3.7	3.1
Basic education	5.7	5.7	6.6	5.4	4.5	2.9	2.9
Intermediate	4.9	4.9	6.0	5.3	3.9	2.6	1.8
Secondary	4.2	4.2	5.5	4.8	3.9	2.8	1.8
Post-secondary	3.4	3.4	4.7	4.2	3.6	2.7	1.5
Khalwa	6.1	6.1	6.8	5.6	5.1	4.6	2.4

**Table 2.9: Women Average Fertility (45-49 years)
by Economic Activity and Mode of Living**

Mode of Living	Economically Active	Economically Inactive
Total	5.2	5.8
Urban	4.6	5.6
Rural	5.6	6.0
Nomadic	5.0	4.9

4. Future Vision:

The questions that require answers are whether or not the country needs more population and population growth?, Will policies be devised to facilitate marriage and effective measures will be taken to reduce divorce?, How to deal with migration of married couples?, How to ensure that women education and work do not affect their fertility?, What policies, strategies and most effective programmes that are needed for interventions to preserve the family and enable it to play its role and functions towards its members and the society?, How to provide all amenities to women so that they are able to perform their multiple roles in the family and in society without affecting their reproductive roles?, How can the issue of hosting refugees and foreigners among the citizens be addressed and the impact of that on the values, culture, health and behavior of citizens?

5. Recommendations:

1. Policies and strategies related to the family should be reviewed and developed to meet family needs and keep up with national and international developments that are consistent with Sudanese culture and values, and harmonizing policies to achieve that.
2. Improving family status and empowering it economically, socially and culturally as well as in terms of health and enhancing its capacity to perform its functions in the light of rapid changes in other systems that affect it.

3. Affirming the status of the family and the rights of its members in the National Constitution.
4. Some articles in the law should be amended to address the effects of changes on the family and the society, with the enactment of existing laws aimed at empowering women and improving the conditions of families.
5. The formation of a high-level mechanism for the family with the task of designing, follow up and implementation of policies and coordination between all relevant institutions.
6. Expanding the establishment of family counseling and social centers and reconciliation councils to address family and community problems.
7. Setting the age of marriage and controlling age at first marriage according to the actual need of population growth.
8. The population policy should determine the population growth rate targeted and take necessary action to ensure its achievement.
9. Targeting married women in age group 20 to 39 years to influence fertility.
10. Considering the average size of households in planning the provision of basic services such as education, health and housing
11. Studying the population characteristics and factors that impact on fertility and adopting in the national population policy the appropriate mechanisms to be included in the programmes concerned with fertility.

Sources and References:

- The Holy Quran
- Ahmed Abdel Magid, The Reality and Trends of Divorce in the Sudan, Khartoum, 2011
- Central Bureau of Statistics, Fifth Population and Housing Census, 2008
- Ibrahim Abbas, Fertility, Khartoum, 2011.
- International Information Network, Divorce in the Arab countries.
- Intisar Ahmed Abdul Hamid, The Impact of Social Change on Family and Marriage in Sudan, Khartoum, 2011
- Issa Ali Abakar, Marital Status in Sudan, 2008 census, Khartoum, 2011
- Kamal ElDin Ahmed Ismail, The Household, Khartoum, 2011
- Widad Ibrahim Hassan Khalil, The Family in Sudan: reality and visions for the future, Khartoum, 2011.

CHAPTER III
Population, Environment
and
Sustainable Development

Chapter III

Population, Environment and Sustainable Development

1. Introduction:

The environment is considered the main pillar for achieving comprehensive economic, social, cultural and political development, because of its endowments of renewable and non-renewable natural wealth. The rational use of this wealth requires the adoption of environment-friendly vision, concepts and behaviors that do not cause environmental exhaustion and destruction, and contribute to comprehensive environmental security (environmental peace) and to meet the aspirations of the current generation and safeguard the right of future generations to peacefully enjoy the diverse biological and physical environmental heritage.

Sudan, over the past five decades, experienced unprecedented environmental crises, exhaustion and changes, as a result of failing to comply with the three requirements for land use (mapping, planning and legislation) and the absence of an environmentally consistent, economically, socially balanced, and culturally and politically acceptable pattern of development, leading to economic, social, cultural and political instability, in addition to low level of awareness, limited education about these issues and the shortage of trained staff. This situation entails a comprehensive vision to contain these crises and changes through modern means fully absorbed by a qualified staff that can avert the country a lot of risks and threats. This can be done by developing means and systems to identify available resources and monitor their use, threats and the periodical assessment through the use of devices such as the Geographical Information Systems (GIS), early warning devices, in addition to the creation of information networks, in order to determine the environmental setting of the country to be used as basis for environmental surveys and monitoring environmental exhaustion qualitatively and quantitatively, whether it is degradation or pollution. Periodical environmental review should also be conducted to determine the level of replacement required for environmental reconstruction and reform, and to design an integrated system for disaster, emergency and crisis management.

Human security, state security and community security are different faces for the same coin. Ensuring human security leads to more opportunities for human development, and enables the state to ensure sustainable use of biodiversity and strengthen the economy in the light of fast environmental changes. It also helps the State realize a secure and safe level of basic needs provision of food, water and sanitation, shelter and other basic human needs.

2. The Current State of the Environment:

2.1 Climate:

Climate is a natural resource that controls most of human activities: economic, social, health, cultural and political. It is one of the most important elements of the water cycle. Climate elements consist of temperature, rainfall, sunshine hours, atmospheric pressure and air speed and direction. Sudan enjoys diverse climates, from desert to rich savannah whose classification is based on temperatures, amount of rainfall which varies from zero in the desert region to more than 900 mm in the rich savanna.

2.1.1 Rainfall:

Rainfall in north Sudan is highly variable while it is more stable in the south. In terms of distribution, in general rainfall level drops as one moves northward. Records of climatic averages for the periods 1941-1970, 1951-1980, 1961-1990 and 1971-2000, indicate that rainfall in Sudan has been characterized by a downward trend and variability between different periods. Rainfall average in the first period was higher than the second period and in the third and fourth periods they were less than the average of the second period. From these rates, which covered the period 1941-2000, it is clear that the rain line has moved 300 mm southwards at the rate of approximately one latitude¹.

Temperature forecasts for the coming years (until 2030) indicate with some degree of certainty that it will rise by between 0.5 to 3.5 degrees Celsius. As for the rain, there is a difference in the amount of rainfall; some show a deviation from the June-August average by about 100 mm in the eastern and central parts of the country².

2.2 Water:

The area of Sudan is 1,882,000 square kilometers and it includes diverse climatic regions. Most of its northern territories lay in the desert and semi-desert zone and is characterized by scarcity of rain and limited fresh and renewable water. Its population relies mainly on artificial irrigation for agriculture. The past two decades have seen massive displacement and population movement northward as a result of wars and frequent droughts, as well as the expansion of mechanized agriculture. These changes were

¹ These are the annual averages of rain for 30 years. Rains are not only measured by quantity but there are other systems of measurement (intensity of rain or the average of fall per hour, the number of rainy days in the season, the dry period between the rainy days and the start of the rainy season. This will certainly assist each sector to perform its mission in the required manner, e.g. the agricultural sector.

² These forecasts depend on population growth and the economic activity linked to increases in carbon dioxide

accompanied by significant increase in water consumption. It is expected that the demand will increase further in the coming years.

The total amount of water currently available in the Sudan is estimated at 30 billion cubic meters, at a time where studies indicate that the total water demand will increase to 46 billion cubic meters by 2030, which means there will be a water deficit estimated at 16 billion cubic meters. The challenge then is how to cater for the shortfall or prevent it if possible. The total amount of fresh water currently available per person per day is estimated at about 20 liters in urban areas, and 4 liters only for a rural resident (UNICEF, 1996). Comparing the available with actually needed quantity, estimated at 50 liters per person per day, we conclude that there is a significant deficit which can cause significant health, economic and social problems and that requires urgent efforts to meet this growing demand for water.

2.4 Biodiversity:

Sudan enjoys rich a biodiversity that includes diverse environmental systems. This in addition to the coastal, marine, land environment and fresh water, making it endowed in flora and fauna which are being subjected to a number of threats as a result of human activities with their negative impact on the environment.

Biodiversity includes hereditary resources of plant such as field crops, oil seeds, fibers and horticultural products. All of these crops are cultivated in huge areas and some is on the increase which leads to its preservation. That, in addition to more than 90 medicinal and aromatic plants species, 13 of them are cultivated and the rest are wild plants. Sudan also has diverse animal wealth estimated at 139 million heads of various types: cattle, sheep, goats and camels, in addition to different types of poultry. It also enjoys huge river and sea fishery resources. It has wide pastures spread over more than seven environmental zones, extending from the desert and semi desert to rich Savannah and mountainous areas. This is reflected in the vast diversity of vegetation cover. The pasture area is estimated at 117 million hectares, with more than 204 plant species that have so far been classified and counted. Also, Sudan enjoys a forestry wealth that includes nearly 535 species of forest trees such as acacia tree, “Heglig” and “Tabaldi” and 184 species of forest shrubs. Its wildlife sector includes large number of different species of mammals (228 mammal species, 17 of them of the endangered species), 931 species of migratory and non-migratory birds, most of them in 19 natural reserves and parks.

Sudan marine and costal environment is home to several marine species such as whales, mammals and fish (126 species of fish in the Nile and 250 species in the Red Sea). On the coast there are the mangroves, coral reefs,

birds and others. There is also over 500,000 species of insects in the Sudan, in addition to micro-organisms such as fungi, bacteria and viruses. Besides, Sudan is also the origin of some crops, such as maize, millet and some cucurbits, wild animals and medicinal and aromatic plants. It is also home for many genetic resources such as acacia trees.

2.5 Forests:

Forests are a repository of biodiversity, recreation, oxygen, absorption of carbon dioxide, water filtration and storage, in addition to its important role for soil stabilization and minimizing the risk of flooding and soil erosion. In the late 20th century, forests were subjected to overexploitation in central Sudan, especially in the savannah region due to unlawful tree cutting to meet the energy needs of the country, planned and unplanned agricultural expansion and overgrazing by livestock in numbers beyond the capacity of the pastures. This exacerbated the problems of desertification, and subsequently resulted in conflicts over resources, which has become the biggest threat to national security. The global survey of forest resources for the year 2010 explained that the forest area in Sudan has decreased from about 76.4 million hectares in 1990 to about 70 million hectares by the end of 2009 which means the forest cover has shrunk from about 32% to 29% of the total area of the country. Large areas of these zones have been cut for residential purposes and other facilities, including shelter belts around some cities in Khartoum, Kordofan and Darfur states. Examples of the impact of the conflict and the destruction caused by displacement and war in Greater Darfur is the damage that affected 23 Forests. Deforestation is also linked to mining, oil exploration activities, the construction of roads, bridges, dams and the extension of power and communication lines.

In a reverse direction, the annual forest clearance rate has dropped from 589,000 hectares (-0.8%) to 542,000 hectares (-0.74%) for the same period. This is attributed to the growing rehabilitation programmes and natural regeneration which occurred after the populations were displaced from the areas affected by drought, desertification and armed conflict, in addition to the use of alternative energy sources such as gas and electricity.

The forest sector contributes 20% of the GDP and about 70% of the total energy consumed in the country and generates 12% of the country's foreign exchange revenues (before oil) and about 15-70% of the fodder of the national herd (depending on the season). It also directly and indirectly absorbs about 30% of the labor force in rural areas and provides all the country's needs of hardwoods. Non-wood products such as gum Arabic and other natural dyes, forest fruits (*Qunguleis*, *Gudeim*, *Aradeib*, *Lalob*, *Doum and Nabag*) and other products such as honey and medicinal and aromatic plants, *Saaf* and meat of fish and small animals inside the forest, all

constitute a considerable proportion in internal and external trade. In 2005, FAO estimated the value of these products at more than \$600 million that directly contributed to poverty reduction for a large segment of the rural population. The country also depends on the forest sector as a primary source for the provision of energy such as firewood, which contributes about 4 million tons of equivalent petroleum or a value of about US\$ 2 billion. Despite the increased exploitation of oil, forests still contribute around 69% of the total energy consumed in the country (2005).

Forest also play an important role in food security and in combating poverty (the livelihood of 1 out of 4 poor persons depends on the forest). Data also show that 112,006 hectares are owned by gum Arabic farmers' associations in the Gum Arabic belt, most of them poor. The number of Gum Arabic Producers' Associations reached 1481 with 1,881,800 members. The number of people who rely on Gum Arabic as a source of income and live in the Gum Arabic belt reach about 6 million.

2.6 Agriculture³:

The contribution of the agricultural sector to the GDP in 2010 had dropped compared to 2009, mainly due to the increase in the contribution of the oil and service sectors. For instance, the irrigated sector represents 11.0%, mechanized rain-fed 1.0% and the traditional rain-fed 5.2% in 2008, and those ratios increased for the traditional rain-fed sector to 5.5% in 2009. Crop production sector is still the largest within the agricultural sector, compared to livestock and forestry. Per Capita share of cultivated land has also increased from 1.1 thousand acres in 2010 to 1.3 in 2011.

3. Urban Environment:

Changes in the demographic structure is considered one of the key factors that led to the degradation of the urban environment, manifested in the form of deteriorating water services (quantity and quality), sanitation, waste disposal and pollution. The 2008 census showed that 32.9% of Sudan population is living in urban areas and that the urban population has increased during the period 1993-2008 at an annual rate of 3.9%, while the total population the grew at a rate of 2.4%. The majority of the population added to the urban areas has moved to towns from the rural areas as a result of the environmental degradation, the limited employment opportunities in rural areas or because of war and insecurity. Such displacement also affects the environment from which people were displaced because of loss of the labor force and hence the drop in productivity. It also affects the urban areas to which they move because of the pressure on the already inadequate

³ See the part on agricultural production in Chapter Four

services for urban residents. In addition to that, most of the displaced live around cities in areas where in most cases there are no services, thus leading to the deterioration of environmental health, disease and epidemics outbreaks and insecurity.

The high population density in slums and squatter settlements led to serious deterioration in the services and other public facilities, as manifested in the current situation of markets that suffers from poor planning, narrow roads, lack of adequate health procedures for restaurants in terms of services, location and workers health, in addition to the obvious deficiency or absence of toilet facilities in most markets.

4. Population Growth and Natural Resources Use:

The increase and decrease of the population is attributed to factors of fertility, mortality and migration. The population of Sudan was 21.3 million in 1993, and in 2008 reached 30.8 million, an increase of 10 million persons and an annual growth rate of 2.4%. Reduction of infant mortality and children under-five remains one of the key challenges facing the development process in Sudan, especially in view of the Millennium development goals (MDGs) target of reducing infant and under-5 mortality rates by two-thirds in the period from 1990 to 2015.

Approximately 14.3% of the households obtain drinking water from water treatment plants through water networks and 14.4% through networks connected to the house or residential complexes but from deep tube wells. Other sources of drinking water include borehole (water yards) with no network (9.9%) and surface wells (19%). Other sources of untreated water include “*Turda*”, *Fula* (water ponds) and unfiltered river water used by (4.4%) of households and water from underground wells transported by tankers or carts (14.3%).

Regarding sanitation, the 2008 census results showed that about 38.7% of the households use private latrines and only 3.4% use siphon systems, but most households (45%) do not use any kind of sanitation system, the thing that exposes them to many health hazards.

Also, the census showed that more than half of the households in Sudan (56.1%) use firewood as main fuel. But differences between urban and rural areas appear in the intensity of use, while firewood is used by 20% of urban households, it is used by 76.4% in rural areas. Second in use of domestic energy is charcoal which is used by 13% of households. It is worth mentioning that the reduction of the use of solid fuels is one of the goals of the Millennium indicators, therefore attention should be devoted to

developing alternative sources because the use of solid fuels or charcoal is one of the main causes of desertification.

Internal conflicts and also conflicts with neighboring countries cause displacement of large groups of the population seeking security and assistance. The environment at the places of their stay has extensively deteriorated because of mal practices and irrational use of renewable natural resources. Refugees in eastern Sudan and displaced people in western Sudan have cut trees and strained the pastures around them. The deterioration of security situation in the western parts of the country led to the displacement of many people to safer areas, and that has led to the concentration of additional numbers of population in specific areas, thus increasing the rate of exploitation of resources causing damage to the local environment.

5. Problems, Challenges and Threats:

5.1 Climate Change:

Climate change is the first environmental problem in the world at present and Sudan's contribution to this problem is very small, as its emissions of greenhouse gases is estimated at 0.07%, mostly from the land-use sector which contributes more than 70% of the total emissions. Despite that, Sudan is one of the countries hard-hit by climate change for the following reasons:

1. Most of the land is very sensitive to changes of temperature and rainfall.
2. The fragility of bio-systems.
3. The weak infrastructure.
4. Food security relies mainly on rainfall.
5. More than 70% of the population relies directly on the resources sensitive to climate change.

For these reasons many development challenges emerge with the increasing risks of climate change, particularly land degradation and desertification as a result of the irrational exploitation of land and the recurrent droughts and clearance of vegetation cover and these factors affect what are already fragile areas.

The scenarios of climate analysis, which was part of the first report of on Climate Change, indicate that average temperatures are expected to rise in 2030 by between 1.5 to 3.1 degrees Celsius in the month of August, and from 1.1 to 2.1 degrees Celsius in January. The same forecast indicate a decrease in the amount of rainfall by about 6 mm per month during the rainy season. These changes in temperature and rainfall will undoubtedly have a negative impact on the continuity of development achieved, especially in the agricultural, water and health sectors.

An example of the impacts on agriculture is that, if we added economic and social pressures to climate change, we find that climate variability and change will increase current desertification of arable land, and the wet agricultural lands will move southward, converting the land in the north into non-arable lands. Production of sorghum, millet and Gum Arabic will deteriorate which necessarily means low incomes for producers, and thus threatening food security if interventions do not take place to confront climate change.

As for the water sources, a decrease in replacement for the current pumping of underground water as a result of the drop rainfall on the one hand, and the high temperature on the other hand, has serious consequences on Sudan. National studies have demonstrated that soil moisture will fall under future climate change, especially if we take into account the increase in water consumption, high increase in population growth, decline in the amount of rainfall and high temperatures which ultimately lead to an increase in evaporation. We can therefore say that a water disaster is imminent.

In the field of public health, communities in Sudan will be exposed to significant risks of malaria, especially under conditions of climate change. Studies in Kordofan, for instance, predicted an increased risk of malaria incidence until 2060, thus threatening the lives of patients because of inability of the health care system to withstand the increasing pressure.

We conclude that the climate problem is not only because the environmental systems would be adversely affected, but also because farmers and pastoralists spread in thousands of settlements in the desert areas in the north to savannah zone in the south will face great difficulties to produce their food under conditions of rising temperature and droughts. Climate change for Sudan also represents a serious hurdle to sustainable development and to the livelihood of vulnerable and fragile societies, and hence, its confrontation requires a collective effort and financial resources both from inside and outside Sudan.

5.2 Desertification

The area located between latitudes 10 and 18 degrees North is the area most affected by drought and desertification. The size of desertified area now amounts to 37% of the total land area of Sudan, extended over 13 states. For that reason desertification is considered the first environmental problem in Sudan. The creeping desert is a serious concern for Sudan as it threatens settlements, agricultural projects on the Nile and mechanized farming, pasture and Gum Arabic production areas. A survey conducted by institutions concerned with the problem of desertification, showed that the desert creeps southward at a rate of 5 to 6 kilometers per year. Based on this

survey, programmes were devised to combat desertification and address its effects in Kordofan, Darfur, the River Nile, Northern and Khartoum states, and the area between latitudes 12 and 18 north, from the Nile in the east to the Chadian border in the west and along the Nile between longitudes 30 and 32 degrees east stretching to the Egyptian border over an area of 650,000 square kilometers.

The causes of desertification vary according to the physical environmental and social conditions of the different regions and areas, but experts have agreed they are a set of harsh natural elements and human misuse of renewable natural resources. The natural factors include:

1. Long-term climate change, which include rainfall variability over time and space and retreating rain line
2. Drought which affects large areas of Sudan, as well as local droughts that affects specific areas.
3. Atmospheric changes of climate elements such as temperature, rainfall and evaporation as rising temperatures and climate change phenomenon cause drought and desertification.
4. Insects that feed on and destroy trees roots and seeds.
5. Desert locusts swarms

The human factors are manifested in three main activities carried out by man. These are:

1. Misuse of vegetation cover in the form of overgrazing whose rate reaches 47%, clearance of trees for energy (firewood and charcoal) 19%, rain-fed mechanized farming and irrational agricultural practices which represent 22% and the use of forest products for construction and furniture which represents 12%. Until 1958, forests covered 43% of the area of Sudan but it now shrunk to about 11% mainly because of unlawful clearance of trees and the secession of the south.
2. Misuse of agricultural land and the absence of crop rotation systems which led to the decline in soil fertility and low productivity, forcing residents to focus on horizontal expansion in marginal lands. There is also the increase in population and urbanization at the expense of agricultural land and the increase in livestock population that resulted in the disappearance of palatable grasses and the spread of unpalatable species. Fires, whether sparked by man or nature, have also destroyed vegetation, forests and grazing areas.
3. Misuse of water and available water resources and the use of traditional methods of transporting water from the source to the farms, resulting in the loss of large amounts ranging between 30% to 60% of the transported water as a result of leakages and evaporation. Also, in the case of irrigated schemes, due to excess water which is subjected to evaporation, the salt rises from below the surface to the top, covering

the surface of the soil, turning it into uncultivable land. Moreover, the use of underground water and excessive drilling in quest for water, increases soil salinity and with the progress of time causes desertification.

5.2.1 Effects of desertification:

Sudan experienced a series of drought and crises in the past century, during the years 1983-1984, 1989-1990, 1991 and 1993. The period between 1983 and 1985 was the most serious periods of drought Sudan had experienced. Up to 3 to 4 million people had been affected and forced nearly 1.5 million people to migrate from their areas to other destinations. These crises produced negative ecological, social and economic consequences as follow:

a. Negative ecological effects:

- Loss of arable land
- Declining agricultural production as a result of soil loss of fertility and erosion.
- Occurrence of river and flash floods
- Drought and drop in surface and underground water resources
- Drop of animal production (meat and milk)
- Drop in production of Gum Arabic
- Depletion of forests
- Formation of sand dunes and sand creep that covered agricultural lands and caused changes in its morphology and topographic features.

b. Social and economic impacts:

- Conflicts between pastoralists and farmers
- Intertribal wars and instability
- Social breakdown and family disintegration as a result of migration and displacement
- Loss of historical and cultural heritage of many tribes because of instability
- The drought, which is the main cause of desertification currently threatens up to 12 million hectares of mechanized farming land and 606 million hectares in areas of traditional agriculture. Degraded lands as a result of irrational human activities amounts to about 21 million hectares distributed as follows:
 - a. 10 million hectares as a result of misuse of agricultural land
 - b. 5 million hectares by misuse in pastoral land
 - c. 3 million hectares due to cultivation of “marginal” land
 - d. 3 million hectares due to over-exploitation of forests.

5.3 Floods and flash floods:

Increasing natural disasters threaten human life, property and components of its natural environment. Disasters appear in different forms, including geophysical such as drought, desertification, floods, earthquakes and torrential rains (floods), hurricanes and biological such as epidemics... etc... At the global level, annual losses resulting from geophysical disasters are estimated at more than \$ 15 billion and the death of about 250 thousand people. The deadly, infectious epidemical disasters amounts to about 10-15% of the total annual mortality in developing countries and the heavy rains and flooding cause citizens to lose their property as was the case in the rain and floods of 1988 in Sudan, where more than a million people lost their homes, and infrastructure including health and education services were destroyed by more than 89% and the same tragedy struck again in 2007, where total damage caused by the rains and floods estimated at \$300 million.

5.4 Water Shortages:

Despite many water sources in Sudan, scarcity of water continues to threaten crops, animals and humans. In addition to misuse in general, drought and desertification contributed primarily to the deterioration of water resources. Indications showed continued declining over the past two decades in the Nile water and pollution of water by silt and that is attributable to the following:

1. Deforestation and removal of vegetation from the Ethiopian plateau leading to flow of large amounts of silt with the Blue Nile waters.
2. Decreasing storage capacity of dams because of silt accumulation, causing loss of large quantities of water through evaporation.
3. Water pollution caused by the use of pesticides to fight desert locust and use of chemicals to remove Nile weeds.
4. Urban development that ignored the establishment of sewage systems, which led to the contamination of underground and surface water, especially in areas with high population density.
5. Industrial establishments and power plants that lack treatment systems cause water pollution in rivers and wells.

There are also some other threats that negatively affect and escalate these problems, they include:

1. that all river sources (permanent and seasonal) are located outside the borders of Sudan.
2. the flooding of all rivers is seasonal, so their drainage happen in a short period.
3. a larger part of the White Nile, the second biggest tributary of the Nile, is occupied by aquatic weeds especially Nile weeds.

4. the “Sudd” area in South Sudan loses about 14 billion cubic meters per year as a result of evaporation and evapo-transpiration.
5. the narrow strip along the Nile banks in northern Sudan has been intensively eroded as a result of *haddam* and is shrinking year after year.
6. rainfall variability over time and space negatively impacts on crop production and productivity.
7. inefficiency of rainwater use as a result of high evaporation rates and the poor capacity of soil to retain water in most parts of Sudan.

5.5 Shrinking Biodiversity:

As mentioned above, biodiversity of plants and animals has shrunk in the Sudan due to a number of factors including:

1. Increasing wastage of biodiversity elements and the increasing pressure on natural resources as a result of agriculture, overgrazing and tree cutting for building materials and energy.
2. Population growth and unbalanced distribution between rural and urban areas and the spread of human settlements at the expense of forests and wildlife. The high rate of population growth is one of the main factors behind the pressure on natural resources and biodiversity, making efficient protection, extremely difficult, leading to natural resources degradation and loss of biodiversity, and consequently famines and conflicts.
3. High energy consumption as most of the population depends on forests as a source of energy. Forests contribute 70-81% of energy, and the demand on firewood is rising due to increased population.
4. Economic and social factors such as land ownership and its fragmentation, migration from rural areas to cities, traditional agriculture, traditional shifting cultivation, the expansion of mechanized farming, soil degradation, hunting and overgrazing result in the removal of vegetation.
5. Most of the areas endowed with rich biodiversity are located in war zones.
6. The absence of or inactive legislation that protect biodiversity and natural resources.
7. Of the total 24 thousand feddans of shelter belts around some cities in Khartoum, Kordofan and Darfur states, 17,258 feddans (72%) were allocated for residential purposes and other installations and in most cases without complying with appropriate legal procedures.
8. Clearance of vegetation because of war and displacement (firewood and charcoal) or because of oil and gold exploration activities, construction of dams or extension of electricity networks.

5.6 Pollution:

Pollution resulting from direct human behavior or because of the wrong use of pesticides, chemicals and fertilizers for agriculture, toxic, solid and industrial waste and petroleum operations cause serious negative environmental impacts on soil, water and air. The most important types of pollution linked to the country's economic activities are associated with agriculture, industry and oil extraction.

5.6.1 Agricultural pollution:

Out of 400 types of pesticides in the world, more than 152 types (38%) were used in Sudan prior to the issuance of the first law regulating their use in 1974. Most of these pesticides were toxic and threaten food production and human and animal health and they are sold in the market without control. Also, the stores of the Plant Protection Department in more than 22 towns in Sudan are in poor condition and exposed to the sun, rain and wind, goats and children, although they contain the most dangerous toxins. Dozens of cases of acute pesticide poisoning of humans and animals were reported in the last two decades. The cases have recurred in many Sudanese towns. The real danger, however, lies in the cumulative and slow poisoning that affects humans and animals as a result of exposure, causing dangerous diseases or death including cancer, loss of immunity, miscarriages and the birth of deformed babies.

Air pollution with pesticides as a result of direct spraying or by wind threatens the health of humans, animals and plants, especially in the areas of large agricultural schemes, where pesticides are sprayed by aircrafts. Direct spraying also cause water pollution as it is the case of irrigation channels, Nile weeds, the erosion of contaminated soils to water resources or when washing and cleaning pesticides drums or trucks transporting it, leading to the destruction of fish resources and aquaculture and threatens public health.

Soil contamination occurs as a result of seed treatment with pesticide or its accumulation when spraying crops which leads to drop in soil fertility as a result of elimination of organisms that play an important role in the soil regeneration cycle.

5.6.2 Industrial pollution:

Industrial pollution occurs because some industries throw their liquid waste in Nile including some toxic substances. The direct risks and cases in various industries include the harmful impact of cotton waste and acidic and alkaline vapors in the textile industry, while in the leather industry the risks lies in the nasty smell caused by the secretion of toxic gases in addition to the risk caused by poor methods of chemical storage and circulation. Chemical industries use some harmful substances such as poisonous

mercury that escapes into rivers through waste dumping. These substances enter the human food chain through vermin and fish that people eat and that cause mental retardation and paralysis.

5.6.3 Oil pollution:

When oil is extracted, wells are injected with water to facilitate the extraction process and this water becomes contaminated with oil. The presence of hundreds of thousands of kilometers covered with oil-contaminated water led to the destruction of all plants and small animals in those areas and the soil became unproductive. Tankers transporting crude oil, in their return trip use water for maintaining balance and they discharge the water before reaching the port of shipment, leading to severe pollution of the sea and the beaches. This threatens marine life and populated coastal areas. When oil is refined, to separate usable elements, the crude is heated to high temperatures resulting in cracking of sulfur compounds and of hydrocarbon, all these residues with other chemicals penetrate the soil and the rivers and cause contamination. The main pollution associated with oil consumption, is air pollution as a result of the combustion of petroleum products by cars. The situation in Sudan kept on deteriorating as a result of on the one hand the large number of vehicles and on the other the use of aging cars and poor maintenance, in addition to the presence the three-wheeler taxi known as "*Raksha*". The incomplete combustion of old cars and the mixing of oil with benzene in the case of *Raksha* increase emissions in the atmosphere, causing many diseases starting with headaches and ending in cancer.

Gas resulting from the use of lead added to benzene, causes pneumonia, rheumatism and cancer and affects the children growth. Also, carbon oxides (CO_x) cause most respiratory diseases to humans and cause serious damage to plants. Moreover, hydrocarbon causes cancer, while optical oxidative chemicals (O_3) and nitrogen oxides (NO_x) cause eye, nose, ear and lung disease. The fine particles cause problems of sight and respiratory diseases, psychological stress and tension. Finally, if the carbon monoxide is united with blood hemoglobin it causes poisoning. Khartoum, one of the cities with relatively low emissions compared to other capitals, will join the group of polluted cities in the near future if the number of vehicles continues to grow in such a frightening manner, especially with the presence of a large number of old cars with the toxic gases they emit.

5.6.4 Pollution in the urban environment:

1. **Drinking water supply:** statistics show that the percentage of those with access to safe drinking water in Sudan is about 48% of the total population, 55% of them in towns and 43% in rural areas. The type and quality of water are changeable and vary with rivers; flood seasons, in

- addition to the repeated cuts of piped water supply. Water from surface wells also fluctuates in quantity and is exposed to pollution as a result of poor storage and it mixing with sewage exposing human health to risk.
2. The sewerage network is limited and only available in Khartoum and Khartoum North, and the system does not cover more than 8% of households in Khartoum State and an insignificant number in other States. Most families in urban areas depend on traditional latrines. Because of its old age, the sewerage network is stretched beyond its designed capacity, causing and water to leak from contaminated stations and drain into Nile, contaminating its water. Defecating in the open, especially in water canals and *khors* has numerous effects on health as it helps breeding of insects and transmission of microorganisms, which becomes worse during the rainy season when running water carries dirt to various areas and may reach fresh water sources including the Nile.
 3. Garbage collection is another acute problem due to the absence of an effective system, lack of machinery and labor. Of late, a system of collection of trash by some companies directly from the house has been developed in return for monthly fees. But such services are not rendered to all residential areas in a regular manner and most of garbage end up dumped in the city outskirts where it is disposed by burning which emits some poisonous gases. There is also the problem of medical waste which is collected with the house garbage, which also transmits some diseases especially several hospitals are located within residential areas.

6. Strategies, Policies, Programmes and Plans:

6.1: Water

In order to maintain the current rate of water consumption, with the expected shortage by 2030, an additional 16 billion cubic meters must be made available from rainfall or seasonal rivers, in addition to the development of infrastructure to utilize underground water. This process is costly and requires modern technology in addition to:

- Development of water resources management systems.
- Control and storage of seasonal streams' water
- Encouraging investment in the field of water.
- Raising public awareness, fixing reasonable tariff and rewarding efficiency and punishing wastage.
- Investing part of water revenues for developing, rehabilitating and maintaining infrastructure.
- Cultivation of crops that have high nutritional value and are drought-resistant.

6.1.1 Suggestions to address the problem:

The critical water problem requires taking immediate measures to address it at international, regional and local levels. For instance, the management of water sources and rivers must be based on the understanding that it is a shared environmental system. The Nile basin, for instance, is shared by 11 countries so its management must be planned at the regional level, but its development projects can be implemented at the national and local levels. This requires the following:

- Building of necessary institutions tasked with planning and management at the various international, regional, national and local levels.
- Conducting a comprehensive assessment of the water sources and the state of water balance to be followed with devising a strategy to develop and utilize various water sources in an economically and environmentally sustainable manner in order to sustain long term social and economic development.
- In order to sustain the source, the water administration must take an integrated environmental management approach for the freshwater system and rehabilitate the deteriorated areas, within a national framework strategy and to engage and support citizens through education and capacity development to take part in decision making.
- Mobilizing financial resources from various sectors (public and private) to implement work plans relating to water management, reduction of poverty and preservation of natural resources.
- Giving priority to the water sector in development budgets and revision of tax and customs on the water sector inputs, taking into account the relationship between water and poverty. Safe and feasible levels of water utilization need to be calculated as well as the vulnerability of the poor to water shortages and, total lack sometimes.
- When devising strategies for water resource management, it has to include the protection of forests at rivers, lakes and stream sources to prevent erosion and contamination of water and to preserve fish resources and agricultural lands.
- Adoption of rational management in water use, support of scientific research to improve irrigation systems and to produce low water demanding crops, and availing industrial technology that is low water consuming and less polluting to the environment.
- Developing rain-fed agriculture to ease pressure on the irrigated sector using organic fertilizers instead of chemicals and reducing the use of pesticides to prevent water contamination.
- Using natural substances for water purification instead of chemicals which contaminate water and the natural environment.

6.2 Reducing the negative effects of river and flash floods

The measures need to be taken before, during and after the occurrence of river and flash floods include:

- To develop level preparedness for disasters before they strike.
- Enactment and enforcement of legislations to prevent and mitigate disasters
- Revising federal government methods of providing aid and assistance to the affected population.
- Federal government should support scientific research and studies to produce the best model for disaster management (Disaster integrated management system) before, during and after they occur.
- Raising public awareness on the risks of disasters and how to minimize them

6.3 Preserving Biodiversity

A biodiversity national strategy and action plan of bio-diversity have been developed, which include several projects that would maintain biodiversity, and hence achieve food security and poverty alleviation. Work will begin to update the strategy and the Action Plan for the years 2011-2020 through which the causes of biodiversity deterioration will be addressed. That would benefit the population in the form of food security, improving health and reducing poverty. The strategy will also conserve the ecosystems and ensure their sustainability and access to its services, especially for the poor who depend on directly them. In order to do this, we need to integrate the principles of sustainable development in policies and programmes, and raise environmental awareness at all levels.

7. Opportunities:

7.1 Maintaining biodiversity:

Environmental conservation can be improved, unsustainable patterns of production and consumption can be reduced, the negative impact on population, development and environment can be prevented, and the elements of biodiversity can be maintained through:

1. Observance of environmental controls in line with the generally accepted scientific standards by assessing environmental impact when designing and implementing development programmes.
2. Reducing the impact of consumption and unlawful production of non-renewable resources.
3. Raising environmental awareness among the public and the involvement of all the population in protecting the environment by making use of all media channels.
4. Conserving biodiversity, reducing degradation rates and increasing and conserving natural reserves.

5. Enhancing the implementation of the national strategy for biodiversity and reducing the excessive exploitation of natural resources.
6. Paying more attention to institutional support and capacity development.
7. Continuous coordination between all relevant actors to lay the foundations and standards that help in protecting the environment and conserving biodiversity and human health, especially with regard to the qualitative deterioration of the soil resulting from the misuse of pesticides and fertilizers.
8. Development and enactment of land tenure legislations.
9. Integrating the principles of sustainable development into the country's policies and programmes.
10. Working towards the distribution of population in a manner compatible with the distribution of natural resources and services.

7.2 Forest Protection:

According to the 2008 census figures, firewood consumption will increase from 22.1 million cubic meters in 2011 to 24.2 in 2015, and accordingly three scenarios have been made:

1. If the current consumption of firewood continues till 2015, the quantities of firewood that will be replaced with gas will increase from 0.59 million cubic meters (2011) to 0.68 in 2015.
2. If firewood consumption increased from 16.1 Million M³ in 2011 to 17.7 in 2015, the quantities of wood which will be replaced with gas will increase from 2.491 Million M³ (2011) to 3.183 Million M³ in 2015.
3. If firewood consumption rises from 10.7 in 2011 to 11.8 Million M³ in 2015, the quantities of wood which will be replaced by gas will increase from 5.882 (2011) to 6.366 Million M³ in 2015.

The ideal status for forest is to protect it from consumption as a source of energy. As stated in scenario (1), at least 500 thousand metric tons of gas a year must be provided to reduce the consumption of trees for energy. After calculating the forest area of Sudan which is estimated at 11.6%, it was found that an area of 38 million feddans must be cultivated by the government and the private and the public to increase the forest area in ten years to 25% of the country's area, at an annual rate of cultivation of 3.8 million feddans, especially that the annual clearance rate now reached 2.2% of the country's area and taking into account the cultivation rate which, since 2000, reached 200 thousand feddans annually. With the population growth, in ten years, the per capita land area will be 3 feddans with a tree density not less than 400-600 trees per feddan.

The key challenges facing this programme, is how to find the area to be planted with trees and the replacement of annual clearance and plant it with suitable species through planting seedlings and ground and air seed

spreading and the use of water harvesting and spreading techniques, and protecting areas of natural regeneration. On the other hand, of the available opportunities, first there are more than 30 million feddans of degraded land that can also be reclaimed and cultivated with forest and then reserve it. Secondly, there are international sources for financing forestry identified by international conventions. And finally some financial resources can be provided by banks, including microfinance programmes, for financing forests and manufacturing its products.

7.3 Improving Agricultural Policies:

Increasing productivity is one of the most important factors upon which sustainable agricultural development can be realized in both the productive and service sectors. To achieve such an increase there is a need to integrate the policies that encourage production and ensure the stability of producers in the production cycle. The most important production policies that can be pursued by the Government of Sudan, which can contribute to increase productivity per unit area, enhance self-sufficiency, reduce poverty and lead to economic stability, are the following:

1. The rehabilitation of irrigation projects and the completion of ongoing projects as a fundamental guarantee of food security within the context of climate variability.
2. Adopting and developing modern irrigation techniques and methods to improve the management and utilization of irrigation water and determine the area under cultivation, according to the quantity of water available.
3. Crop intensification and diversification in the different places of production on an economic basis.
4. Conducting a comprehensive agricultural census and strengthening of agricultural statistics units.
5. Completing work on the investment map for the utilization of natural resources and the optimum use of land to preserve biodiversity.
6. Focusing on proper planning for exploiting surface and ground water in rural areas and to increase forest cover to 25% of the country's total land area.
7. Efficient pricing of natural resource use in a way that reflects the true costs of the sustainable use of these resources.
8. The most important elements of land use policies pursued by the government of Sudan, which contributed to the stability and increase of productivity are (a) the development of a general legal framework governing agricultural land and (b) the study and modernization of the legal frameworks, through:
 - Finding a lease system and controlling agricultural land through long contracts and guarantees of optimal use and exploitation

- Continued orientation of policies to increase forest areas for up to 25% of the country's total area and the creation of an effective mechanism to follow up the enactment of forest and natural resources laws.
- Encouraging the development of popular and private forests and institutional forests.

7.4 Sustainability of Agricultural Production:

To achieve sustainable agricultural production to keep pace with population growth the state must focus on the following:

1. Improving crop mix in different regions on the basis of comparative advantage of each region and generalizing the integration of crop and animal production in all projects.
2. Raising the crop productivity on an economic basis in order to increase revenues for the producers and the State and reducing crop losses and wastage during production, harvesting and marketing stages.
3. Expanding agricultural insurance to cover rain-fed agriculture and the activation of the Risk aversion Fund project.
4. Providing finance to small producers with to a new vision for the guarantees.
5. Continuing the establishment of rural development and integrated agricultural projects and adopting gender mainstreaming and rural women empowerment policies.
6. Implementing the poverty alleviation strategy, promoting income generating activities among rural households in all the programmes and agricultural development plans and supporting women and building their capacity to improve food production
7. Halting horizontal expansion in mechanized farming schemes and the exclusion of marginal land with low productivity from cultivation to be converted into pastures.
8. Activating extension work.
9. Concentrating on food crop production in order to achieve self-sufficiency and developing food security and rural development projects to stabilize population and reduce rural urban migration.
10. Building a strategic reserve and ensuring access to food for different areas and secure funding to the strategic reserve to purchase food crops and strengthen it as a price control and stabilization mechanism and create a balance between supply and demand in coordination with the Ministry of Finance.
11. Establishing food security/safety nets and early warning system to timely identify areas and size of food gaps
12. Adoption of the plan of self-sufficiency in wheat production and the indigenization of rice and maize policy.

13. Provision of resources and technical inputs necessary for the production of high quality horticultural crops and take advantage of the country's high comparative advantage.
14. Rehabilitation of natural pastures in the different ecological zones, conservation of natural grazing areas and the introduction of periodic supplementary irrigation systems.
15. Limiting the duration of land lease (*hikir*) and the size of lands allocated for individuals and groups, and reviewing the meanings of the different types of tenure holding (*manfa'a*, *hikir*, *milik hur*, *milik ein* etc.) to comply with investment laws in other countries.
16. Settlement and registration of unregistered land.
17. Mapping arable and non-arable lands in Sudan.
18. Issuing bi-laws to enable States' authorities to address land problems according to the specificities of each state and in line with federal land laws.
19. Drawing agricultural land use maps.
20. Involving local citizens and civil society organizations in the management and conservation of natural resources.
21. Maintaining balance between animal population and the carrying capacity of pastures, with a gradual shift from open to commercial grazing.
22. Improving water management systems to increase efficiency to the level of measuring production in water units rather than unit area, e.g. (ton/M³) instead of (tons /feddan).
23. Adopt effective systems for collection of water rates for irrigated agricultural schemes and the use of the revenues for the maintenance of networks and irrigation facilities.
24. Improving irrigation systems to reduce water losses and weed growth.

8. Conclusion:

The relationship between population growth and increasing demand for natural resources, and the environment is a very complex and tangled relationship. These elements (population and human and environmental activities) interact with each other in different ways at different times and places. Population growth affects development, the level of development affects the environment, and the level of development and the quality of the environment affect the population. The unbalanced distribution between urban and rural areas is one of the negative indicators of inadequate capacity to absorb population growth. There is a need for the governments to devise plans for human development and population distribution in an optimal manner. Also, capacity of staff in strategic planning departments in all states should be built, and there must be coordination between them and the departments of statistics and the National Population Council to develop a

roadmap for effective future solutions. Finally, a reference source should be made available for environmental information, to assist the process of making sound decisions in this area.

Sources and References

- Executive Mechanism for Prevention of the Negative Impact of Floods and Flash Floods, 2007.
- Central Bureau of Statistics, the 2008 Census.
- The Higher Council for Environment and Natural Resources and the Fourth National Report of the Convention on Biological Diversity, Khartoum, 2009.
- The Higher Council for Environment and Natural Resources (200) Strategy and the National Action Plan, 2000
- The Higher Council for Environment and Natural Resources, The First National Contact Report.
- The Higher Council for Environment and Natural Resources, The National Strategy for Climate Change.
- Ministry of Energy, Energy Balance Report, 2005.
- Study of consumption of forest products, 1994.
- Statistical yearbook, 2008.
- The Proposed National Strategy for Environmental Conservation.
- Meteorological Department Records.
- Ministry of Agriculture, The Annual Food Security Report, 2011.

CHAPTER IV
Economy and Population

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1. Introduction:

While some researchers believe that population growth is an encouraging factor that positively impact on the growth of national income, since with the increase of population knowledge and technological advancement increase, the majority are of the view that the population growth is a factor that adversely affect the economic growth and hinders national income growth of, because with the increase of population, the rate of exploitation of economic resources, material and natural, will also increase. In fact, the conflict between different schools of thought and the inability of any of them to prove their assumptions in an absolute manner is attributable to their focus on the size and growth of the population and the failure to consider the issues population age structure and the trends of their change, and its impact on economic growth. Each age group has different behavioral characteristics and different needs which also has different economic consequences. While the needs of children and adolescents require allocating huge resources to invest in health and education, the youth constitute the main source for labor supply and increase of savings and, with the age progress, rises the need for intensive health care and the need to secure retirement pensions.

What is agreed upon in this area is that the economic growth becomes slow when the population growth in the working age compared to the total population becomes low, but the economic growth will improve when population growth in the working age becomes higher than the total population growth. Also, there is general agreement that the wide spread of poverty as well as gender-based inequality have a significant impact on population growth, structure and distribution. Besides, the level of income and capital stocks affect fertility and mortality. When the population pyramid becomes broader, the need for government spending and family consumption rises and that leads to the drop in savings, and when the level of income and capital stocks improve, their impact is also reflected on fertility and mortality as it leads to the improvement in family health and education welfare levels, and subsequently to positive changes in their reproductive behavior. Income also affects capital as it rises and falls with the added value generated by capital investments, and in turn it affects incomes and savings, which increase when inflation rate falls, when the proportion of population in the working age rises that allows for more economic growth as a result of their high contribution to that product. This concept can be expanded to include external factors that have implications for internal variables constituting the system. For instance, population policies including reproductive health and family planning programmes may rapidly reduce fertility rates and change the age structure of the population.

The change in population age structure implies a change in saving and consumption trends and has a direct impact on per capita income as it influences the economic dependency ration and size of the labor force.

Based on the above, we note the interrelationship between economic and population growth and poverty levels. In order to develop a new population policy in the post South secession Sudan, we need to review past economic policies and GDP growth rates and its relationship with poverty and population growth.

2. General Features of Sudan Economic Policies (2000-2010):

Sudan general economic policies trends during the period 2000-2010 included the following programmes:

- Programs of privatization and structural adjustment
- Annual wage increases at a rate higher than inflation rates
- Coordination between monetary and fiscal policies
- Issuing government bonds certificates to manage and control liquidity
- Maintaining reasonable money supply growth rates
- Unifying the national currency exchange rate and regulating foreign currency market.
- Preparation of budgets based on government statistics
- Establishing an oil price stabilization fund
- Tax reform programmes
- Petroleum products price subsidies
- Reduction of inflation rates to a single digit
- Achieving positive economic growth rate.
- Building foreign exchange reserves

3. Economic Sectors Contribution to GDP (2000-2010):

GDP reflects the contribution of the different economic sectors in economic growth and therefore, the level of development that occurs in each sector helps to develop appropriate policies and programmes for achieving economic growth and correcting economic trends.

3.1 The agricultural sector:

The agricultural sector witnessed a remarkable growth of between 4.8% and 8.6% during the period 2005-2010, mainly as a result of the considerable increases in crop and animal production. The major increase occurred in sorghum, reaching 10.3% between the two seasons 2007/8 and 2008/9. Wheat and cotton production increased, respectively, by 8.6% and 6.6%, while millet production fell. In general, the contribution of the agricultural sector in GDP dropped from 35.7% in 2000 to 28.7% in 2008 as a result of

the entry of oil in the calculation of GDP and the increase in the contribution of the electricity and water sectors.

3.2 Petroleum sector:

From 2001 to 2004, the petroleum sector witnessed a significant growth amounting to 17.1%, but after 2004 it started to experience fluctuation. The contribution of the sector to the GDP ranged between 6.7% and 17.6%.

3.3 Mining sector:

The mining sector made little contribution to the GDP (0.2%) during the period 2000-2010 and the only rise recorded was in 2007 as a result of due to the significant increase in the production of chromium.

3.3 Manufacturing sector:

The sector growth rate in 2006 rose to 8.7% from 3.2% in 2005, mainly due to the increase in the number of cars manufactured by Giad Motors. The sector's contribution to GDP ranged between 6.7% (2000) and 9.3% recorded in 2004.

3.5 Electricity and Water sector:

The growth rate of this sector ranged between 12.8% and 15.9%, registered in 2007, and with the increase in the total generation in the National Electricity Network, electricity consumption increased in the agricultural, industrial, residential, commercial and governmental sectors.

3.6 Construction sector:

The construction sector realized positive growth rates during the period 2000 - 2010. In 2001, the growth rate reached its peak (30.9%) and this huge rise was due to the intensive work in development projects and the oil sector installations. The sector's GDP contribution was 3.4% in 2000 went up to 4.6% in 2010.

3.7 Commercial sector:

The commercial, restaurants and hotels sector is the most important service sectors. Its contribution to the GDP ranged from 14.0% in 2008 to 16.8% in 2010. The annual growth rate of the sector was 2.8% between 2000 and 2004 and it rose to 5.6% in 2005 and it reached 6.7% in 2010.

3.8 Transportation sector:

This sector has achieved the highest growth rate reaching 25.8% in 2003. Between 2004 and until 2006 the growth rate ranged between (8%) and (9%) and dropped to 7.6% in 2007. That was due to the stoppage of river transport activities and decrease in the number of licensed vehicles. The

contribution of this sector to the GDP ranged between 8.5% in 2002 to 14.2% in 2006.

3.9 Banking and Insurance sector:

This sector achieved the highest growth rate in 2006 due to the increase in the number of banks operating in Sudan with the entry of the Industrial Development Bank and Capital Bank into service and the increase of the productivity of the banks established in 2005, including Al Salam Bank and the Sudanese Egyptian Bank. The contribution of the sector rose from 6.7% in 2006 to 8.6% in 2002.

3.10 Government sector:

The growth rate of this sector rose from 22% in 2001 to 38.9% in 2002 and dropped to 27.3% in 2006. The large rise was mainly due to increased government expenditure on security and defense. The contribution of the government sector to the GDP rose from 4.1% in 2000 to 5.6% in 2004.

4. Inflation Rates and Future Forecast:

Inflation rate was generally stable during the period 2000-2007 and did not exceed one digit and even registered lower than expected rates. The decrease during was mainly due to economic and price stability of most consumer goods and services especially food and beverage, which represent 53% of total household expenditure. Of the important commodities that experienced stability were grain, oils, milk, sugar, lentils, rice, coffee and tea. Inflation rates have risen significantly surpassing one digit during the period 2008-2010, a rise mainly prompted by the global financial crisis which led to increases in the prices of grain, vegetable oil, lentils, rice, milk and household furniture. We notice that all mentioned commodities are imported and essential for consumption and the prices of some of them such as rice and lentils increased by 100% and all these goods fall within the food and drink category, the increase of which has a direct effects on inflation rates.

Assuming that the exchange rate will be in the range of 3 pounds against the dollar in 2011, rising gradually to 3.5 in 2015 and the GDP growth rate rising to 1% in 2012, 2% in 2013, 3% in 2014 and 5% in the year 2015, then the following is expected

- a. a rise in the exchange rate, which will lead to the devaluation of the national currency against foreign currencies,
- b. a drop in exports or decrease in their prices, which will affect the mount of cash inflows into the local market.

But it must be noted that the exchange rate does not accurately reflect the actual currency value because the rate is fixed by the State.

These factors will lead to higher inflation during 2011-2016, because the exchange price will be reflected on imports as of the consumer basket which consists of 663 items, 243 are imported goods, including food items such as flour, rice, powdered milk, lentils and vegetable oils and others, medicines, household equipment and communications facilities which represent 20% of consumer spending.

Table 4.1: Macroeconomic Indicators Projection 2011-2016

Indicator	2011	2014	2016
No of Population (million)	33.3	35.9	37.7
Economic Growth Rate (%)	6.5	5.0	5.8
Real Gross Domestic Product	29.0	33.6	37.6
Inflation Rate (%)	18.4	13.4	9.4
Gross Domestic Product	6,183.1	8,694.8	10,638.6
Average Exchange Rate (SDG/US\$)	3.0	3.5	3.5
GDP at current prices	179,310.7	292,145.6	400,010.5
GDP (billion \$)	59.8	83.5	114.3
Average per capita share (\$)	1,796.0	2,327.0	3,031.5
Total consumption	142,646.0	230,774.791	315,439.1579
Government consumption	36,865.4	35,659.0	44,848.1
Private consumption	105,780.6	195,115.8	270,591.1
Total Domestic Savings	36,664.7	61,370.8	84,571.3
National Savings	35,935.2	60,072.3	83,776.2
Total Investment	37,394.2	62,669.352	85,366.485
Government Investment	10,497.6	13,004.6	17,364.7
Private Investment	26,896.6	49,664.8	68,001.8
Net Current Account	-729.5	-1,298.5	-795.1

5. Per Capita Income:

The average per capita income during the period 2000-2010 doubled more than five times, rising from 1083 pounds to 5744 pounds. Due to the secession of South Sudan and the fall in GDP, it is expected that the average per capita income in 2016 will reach 5435.9 pounds, compared to 4672.4 pounds in 2011.

6. Labor Force and Employment and Labor Market:

In today's world sustainable development, employment its expansion to include all people able and willing to work, and poverty alleviation are important and interlinked issues around which all policies and strategies are formulated. It is noted that the issues of development and employment sustainability are raised exactly at times when there is urgent need to increase economic growth that is pro poor and can create jobs to absorb the hundreds of thousands of newcomers to the labor market and raise the standards of living. This leads to the central question: What are the effects of options available for job creation, poverty alleviation and for realizing positive social dynamism?

Policies, plans and development programmes should aim at mobilizing human resources and enhance their capabilities and competencies and utilize them in the most efficient way, to ensure its effective and continuous contribution to realizing economic and social development, and achieving the highest material and moral well-being for the citizen. Employment should be central to national policies as without productive employment, objectives of achieving decent living and social and economic development will remain an illusion.

Based on earlier census data and last labor force and migration survey in 1996, it can be said that the problem of labor force in Sudan is structural and linked to demographic changes that have occurred in Sudan. During the 1970s the growth rate of the labor force was higher than that of population growth and unemployment rate did not exceed 5%. Since the 1980s the unemployment rate started to rise and by 1993 it reached 11% and went up to 17% in 1996. According to the 1993 census, the number of new entries to the labor force was 8.2 million persons and the number of the employed reached about 5.6 million. In the latest migration and labor force survey the employed number reached 6.9 million and the net participation rate of population, aged 10 years and over, in the labor force was 45.5%. According to the 2008 census, the size of the labor force reached 8.0 million (out of a of 30.1 million total population), while the economic participation rate stood at 37.4%, and unemployment rate was 16.8%.

Table 4.2: Size and Growth of Population and Labor Force in Sudan 1993-2008

Year	Population	Manpower	Employed	Unemployed	Unemployed Seeking work first time
2008	30,504,166	8,027,413	6,677,410	1,350,003	943,506
1993	21,266,641	6,593,820	5,859,182	734,639	593,552
Annual growth rate	2.4	1.3	0.9	4.1	3.1

Table 4.3: Labor Participation Rates by Gender and Mode of Living

Mode of Living	Crude Participation Rate			Refined Participation Rate		
	Total	Male	Female	Total	Male	Female
Total Population	26.3	38.3	14.1	37.4	54.8	19.8
Urban	25.8	38.7	12.2	34.6	51.9	16.4
Rural	25.7	36.8	14.8	37.4	54.4	21.2
Nomadic	32.4	45.8	16.4	48.1	67.8	24.3

As indicated in Table 4.4, the labor participation rate is close between most age groups of 10-54 years, ranging between 23% and 25% and it begins to fall at the age of 55 years and over till it reaches 12.5% in the 75 years and over age group.

Table 4.4: Labor Participation Rates by Age, Gender and Mode of Living

Age Group	Total			Urban			Rural			Nomadic		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total	43.7	57.9	29.4	37.6	52.9	21.4	46.3	59.3	33.8	48.1	67.8	24.3
10–14	22.6	24.8	20.0	9.1	10.01	7.9	26.2	27.7	24.5	38.7	47.3	26.3
15–19	30.6	37.3	23.8	17.9	24.3	11.4	35.3	40.8	29.5	44.9	58.6	26.0
20–24	41.5	55.2	29.2	32.6	45.5	19.5	45.8	59.3	34.7	48.3	70.2	24.5
25–29	52.3	73.1	35.2	48.4	68.2	29.1	54.8	75.4	39.6	49.6	79.6	23.2
30–34	57.1	80.1	36.9	54.6	77.0	31.6	58.9	81.4	41.1	53.7	38.9	24.1
35–39	59.6	84.2	37.2	56.9	81.5	32.3	61.4	85.5	41.0	56.9	87.4	24.2
40–44	60.9	84.5	37.3	58.7	82.7	32.3	62.4	85.5	41.1	58.7	85.5	25.1
45–49	26.6	86.0	37.3	59.7	84.4	31.5	64.5	86.9	41.3	59.1	56.2	24.3
50–54	59.4	82.8	33.6	55.9	81.5	26.2	61.5	83.8	38.2	57.7	80.4	24.8
55–59	57.8	80.8	30.3	54.0	79.1	23.5	60.9	82.1	35.4	47.1	76.9	16.6
60–64	50.3	70.2	26.3	44.3	65.9	17.9	53.6	72.8	31.2	47.8	66.7	18.5
65–69	44.6	62.9	20.2	37.9	56.6	13.2	48.2	66.4	24.1	42.7	59.2	15.7
70–74	34.9	50.5	15.9	29.1	45.1	11.1	37.6	53.1	18.5	36.8	49.9	14.7
75+	26.3	36.3	13.3	21.8	32.3	9.4	28.2	37.9	15.1	26.2	34.5	12.5

Table 4.5: Distribution of Manpower by Age, Gender and Mode of Living (%) (Missing)

Professions	Total			Urban			Rural			Nomadic		
	Total	Male	Female	Total	M	F	Total	M	F	Total	M	F
	100	100	100	100	100	100	100	100	100	100	100	100
Managers and Administrators	8.6	9.8	3.8	13.5	15.2	6.3	6.5	7.7	2.7	3.5	3.5	3.2
Professionals and Scientists	5.7	3.8	12.9	10.6	6.9	26.4	3.6	2.5	7.4	0.6	0.5	1.2
Technicians	1.9	1.8	2.6	3.7	3.3	5.5	1.2	1.1	1.4	0.2	0.2	0.3
Clerical and Accounting	3.1	2.6	5.0	7.4	5.8	13.9	1.1	1.1	1.1	0.1	0.1	0.1
Selling and Services	6.7	6.5	7.2	12.2	11.6	14.8	4.3	4.4	3.8	1.2	0.8	3.6
Agriculture, Herding and Fishing	27.4	23.7	41.5	4.4	4.6	3.8	44.2	38.7	62.1	13.9	12.2	24.0
Manual workers	11.3	13.1	4.4	18.5	21.7	4.7	8.8	10.2	4.2	1.0	0.5	4.1
Mechanical Operation and Assembly	4.8	5.9	0.8	8.4	10.0	1.8	3.5	4.4	0.5	0.2	0.3	0.1
Primary jobs	30.5	32.8	21.8	21.3	20.9	22.8	26.8	29.8	16.8	79.3	81.9	62.5

Source: CBS, 2008 Census

**Table 4.6 Number of New Comers to the Job Market (15-24 years)
and Projections to 2032 by Gender**

Year	2008	2011	2017	2022	2032
Total	6, 119,208	6,737,771	8,138,481	8,715,982	12,169,000
Male	3,065,648	3,474,737	4,274,760	4,494,396	6,193,638
Female	3,053,560	3,863,722	3,474,722	4,221,586	5,975,363
Urban	2,211,525	2,334, 675	3,765,174	3,765,174	6,335,515

From the tables above, it is clear that the labor force growth rate during the period 1993-2008 is less than the rate of population growth, while that of unemployment is higher than rate of growth the labor force and employment. In general, economic participation rate had fallen in 2008 from its level in 1993. The number the unemployed according to the 2008 census reached 1.4 million persons, i.e. a rate of 15.9%. When we consider the causes of unemployment, drop in employment and the high population growth and the increase in manpower, we can realize the pressure on the labor market. This gives rise to the need for creating new jobs and work opportunities for new comers to the labor market, those who lost their jobs as a result of restructuring programmes, and those who are expected to lose their jobs due to the current global financial crisis and the economic bottlenecks that will result from the separation of South Sudan and the loss of a large percentage of oil revenues. The records of the Ministry of Labor indicate that total number of job opportunities that were available during the period 2005-2010 were 337,615, including 151 254 (45%) provided by the external labor market (external migration) and 186,361 (54%) provided by the local labor market, of which 88,522 were taken by foreigners (48%).

Looking to the future for designing a long-term employment policy, the most important age group will be the youth groups or new comers to the labor market (15-24 years). According to the 2008 census, their number reached 6,119,208 and by the year 2032 the number will reach 12,169,000, which requires the creation of jobs and new business opportunities that match the increasing number of new entrants in addition to the numbers of the unemployed accumulating over the years.

Table 4.7: Distribution of Labor Force by Sector (1993 and 2008)

Year	2008						1993								
	Total			Urban	Rural	Nomadic	Total			Urban			Rural		
	Total	Male	Female	Total	Total	Total	Total	M	F	Total	M	F	Total	M	F
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Primary	43.40	42.54	47.85	6.40	58.45	86.75	60.74	53.54	79.69	12.53	12.35	13.56	81.54	76.17	92.42
Secondary	40.32	41.22	36.60	69.36	28.55	7.28	28.04	32.45	16.54	65.50	63.71	75.85	11.87	15.27	5.01
Professional	10.72	12.83	3.28	18.38	7.98	0.54	9.73	12.54	2.36	20.18	22.23	8.30	5.24	7.21	1.22
Undefined	5.15	3.21	12.05	5.34	4.97	5.39	0.02	0.02	0.00	0.00	0.00	0.00	0.02	0.03	0.00
Not stated	0.11	0.20	0.22	0.52	0.05	0.04	1.47	1.45	1.05	1.78	1.70	2.28	1.23	1.32	1.35

Table 4.8: Population (14-25 Years) by Gender, Mode of Living and Work Status

Activity Status		Previous	Away from work temporarily	Worked Previously, Currently Seeking Work	Looking for work first time	Not working and not seeking	Not stated
Total	Total	1,212,526	78,375	93,902	337,261	3,708,318	175,218
	Female	915,596	46,332	56,214	206,217	1,467,095	255,129
	Male	296,929	32,043	37,688	131,044	2,241,222	283,679
Urban	Total	337,784	22,913	15,947	89,380	1,476,935	175,218
	Female	285,217	15,458	11,296	49,704	629,999	83,491
	Male	52,567	7,455	4,651	39,676	846,93	91,727
Rural	Total	676,422	51,080	72,375	204,360	2,011,225	297,520
	Female	474,911	27,951	41,265	127,683	767,232	134,697
	Male	201,512	23,128	31,109	76,678	1,243,993	162,823
Nomadic	Total	198,319	4,382	5,580	43,520	220,158	66,071
	Female	155,468	2,922	3,652	28,830	69,864	36,943
	Male	42,851	1,460	1,928	14,691	150,29	29,128

Figure 4.1 below shows the expected number of the unemployed by gender from 2008 to 2032, with a growth rate of unemployment of 4.1%. The number of the unemployed will reach 3,541,215 in the year 2032, 61% of them males, which requires attention at the national level to address the problem of unemployment and the development of policies for employment and job creation to keep pace with such a large number, in addition to new comers to the labor market. It should also be noted that there is a category of unemployed known as the disappointed and the desperate and are classified outside the labor force. Their percentage accounted for 25% of the unemployed, 34% of them in the age group 15-24 (Figure 4.2). Although most of them are illiterate and did not complete the basic school (83%), among them are graduates and postgraduates (1.5%). Table 4-9 below shows that the ratio of students outside the labor force is the largest block reaching 46.0%, followed by housewives who account for 42.7%.

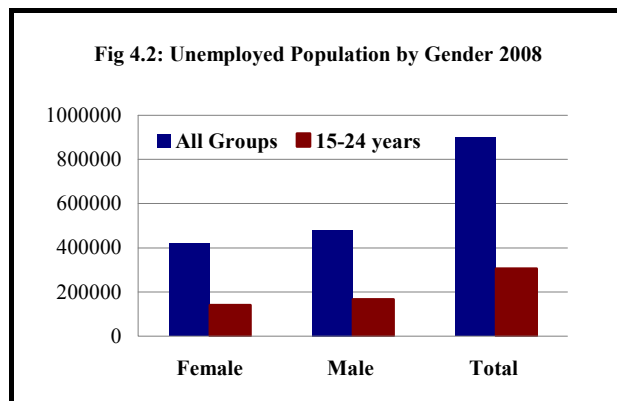
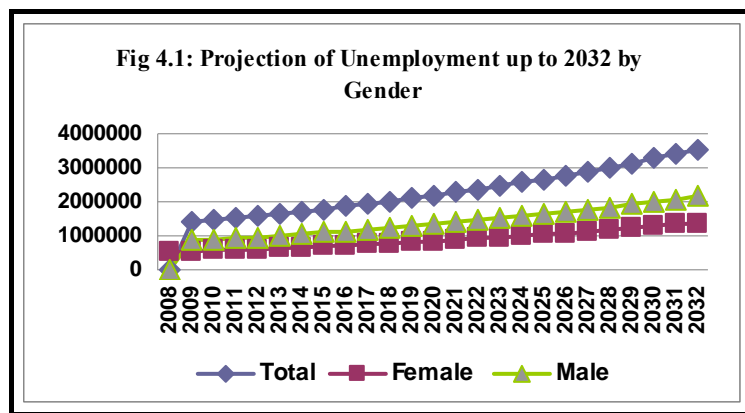


Table 4.9: Population Outside the Labor Force by Gender (2008)

Gender	Total	Desperate	Students	Receiving Assistance	Aged	Disabled	House Wives	Retired	Not Stated
Total	11,512,124	1,338,496	5,297,631	89,355	539,605	270,840	4,922,641	171,159	386,898
Female	3,905,790	480,123	2,920,957	58,165	237,169	144,811	282,704	106,574	133,808
Male	7,606,334	612,846	2,376,674	31,190	302,437	126,029	4,639,937	64,585	253,090
%	100	11.6	46.0	0.8	4.6	2.3	42.7	1.4	3.3

7. Agriculture and Food Security:

Providing food and achieving food security remain a major concern for many countries, in view of the scarce resources and rising demand for food commodities, especially in poor countries. The concept of food security, until recently, was associated with self-sufficiency and then it underwent further development to be more comprehensive and more deeply associated with issues of foreign trade, poverty alleviation, employment and income distribution. In Sudan, where the vast majority of population lives in rural areas and depends on agriculture for their livelihood, food security is closely linked to the development of the agricultural sector and the improvement of the income of the traditional farmer. The agricultural sector is considered the corner stone for achieving food security in the country, as it produces food that meets the needs of the growing population. Agriculture is also the source of livelihood for more than 65% of the country's population, in addition to being the producer of the necessary raw materials for many industries and the sector producing export commodities that generate the foreign currency needed for the country's economic development.

Sudan is endowed with a huge wealth in natural resources which include:

1. Agricultural land available for investments and estimated at about 200 million feddans, only 25% of it is currently exploited.
2. Renewable water resources estimated at 31.5 billion M³ per year, of which 18 billion M³ come from the Nile and the rest from surface, underground and rain waters.
3. Livestock wealth estimated at 133.6 million heads of livestock and about 120 thousand tons of fish stocks.
4. Forest wealth estimated at about 120 million feddans and natural pastures estimated at about 170 million feddans.
5. The agricultural sector contributes more than 40% of GDP and 80% of the total non-oil exports.

In Sudan, as is the case in developing countries with low technologies for food production, there are several factors causing low production, including the low and fluctuating rainfall, which affects the stability of the production levels of major cereals, especially sorghum and millet, and exposes crops to pests which have significant impact on the level of production, in addition to migration from rural to urban areas, conflicts over resources, poor infrastructure, environmental limitations and lack of harmony between macro and sectoral policies which hamper the realization of food security.

7.1 The contribution of the agricultural sector to the GDP

The contribution of the agricultural sector to GDP during the period 2003-2007 has been declining, reaching from 40% in 2003, to 39.6% in 2004, 35.9% in 2006, and 33.6% in 2007. However, the contribution rose again in

2008 to 36.2%. One of the most important reasons for the low contribution of the agricultural sector is the shortage of finance, despite the quantitative increase in recent years with the start of implementing the agricultural mobilization (*nafra*) programme. The contribution of the irrigated sector to the GDP fell from 11.5% in 2006 to 9.9% in 2007 and rose again to 11% in 2008. The contribution of mechanized and traditional rain-fed agriculture rose to 1% and 5.2% respectively in the same year. As for livestock, its contribution has fallen from 20.9% in 2004 to about 16.7% in 2007, and rose again to about 17% in 2008 (Table 4.10).

Table 4.10: % Contribution of the Agricultural Sector to the GDP (2004-2007)

Year	Agricultural Sector	Irrigated	Rain-fed Mechanized	Rain-fed Traditional	Livestock	Forests
2004	40	11	0.9	4.5	20.9	2.7
2005	39.6	15.9	1.4	5.4	19.4	2.5
2006	35.9	11.5	1.2	6.9	17.0	2.3
2007	33.6	9.9	0.9	4.7	16	2.1

7.2 Food Grain Production and Self-sufficiency Balance:

As shown in Table 4.11, the production of the main food grains was variable during the past three years but they all registered a decline in the 2009/10 season, but sorghum recorded a significant rise of 10% in the 2010/11 season, paralleled with sharp drop in the production of wheat (by 56%) and maize compared to the 2008/2009 season.

Table 4.11: Production of Grains 2009/10-2010/2011 Seasons (000 Tons)

Crop	2008/2009	2009/2010	2010/2011
Sorghum	41.97	1980	4605
Millet	637	430	667
Wheat	980	403	433
Maize	50	18	33

Table 4.12 below shows the food grain balance in local production for the year 2008, where we find that the total production of the main food grains in 2007/2008 season amounted to about 5.3 million tons of which sorghum was about 3.9 million tons, 721 thousand tons millet, 587 thousand tons wheat, 65 thousand tons maize and 24 thousand tons rice. Total consumption reached about 3.5 million tons of sorghum, 1.1 million tons of millet and 2.2 million tons of wheat. This means there is a surplus in sorghum estimated at 331 thousand tons, with a self-sufficiency rate reaching 109%, while there is a deficit estimated at about 1.7 million tons of wheat, 385 thousand of millet, 14.9 thousand tons of maize and 35 tons of rice. The table indicates that there is a surplus of 300 thousand tons in sorghum production and a deficit in all other grains, especially wheat, where it reaches up to about 74% of consumption.

7.2.1 Food grain per capita consumption, 2008:

Table 4.13 shows the food grain per capita of major crops available in year 2008, which was 165 kg, composed of 82 kg of sorghum, 65 kg of wheat, 15 kg millet, 2 kg of maize and 1.5 kg of rice. Comparing that to per capita food grain in 2007, we note that the per capita of sorghum and maize and rice remained at the same level, wheat per capita rose from 56 kg to 65 kg but and millet per capita dropped to 15 kg from 18 kg the previous year.

In 2008/2009 season, the total production of food grains reached about 5.3 million tons of which about 4 million tons was sorghum, 630 thousand tons millet, 641 thousand tons wheat, 50 thousand tons maize and 39 thousand tons of rice. The volume of total consumption reached about 6 million, (i.e. a 12% deficit in domestic production), of which 3.6 million tons was sorghum, 774 million tons millet, 1.8 million tons wheat, maize 63 thousand tons and rice 64 thousand tons.

Average food grain per capita available in 2009 reached about 183 kg composed of 108 kg sorghum, 48 kg wheat, 16 kg millet, 9 kg of maize and 2 kg of rice. Comparing food grain per capita for 2009 and 2008, we note that the sorghum and maize per capita rose, that of wheat and millet dropped while rice per capita remained stable.

Table 4.12: Self Sufficiency Balance in Grain Production in Sudan (2008)*(Area in thousand feddans, Production in thousand tons)*

<i>Crop</i>	<i>Production</i>	<i>Cultivated Area (fed)</i>	<i>Seeds</i>	<i>Losses</i>	<i>Animal consumption</i>	<i>Human consumption</i>	<i>Total consumption</i>	<i>Surplus/ deficit</i>	<i>Self-Sufficiency (%)</i>
Dura	3870	20831	62.5	193.5	145.8	3538.8	3538.8	331.2	1094
Millet	721	9305	74.4	36	7.2	989	1106.6	-385.6	65.15
Wheat	587	990	44.5	58.7	0	2142	2245.2	-1658	26.14
Corn	65	86	0.13	3.3	0	76.5	7993	-14.93	81.32
Rice	24	16	0.8	1.3	0	57	59	-35	68.40

Table 4.13: Per Capita Share of the Main Locally Produced Staple Grain (2008)

Crop	Production	Stock 2007	Import	Stock 2008	Export	Available for consumption	Per capita consumption
Sorghum	3468.2	190	0	350	149	3109	82
Millet	603.4	3		-	15	591.4	15
Wheat	483.8	744	1182	-	-	2495	65
Corn	61.57	0		-	-	61.57	2
Rice	22	0	35	-	-	57	1.5

Table 4.14: Balance of Food Grains in Local Production (2009)

Crop	Population (million)	Production	Seeds	Losses	Animal consumption	Human consumption	Total consumption	Deficit/ surplus	Self-sufficiency (%)
Sorghum	40,152	4010	75	210	120	3292	3688	322	322
Millet	40,152	630	13	32	6	723	774	-144	-144
Wheat	40,152	641	25	32	0	1726	1784	-1143	-1143
Corn	40,152	50	1	2	0	60	63	-13	-13
Rice	40,152	39	2	2	0	60	64	-25	-25

Table 4.15: Per Capita Share of the Main Grains (2009)

Crop	Production	Stock 2008	Imports	Stock 2009	Exports	Available consumption	Per capita
Sorghum	4010	350	-	52	-	4308	108
Millet	630	-	-	-	-	630	16
Wheat	641	-	1526	237	-	1930	48
Corn	50	-	329	-	-	379	9
Rice	22	-	53	-	-	92	2
Total	5353	350	1908	289	-	7339	183

In 2010, the total production of main food grains reached about 3.6 million tons, of which about 2.6 million tons was sorghum, 471 thousand tons millet, 403 thousand tons wheat, 35 thousand tons maize and 60 thousand tons rice. Total consumption of grain amounted to 6.9 million tons, of which 3.6 million tons was sorghum, 2.3 million tons wheat, 783 thousand tons millet, 65 thousand tons maize and 67 thousand tons rice. The deficit was million tons in sorghum, 1.9 million tons for wheat, 312 thousand tons millet, 30 thousand tons of maize and 7 tons of rice. That deficit was covered from the stock of the previous year and through imports as will be described later (Table 4.16).

7.2.2 Food Grains Available for Consumption (2010):

The grains available for consumption (including production, reserve and imports) in 2010 reached about 6.4 million tons: about 3.3 million tons of sorghum, 2.4 million tons of wheat, 471 tons millet, 135 thousand tons of maize and 118 thousand tons of rice, which means there was a surplus in wheat, maize and rice, while there is a deficit in maize and millet crops. But it is important to highlight that maize and millet are locally produced while wheat and rice are covered through imports.

Per capita of main available food grains for the year 2010 reached 156 kg, of which 80 kg sorghum, 59 kg of wheat, 11 kg millet, 3 kg of sorghum and 3 kg of rice.

Table 4.16: Balance of Food Grains in Local Production (2010)

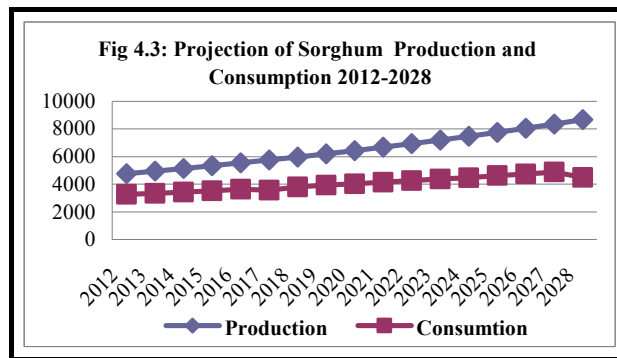
Crop	Production	Seeds	Loss	Animal Consumption	Human Consumption	Total Consumption	Deficit/surplus	Self-Sufficiency (%)
Dura	2630	75	132	105	3377	3689	-1059	71
Millet	403	28	20		2306	2354	-1951	17
Wheat	471	13	24	5	741	783	-312	60
Corn	35	1	2	.35	62	65.3	-30	54
Rice	60	2	3		62	67	-7	90
Total	3599	118	180	110	6548	6958	-3357	52

**Table 4.17: Balance of Staple Grains Available for Local Consumption (2010)
(Thousand Tons)**

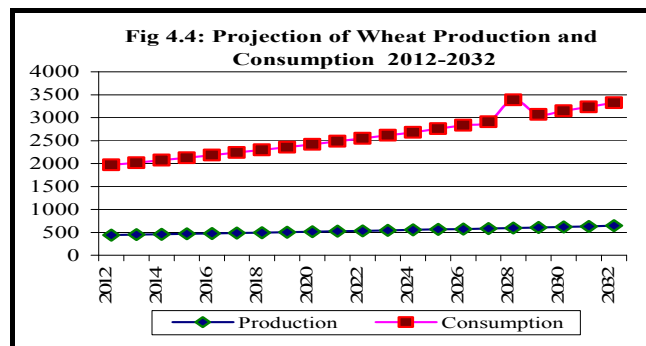
Crop	Production	Stock 2009	Imports	Available consumption	Total consumption	Deficit/surplus
Sorghum	2630	646	0	3276	3689	-395
Millet	403	514	1500	2417	2354	63
Wheat	471	-	-	471	783	-312
Corn	35	-	100	135	65	70
Rice	60	-	58	118	67	51
Total	3599	1160	1658	6417	6417	-523

7.3 Food Grains Production and Consumption Projection Up to 2032:

As shown in Figure 4.3, the statistical projections for the production and consumption of sorghum and wheat, the most important two food crops in Sudan, indicate that sorghum production will continue to rise at rates higher than consumption rate, the thing that should be maintained to address any possible food gap in the rural areas that depend on sorghum for both humans and animals. It can also contribute to agricultural exports and help in securing technology and other inputs needed for the development of agricultural production. For this to happen, producers need to be stabilized, motivated and timely provided with the essential inputs so that they can increase production at a rate equal to or greater than the statistical projections (Figure 4.3)



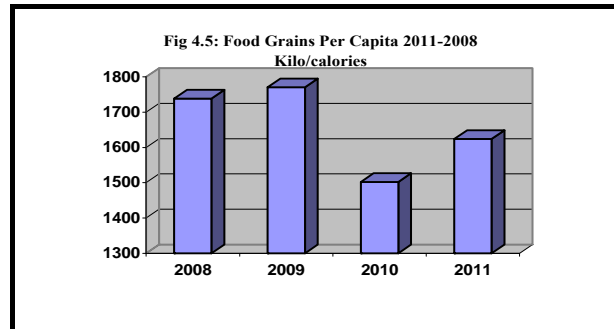
Projections for wheat, indicate a substantial increase in consumption compared to production (Figure 4.4) and a growing gap between the available and the required. A part from wheat production problems, the gap may be due to the ever-increasing size in the urban population and the change in food consumption habits. To reduce the gap, (and thus reduce imports) wheat production must be expanded by increasing the cropped area and productivity through introduction of modern technology, enhancing the capacity and motivation of farmers and addressing the impediments of production, especially those related to finance, pricing and levies.



7.3.1 Oil seeds:

Oilseed crops (Groundnuts, sesame and sunflower) play an important role in the Sudanese economy and in achieving food security for humans and animals, and they provide raw materials for some industries. Most of the production of oilseed crops is heavily concentrated in the traditional rain-fed sector, but is also produced in the irrigated and mechanized rain-fed sectors.

According to available figures, the average calories per capita from oil seed crops amounted to about 1667 kilo/calories during the period 2008-2011 and it should be noted that they have seen a significant decrease in the year 2010 (Figure 4.5).



7.3.2 Vegetable Production:

Commercial production of vegetables in the Sudan is in general localized in the artificially irrigated areas in states of Khartoum, Northern, River Nile and the Central states. Onion and tomatoes are largest produced vegetable crops in Sudan, occupying more than 50% of the area cultivated with vegetables. The state has paid attention to developing new technologies suitable for vegetable production in response to the growing demand in recent years as a result of the rise in awareness and an the increase of incomes. Annual average per capita consumption of vegetables is estimated to be between 8 and 70 kg in most states of Sudan, while the annual per capita consumption in most countries around the world is estimated at more than 100 kg.

Table 4.19 below shows the large areas allocated to onions' cultivation compared to other vegetables, as it is considered one of the most important crops in Sudan and the world in terms of production and consumption. In 2007, the total area cultivated with onions reached about 115 thousand feddans, which represents about 24% of the total area under vegetables. Pumpkin ranks second to onions in terms of cultivated area with 81 thousand feddan, then tomatoes (72 thousand feddans) and spices (71 thousand feddans).

The table also shows the steady increase in area and production of onions. Between 2006 and 2010, the area increased by 23% and production increased by 24%. From the table we note that over the past five years, the area under vegetables increased by about 27% from 441 thousand feddans to 560 thousand feddans against 20% increase in production. From the table we also note that:

- a. Rates of increase were higher for the crops that occupy smaller spaces like sweet potatoes and non-main vegetables.
- b. Increase in production in general was in line with the increase of cultivated area but in 2010 a decrease in production of tomatoes was registered, despite a 23% increase in the cultivated over that of 2007, while legumes and sweet potatoes, whose area went up by 8.2% and 47% respectively, their productivity went up by 43% and 89% respectively. The increase in the area is attributed mainly to a rise in domestic demand, especially in major towns, which is the largest consumer of vegetable production.

7.3.3 Fruit production:

Table 4.20 below shows the area cultivated and fruit production in Sudan for the years 2007-2010, where we find that the total area under fruit trees increased from 299 thousand feddans in 2007 to 363 thousand feddans in 2010 an increase of 21.4% compared to an increase in production of 13.5%. The highest rate of increase in cultivated area was for banana (27%), followed by lemon (19%) and grapefruits (17%). The lowest increases were in the areas of mangos (2.1%) and palm date (2.6%), probably because of the nature of these fruits and the environment in which they produce. regarding productivity, rates of increase were equal to the increase in area for banana, orange, guava, and dates recorded the highest rates of increase in productivity, reaching 28.3% between 2007 and 2010, compared to an area increase of 2.6%. Conversely, the increase in the lemon productivity was just 1.8% although the area increased by 18.8% and mangoes, which recorded a decline in productivity of 1.2% despite the increase in its area, though a limited increase (Table 4.20).

Table 4.18: Total Production of Ground Nuts, Sesame and Sunflower (2009/2008-2010/2009)
(Area 1000 feddans, Production 1000 tons, Productivity kgm/fed)

Season	2009/2010				2008/2009			
	Cultivated Area	Harvested Area	Production	Productivity	Cultivated Area	Harvested Area	Production	Productivity
Groundnuts	3,269	2,269	942	415	3,617	2,742	571	208
Sesame	3,973	2,962	318	156	4,573	3,031	248	82
Sunflower	875	730	247	338	191	118	47	397

Table 4.19: Area and Production of Vegetables (2006-2010)

Season	2005/2006		2007/2008		2009/2010		% Increase 2005 - 2010	
	Area	Production	Area	Production	Area	Production	Area	Production
Crop								
Onions	113	901	117.3	238.4	139.5	1116	23.5	23.8
Tomatoes	68	410	76.3	453	84	405	23.5	- 1.8
Okra	22	220	48.4	249	51.2	256	32.7	16.3
Eggplant	9	70	9.2	75.6	9.6	76.8	6.7	9.7
Potatoes	38	264	41	284	45	315	18.4	19.3
Cucurbits	78	546	84.2	589	92.4	646.8	18.5	18.5
Spices	72	144	73.7	147.5	75.3	150.6	4.6	4.5
Legumes	11	55	15	66.3	19.7	78.8	8.2	43.3
Sweet potatoes	17	119	21	147	25	235	47.1	89.1
Other	13	63	13.2	66	18.4	73.6	41.5	16.8
Total	441	2792	499.3	2315.8	560.1	3343.6	27.0	20%

Table 4.20: Area and Production of Fruits in Sudan (2007-2008)

Season	2007		2009		2010		Rate of Increase	
	Area	Production	Area	Production	Area	Production	Area	Production
Mango	68	632	68.8	616.5	69.4	624.6	2.2	-1.2
Bananas	45	540	52	624	57	684	26.7	26.7
Lemon	32	224	36	216	38	228	18.8	1.8
Grapefruit	26	156	29	174	30.5	183	17.3	17.3
Orange	24	120	25.8	124	26.7	133.5	11.3	11.3
Dates	84	336	85.5	422	86.2	431	2.6	28.3
Pear	17	119	18	126	18.5	129.5	8.8	8.8
Other	3.2	9.6	3.6	10.8	3.7	11.1	15.6	15.6
Total	299.2	2136.6	238.7	2313.3	363.3	2424.7	21.4	13.5

7.4 The Future of Agricultural Policy:

According to the declared policy, the increase of productivity and production is one of the most important targets in order to realize agricultural development, self-sufficiency and poverty reduction. These can be achieved by pursuing the following policies:

1. Rehabilitation of irrigation projects.
2. Intensification and diversification of crop production, increasing productivity and improvement in the crop mix on the basis of comparative advantage.
3. Expanding the agricultural insurance to include rain-fed agriculture and the establishment of a Disaster Prevention Fund.
4. Providing access to finance for small-scale producers.
5. Strengthening the strategic reserve and achieving food security.
6. Conducting a comprehensive agricultural census and land classification and strengthening agricultural statistics units
7. The development of a legal framework that govern agricultural land in Sudan and the reviewing and updating of existing laws.
8. Designing plans to utilize rural water based on scientific studies and improving water management systems for the purpose of enhancing efficient use¹.

7.5 Threats to the Agricultural Sector:

The low productivity in the agricultural sector has been attributed to various factors, including natural constraints, technical constraints, economic challenges, in addition to sectoral policies, institutional and management constraints and shortage of credit institutions, lack of information, poor agricultural statistics and marketing problems.

¹ We notice the almost identical recommendations for increasing productivity of the agricultural sector here and that of its environmental sustainability in chapter III.

7.6 Food Security Strategy:

National food security strategy should be anchored on the following themes:

1. Securing sufficient food to meet consumption demands through domestic production, to be supplemented by imports and that through pursuing policies encouraging to producers and providing adequate financial support to small producers in remote areas remote away the major markets.
2. Financially supporting the strategic reserve so that it fully performs its role of securing reserves of major staple crops (sorghum, wheat and millet) for at least two years.
3. Addressing fluctuations in key markets, which negatively impact on the prices of major food crops in the country.
4. Providing timely support to meet the needs of vulnerable groups such as victims of disasters, droughts and displacement, enhancing disaster prevention and mitigation capabilities by expanding agricultural insurance coverage to encourage small producers to improve production and remain in production.
5. Developing capacities to maximize benefits of available food, which depends on the quantity and quality of food, feeding methods used and the health and nutritional value of the food intake

8. Animal Wealth:

Most of the livestock population in Sudan is located in the traditional pastoral sector where pastoral mobility in search for pasture and water still continues. The national herd includes large numbers of cattle, sheep, goats and camels. Sudan is a key state for the production of red meat and it contributes about half of total meat consumption of the Arab World, in addition to the large number of fish stock and poultry. Sudan's main livestock products are red meat, dairy and white meat (poultry and fish), which contribute to food security by providing humans with animal protein, which is significantly lacking in the country's food ingredients. Recently and as a result of increasing demand for livestock products, interest in livestock has also grown in the form of improved systems and types of animal breeding and nutrition.

8.1 Sudan Herd Size 2003-2007:

Livestock is one the most important pillar of the Sudanese economy, contributing about 16.9% of the GDP, i.e. about SDG 136,582,000, in addition to \$ 86.6 million from exports (2009). It also directly contributes to food security, especially in rural areas. According to the Ministry of Animal Wealth estimates, the size of the national herd is about 142 million heads, of which sheep and goats constitute 67%, 30% cattle and the rest are camels. The size of the herd increased by about 6.3% during the period 2003-2010 and the increase was by 8.5% for sheep, 3.3% for goats and 4.3% for cattle.

Camels have increased by 31%, according to Ministry's estimates and most probably the reason is due to the low export and low consumption of camels compared to other types of animals (Table 4.21).

Table 4.21: Estimates of Livestock Numbers 2003-2010 (Million Heads)

Year	Sheep	Goats	Cattle	Camels	Total
2003	48	42	40	3.5	133.5
2004	49	42	40	3.7	134.7
2005	50	43	40	3.9	136.9
2006	50	43	41	4.0	138.0
2007	51	43	41	4.0	139.0
2008	51.1	43.1	41.4	4.4	140.0
2009	51.6	43.3	41.6	4.5	141.0
2010	52.1	43.4	41.8	4.6	141.9
Increase 2003 – 10%	8.5	3.3	4.5	31.4	6.3

8.2 Production, Consumption and Export:

The total animal food products amounted to about 9.5 million tons in the year 2010, an increase of 3.3% of its size in 2003. Animal products witnessed steady growth of around 12% for red meat and 24% for fish, while poultry meat increased by about 50% meat and eggs 40%. Poultry products were continuously rising at higher rates than other products except in 2006 as a result of the spread of bird flu and shrinking investment. Dairy products rose by only 1.1% during the period 2003 to 2010. Of the total milk produced in 2009 (7.4 million tons), 72% came from cattle. Hides, also an important component of national exports its production reached 77.6 thousand tons in 2010.

Table 4.22: Estimates of Animal Products 2003-2010 (Thousand Tons)

Year	Meat	Poultry Meat	Fish	Eggs	Milk	Total Food Products	Hides
2003	1663	20	58	25	7387	9.153	-
2004	1672	22	63	28	7405	9.210	-
2005	1694	24	65	30	7434	9.347	-
2006	1721	18	57	20	7649	9.465	-
2007	1725	25	65	30	7695	9.540	-
2008	1808	27	70	32	7360	9.297	76.2
2009	1841	28	70	32	7406	9.377	76.8
2010	1860	30	72	35	7471	9.468	77.6
Increase 2003-10 %	11.8	50.0	24.1	40.0	1.1		

Total meat production in 2009 reached 1,841,000 tons, 499 thousand tons were exported and 1,342,000 were locally consumed, mostly from cattle and sheep (Table 4.23). Thus, average per capita consumption of animal products in 2009 was 70 kg of milk, 34 kg of meat and one kilogram of fish and poultry products. In 2009 livestock exports amounted to around 1.8

million live animals, mostly sheep, and 1.8 million tons of meat in which sheep also constituted the highest percentage (Table 4.24).

Table 4.23: Meat Production and Quantities Available for Local Consumption and Export (2008-2009)

Type	Camels	Goats	Sheep	Cattle	Total
Total production	125	151	313	1252	1841
Available for export	62	12	75	350	499
Domestic consumption	63	139	238	902	1342

Table 4.24: Livestock and Meat Exports (Thousand Tons)(2008-2009)

Year	Sheep		Goats		Camels		Cattle		Total	
	Live	Meat	Live	Meat	Live	Meat	Live	Meat	Live	Meat
2008	140	207	1.1	1.6	14	2	610	0.7	217	202
2009	1510	176	104	0.5	19	18	154	-	1.789	1.839

It must be noted that Sudan's imports of animal products are mainly poultry, poultry products (chicks and fertilized eggs) and powdered milk, in addition to small amounts of fish and poultry.

9. Conclusions:

In order to draw up a new population policy under the new situation of Sudan after separation, we have to mobilize the productive sectors and diversify and develop energy sources, resources, and direct spending to priorities to bring about comprehensive, balanced and sustainable economic renaissance consistent with the population growth. To achieve that, we must identify a set of objectives and policies to confront the challenges encountered by the Sudanese economy.

9.1 Anticipated Challenges:

- The deterioration of the value the national currency and high inflation
- Increased contribution of the service sector and of its role in improving the external trade balance.
- Financial shortages for production and rising costs, especially for the agricultural sector.
- Securing electricity supply to the agricultural and industrial sectors.
- Drop in non-oil exports resulting from structural imbalances and low production systems
- The effects of environmental degradation, climate change and shortage of rain, causing fluctuations in production and low productivity
- Land tenure systems and the unorganized uses and its negative impact on investment and on the optimum utilization of resources
- Low production and traditional production systems and poor marketing which affect competitiveness

- External trade deficit as a result of the loss of oil and drop in non-oil exports and their marketing as raw materials
- Growing external debt and accumulation of domestic debt resulting from increased government spending
- Drop in foreign reserve and limited ability to control external flows.

To address these challenges, future policies must be devised and aim at achieving the following:

- Increasing national revenues, by creating new sources and expanding the production base, improving means of revenue collection and mobilizing the idle energies in the productive sector
- Rationalizing public spending and reducing administration costs
- Strict adherence to the approved budget, and prohibiting spending outside the budget, and ensuring the Ministry of Finance' authority over public money
- Balancing between growth and price stability in monetary policies
- Directing monetary policy to rationalize and reduce spending on imports
- Encouraging non-oil exports through incentive policies and addressing the problems that hinder their optimization, focusing on increasing productivity of export-oriented goods and services
- Securing long-term credit for projects with emphasis on microfinance and expanding agricultural insurance coverage
- Encouraging manufacturing industries to realize an added value with a commitment to international standards and specifications
- The establishment of industrial cities and allocating agricultural areas for the production of high quality export crops and encouraging exports
- Increasing the contribution of tourism to the GNP through the utilization of tourism resources and expanding tourism projects and their associated services
- Integrating the informal sector in the economic cycle by following specific regulatory and legal policies
- Maximizing benefits from regional and international organizations and bilateral cooperation in capacity development, technology transfer and indigenization of technology and in applied research to improve the production quality and raise efficiency
- Creating a favorable production environment through sustaining economic stabilization policies
- Enabling the private sector and creating channels of communication with the public sector in order to overcome the obstacles and create a conducive environment for national, foreign and joint investment
- Encouraging investment in the service sector

- Raising the competitiveness of the national economy through increased production and productivity, reduction of production costs and improvement of the quality and standards of goods and services
- Consolidating approaches and tools of liberalizing the economy and the market
- Reducing transaction costs and considering the possibility of establishing specialized councils for each sector to make supply and demand compatible.
- Addressing administrative and bureaucratic problems that impede foreign trade and domestic and foreign investments
- Rationalization of imports, focusing on production inputs
- Increasing national savings and directing it towards investments oriented towards diversifying production base and increasing exports.
- Increasing productivity of the private sector through developing capacities of human resources
- Attracting foreign investment
- Fulfilling Sudan commitments and the requisites that to enable it to receive obtain its entitlements in global initiatives such as the cancellation of debt
- Stabilizing the exchange rate and the national currency price

9.2 Future Food Security Policies:

Future policy of poverty alleviation is based on the components of Sudan National Food Security Plan, which was proposed in collaboration with the UN Food and Agricultural Organization (FAO). The main components are:

- a. Maintaining balance in the production of different sectors, focusing on stability in food production, especially in the rain-fed sector, in view of rainfall fluctuations.
- b. Strengthening the strategic reserve to secure a stock sufficient to meet any emergency, particularly for vulnerable groups.
- c. Establishing a system to stabilize food prices in the States.
- d. Promoting agricultural industrialization.

The plan, taking into account the State investment strategies, sectoral and regional priorities, focused on following priorities:

1. Focusing on small producers in different sectors: rain-fed, irrigated, livestock, fisheries, forestry and pasture and working towards the integration of sectors.
2. Paying special attention to food security and poverty alleviation programmes, including water harvesting projects.
3. Paying attention to capacity building at all government levels.
4. Putting emphasis on agricultural extension and technology transfer.
5. Generating accurate information on food security situation.
6. Policy reform, which will include:

- a. Improving incentives for producers and workers in the agricultural and other sectors
 - b. Reforming credit and lending systems and marketing institutions.
 - c. Strengthening coordination between the Agricultural and Animal Research Corporation and extension centers.
 - d. Policy integration between different sectors and, in particular roads, storage, transportation, communications, education and health
7. Reforming fiscal policies, including tax and pricing policies, and removing administrative obstacles and increasing resources allocated to agricultural research.
 8. Establishing research centers in various climatic regions with the development of a research programme devoted to issues and problems facing agriculture and livestock in each region, and enhancing farmers' ability to absorb and apply new knowledge and technology
 9. The establishment of a technology transfer network and farmers training centers, in addition to the experimental farms, and devising annual programmes targeting small farmers to enable them to obtain improved seeds and seedlings in order to increase their income and improve their living conditions.

9.3 Creation of jobs and minimizing unemployment:

According to the 2008 population and housing census, unemployment is growing by 2.6% per year which must be linked to overall economic growth. There is fluctuation in GDP growth that reached its peak of 9.8% in 2006 and that was reflected in the significant increase in employment when 63,879 opportunities were added, 39% of the total employment provided by the internal labor market for the same year, thereafter it employment rate started to decline until it reached approximately 7.8% in 2007.

The Most important measures required to generate employment opportunities and reduce unemployment include:

1. Emphasizing the responsibility of the state to provide an encouraging and stable environment for macro economy to promote investment and secure jobs.
2. Drawing up economic policies and investment plans taking into account the urgent need to reduce unemployment and create jobs, especially for newcomers to the labor market and directing the economic recovery programme to areas that contribute to intensive employment and sustainable growth.
3. Developing national and sectoral strategies, plans and policies clearly targeting employment.
4. Accurately assessing the size of the informal economy and its characteristics and strengthening tripartite dialogue on the successful measures and mechanisms to bring it to the formal economy.

5. Ensuring the provision of supporting services to the active labor market and to small and medium-sized businesses, linking incentives to productivity and working conditions.

Future policies to be followed to reduce unemployment include:

1. Building an employment strategy and estimating the actual number of opportunities.
2. Building State-level strategies to accommodate the changes in demand and supply in the labor market.
3. Building a National Observatory for information on employment and labor market to continuously monitor unemployment and improving the quality of statistics relevant to the labor market in an accessible and transparent manner.
4. Reviewing employment policies and legislations and coordination between national, state and local legislations.
5. Raising awareness about concepts of leadership and self-employment and upholding the values of competitiveness and quality control.
6. Developing educational and training systems by adopting long-term educational strategy not only focusing on quantity and quality, but taking account the need and demand of the labor market.
7. Improving the environment for private sector investment and removing obstacles that handicap its efforts to create more and better jobs, and developing and improving performance of public sector management.
8. The involvement of the Ministry of Labor in economic policy-making for the integration of employment policies in national development programmes.
9. Strengthening tripartite dialogue in the development, implementation and monitoring of the national employment strategy
10. Expanding the social protection coverage with a minimum protection as a right guaranteed by the state, including the support for the unemployed.
11. Ensuring sustainable and adequate funding and strengthening the Social Security Administration with the participation of all social partners.
12. Raising awareness and the formulation of national action plans to prevent practices that are inconsistent with international labor standards such as forced labor and human trafficking.
13. Strengthening policies and programmes of non-discrimination in employment and work, including gender-based discrimination.
14. Combating child labor and the immediate elimination of the worst forms of child labor.
15. Supporting small and medium-sized institutions and their development within the framework of a comprehensive national economic plan that seeks the promotion of all the productive sectors especially industries.

CHAPTER V
Poverty, Human Security
and
Social Safety Nets

Chapter V

Poverty, Human Security and Social Safety Nets

1. Introduction

Poverty is a multidimensional phenomenon and it interconnected with economic and social relations according to the circumstances of each country and each society. The increased number of poor people presents a great challenge to the economies of many countries and to their social cohesion, the thing that requires exerting national efforts from the public and private sectors, civil society organizations, trade unions, and members of the society to address.

The first goal of development is to improve the lives of human beings. This denotes that development is correlated to the return to the entire population and not limited to economic growth that maximizes national income, regardless of its distribution. Any economic growth should be broad based to achieve the economic national and population goals that are not contradictory. Imperfections at the macroeconomic level, such as unequal distribution of the growth returns, result in widening the gap between the poor and rich and increase contradictions and polarization within society.

Complying with such issues requires putting in place strategies and policies that are sensitive to the social aspects and to human development, while that addressing poverty is treated as an urgent national goal. Besides, this approach runs in line with the global trend of linking public and economic policies with addressing poverty and increasing human development rates as highlighted in work plan of the Millennium Development Goals (MDGs), the Human Development Reports and in the guidelines of the World Bank that now link development aid and debt relief with the existence of national poverty reduction strategies.

The effort of combating poverty is not the responsibility of the government alone, but it involves the participation of people themselves through their civil society organizations (CSOs) as well as the business community (private sector) in that effort. However, the state has a leading role in directing public spending to be pro poor through:

- a. Supporting the economic growth (income poverty and employment);
- b. Institutional capacity development and reform;
- c. Stimulating human development (education, health and drinking water); and
- d. Increasing social welfare

Poverty surveys focus on some indicators to measure population's poverty such as, income, capabilities and access the level of access to basic services. In examining income indicator, there are realistic economic, cultural and social dimensions that prevent measuring poverty on the basis of income. For example, it is difficult to determine the income of part of the population that works in agriculture as well as craftsmen due to the nature of their work and their income sources. An evidence for that is that in income surveys, spending of many respondents usually come higher their income. Although income poverty is admittedly important, the more important, the perspective of planning and development projects and programmes that aim at achieving human development, are the poverty of capabilities, human deprivation, and social and class exclusion. The concept of capabilities provides an approach that contributes to a more clear and comprehensive understanding of poverty, as was done by the UNDP guidebook that combined deprivation and life expectancy (people who are not expected to live to the age of 42 years), knowledge (percentage of illiterate) and living standards (people who do not have access to clean water and health services, and children under 5 years who are underweight).

2. Definition of poverty:

The values of justice and human dignity are rooted in human consciousness. They are also the characteristic of all civilizations and religions. As a multidimensional phenomenon, there is no a universally agreed upon scientific definition for poverty, but there are a number of procedural/working definitions in literature such as:

- a. The state where an individual lacks the essential materials needs and ingredients for enjoying life.
- b. The state where the income of an individual falls short of covering life and health needs at subsistence level.

Poverty is defined as the shortage in basic needs in food, cloth, shelter, safe drinking water and all other needs that provide the minimum standard of living. It may include also lack of education and work opportunities, the lack of which may lead one to be poor or in his inability to participate effectively in society. Some argue that there are three types of poverty, which are:

- a. Transitory poverty, which indicates short term, temporary or seasonal poverty.
- b. Chronic poverty, which is a long term or structural poverty.
- c. Acute poverty, when the household cannot secure 80% of its basic needs of food calories specified by the WHO and FAO, if it spends 80% of its income on food.

3. Measuring poverty:

All divine religions showed interest in addressing poverty. Islam linked fighting poverty to achieving the religion's purposes through maintaining the religion, body, human species, wealth and mind. These purposes require providing the basic human needs such as, food, cloth, shelter and marriage, so people would live in peace. Islam has also committed the state and society to cooperate in addressing poverty.

3.1 Poverty Rates:

There are different categories of poverty. There are people who possess nothing, some who possess little, and there are people who possess more than little but less than the minimum need. The elements of subsistence are food, cloth, and shelter as well as basics needs of the dependents. Mostly, researchers focus on the subsistence level, which can be ranked in three categories:

- a. **Necessities:** These are essentials for religion and life and their lack destroys or ruins the lives of people.
- b. **Needs:** The satisfaction of these needs results in alleviating suffering and difficulties. They include food, water, cloth, and shelter.
- c. **Luxuries:** These are required for the elements of generosity and elegance for one to enjoy life. Life will not be affected without them but they raise the standards of living. However, in Islam, consuming more than allowed luxuries is prohibited.

3.2 Poverty Indicators:

The most important methods for measuring poverty are summarized in three main groups:

1. **Income poverty index:** It depends on two sub-indices, which are the poverty line and average share of the individual in the household income or expenditure.
2. **Human poverty index:** It depends on three sub- indices, which are deprivation from long, healthy life (death at or before 40 years), deprivation from acquiring knowledge (high rate of illiteracy), and deprivation from healthy nutritional food (the percentage of underweight children under five years) and lack of clean and safe drinking water.
3. **Multidimensional poverty index:** It started to be more commonly used recently, and it specifies some interconnected dimensions of poverty as well as it explains each dimension separately. It is based on three dimensions and ten indices.
 - a. **Standard of living:** It is based on six indicators, which are assets, land, electricity, water, sanitation and cooking fuel.

- b. Education: It based on two indicators, which are the enrollment rate of children and the number of years of schooling.
- c. Health: It is based on two indicators, which are child mortality and level of nutrition.

These indices are generally used to determine the poverty rate, poverty gap, and the severity of poverty.

The indicators of measuring poverty focus on collecting data about the poor who are identified according to the poverty line in order to measure the degree of their deprivation. The most commonly used indicators are:

1. Head count ratio: It is the percentage of the poor to the total population.
2. Poverty gap: It is a measure for poverty depth. It explains the gap between the levels of spending and income of poor households and the poverty line.
3. Severity of poverty: It measures inequality in income distribution for people who are below the poverty line with emphasis on households at the bottom of income levels.
4. Spread of poverty. It measures the percentage of the poor households to the total population. It differs from the head count ratio in providing non-monetary measure for some of the poor categories such as, the percentage of the illiterate under the poverty line as a percentage of the total population.

4. Poverty in Sudan:

The main source for statistical data on poverty in Sudan is the Central Statistical Bureau. The Bureau has implemented five population censuses and a number of surveys, the last of which was fifth population census in 2008 and the household baseline survey in 2009. Because of the time gap of information and the differences in the methods used, it is difficult to compare between the surveys or use it to forecast for the future. But, regardless of the numerous and interdependence of causes of the poverty, whether they are political, economic, natural or cultural, it is agreed that those causes result in the appearance of a number of negative consequences and phenomena, such as:

- Intensive migration from rural to urban areas.
- Urban sprawl and the spread of squatter settlements.
- The suffering of large numbers of people from food shortage, malnutrition, children loss of weight.
- Spread of epidemics and endemic diseases.
- Spread of illiteracy and school dropout.
- Family disintegration.
- Begging and homelessness.

- Moral corruption
- Armed conflicts.

The poverty study that was carried based on the household baseline survey (HBS) of 2009 showed that the monthly poverty line in Sudan stands at 114 SDGs per person (Table 5.1), the national poverty rate is 46.5% and the poverty gap 16.2%. The severity of poverty is 7.8% (Table 5.2). But as Fig. 5.1 below indicates, poverty rates vary considerably between the different Sudanese, where the highest rate was recorded in North Darfur state, and the lowest in Khartoum.

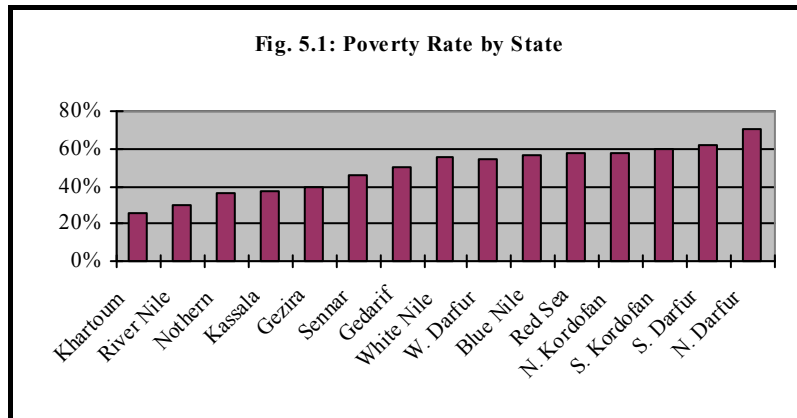
Table 5.1: Monthly Poverty Line

Item	Sudanese Pound	%
Food	69	61
Non-food	45	39
Total	114	100

Table 5.2: National Poverty Rate

Poverty Rate %	Poverty Gap (%)	Severity (%)
7.8	16.2	46.5
(0.3)	(0.5)	(1.1)

Source: Household baseline survey, 2009



The HBS also showed some related demographic elements where the poverty rate was lower in urban areas (26.5%), than in rural areas where it was 57.6%. Poverty rate were also lower among female-headed households in comparison to the male-headed households, noting that one in every six households is female-headed (16.5%), and among them 44.5% are under the poverty line compared to 47% among male-headed households.

Concerning the sources of living, people are distributed between a wide range of activities but most population are concentrated in the three main

areas of agriculture (crop cultivation and animal husbandry) which absorb about 20% of the population, wage and salary earners and the third category include businessmen and people who depend on house rents, deposits, pension and assistance. The ultra poor are at the bottom of the scale, working mainly in agriculture, while the incomes of richest households on top of the social pyramid, come from wages and salaries although a large number of them attribute their luxurious lifestyle to activities classified under the third category.

In the macroeconomic policy framework, there are several tools that the state can use to address poverty including:

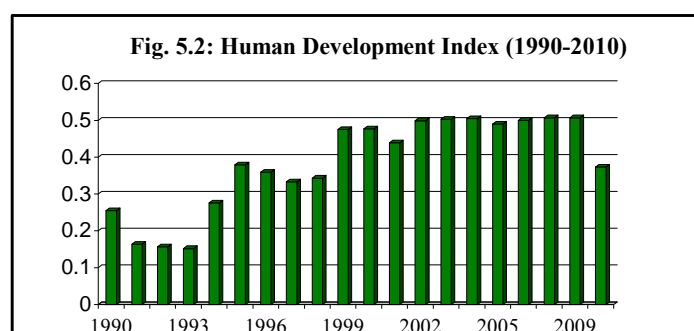
1. The national poverty reduction strategy. So far there is no integrated strategy that combines policies and economic and social programmes to reduce poverty.
2. Economic growth has achieved noticeable increases before the global economic crisis, but the policies that were meant to address the impacts of the crisis were not sufficient to reduce poverty and will not be able to do so unless they focus on income distribution and allocating more resources for pro poor spending, e.g. in the areas of social services such as education, health, clean water etc..
3. Employment and reduction of unemployment. Employment and providing job opportunities are considered key tools for poverty reduction and also providing decent work for the poor, encouraging self-employment, and enhancing the small and medium-size businesses.
4. Mobilizing and supporting the productive sectors, especially agriculture (food security) and industry.
5. Providing basic services which include education, health, drinking water and shelter.
6. Social financing which means the public spending that is sensitive to the needs of the poor, and it includes banking credit financing, Zakat distribution and private sector and civil society spending.
7. Social security which includes social insurance, pension, health insurance, and the activities of the other social funds.

The five-year plan 2007-2011 aimed at increasing spending that targeted the poor through allocating resources and directing spending in the general budgets towards the sectors that focus on people. Pro-poor spending includes compensation of workers in budgets in the form of social benefits and subsidies; in addition to spending on the productive and development sectors on which that accommodate large segments of population depend such as agriculture.

Table 5.3: Pro-Poor Government Expenditure (2007-2010)

Year	2007	2008	2009	2010
Total Expenditure	20,971.0	22,077.8	20,696.4	23,958.9
Total Pro-poor expenditure	8,640.24	10,108.3	10,332.86	7,864.2
Pro-poor expenditure as % of total	41.2%	45.7%	49%	32.8%
GDP	106,527.1	124,609.2	135,659.9	162,204.0
Pro-poor expenditure as % of GDP	8.1%	8.1%	7.6%	4.8%

On the other hand, since 1990, the UNDP Human Development reports indicate the improvement in the position of Sudan and its move from low to medium development indicators (Fig. 5.2).



5. Challenges Poverty Alleviation Efforts:

In spite of the scattered efforts and inability to check poverty increase, indicators related to income indicate the increase in per capita income and data on expenditure also show a large increase in households' spending and that the percentage of individuals with expenditure less than one dollar a day does not exceed 4% in comparison to 23% in the mid 1990s. Yet, other several other indicators on the overall performance need more efforts, on top of which is unemployment and the need for creating productive and decent job.

On its part, the Government of Sudan has approved a long term strategy and a five-year plan to with a theme on poverty alleviation poverty and achieving the MDGs. The first goal of the strategy is to eradicate extreme poverty and hunger. Decent work was added to the goals of the strategy during the World 2005 Social Summit. The other goals address the fundamental elements of poverty and impoverishment, which are illiteracy, diseases, equity and women empowerment, and sustainable environment in addition to developing a comprehensive global partnership for development.

The process of formulating national strategies to reduce poverty has received worldwide acceptance towards the end of the 1990s after experiments that lasted for two decades, during which structural adjustment policies were adopted in many developing countries with little success in the two fronts of development or poverty reduction. In light of this global acceptance and recognition of the negative impacts of structural adjustment programmes, a new approach has been formed among international donor community that provides development aid, which demands from poor countries to develop national strategies for reducing the number of the poor as a mechanism for receiving soft loans from the international financial institutions and donor countries. Without getting into the details of the above mentioned international approach, the main feature of this approach is that each country is obliged to formulate a development strategy to reduce poverty within a specific timeframe. The strategy has to be inclusive enough and contain programmes to combat poverty and structural and macro-economic policies reform, in an integrated framework to provide the necessary base for the assistance programme. Policies also have to be more clear and transparent, and they should be led by the state, where the international financial institutions and donors play active but supportive role. Each strategy has to be prepared in a way that understands the nature and causes of poverty in each country as well as the relationships between public procedures and the different dimensions of poverty. And because the poor themselves are the best to determine the work priorities, they have to be consulted. Moreover, there should be public consultations with all society sectors over the development strategies in order to allow for an additional vision to popularize the policies and for improving the monitoring, follow up and accountability regarding public resources management as a way to combat corruption. Also economic, social and sectoral policies and strategies have to be popularized as well as the organizational structural and organizational changes that achieve higher economic growth that can lead to poverty reduction and benefit the poor. Indicators that can be used to monitor economic and social progress, results achieved and for government accountability regarding implementation policies should also be developed.

Development partners should cease their leadership role in economic policies of developing countries and come ready to provide advice and technical assistance and they can adopt an approach that supports the whole or parts of the strategy instead of supporting scattered projects and make early commitments to support the strategy to enable governments to reasonably estimate flow of resources. This will help enhance dialogue with the concerned country authorities where the development partners.

For the middle income countries, the approach was that those countries develop a comprehensive long term development framework (20 year for example). The framework should cover the following aspects:

- a. Structural components, (capable and transparent government, effective legal and judicial system, well organized and controlled financial system, social safety nets, and social programmes).
- b. Human aspect, (education, knowledge acquiring institutions, and issues of health and population).
- c. Material aspects (water supply, sanitation, energy, transportation, communications, and sustainable development as well as environmental and cultural issues).

In addition to that, the framework specified three groups of strategic issues, which are listed under the title “specified strategies”, and they include sub-components of strategies related to rural areas, cities and private sector.

The number of sub-components that were specified by the developmental framework for the country are 13, in addition to “special national considerations” in order to complete the requirements taking into account the specific situation of the concerned country. It can be observed that, these new approaches involve renewable recognition that development, in its broad definition, is a process to increase people’s choices and it is a long term process which requires economic planning to achieve quantitative results that can be translated into concrete realities, that are translated in increasing the prosperity and reducing material deprivation, that are reflected in the level of individual spending and the gaps in meeting basic needs such as food, cloth, shelter, education, health within the context of the society they live in.

These visions constitute a great challenge that requires the following specific tasks:

1. Conducting statistical surveys and studies, and availing information in the area of poverty reduction.
2. Focusing on macroeconomic policies and harmonizing economic and social policies.
3. Finalizing the poverty reduction strategy inline with national and international resolutions.
4. Preparing national reports, most important of which are the annual human development report and the MDGs report.
5. Providing adequate funding for different primary sectors, especially the poor, small producers, craftsmen, professionals, productive households, and the retired, taking into account their special circumstances.
6. Supporting basic services (education, health, water and shelter).

7. Supporting social funds and widening their coverage in addition to the state's social support programmes.
8. Enhancing the partnership with civil society organizations, especially the ones that work on combating poverty.
9. Enhancing the role of the private sector within the framework of mainstreaming the concept of social responsibility.
10. Societal rehabilitation of the poor and spreading the culture of free private work.

6. Human Security:

There is no society that can be secure and stable in the absence of a just and integrated development that frees human beings from fear and need. This development is based on a set of principles and basic values, most important of which are universal equality, justice and the sanctity of human life and its protection from all types of suffering and threats not to mention being subject to crimes of aggression, torture and degradation of human dignity. That comes through developing the concept of human security and rejecting the negative, superficial and seasonal in human behavior towards different security threats.

The concept of human security is relatively new. It appeared for the first time in the 1994 UNDP Human Development Report. In 2001, six countries signed for establishing an international network for human security, including Canada, Austria, Norway, Netherlands, Jordan and Mali. They established centers that focus on issues of human security. Consequently, many international and regional networks were established (2001 Ottawa Treaty for Human Security). The concept of human security focuses, in essence, on the security of the individual not that of the state and it stressed that the security of the state should aim at achieving the security of the individual and not only the security of the ruling authority, because the state cannot be secure when its security contradicts that of its citizens even if it succeeded in securing its sovereignty, not to mention the situations when some state's agencies are the sources of threat to the security of citizens and therefore the security of the individual and the security of the state can not be separated.

The concept of security has shifted towards focusing on protecting individuals who live inside states instead of focusing on national security, which is concerned with securing the state's territories, wealth, and the ruling system. The new concept of security puts human security in the first category without demeaning the security of the state. Although national security is a prerequisite for human security, it is not enough to insure "the right of the citizen in enjoying the freedom from fear and want".

In human security, security and threats are prioritized according to their direct effects on human beings inside the state, and it designates the citizen as the priority for protecting state security. Hence, threats include security in all its dimensions; cultural, economic, health and food security. Threats are centered directly around the human being, and they result in the appearance of conflicts, spread of diseases, crimes, drugs abuse, illegal arms and cultural hegemony. These threats should be addressed as priorities in order to protect citizens of the state.

UNDP is assisting Arab countries to find and exchange their own solutions in four main areas that surround human security, which are democratic governance, poverty eradication, crisis prevention, and environment and energy. The UNDP programme focuses on development issues and provides protection programmes through giving priority to international threats such as the spread of HIV/AIDS, gender equality, human rights protection and the achievement of the MDGs. Besides, UNDP also focuses on addressing development challenges that were specified in the first series of the Arab Human Development reports, which include knowledge, freedom, and women empowerment based on traditions set by the international human development reports.

Sudan is most in need to study the characteristics and develop the concept of human security within government agencies and among all segments of society because Sudan is ethnically and religiously a diverse country and its citizens encounter different challenges and threats in relation to human security.

The 1999 UNDP report titled “Globalization with a Human Face” specified seven main challenges that threaten human security in the era of globalization. These are:

1. Financial instability: The obvious example was the financial crisis in Southeast Asia in 1997 and the World financial crisis of 2009 which still threatens the World economy.
2. Job and income insecurity: Global competition policies forced governments and employers to adopt employment policies without contracts and job security guarantees, which leads to instability and employment insecurity.
3. Health security: The spread of HIV/AIDS as a result of increased travel and population mobility.
4. Cultural security: Globalization process works to cultural interaction and the transfer of ideas and knowledge through media and open space in an unbalanced manner. As a result, in many cases, ideas and cultural practices from rich countries are imposed on poor countries, which pose a threat to local cultures and values.

5. Personal security: It is threatened by the spread of organized crime that uses new advanced technology.
6. Environmental security: It stems from modern inventions that have dangerous side effects on the environment such as global warming.
7. Political and societal security: Globalization has imposed new forms of conflicts such as the easy smuggling of arms across borders, the thing that makes conflicts more dangerous and complicated. Arms' companies' role has grown lately, and they sometimes provide training to governments, the thing that poses a major threat to human security (United Nations, 1999).

Since 2002, the first Arab Human Development Report showed a number of challenges posed by globalization and the accelerated revolutions in all areas. In 2009, the fifth report was published under the title “Human Security Challenges in the Arab Countries”. It defined human security as “the liberation of human beings from intense, extensive, prolonged and comprehensive threats to which their lives and freedom are vulnerable”. The report depicted seven elements considered the reasons for the fragility of political, social, economic and environmental infrastructures in the Arab region:

- Economic security which is threatened by poverty;
- Food security is threatened by hunger and famine;
- Health security is threatened by diseases and harm;
- Environmental security which is threatened by pollution, ecological imbalances and depletion of resources;
- Personal security, threatened by crime and violence;
- Political security, threatened by physical and psychological repression; and
- Social security which is threatened by ethnic and sectarian conflicts.

The report spoke about the threats to the public freedoms, practice of torture, unemployment, abuse of women, poverty and desertification. It affirmed that “the relationship between the state and human security is not healthy. While the state is expected to ensure human rights, in many Arab countries the state is a source of threat and undermining of international charters and national constitutional provisions. The report pointed to the failure of many Arab countries in guaranteeing human security. The evaluation was based on four measures:

- a. the satisfaction of citizens about their state,
- b. the commitment of the state to international human rights conventions,
- c. how the state manages its monopoly of power and compulsion, and
- d. the extent of mutual monitoring between institutions to reduce the abuse of power.

6.1 Human Security in Sudan:

In Sudan, human security threats are divided to threats to national, economic, political, societal, cultural, personal, environment and health security. These threats have resulted in internal conflicts, weak sustainable development programmes, human rights violations, child and women rights violations, cultural hegemony, in addition to the spread of arms, diseases, drugs abuse, HIV/AIDS and crime. It is therefore important to set the objective basis for investigating and identifying these threats and develop a concept of human security that can help in finding solutions and protection against these threats, whereby citizens understand their roles in providing security and maintaining stability within the society they live in. It is also crucial to work with governmental institutions' efforts to study the direct and indirect impacts of the absence or weak human security and to enhance the role that the average Sudanese citizen can play in the state security.

Required steps in this area include:

1. Defining the scope and characteristics of the concept of human security in Sudan and the scale of its cultural and personal threats.
2. Specifying the external and internal threats to the Sudanese citizens' security which can contribute to addressing the problem.
3. Assisting government institutions in adopting the concept of human security.
4. Raising Sudanese citizens' level of knowledge about the concept of human security.
5. Developing the concept of human security which will contribute to development.

The numerous numbers of threats, the variety of their sources in Sudan enlarges its impacts on human security. The impact differs according to the type of the threat and the context. These threats affect directly and indirectly large segments if not all segments of society in Sudan. Besides, disagreement on a clear definition of the human security concept within the state and the failure to build or develop it or not to understand it, creates a dangerous gap between the security of the state and security of citizens. The failure to bridge this gap transforms citizens to a threat to society and state security and allows the state to neglect the security of its citizens, in spite of the government's interest in protecting the citizens, and sometimes the state itself becomes a direct threat to citizen security, leading to the collapse of society and the state and obviously obstruction of development. Therefore, not studying results of the threats to human security creates a huge gap in averting results of these threats, which leads to instability of society and negatively affects development.

Ignoring human security in the state weakens the ability of the state to protect its citizens and causes the spread of conflicts, diseases, crimes and obstructs development programmes and may lead to confrontation between citizens and the state, no matter how strong the grip of the state and its security control. On the other hand, promoting the concept of human security leads to a secure citizen in a secure state where sustainable development can be realized. Table 5.4 below shows the challenges that threaten human security in Sudan and the indicators that can be used for the purpose of designing preventive and treatment plans and to promote development and sustain it.

Table 5.4: Threats to Human Security and Measurement Indicators

Threats/Challenges	Data Source	Indicator
National Security	Ministry of Defense	Presence of foreigners Open Space Internal conflicts Protection of borders
Job and Social Security	Ministry of Labor Universities Community Police	Unemployment Job Insurance Employment Indicators Education & labor market Negative phenomenon
Heath Security	Ministry of Health NGOs reports	Spread of disease & epidemics
Cultural Security	Ministry of Culture NGOs	The effect of globalization (internet, satellite etc..) Foreign presence National Culture protection programs
Personal Security	Ministry of Interior	Organized & modern crimes Spread of weapons Money laundering Drugs Information crimes
Environmental Security	Higher Environmental Council	Floods and hazards Drought, desertification and population displacement Food security
Political and Societal Security	Ministry of Justice Political Parties	Public freedoms The influence of cultural invasion Cultural immunity Protection-related Traditional values

7. Social Security: policies, reality and the future:

Social security attempts to find ways to broaden coverage among low income societies, where the social security system covers only 5% of the total population in work age, which is contrary to the coverage system in high income societies. Social security affects the size of population up and down as the presence of a social insurance policy reduces dependence on the family as a production unit. In traditional societies, having a large number of children is seen as a guarantee for family income in the future. The existence of social insurance (age pension) replaces the need for large families and it results in less children and the opposite is true in the case of children social benefits.

We will try to assess social security policies in Sudan and examine the effectiveness of those policies in achieving social and economic security for those covered by the social insurance system and assess its relevance and compatibility with the national population policies and plans, especially for those in the working age, what makes them participants in the GDP and the production cycle, as well as for those who are retired to see the level of services provided to them.

7.1 General goals social security system:

Policies of social security are based on the following:

- Raising public awareness on the culture of insurance through different means to ensure reaching out to all targeted segments of society and broadening insurance coverage.
- Delegating authorities and powers to insurance offices in all states in the context of a decentralized insurance system.
- Monitoring the financial position of the fund to maintain financial balance.
- Training and rehabilitating the human personnel.
- Pursuing for comprehensive quality control approach as a standard for administrative, financial and technical improvement aiming at the satisfaction of the beneficiaries.

Social security operations witnessed steady growth in the number of cases covered by social security, especially during the period 2007-2010. The number of beneficiaries was 112318 cases in 2007 and rose in 2010 to 121571 cases, with a R% growth. The financial resources spent also increased from 66,642 million Sudanese pounds in 2007 to 106,356 million SDGs, with a 17% average annual increase (Table 5.5). The increase in expenditure is attributed to the increase in pensions, as the fund provided grants to the retirees who receive less than 500 SDGs. On the other hand, data obtained through projections for years 2011-2032 forecasts a large increase in the size of population who will benefit from social security. The

rates are based on of the current social security coverage and in line with the goals and strategy of the social security that aims at providing social protection to all.

Table 5.5: Social Insurance Cases and Total Expenditure (2007-2010)

Year	No of Cases	Population in Work Age	Sum Disbursed	Growth Rate of Cases	Growth Rate in Disbursement	Coverage (60 years +)
2007	112,318	22,000,000	66,642	-	-	-
2008	110,095	22,500,000	72,726	-2%	9%	-2%
2009	115,206	23,011,364	89,982	5%	24%	5%
2010	121,571	23,534,349	106,356	6%	18%	6%

7.2 Social assistance:

Social assistance refers to what society provides to the needy individuals, including subsidies and in-kind assistance, as well as free economic livelihood support or cultural assistance from the public budget.

Table 5.6: Social Assistance (2007-2011)

Year	Social Ass.	Growth Rate (%)
2007	23,795	-
2008	28,189	0.2
2009	41,346	0.5
2010	61,078	0.5
2011	64,132	0.7

From the above table, one notices the increase in the amount spent by the Fund in social assistance, in the years 2007-2010. The sum spent rose from 41,346 million SDGs in 2009 to 61,078 million in 2010, with an average annual growth rate of 5%. The increase was mainly due to the rise in the assistance provided to female students from 50 to 100 SDGs and the introduction of university students' sponsorship in addition to the allocations made for medical treatment of the retirees and the increase in social investment.

7.3 Social Insurance Coverage:

The social security system impacts on the rate of population growth through the monetary and in-kind support it provides to the beneficiaries who meet the conditions set by the Fund and through the provided health care that leads to reduction in mortality rates and increase in reproduction rates. Family relief and ration assistance also helps families to increase birth rate and the maternity and childbirth assistance decreases mortality rates as a

result of the provision of healthcare for the mother and the child before or after delivery.

The percentage of insured persons in the working age has modestly increased from 1.12% in 2006 to 1.14% in 2008. Although the subscription rate has increased during the period 2006-2008, the overall coverage rate is still low in comparison to the size of population in working age, which requires concerted efforts to develop policies that can increase it to bridge the insurance gap. It is important to note that the rates arrived at through projections between the years 2011 and 2032, indicate that in 2027-2032 the level of insurance coverage will reach 3% of the total economically active population.

As for insurance coverage through the social security system, and as shown in Table 5.8 below, the number of the insured has jumped from 242,832 in 2007 to 292,103 in 2010, with a 6% annual increase. This increase indicates the progress of social security programmes and the expansion in its activities in society. According to available statistics, it is expected that the number of the insured will reach 1.1 million in 2032, which is a modest increase when compared to growth of the workforce.

Table 5.7: Population in Work Age and No Covered by Insurance (2006-2008)

Year	Population in Work Age	Insured	Coverage %	Coverage (60 years +)
2006	21500000	241,597	1%	0
2007	22000000	242,832	1%	0.01
2008	22500000	257,161	1%	0

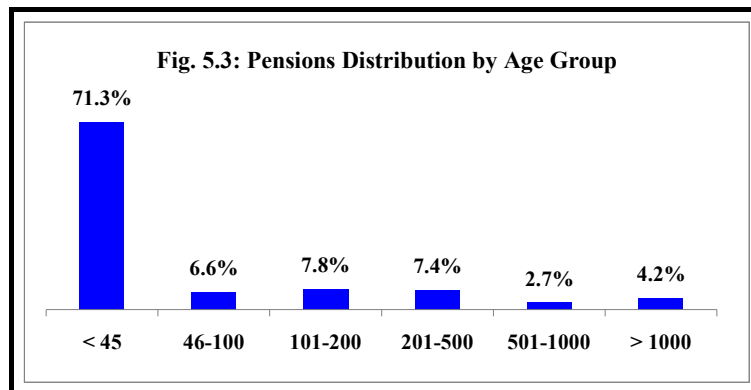
Table 5.8: Number of Population Covered by Social Insurance (2007-2011)

Year	Insured	Increase Rate
2007	242,832	-
2008	257,161	6%
2009	270,025	5%
2010	292,103	8%
2011	315,471	8%

7.3.1 Social benefits:

Social security systems are concerned with covering benefits in the cases of aging, disability, death, work injuries, unemployment, illness insurance, medical treatment, childbirth, and family grants. The Sudanese social security system covers pensions for aging, death, disability, work injury, and work illness in addition to compensations for termination of jobs and resignation. There are also additional benefits paid to the retirees after a

social case study and they are paid by health insurance for the retirees, and they cover school fees for the retirees' children, university students' sponsorship, and orphans' allowances. The only long term benefits covered by social security in Sudan are pensions although they are still weak.



From Fig. 5.3 which shows the distribution of pensions, the category receiving less than 45 SDGs represents 71% of the total number of pensioners, 93% receive less than 500 SDGs while only 4.2% receive more than 1,000 SDGs. This distribution indicates that the majority of the beneficiaries of the National Social Insurance Fund are in the category of less than 45 SDGs and that is attributed mainly to the low wages of public sector workers where the insurance does not include the entire wage.

7.3.2 Future policies:

To improve the situations of the retirees and the minimum wages and pensions in the future, the following recommended:

1. Setting a unified standard for all different categories to be covered by social security, regardless of the place, type or field of work.
2. Conducting the required studies and setting plans to remove obstacles that prevent inclusion of all categories in social security systems and addressing the problem of the categories that are not included within the limits of available resource.
3. Developing and increasing financial resources to meet the financial commitments required for social security.
4. Training social security personnel according to job requirements to deal with social groups such as old people, disabled and the widows.
5. Reviewing social security legislations and introducing the necessary amendments to keep up with social and economic developments.
6. Adopting decentralization in the management of social security system with the aim of expediting decision making and justice.

7. Directing part of the Social Security Fund resources to micro-credit financing for the purpose of contributing to social development projects that aim at reducing poverty.

CHAPTER VI
Population Movement and Urbanization

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Population Movement and Urbanization

1. Introduction:

Migration is one of the main factors that cause population changes in any society and has direct impact on population size and structure and on the economic and social changes that occur in that society. Migration, fertility and mortality are the three determinant factors on population change. However, while it is relatively easy to collect information on fertility and mortality and measure them accurately, it is not that easy with regards to migration because population movement is not regular over time and this is one reason why information on migration is usually dearth compared to fertility and mortality. Migration is also one of the demographic phenomena that can change the population pyramid in the very short time much quicker than the effects on mortality and fertility.

Migration plays an important role in population distribution and on urbanization and urban growth and the consequent changes on the population age–sex structure, economic situation and the overall population growth. It is therefore, essential to study migration to investigate its cause and its economic, social and security dimensions in order to understand it and avail sufficient information to policy makers to design appropriate and sustainable development policies that meets the needs of the present and the future.

Environmental degradation and high poverty rates in rural areas, especially after the successive epochs of drought, in addition to unbalanced development and the better opportunities in urban areas, have caused and continuing to cause increased migration towards towns and cities leading to a huge growth in urban population and a speedy urban growth in Sudan.

Migration is defined as the movement of individuals from one place to another. If the move is within administrative boundaries of a specific area it is called population movement and if the movement of individuals is between different areas but within the boundaries of the country it is called internal migration and when the move is across the boundaries of any other country, in that case it is international migration.

Population movement always occurs within the administrative boundaries or between regions without the intention of permanent settlement and the return usually takes place within the same day or the day after. Population journeys for trade, education or for short visits are also considered a population movement as long as there is no intent for permanent residence in the destination point. Internal migration, on the other hand, is the

movement of individuals between the boundaries of the states or regions in the same country and is usually followed by long term or permanent residence in the destination area, irrespective of the original objectives or reasons behind the decision to reside, which could be a job opportunity or the improvement of livelihood.

The most common pattern of migration is the one from rural areas (that are less developed and less urbanized) to the urban areas that are more fortunate in the terms of development and job opportunities, better living conditions and more opportunities for children education. In general, the economic motive is the most important factor behind internal migration and when a particular area becomes a point of attraction because of job opportunities or higher incomes, individual from other areas move towards that point by various means to improve their economic situation. This is why migration is considered one of the available means for any individual to pursue his/her objectives and ambitions in life.

There are also several objectives and goals behind external migration, when the individual moves from one country to another, crossing international borders, but generally the most important objective is the improvement of economic and livelihood conditions. Pull and push are also numerous for such type of migration, when migrants leave their home countries mainly for economic reasons, to work and live in other countries and for long periods in a semi permanent residence.

Rural-urban and urban-urban migration are the most common patterns of migration in Sudan and hence, the most influential factors in population distribution between the states. It was also observed from previous censuses and migration studies that Khartoum is the state most attractive to migrants from other states. As migration plays an effective role in population redistribution, that makes the study and analysis of its size and patterns essential to provide policy and decision makers with information that helps in designing appropriate population policies.

This paper aims at assessing and analyzing current state of migration and population movement, size and forms, through highlighting from the census results the following:

1. The total size of migration between Sudanese states and regions.
2. The general trends of migration between states
3. The migrants sending (push) and receiving (pull) states, and
4. The analysis and assessment of changes that occurred in some states to find out the reasons behind changes, especially the state that have changed from receivers to senders of migrants and vice versa.

For the purpose of analyzing and assessing the current size and patterns of migration and population mobility, the paper relied on information from several sources, including:

- a. The population censuses and papers prepared after the publication of the 2008 results;
- b. Secondary data from the Central Bureau of Statistics (CBS) and the NPC General Secretariat and the Ministry of Interior National Record;
- c. Some survey reports, including the Poverty Survey (2009), the survey on the Cultural Impact of Migration which was conducted by NCP (2011);
- d. UN reports; and
- e. Information collected from the previous studies and literature on migration

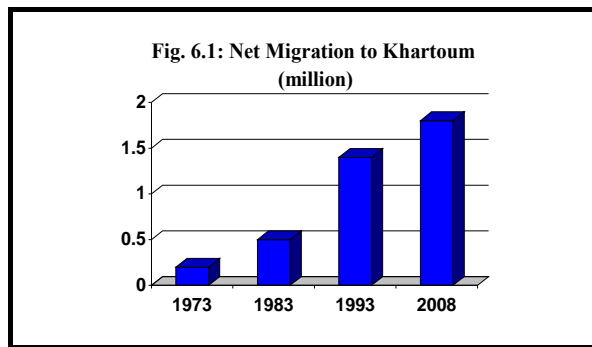
The analysis is based on the results of the cross-tabulation of the question on place of enumeration and place of residence (by state) in order to determine the total volume of migrants and direction of their movement and hence determine the pull and push states between the different census periods. Accordingly, if the net migration in any state is positive, it is a pull state and if the net migration is negative, it is a push state. Net migration is the difference between incoming and outgoing migration the state within country.

2. Size and Direction of Migration

Information available from the 2008 census indicates that the volume of migration has been increasing systematically since the Second population census in 1973. The number of migrants, which was 0.7 million in the 1973 rose to 1.3 million in 1983 and by 1993 it reached 3.4 millions. The number recorded in 2008 3.7 million persons. The figures suggest a rise in the factors that contribute to population movement since 1973. These factors encouraged internal population movement, especially to Khartoum state, to the extent that the total number involved amounted to about 10% of Sudan population. On top of the factors that caused this intensive movement is the economic factor as migrants more in pursuit of improving their living conditions or in search for jobs in urban areas, as jobs became scarce in rural areas. There are also other factors which push migrants from their home areas including wars, tribal conflicts and drought and desertification, particularly in the western states of Sudan.

Table 6.1 below shows the growth in migrants' numbers and the direction of migration to and from the different states. From the table it can be seen that there is a clear change in the status of the different regions with regards to

migration, as some regions that were attracting migrants in previous censuses turned into push regions sending migrants such as the Eastern and Central regions while some of the regions that were sending migrants such as the Northern region are now attracting migrants. As for Kordofan and Darfur they are the two regions that have been sending migrants to other regions according to the results of all population censuses. Khartoum is only region that continued to be attractive destination to population from all Sudanese states as indicated by continued rise of net migration to the region (Fig. 6.1).



Migrants to Khartoum originate from different states but the largest number come from North Kordofan state that sends about 15.9% of the total number of migrants to Khartoum followed by Gezira (14.9%) and South Kordofan 11.2% (Table 6.1). The Northern state contributes 10.9% of migrants, the White Nile 9% and River Nile State 7%. These six states together contribute about 69% of migrants to Khartoum.

As for balance between in and out migration between states, Khartoum received 49% of net migration while the Red Sea, Gedarif, Blue Nile and Kassala together received 3.9% of all migrants. The remaining states, on balance, are all sending states. Such imbalanced situation in migrants' distribution obviously influences the distribution of the labor force, the economic resources and services. Khartoum state that has always been attractive to migrants, not only because of the job opportunities it offers compared to other states, but also because it is the target for external migrants as it houses all the processes and procedures for external migrants.

3. Characteristics of Migrants:

The results of the 2008 census, show that Khartoum is the state most attractive to male migrants, receiving about 50% all male migrants moving across Sudanese states, followed the Red Sea state (2.2%) and Gedarif (1.2%). The trend is the same for female migrants as Khartoum received

48% of them, the Red Sea state 1.2% and Gedarif state 1.7%. It is noticeable that the five states receiving migrants are those with industrial establishments and development schemes that make it attractive, particularly for male migrants. Because of this, the population policy in the country has to work towards the redistribution of population and their movement in away that can ensure balanced distribution of the labor force, which in turn requires the establishment of development projects in the sending states to generate conditions for stability in those states and to establish economic and demographic balance between the states.

Table 6.1: Internal Migration between States (1973-2008)

Region of Birth	1973			1983			1993			2008		
	In	Out	Balance	In	Out	Balance	In	Out	Balance	In	Out	Balance
Total	719,682	71,682	0	1,308,976	1,308,976	0	3,399,834	3,399,834	0	3,665,008	3,665,008	0
Eastern	113,475	40,180	73,295	223,431	60,718	162,713	490,022	199,374	290,648	78,573	489,703	410,130
Northern	19,718	157,066	137,348	31,349	342,749	311,400	106,625	424,876	318,251	377,077	422,935	134,142
Khartoum	229,700	38,033	191,667	570,852	60,129	510,723	1,534,712	110,859	1423,853	1,952,650	154,420	1,798,230
Central	208,077	86,869	121,208	251,133	225,148	25,949	639,047	633,395	5,652	577,452	857,204	279,752
Kordofan	50,561	181,008	130,447	59,473	282,465	222,922	261,810	882,293	620,483	181,370	807,553	626,183
Darfur	25,252	158,185	132,933	39,998	227,338	187,430	367,618	684,570	316,952	188,019	696,181	508,162
B. Ghazal	10,400	24,419	14,019	42,995	36,275	6,720	-	284,560	284,560	86,924	137,618	50,694
U. Nile	41,254	19,522	21,732	68,779	41,201	27,598	-	104,402	104,402	114,647	177,048	62,140
Equatoria	21,245	14,400	6,845	20,946	32,917	11,971	-	75,505	75,505	107,296	102,346	4,950

Source: CBs, 2008 Census Reports

Foreigners and the unspecified were not included in the table

4. Patterns of Migration:

The results of the 2008 census on mode of living and sex structure of migrants revealed the following:

- Of the total population which moved between 1993 and 2008, 72% moved to urban areas and two thirds of them are in Khartoum state. Thus, from the census figures, it can be said that the prominent pattern of migration in the Sudan is rural–urban migration.
- Khartoum state is most attractive state to migrants and the percentage of migrants to Khartoum from the total number rose from 39% in 1993 to 42% in 2008, and the number to about two millions.
- Contrary to its status in the past, the Northern region in 2008 emerged as attracting migrants, receiving about 3% of the total number of migrants. This could be attributed to the large development projects established in the region and to the large number of migrants involved in informal gold mining activities.
- Most of the other regions recorded a negative net migration, most of it going to Khartoum, which received 15.9% of migrants from Northern Kordofan and about 10.9% from from each of Gezira, South Kordofan and the Northern state.
- Males marginally outnumber females among migrants, which indicate that migration is more and more involving whole families than the previous pattern of male selectivity.
- Only 8 states recorded positive net migration for permanent residence with Khartoum coming on top.
- Regarding the distribution of migrants between rural and urban areas, the states absorbing migrants in rural areas are Gezira (12%), Khartoum (8.9%) and Gedarif (5.2%), and this pattern applies for both sexes. The reason why Gezira state absorbs more migrants in rural areas is probably due to the presence of Gezira Agricultural Scheme, the largest in Africa and the Arab region, which demands a large number of workers in its different stages of production from preparation to cultivation through to harvest.
- Khartoum is the one region receiving migrants form all other regions, amounting to 63% of migrants, followed by the Eastern region (9.3%) and the Central region (1.4%). The three regions are the areas where most development projects are concentrated and provide the best opportunities for the job–seeking migrants. It is therefore important to initiate development projects and service institutions in the migrants sending regions in order to redistribute population and labor force between the various Sudanese regions.

5. Causes of Migration:

Population movement can be attributed to several factors, including the imbalanced development and its concentration in the capital Khartoum and a

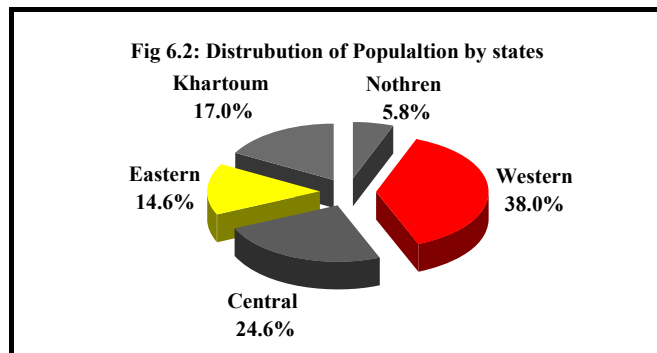
few other urban centers, the unequal distribution of natural resources, especially water, and the environmental degradation caused by drought and desertification. Besides, the economic deterioration and decline of agricultural production in rural areas have pushed many people to abandon agriculture and other rural activities. Also wars and conflicts have compelled million to leave their homes. Population movement was also made easier by the improvement in means of transport and communication and the expansion of education in rural areas also contributed to migration as the Sudanese education system is designed mainly for non-rural jobs, thus pushing the educated to towns to seek jobs.

Data collected from 300 respondents in Khartoum state, 150 of them recent migrants, stated that search for work is the most important reason for their migration from their home states. The sample was taken using quota sampling methods, from the peripheries of Khartoum, Omdurman and Khartoum North, where new migrants are usually concentrated. About 64% of the respondents confirmed that they came in search for job, while 22% came because of conflicts in their home regions, 4% in pursuit of better education and health service and 3% looking for a better life in Khartoum. For the other half of the sample (i.e. the older migrants) responses were identical to those of recent migrants.

6. The Impact of Migration:

Internal migration has led to fast population growth in Khartoum state where population now amounts to 13.5% of Sudan population. The natural growth rate is also expected to increase as 44% of migrants to the state are children and 48% are in the 15–49 years age group. This increase will be matched by a deficit in the migrants' home states.

Although the western states are the main migrants-sending regions, they are still the areas of the heaviest population concentration, as Greater Kordofan and Darfur states accommodate about 38% of Sudan population. At the same time, the Northern region with 6% of the total population is becoming one of the migrant receiving regions (Fig. 6.2)



7. Migrants to Khartoum State:

7.1 Demographic Characteristics:

- Khartoum received 93% of net migration among all receiving states
- 96% of migrants to Khartoum are Sudanese and 4% are foreigners, most of them (1.2%) Ethiopian.
- Males represent 52.7% of migrants and females 47.3%.
- 51% of migrants are in the productive age (15–59 years)
- Economic dependency ratio is 95%; 86% children and 9% aged persons.
- 41% of migrants never married, 37% are married and 10% are divorcees
- Age at first marriage within the age group 12–14 years is about 11% and 38% for the age group 15-19 years.

7.2 Housing:

- 91% of migrants reside in urban areas and 9% in rural areas
- 50% of migrants own their houses, 39% live in rented houses, 3% live in houses provided by employers and 7% in free houses
- About 55% live in one story mud houses, 32% in one story red brick and concrete houses and 3% in multi story buildings.
- About 65% live in houses with two or more rooms
- Public network is the main source of water for 76% of migrants
- 62% have private traditional latrines, 13% use common (shared) traditional latrines, 13% have private siphons, 5% shared siphons and 8% have no latrines.
- 62% depend on public electricity network for lighting, 13% use private generators and 8% live without any lighting
- 74% use gas for cooking and 19% use charcoal
- 59% of migrants own radios, 66% TVs, 80% mobiles, 11% telephone lines, 13% computers, 42% refrigerators, 32% satellite dishes, 51% fans, 18% air conditioners and 18% own cars.

From the above, it is clear that about 11% of migrants still preserve their rural characteristics.

7.3 Education Attainment:

The 2008 census results showed that 23% of migrants to Khartoum state have completed secondary school, compared to 22% for non-migrant residents. About 11% of migrants are university graduates compared to about 12% among non-migrants. But the percentage of migrants with education below secondary level is about 24% compared to 23% for resident population and 7% of migrants have no academic qualifications compared to 5% resident population.

7.4 Employment:

According to the 2008 census results, about 27% of migrants were employed one week before the enumeration compared to 30% of the resident population. Job seekers constitute about 4.2% of migrants and 3.5% of resident population. About 51% of migrant are employed, 7% of them work for others, while 19% of them are self employed. For resident population, 50% are employed, 23% are self employed and 7% work for others.

About 43% of migrants' households depend on salaries and wages as the main source of livelihood, 41% have their own businesses, 7% rely on other sources of income, 3% on pensions and 3% rely on remittances. Responses of the resident population were largely similar to those of migrants.

7.5 Social Characteristics:

The relationship between migrants and host communities is generally dependent on the nature the host community and the state of uncertainty among migrants about their future and the new home, the thing that usually hampers the social integration process. However, each ethnic group has its own culture, value system and specificities that tend to influence the speed of integration between various ethnic groups.

According to the Socio-Cultural Impact of Migration survey (2011), migrants when asked to compare the sending and receiving areas with regards to livelihood, job opportunities and access to services, about 70% responded that the receiving state is better in terms of health and education services, livelihood and job opportunities. But on the social relationships, only 41% stated that it is better in the receiving area. However, 71% of migrants stated that they have groups from their home areas who have settled before them in the same place they live in and 32% said that early migrants have a role in their move to the new area.

About 53% of migrants socially interact with groups from their home area, 12% interact with other ethnic group and 35% claim to interact with all people. About 29% of migrants stated that they share with some of the resident population electricity (60%), water (33%) and work (20%). In case of conflicts, 67% of migrants claim that they settle it through mediators (Agaweed) and elders. About 68% of migrants claim that they send children to schools but 32% stated that they do not, 17% of them because they want them to earn money.

8. External Migration:

Sudanese people migration and work abroad appeared as a noticeable phenomenon during the 1970s and it has its significant effects on the labor market as well as on the economic and social life. The number of Sudanese external migrants is estimated to be 4–5 millions and the number working abroad about 500,000. Surveys showed the Sudanese external migration has followed characteristics:

- It is of long duration, going up to 10 years
- Iraq invasion of Kuwait in the early 1990s, caused a shrinkage in job opportunities, which led to a sharp drop in Sudanese migrants' money transfers to Sudan
- Most Sudanese external migrants are urban males, especially in the more recent migrants
- About 90% of migrants are in Arab countries. Saudi Arabia hosts the highest number (51%) followed by Libya (16%) and Qatar (11%)
- Migrants age are in the most productive age (20–39 years) and they are better educated, which points to the loss of the human capital that is much needed for development in Sudan
- Migrants' transfer contributed directly and indirectly to improve the balance of payment as some of the imports were supported by them.

9. Foreign Migrants:

Sudan's location has made it a target destination for migrants from different nationalities. Some recent developments at the national level have also attracted more foreign workers. The discovery of oil and the consequent increase in investment and use of new technology in production, within the context of global market integration, that encourages labor mobility, have all contributed to attract more foreign labor, especially in the oil sector, electricity, dams, sugar and cement industry and the construction sector. Changes in social habits and life style also generated the phenomenon of employing foreign domestic servants by many Sudanese families.

The 2008 census results show that foreigners represent 0.4% of the population in Sudan and the largest groups are the Ethiopians (37%), the Eritreans (18%) and Chadians (10%). About 65% of foreigners reside in Khartoum state, which is considered a heavy concentration. From Table 6.2 below, it can be seen that the total number of the foreign labor force was 13,935 in 2010, compared to 17,144 in 2009, with a drop of 18.7%. The drop is mainly due to the completion of some of the large projects that were using foreign workers such as Merowe dam and the cement factories. It can also be observed that only a small percentage of foreign workers were brought through the Investment Commission and NGOs (special categories),

compared to employment offices which invited 90.7% foreign workers in 2009 and 77.1% in 2010.

Table 6.2: Total Number of Foreigners Working in Sudan (2009-2010)

Sector	2009		2010	
	No	%	No	%
Employment offices	17,144	90.7	13,935	77.1
Investment	774	4.1	3,780	20.8
NGOs	989	5.2	374	2.1
Total	18,907	100	18,089	100

Most of the foreign workers are engaged in technical (skilled) jobs, where it reached 40% and 38.8% for 2009 and 2010 respectively and also in specialized scientific professions (32% in 2009 and 2010). Least common were the selling and trade services (0.1 – 0.2%). Regarding the sectoral distribution of foreign workers, oil sector comes on top (52% and 56%), then dams (2.8% and 2.5%) and last electricity (8.7% and 11.5%) respectively for the years 2009 and 2010. Thus, foreign workers are heavily concentrated in the strategic projects, which require skills, experience and advanced specialization.

The total number of domestic servants, according to the Ministry of Labor records, in 2009 was 1,356 and the figure dropped by 10% to 1,118 in 2010, mainly because of the strict legal procedure applied in 2010. It is important to note that most of the domestic servants currently in the market have entered Sudan illegally, which raises the concern about the social and security risks attached to it.

The National Population Policy in dealing with foreign migrants has to limit the massive and illegal presence of migrants from neighboring countries, in view of health risks the serious diseases transmitted through humans such as HIV/AIDS. It should also aim at the use of foreign labor force in projects closer to the borders, to avoid their heavy concentration in the capital. Although it is well recognized that there are international agreements governing population mobility between countries, it is important to apply that in a legal and organized way that would neither harm the host nor the sending country.

10. Sudan Migration Policy:

The state through its different institutions such as the National Population Council and the National Population Policy tried to apply policies that address the problems of internal and external migration. Those attempts were faced by a number of problems and obstacles. The most important problem is the complexity of the migration process and the multiplicity and diversity of data sources and institutions dealing with issue.

The UN International Population Council (2010) report described the contents of population policies that should be based on the condition and demographic variables of each country and from which the orientation and priorities of population policies are to be determined. In relation to internal and external migration in Sudan, as shown in Table 6.3 and Table 6.4, the report came to the following conclusions and recommendations:

- The necessity to reduce migration from rural to urban areas and to increase rural–rural and urban–rural migration
- The state should not intervene with urban–urban migration but should intervene to reduce migration to major towns
- Incoming foreign migration is within acceptable levels and policies need to work to maintain that level

Table 6.3: The Position of Sudan and Selected Arab Countries Towards Internal Migration

Type of Migration/ Country	Rural-Urban	Rural-Rural	Urban-Rural	Urban-urban	To Major Cities
Sudan	Needs to be reduced	Needs to be increased	Needs to be increased	No Intervention	Needs to be reduced
Saudi Arabia	Needs to be reduced	Needs to be increased	Needs to be increased	No Intervention	Needs to be reduced
Qatar	Needs to be reduced	No Intervention	Needs to be increased	No Intervention	Needs to be reduced
Egypt	Needs to be reduced	No Intervention	No Intervention	No Intervention	Needs to be reduced

Source: Population Dept., UN Social & Economic Affairs, Population Policies for All Countries, NY

**Table 6.4: The Position of Sudan and Selected Arab Countries
Towards International Migration**

Type of Migration/ Country	Incoming Migration	Policies	External Migration	Policies	Encouragement of Migrants' Return
Sudan	Acceptable	Maintain current levels	Too high	Needs to be reduced	Needs to be reduced
Saudi Arabia	Too high	Needs to be reduced	Acceptable	Needs to be reduced	Needs to be reduced
Qatar	Too high	Needs to be reduced	Acceptable	No Intervention	Needs to be reduced
Egypt	Acceptable	Needs to be reduced	Too low	Maintain current levels	Needs to be reduced

Source: Population Dept., UN Social & Economic Affairs, Population Policies for All Countries, NY

From the general objectives of the National Comprehensive Strategy, the Sudanese state position vis-a-vis external migration can be summarized in the following:

1. Encouraging migrants and expatriates abroad to return and develop a strategy to employ them
2. Opening more cultural and economic consulates in Sudanese embassies in countries hosting Sudanese workers
3. Some objectives aiming at organizing internal migration were set within economic and social development plans, including:
 - a. Investing in human and natural resources in urban and rural areas
 - b. Considering social and economic disparities between states in the distribution of wealth and paying a special attention to poorer states
 - c. Encouraging migration of graduates
 - d. Coordination of labor force movement with concerned countries to maximize benefits for both sending and host countries
 - e. Enhancing the capacity of employment offices and developing its technical and training capacities
 - f. Encouraging dialogue between workers, employers and government institutions over design and implementation of social and economic policies
4. The Central Bureau for the Sudanese Working Abroad developed a strategy to organize employment of Sudanese abroad. The government also, since 1979, issued several laws and bi-laws concerning Sudanese working abroad, including the decision No 681/1979 establishing the Central Bureau for Sudanese Working Abroad under the council of ministers and under the patronage of the president.

However, in spite of the existence of a Population Policy and the supporting legislations, up to now there is no comprehensive strategy to address

migration issues. Besides, the failure of the attempts made to disperse industrial establishments and that of developing the rural economic base, have led to increased migration from rural areas to towns and cities. Some of the reasons behind the failure of those attempts, among others, were the shortage of finance, the orientation of investment, corruption and the security risks in some areas of the country.

11. Urban Growth:

Sudan witnessed in its ancient history the growth of a number of kingdoms that extended from the north to the central parts of the country and with it grew a number of towns including Merowe, Alawa, Soba, most of them along the Nile except some very odd cases. In its modern history, urban features started to appear during the Turkish period with the growth of several administrative centers in Khartoum, Medani, Berber, Shandi, Merowe, Dongla, Kassala and El Obeid. During the Mahdiya period, Omdurman town emerged and flourished, attracting migrants from all parts of Sudan, especially the west, mainly to contribute to the development of the new state.

During the condominium period, a number of new towns appeared including Port Sudan, Halfa, Atbara and Kosti and also towns, which declined during the Mahdiya, were revived. Most of these towns flourished because it was linked to large economic projects such as the Gezira scheme, the Railway and sea and river ports. Also the important in the means of transport, the expansion in education and the growth of new service institutions have helped the growth of new towns, which developed into economic commercial and administrative centers. One of the most important urban phenomena of that time was the emergence of the national capital Khartoum as an attractive center with large concentration of population. After independence, the peculiarity of Khartoum was further enhanced as it became a strong cultural center and a center for services, industries and trade. This is very clearly illustrated in Table 6.5 below, as the massive population increase indicate its supremacy in the areas of industry, trade and services, the thing that made it attractive to population that kept increasing in all censuses organized and no drop was recorded in any census result.

Table 6.5: Urban Population Growth by Region (1956-1993)

Region	1956	1973	1983	1993
Khartoum	50.4	71.6	74.7	83.1
Northern	10.1	18.5	21.3	22.9
Eastern	45.9	26.0	28.9	32.8
Central	7.0	14.3	20.5	23.6
Kordofan	6.6	12.8	12.6	19.3
Darfur	4.0	9.1	10.8	14.0
Sudan	8.3	18.5	20.5	29.2

Urban population in Sudan has been systematical increasing not as a result of natural growth but migration played the major role in that increase. This appears clearly from the increase in the number of towns and the growth of existing ones. The percentage of urban population in Sudan rose from 8.3% in 1956 to 29.8% in 2008 and the number of towns from 68¹ in 1956 rose to 155 in 1983 and to 122 in 1993. Table 6.6 and Fig. 6.3 show population and urban growth during the period 1956-2008.

Table 6.6: Numbers and Growth Rates of Urban Population 1956-2008

Year	Population	Urban Population	Urban Population %
1956	10,300,000	854,900	8.3
1973	14,113,595	2,605,896	18.5
1983	20,598,592	4,221,258	20.0
1993	25,588,429	7,468,197	29.2
2008	39,200,000	11,210,325	29.8

Fig 6.3a: Sudan Population (1956-2008)

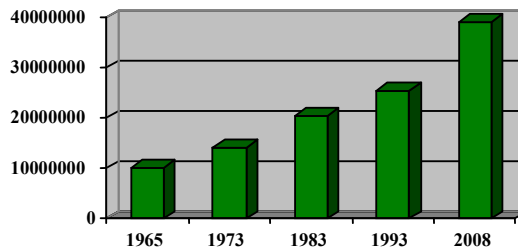
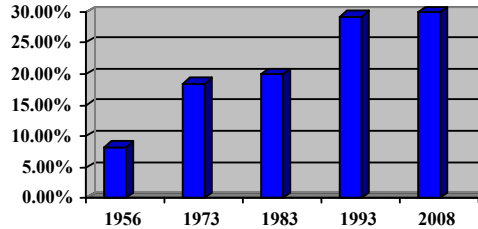


Fig. 6.3b: % of Urban Population (1956-2008)



The above table and figure show the systemic increase of urban population. However, the important phenomenon is that, with the exception of Port Sudan town, urban growth is heavily concentrated in central Sudan and specifically in Khartoum state, where over 60% of the urban population is concentrated.

¹ Then the town was defined on the basis of its administrative importance or with a population of 5,000 or more

The reasons behind the fast urban growth are mainly economic, relating to the opportunities for economic growth, availability and diversity of job opportunities, especially in Khartoum, the availability of credit institutions and the opportunities for investment. Other contributing factors include the concentration of education, health and recreation institutions in towns, the development in the means of communication, the concentration of specialized service (health and education) and presence of the administrative institutions in towns, in addition to the pushing political, environmental and economic conditions in rural areas.

12. A Future Look and Recommendations:

1. There is need to control the fast urban growth and adopt measures that would reduce migration from rural areas to towns through the establishment of development projects in the areas and states sending migrants
2. Encouraging the expansion of industry, especially small-scale industries and quick-revenue service projects to create an environment conducive to the stability of rural population
3. Paying attention to the problems of displacement caused by drought, desertification and conflicts and addressing them
4. Working to find quick solutions to the problems of graduates unemployment through the establishment of projects especially in migrants-sending states
5. The initiation of a data base concerned with urban growth and urban development
6. Adopting development models that reduce regional imbalance and maintain and equilibrium in the distribution of population
7. The integration of population movement in national development strategy by assuring the rights of citizen to move and make use of available opportunities and providing assistance to localities and administrative unites which attract migrants to enable them to provide better service to migrants
8. Setting limits to numbers of in and outgoing migrants
9. Applying controls to ensure that incoming migration is compatible with the country's needs and help social integration
10. Determining the labor force demand in the country through systematic surveys and continuous studies of the labor market and designing plans and strategies to build an adequate and up-to-date data base for that purpose
11. Reviewing legislations governing importing foreign workers and controlling illegal importation of foreign workers

12. Establishment of a coordination mechanism between institutions concerned with foreign labor force (Ministries of Labor, Investment, Interior, Foreign Affairs and National Intelligence and Security)

Sources and References:

Arbab M. I. and A. A. Hag Ahmed (2005), World Population and Urban Growth: the case of Sudan, Al Zaim Alazhari University Journal, Issue No 5

Hag Ahmed, A.A and M.I. Arbab (2010), Greater Khartoum Hierarchy, Al Zaim Alazhari University Journal, Issue No 8.

International population Council, An introduction to Demography, 2010 (In Arabic)
Ministry of Finance and National Economy, The National Comprehensive Strategy, Volume 2, 1993 (In Arabic)

National Population Council, A Report on Migration and population Movements in Sudan, Khartoum, Jan. 2009 (In Arabic)

National Population Council, Sudan Population: Characteristics and Dynamics, Report, 2010 (In Arabic)

Republic of Sudan (CBS), The Fifth Population Census (2008) (In Arabic)

Republic of Yemen, Demography Basic Method and Applications, 2001 (In Arabic)

Shryok and Siegle (1976), Methods and Materials of Demography, Ohio

Yousif, M. A. and M. MacKair, Size and Direction of Migration, 1983 (In Arabic)

Yousif, M. A. and Kamal Al Haj, Size and Direction of Internal Migration, 1993 (In Arabic)

Yousif M. et.al. Migration Analysis, Unpublished Paper, CBS, Khartoum, Sudan, 2011

Yousif, M. A. and Yasin Adil, Size and Direction of Internal Migration in Sudan (In Arabic) (*not dated*)

CHAPTER VII
Health in the Population Policy

Chapter VII

Health in the Population Policy

1. Introduction

This chapter aims to provide a general description and analysis of the health situation of the population in Sudan and to assess health policies, programmes and plans and their effectiveness. It also aims to come up with a health manual that raises confidence in the data issued by government health institutions and remove causes of contradictions and inconsistencies between different sources and improve the quality of data and increase its reliability, thus contributing to support decision making at the technical level and policy levels and meeting the requirements of population policy in health sector planning and development. To achieve that, and in view of importance of information, the manual shall list the major indicators of mortality, morbidity and the state of health services and how they are influenced by the population policy with regards to standards and pattern at the national and state levels. The working group on the health sector has come up with three key indicators that include six sub-indicators and has linked these to the Millennium Development Goals.

2. Indicators

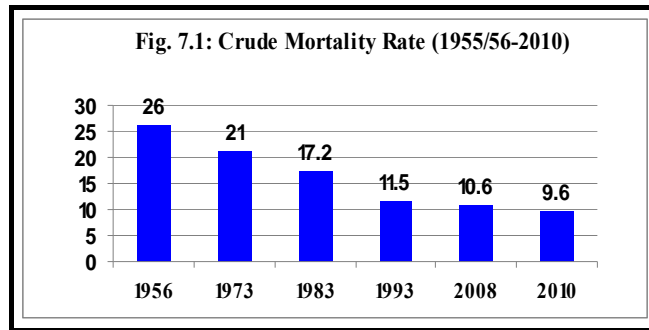
2.1 Mortality: to capture the following mortality indicators and unify their terminologies and study their patterns and the policies needed to upgrade them:

1. Total mortality indicators, in terms of standards and time behavior;
2. Age mortality indicators and life expectancy at birth by sex, in terms of standards and time behavior;
3. Maternal mortality, by standards, time pattern and causes of death;
4. Reproductive health;
5. Morbidity;
6. Health services;
7. Population policies, to raise the standards of the indicators above, within the State five-year plan of 2012-2017.

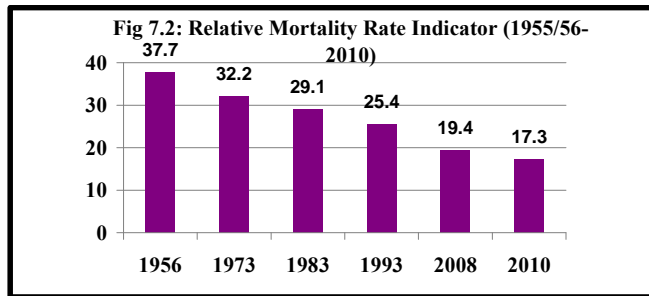
2.1.1 Overall Mortality Indicators:

Overall mortality rate is a simple index that provides a general gauge of death and pertains to all population. It helps in comparing countries and it uses two key indicators: *crude mortality rate*, which is the number of deaths per year per thousand of the population, and the *relative mortality rate* which is the number of deaths within the age group of 50 years and above divided by total deaths. These rates reflect the health situation in the particular country in general. It is noted that the crude mortality rate in

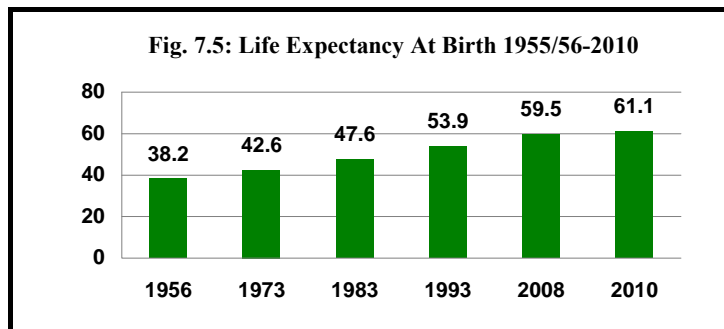
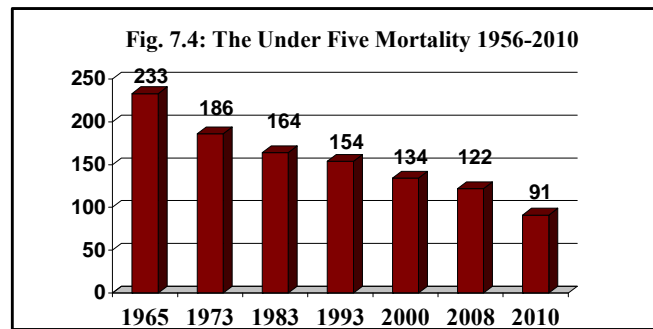
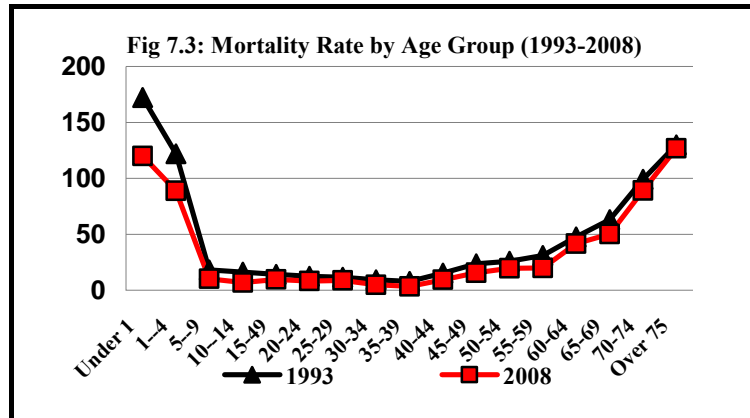
Sudan has been in a steady decline since the 1955/56 census and until the year 2010 (Fig. 7.1).



2.1.2 Relative mortality rate: the relative mortality rate gives a better picture of overall death compared to the crude mortality rate because it is not affected by errors unreported deaths if the underreporting is equal for all age groups. Like the crude mortality rate, this indicator has also been in decline as is shown in Fig. 7.2.



2.1.3 Age-specific mortality indicators: During the period between the 1993 and 2008 censuses, there was a decline in age-specific mortality rates in almost all age groups but at varying rates (Fig. 7.3). While Sudan was above the African average in 2000, it went lower than the average in 2008 and that was for all age groups with a clear improvement in infant and child mortality rates. In fact, infant and under-five children mortality rates witnessed a steady decline since the sixties of the last century, though in a slow pace (Fig. 7.4). Such decline in age-specific mortality rates has positively impacted on life expectancy at birth, sending the index up from 38 years in 1956 to more than sixty years in the year 2010 (Fig. 7.5).



The general picture of mortality reflected by the previous figures indicates a steady decline in overall and age-specific mortality rates. However, this decline trend which started in the middle of the last century was generally slow if measured from the theory of demographic transition perspective as rates of infant and child mortality were expected to decline to less than 40 per 1000 in the light of economic and social development the country had experienced, but civil wars, displacement and famines have played a role in making these rates continue to be in three digits in most periods.

3. Reproductive Health

3.1 Maternal mortality

Maternal mortality rate has been estimated, in the Family Health Survey for 2010, at 215/^{100,000} live births during pregnancy, childbirth or the first six weeks after birth. If we compare this to the 1999 rate, one year before the global adoption of the MDGs, we note that the rate has declined by 62.2%. There was also a systematic decrease over time (Fig. 7-6), which means that Sudan has come close to achieving the MDG goal requiring the reduction in the maternal mortality rate by 75% by 2015¹. It must also be noted that there is clear variations between the fifteen Sudanese states, which means that the MDG target will not be achieved in all states at the same time. Table 7.1 shows maternal mortality by state.

Table 7.1: The Maternal Mortality Rates by States (2010)
(Per 100,000 live births)

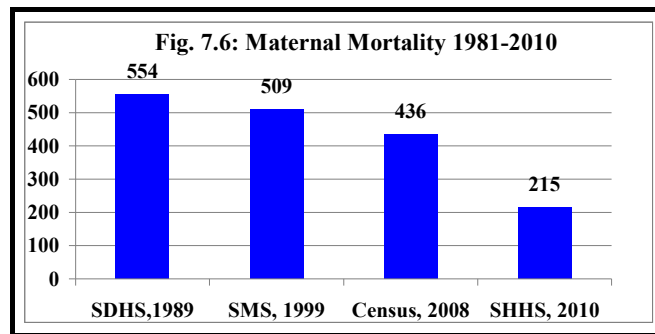
State	Mortality Rates	State	Mortality Rates
South Darfur	335	North Darfur	177
West Darfur	322	Khartoum	175
Red Sea	280	White Nile	168
Gedarif	267	River Nile	147
Blue Nile	258	Northern	127
Kassala	245	South Kordofan	112
North Kordofan	208	Sennar	106
Gezira	186	Sudan	215

To achieve the Millennium Development Goals, Sudan drafted a road map to reduce maternal and neonatal mortality and the priorities focused on included:

1. Delivery, whether in hospital or at home, to be performed only by trained staff;
2. Adequate care to be provided for pregnant women;
3. Continuous care during the first six weeks after birth-giving;
4. Care is to be provided for embryos;

¹However, here it must be noted that since the Universal Declaration of the Safe Motherhood Initiative in 1987 all countries in the world focused on measuring maternal mortality rate, but the vast majority of Third World countries faced intractable systemic problems and resorted to the use of indirect methods in demographic estimates and adopted the sister method as the principal methodology to collect data on maternal mortality from communities as opposed to hospitals as a base for the estimate of maternal mortality rate. After two decades of application, researchers found many defects afflicting estimates derived through the sister method and the world started to resort to the direct estimation which, in turn, requires large samples and accurately adjusting the weights.

5. Special care to be provided for young pregnant females (under the age of twenty) through providing guidance on the benefits of family planning, studied birth choices, spacing pregnancies and respect for the child's right to a decent life.



3.2 Reproductive Health Poverty Indicator:

Sudan is a signatory to the Universal Declaration of Safe Motherhood, which aims at training sufficient numbers of village midwives so that there would be a midwife in every village throughout the country. That required the rehabilitation of the old midwifery schools and the establishment of new ones. The part implemented of the road map till now led to increasing the number of village midwives by 20% over four years (from 13,400 to 16,078). In 2008, the national strategy on midwifery was adopted which focuses on the graduation of skilled personnel after the adoption of a new curriculum for the training of midwives, where a midwife graduates after a period of study of two semesters, with a degree equivalent to the Intermediate Diploma in higher education institutions.

Medical care for pregnant women also increased from 61% in 2006, to 74% in 2010. The ratio of births attended by trained medical staff increased from 49% in 2006 to 72.5% in 2010. A roadmap for the intensification of care for emergency obstetric cases has also been adopted, based on the World Health Organization (WHO) standard, which provides for the establishment of 5 units for emergency obstetric care per 500,000 persons, provided that one of these five units is to be fully equipped with a delivery room and an operation theater.

The Ministry of Health adopted a system for reviewing maternal deaths that occur in hospitals in order to track death cases since the beginning of pregnancy or childbirth up to death occurrence, in order to make use of that in improving mothers' health and the health of fetuses through the adoption of deaths tracking in clinic referral mechanisms.

Detailed data was availed through Family Health Surveys in 2006 and 2010. We note from in Table 7.2 that the reproductive health indicators that are not covered as required until the year 2006 amounted to about 76%¹, and has fallen to about 48%, which means that there is a marked improvement in reproductive health services but that this improvement varied between States (Table 7.3).

Table 7.2: Reproductive Health Poverty Indicators in Sudan (2006-2010)

Indicator	2006 (%)	2010 (%)
% Annual Women Births (15-19) %	32	46
Use of Means of Family Planning %	10	11
Women Receiving Maternity Care %	57	69
Birth Under Birth Attendant Supervision %	55	68
Women with sufficient Knowledge about HIV/AIDS %	60	81
Mortality per 100,000 %	98	99
Expected Delivery by Midwives %	45	60
Expected Delivery by Gynecologist %	15	69
Delivery within a health unit %	15	70
Delivery within a Hospital delivery section %	23	78
Women who know how to read and write %	56	60

Source: Reproductive Health Survey, 2010

Table 7.3: Reproductive Health Poverty Indicator in Sudan by State (2010)

State	RH Poverty %	State	RH Poverty %
Northern State	11	North Kordofan	68
River Nile	32	Gedarif	72
Red Sea	32	North Darfur	74
Gezira	40	South Kordofan	75
Khartoum	42	Blue Nile	81
Sennar	51	South Darfur	86
White Nile	52	West Darfur	88
Kassala	64	Sudan	48

Despite the marked increase in the level of demand for family planning methods from 5.7% in 2006 to 29% in 2010 that was not matched by a parallel improvement in ongoing use of means of family planning. The index rose by only 2% during four years from 7% in 2006 to 9% in 2010. 14% of women who had a desire not to get pregnant in the age group 20-24 had given birth before reaching the age of eighteen. But the important observation is the reduction in the rate of female genital mutilation of females under the age of ten to 34.6, compared with 72% in the 10-14 age group and 80% in the age group 15 years and above.

¹ The guide was calculated by weighted harmonic mean for reproductive health indicators

4. Special Attention to HIV/AIDS:

Acquired Immune Deficiency Syndrome (AIDS) has a serious impact on population, especially those in childbearing and work age, and it directly affects the population dynamics, particularly fertility and mortality. It also affects the age and sex structure of the population – the thing that reflects negatively on their economic and social characteristics and reduces the quality of life for the society at large. Before the secession of South Sudan, HIV/AIDS was considered a general epidemic in Sudan, where the rate of infection amounted to 1.6% of the total population, but the picture changed completely after the secession of the south, whereby the epidemic is concentrated among the high risk groups. The results of the survey conducted in year 2009 by the Sudan National AIDS Programme (SNAP) in 35 locations in the fifteen states of Sudan, the rate of infection amounted to 0.67% at the country level (i.e. a total of about 262,000 persons).

Based on the above, the priorities for action to curb the epidemic rely on strict preventive interventions among the population at risk in the states with relatively higher rates; namely Khartoum, Gedarif and Kassala. There is a strategy to prevent vertical disease transmission to unborn babies through their mothers. The strategy targets the reduction of the vertical transmission rate from 30% to 10% by the end of the year 2011. 27 centers for laboratory testing have been established and tests were carried out for about 47,127 pregnant women in addition to testing of blood donated to blood banks.

To deal with the epidemic among the general population SNAP has mobilized all sectors of society to participate in the national campaign against the epidemic, with a focus on the ministries of: General Education, Higher Education, Youth and Sports, Guidance, and Army and Police institutions and the Ministry of Labor. The different sectors, in collaboration with the health sector, drafted strategies to build the capacity of civil society to facilitate public awareness raising services and treatment. The main objective of the strategic plan was to control the epidemic so as incidences are not to increase by more than 1% for the entire population and 5% for the high risk groups, 4.4% amid sex workers and 9.3% for male homosexuals, with a focus on reducing the levels of exposure, vulnerability and mortality. The strategy also focused on the psychological and social aspects of people living with Aids through fighting social isolation and the stigma. Media action focused on the concept of *'a friend with HIV/AIDS is still a good friend'* in order to minimize the impact of the epidemic on the social fabric of the population.

The main focus of the national program to combat AIDS depends on awareness and publicity action and the involvement of all sectors at the national level. Services and treatment of cases have also been provided, in

addition to treatment and containing opportunistic infections and sexually transmitted diseases. The plan aims to increase the number of infected people in need of treatment and those who undergo treatment from 9.3% in 2010 to 30% in 2015.

SNAP manages 137 centers for voluntary testing and awareness raising, 32 centers which provide services of anti-retroviral drugs (at least one center in each state) and 28 centers for prevention services against vertical transmission of HIV in all states of Sudan. There is some sensitivity towards the distribution of condoms and this sensitivity has limited its distribution and created some psychological and social barriers for its use.

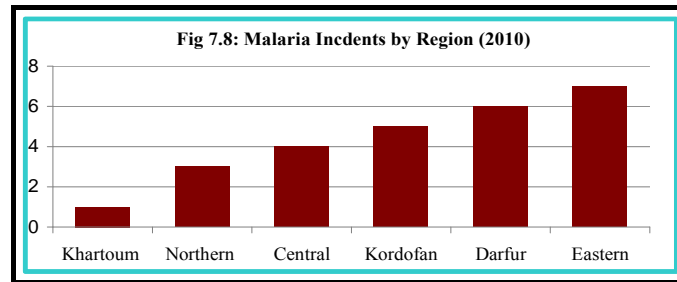
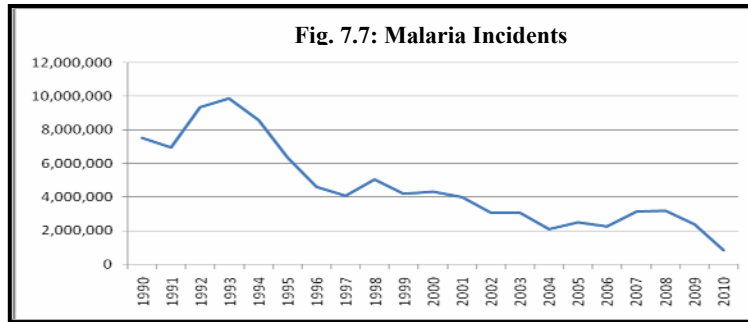
5. Morbidity:

5.1 Infectious Diseases:

Sudanese epidemiology record is full of infectious diseases despite the fact that non-communicable diseases are on the rise, especially cancer and blood circulatory diseases. There is also a frequently recurrent spread of bacterial meningitis epidemic, watery diarrhea and dengue fever, coupled with the continued existence of tropical diseases that have become endemic. Besides, in the midst of civil wars and tribal conflicts, climatic changes, drought and desertification, parasitic diseases such as malaria, tuberculosis and *schistosomiasis* (bilharzia) have become wide spread, representing the most common diseases from which patients' lives can be saved, especially among the poor and young.

- a. Malaria is considered the largest challenge to the Sudanese people. Based on climate models, 75% of the Sudanese (about 24 million) are at risk of malaria epidemic, and rates of new infections in 2009 have reached about $7,430/^{100,000}$ population, with a death rate of $3.6/^{100,000}$, which means that malaria infects 2.2 million persons, out of whom 1,080 dies. The Ministry of Health exerted great efforts, in collaboration with the World Health Organization, to curb the epidemic. These efforts have had a positive impact in reducing infection rates and the national average fell from 33% in 1990 to about 5% in 2010. This is an important success story despite the fact that there are significant variations between different regions of Sudan. Fig. 7.7 shows the pattern of decline in Malaria infection rates over time and Fig. 7.8 illustrates the disparity between regions and we notice the significant drop in infection rate in Khartoum State¹.

¹ Infection rate was calculated on the basis of proportion of positive blood samples out of total screened blood samples



- b. According to the Federal Ministry of Health annual reports, analyses of major causes of mortality among children under five reveal that pneumonia, malaria, diarrhea, malnutrition and measles are the top five diseases that remained for a long period of time the most important causes of morbidity and hospitalization. Family Health Survey (2010) shows that, during the two weeks preceding the survey, 26.8% of children aged 6-59 months had diarrhea and 18.7% were diagnosed cases of pneumonia;
- c. The prevalence of tuberculosis amounts to 120/100,000 population, at an accurate diagnosis rate reaching 59.6% and a rate of successful treatment of 81.8%. But the normal rate has an average of 10%, with the emergence of resistance to multiple tuberculosis drugs as a major challenge;
- d. Some surveys conducted recently indicate that bilharzia prevalence rate amounts to 10% in the Khartoum state, 60% in Sennar state and peaks at some locations in some states such as the Managil Locality in Gezira state (90%), always accompanied by intestinal bleeding;
- e. Leishmania and Kalazar became endemic in Sudan and a study conducted by the Federal Ministry of Health in 1994 showed that states where the disease has become endemic are Kassala, Gedarif, Blue Nile, White Nile and, to some extent, Gezira and Red Sea states.

5.2 Non-Communicable Diseases:

Non-communicable diseases include heart disease, diabetes and cancer and also chronic lung disease which are at the forefront of the deadly diseases worldwide. The recorded increase in non-communicable chronic diseases pose a major problem for Sudan and the situation can be described as an imminent disaster about to strike on health, society and the national economy in the first place. It is important to note that non-communicable diseases will constitute 60% of the diseases and cause 72% of deaths in Sudan.

The most common non-communicable diseases in Sudan at present are diabetes, asthma, cardiovascular disease and cancer which alone accounts for 41% of total deaths.

Non-communicable diseases deal two powerful blows to development as they cause loss of national income (billions of dollars) and they push millions of people to a level below the poverty line each year. yet, it is millions of deaths can be avoided by strengthening the implementation of existing measures. Part of such arrangements are policies promoting government action to combat non-communicable diseases and strengthening anti-tobacco actions, promoting healthy dietary regimes and physical activities and reducing alcohol use, but above all, healthcare must come first.

6. Population Policy Impact on Health Policy:

6.1 Preventive Health:

- During the period 2006-2008 vaccination centers in Sudan increased by 16% and Sudan succeeded in introducing the quintet vaccine in all its fifteen states and, according to the report by the National Routine Immunization Programme (2010), coverage of quintet vaccine rate reached 95% at the end of 2010. For polio vaccine, rates for the three doses for the same year were 103% for the first dose, 98% for the second and 95% for the third dose. This decline may be attributable to the death of some children. And for measles vaccination rate was 86.3%;
- With the support of the WHO and UNICEF, rickets eradication programme has been integrated with the expanded programme of immunization (EPI). The programme has two main components: the monitoring system for cases of acute paralysis and support for the acquired immunity campaign. The purpose of both is to support resistance among children or to eradicate the imported rickets-virus circulation and the performance monitoring indicators reached the benchmark level in 2001;

- In 2009, a national nutrition policy was adopted, which put emphasis on the nutritional status of population by focusing on the children under five and pregnant and lactating women. Breastfeeding until age 6 months rose from 33% in 2006 to 41% in 2010. Rates of continued breastfeeding up to two years of the child age (20-23 months) rose from 35% in 2006 to 40% in 2010. Community management of malnutrition has started since 2004 with the support of UN agencies and NGOs working in all localities of Greater Darfur state, in addition to two localities in six other states;
- There are four states, namely Sennar, South Darfur, West Darfur and Kassala, that developed domestic legislation to combat diseases caused by lack of vitamin A, which is distributed on a regular basis to all children aged 6-59 months. twice a year during the National Child Health Day;
- Rates of coverage of interventions against malaria rose significantly in the past few years. The percentage of households owning at least one mosquito-net reached 55%, treatment of malaria by artemisinin combination therapy (ACT) increased from 10% in 2005 to more than 40% in 2009 and malaria rates dropped significantly from more than 6% in 2005 to 1.8% in 2010;
- Coverage by the tuberculosis management unit rose to one center for every 100,000 population and the drug is distributed free of charge.

6.2 Health Services: *progress in rates but inequitable distribution:*

Out of a total of 229 private hospitals and health centers, 162 (about 70%) are in Khartoum state. In addition to that, Khartoum has 642 specialized clinics, 392 general clinics, 173 Dental clinics, 477 laboratories, 33 radiology units and 7 psychiatric clinics. In general, the private sector owns 38% of the hospitals, 6% of clinical capacity and 31% of the radiology units.

Data on citizens' access to health services is rarely available, but according to a survey conducted in Khartoum and Gezira states, out all patients who were looking for healthcare services, 22% consulted private clinics. As for hospitalization and surgical operations, the private sector has 31% and 7% of facilities respectively in the two states.

There are social and economic barriers that play an influential role in the utilization of health services available. Among poorer patients suffering from acute and chronic diseases, 1% and 2% respectively sought treatment; compared to 2% and 1% respectively for the higher income patients. As for HIV/AIDS services, despite the fact that anti-retroviral drugs services are free, yet patients have to cover costs of treatment for the other accompanying diseases. Besides, there are problems of weak coordination

and referral between different services sectors (centers of HIV voluntary testing, sexually transmitted diseases and tuberculosis, etc.)

As for ambulatory services, the rich have benefited four folds compared to the poor. About 41% of visits were to healthcare units in the public sector while the share of private clinics amounted to around 26%. Also, rich and middle-income groups benefited four times more than the poor and low income groups from the private sector services.

7. Proposed Policies in the Health Sector

The Republic of Sudan, is a country rich in natural and cultural resources, and has seen significant improvements in health situation. During the past three decades, infant and child mortality rates fell, the delivery of health services improved and overall life expectancy increased. The numbers of children who die before the age of five years decreased in all states, people live thirteen years longer on average than before, and available data provides evidence that life expectancy in Sudan is matching the average for countries in the second phase of the demographic transition. But despite these achievements, the State still faces a number of obstacles to providing health services for the population in an efficient, equitable and sustainable manner.

7.1 Foreseen Challenges:

The demographic changes and changes in the disease burden contribute to increase costs on healthcare systems in the country. In most states, rates of infectious diseases go on the decrease while non-communicable diseases, such as cancer and heart disease cases are on the increase with the rapid urbanization and changing lifestyles. By the year 2020 it is estimated that the non-communicable diseases will be responsible for 60% of the disease burden and 72% of deaths in Sudan, compared to 45% of the disease burden and 56% of deaths in North Africa¹. Emerging infectious diseases such as bird flu and hemorrhagic fever that re-emerge increasingly are expected to become a big problem to public health. While HIV prevalence in the country is still relatively low, there were 3,000 new infections in 2010 and there is growing evidence that HIV/AIDS virus now spreads rapidly outside the traditional high risk groups. Rates of tuberculosis infection increased in recent years, which is partly due to the increase in HIV/AIDS cases.

7.2 Health Reform Priorities:

Many healthcare systems operate in Sudan with low efficiency regardless of the level of state support or the organizational form of the system. Services

¹ WHO, 2011

provided vary in terms of quality and effectiveness and suffer from lack of coordination and poor management in both public and private service delivery systems. In the light of these challenges and others, the Ministry of Health took the initiative to introduce wide reforms in the healthcare system. The World Bank has played a crucial role in providing technical and financial support to many of these reforms through its cost recovery technical cooperation programme. The structural reform priorities are built around four main themes: efficiency, service delivery, finance and public health.

To reform the healthcare system it is imperative to:

1. Coordinate policy-making and management across the many agencies that fund and provide healthcare services, in addition to coordination between the public and private sectors. And to ensure that the healthcare system meets the population needs, the government must guarantee the availability of adequate resources and appropriate infrastructure, in addition to equitable distribution of these resources between regions and people of different income levels. Also, it is required that the government protects the country's population against economic crises caused by diseases that lead to financial disasters and to provide sufficient financial resources for public health interventions. Finally, in order to benefit the poor and achieve interventions which are cost-effective, the way public healthcare is administered must be improved;
2. Try to achieve equity and accessibility of healthcare services. Public expenditure on the provision of healthcare services represents about half the total expenditure on health in Sudan, while actual spending by families to get healthcare accounts for the other half. Heavy reliance on direct spending by families on healthcare services means that there are a large number of individuals and families who have relatively little financial protection (health insurance) in the event of illness or tragic accidents. There are significant gaps in healthcare coverage in most Sudanese states, particularly in rural areas and among those working in the informal sector and their families. It is therefore necessary to link investments in healthcare systems more strongly with the development a well oriented social safety nets;
3. Encourage financial sustainability and accountability, as increased spending does not necessarily mean achieving effective results, especially if the investment is not directed towards interventions that are most effective in terms of cost or the priority target groups. Existing healthcare systems in Sudan, particularly in the public sector, are not managed efficiently and it lacks the adequate organizational setup that can enable it to meet the changing needs of the population. Despite the fact that there is an active and growing participation by the private sector in the delivery of healthcare services, the sector is still largely not

subject to the regulatory controls and its role is often not well defined in the framework of economic development plans. There is a need to establish new institutional capacity and organizational and management structures to create a favorable regulatory environment that will encourage the growth of a private sector that is efficient, safe and able to sustain its healthcare delivery. Investments in systems and best practices in modern management, rational investment plans and appropriate measures to control costs, including large investments in public health programmes are essential for the growth of the healthcare sector in a sustainable and comprehensive manner which does not exclude anyone;

4. Invest in the development of the healthcare system that is more equitable and efficient. The World Bank provides investment support and technical assistance to middle-income countries to improve the performance of their healthcare systems and enable them to meet the changing needs of the population. These investments are considered critical to avoid the risks associated with healthcare systems in the transitional stage, including risks related to the growing disparities in income and in access to healthcare, as well as increasing deficits in public finance. The World Bank supports a variety of programmes in these fields, including: (a) expansion of health insurance coverage to cover the uninsured population, (b) development of institutional capacities and regulatory frameworks to ensure the quality of patient safety, which include, for example, quality of drugs and medical equipments; (c) encouraging partnerships between the public and private sectors in order to increase the efficiency of healthcare services and make them accessible to everyone (d) expanding multi-sector public healthcare programmes in order to promote healthy lifestyles and reduce the impact of behavioral and environmental risks that contribute to the increasing rates of sickness and mortality.

7.3 Health and the Millennium Development Goals:

Given the diversity of challenges facing Sudan today, the approach and the ability to meet the MDGs depends largely on the existing demographic characteristics. To a large extent, diseases match many of the issues addressed by the MDGs, such as the issues related to the growing burden of non-communicable diseases, efficiency and effectiveness of healthcare systems, quality of services, equal access of disadvantaged groups to services, and sustainability in light of demographic and epidemiological transitions.

A little over three years are left to achieve the MDGs in the area of healthcare, which include:

- a. Reducing infant and under-five mortality by 75%. There is still a drop equivalent to 56% for infant mortality that must be achieved during the

remaining period and 36% reduction in the under five mortality. It may not be possible to achieve the MDGs within the specified time, but what is needed is to get closer to them at the very least. For this to be done, it is important that:

1. High immunization rates be maintained or, if possible, raised to 100%;
 2. Emphasis be put on the role of mother's education in improving infant and child health and bridge the gender gaps in education;
 3. Health education programmes to be spread all over the country through the community colleges in various parts of Sudan and to target mothers in informal sector with a focus on the need for breastfeeding without any other food for the first six months after birth, with emphasis on placing the baby on his mother's breast one hour after birth to take advantage of the initial colostrums milk that increases the child immunity;
 4. There is a need for birth spacing, using Islamic shariaa means of family planning such as the continuation of breastfeeding for two full years.
- b. Reducing maternal mortality by 75%. There is still a 43% reduction rate required to achieve this goal by the end of 2015. For this to be done, it is imperative to:
1. guide overall population and development policy towards the 'health for all' goal;
 2. place emphasis on expanding basic health services and adopt a broad scope reproductive health policy to eliminate reproductive health poverty within the 2012-2017 plan;
 3. protect young people and teenagers' health from infectious diseases, including sexually transmitted diseases, notably HIV/AIDS, by containing the AIDS epidemic and arresting its rate in the range of less than 1% in the next five years, so as to eliminate it by 2025
- c. Asserting the concept of family planning within the important options that aim to improve the health of mothers and individuals, the welfare of the family and prevention of the effects of unwanted pregnancies, especially within high-risk periods and helping couples freely choose the number of children they wish to have and the time gaps between births, including infertility treatment services. This requires increasing the rate of family planning methods use gradually from the current rate of 9% to 34% during the five-year plan;
- d. In the field of healthcare services, there is a need for the continuity of the traditional role of the state, without diminishing the importance of the roles of other sectors. This is because any accomplishment achieved

by the private sector or civil society organizations in this field is linked to the government's success in providing infrastructure and improving the quality of life of the population. To strengthen the health infrastructure, work must be done to address the dysfunctional distribution of healthcare institutions and medical staff, which is currently biased in favor of Khartoum state where most of the advanced laboratory and therapeutic services are concentrated, while it is completely lacking in most other states of Sudan. The Federal Ministry of Health five-year plan and that of the states' ministries of health must contain a roadmap that scales up advanced health services in all the states by 50% at the very least, with a focus on rural hospitals.

The government should substantially strive to reduce mortality and morbidity rates to a minimum by providing healthcare services to its citizens, though we rarely find someone satisfied with the progress achieved in this field. Government expenditures in the health sector accounts for about 2% of the GDP. The government's five-year plan (2007-2011), for example, allocated about 2% of the development budget to health. But most of the expenditures tend to go to curative medicine, which reaches only a certain percentage of the population, mostly urban population. But after the International Symposium on primary medical treatments in 2010, the government began giving priority to the basic needs in the field of health such as improving maternal and child health, control of chronic diseases, training health workers and improving water supply and treatment.

To provide basic needs in the field of health, it is important to embark on applying solutions other than the very specialized health treatments (that cost huge financial resources) by integrating health treatment within its social and cultural context with priority given to the most disadvantaged and needy population such as women and children in rural areas. Perhaps the successes that have been achieved in improving the level of health of the population have strengthened these activities in recent years. However, this method assumes the solution of health problems facing society, such as nutrition, water supply, health education, caring for maternal and child health, family planning, vaccination and disease prevention; through the use of special technologies and local resources. But nevertheless, the application of these methods faces great difficulties in mobilizing the necessary resources and required organizational capacity that is lacking in many countries, including Sudan.

7.4 Population Policy Basic Quantitative Goals in the Field of Health:

Table 7.4 below shows the key indicators targeted by the national population policy in the health field within the framework of the State Five Year Plan (2012-2017)

Table 7.4: Targeted Health Indicators in the National Population Policy

Indicator	Target Percentage		Change%
	2012	2017	
Life Expectancy at birth	61	66	+8
Crude Mortality Rate per 1000 population	23	15	-34.7
Infant Mortality Rate per 1000 population	57	25	-43.3
Mortality Rate for Children Under 5 per 1,000 population	78	50	-35.8
Maternal Mortality Rate per 100,000 live births	215	123	-43
Communicable Disease Infection Rate per 100,000	400	200	-50
Non-Communicable Disease Infection Rate per 100,000	600	300	-50
HIV/AIDS Infection Rate per 100,000	670	<i>Should not increase if not reduced</i>	-
Malaria Infection Rate per 100,000	1800	900	-50
TB Infection Rate per 100,000	10000	5000	-50
Breast Cancer Infection Rate per 100,000	3450	1725	-50
Heart Disease and Hypertension Cases per 100,000	2360	1180	-50
Quintet Vaccination Rate per 100 population	98	100	+2
Measles Vaccination Rate per 100 population	86.3	100	+13.7
Use of Family Planning Methods per 100 Married Females	9	34	+25

CHAPTER VIII
Education and Technology

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Education and Technology

1. Introduction

Direct and indirect measures seek to produce quantitative and qualitative impact on demographic behavior and social and economic characteristics of the population with a view of bringing about a balance between population needs and sustainable development. Population policy objectives aim at realizing balance between population growth and the comprehensive needs of the population, developing the economic, social, health, educational and cultural standards of the family, empowering women, promoting gender equality and providing health care.

The importance of reviewing the population policy emerges from the local and international indicators and developments, and to review records and information regarding population status, future trends in addition to revising population policy quantitative and qualitative objectives, to ensure their consistency with the needs of the current and future stages, in the light of the local, regional and international population changes and development, and the continued monitoring of points of strengths and weakness in the population policy.

As part of Third Millennium challenges, efforts are underway to blend lofty ideals with components of human entity to achieve the goals of comprehensive and sustainable development. There is convergence on the dimensions of the population problem the country is encountering, including inconsistencies between economic development and the steady population growth, low population characteristics, unbalanced population distribution, issues of displacement and refuge caused by conflicts and wars as well as the rising rates of poverty and unemployment¹. The importance of studying the demographic aspects of size, characteristics and distribution of population, stems from accurate statistical indicators for planning or increasing enrolment in the education system, and hence there is a direct link between demographic indicators and education planning.

The Human Development Index is a modern concept that is still being deliberated to determine the status of human development in terms of social advancement in a particular country. Indications related to education such as illiteracy rate among adults, the enrolment rate in basic and higher education, are key indicators upon which the concept and measure of human development depend.

¹ National Population Council, General Secretariat

2. General Education¹

Results of the 2008 census indicated that about 52% of the population of over 31 million at the age of 6 years and over above from both sexes can read and write. The percentage of those who can read and write in urban areas is 74%, approximately threefold of those in nomadic areas (16%) and a little less than double of those in rural areas (45%). The rate of those who can read and write among males is 58% and 45% for females.

The 20th Coordination Forum of the Ministers of Education and General Directors of education in States (17-18 July 2010) decided the general directives of public education policies in the following:

1. Seeking to provide education opportunities to consolidate efforts of achieving a balance in opportunities between different states and social categories, and thereafter generalize education and make it compulsory.
2. Adopting strategic educational planning and the development of the education database.
3. Enabling all those who passed basic education schools exams and got the certificate to continue their secondary education.
4. Providing education opportunities for special groups, groups affected by war and conflict and adults who missed the opportunity to get educated, in addition to all those in schooling age.
5. Linking education to society needs.
6. Achieving justice and equity in access to education, with special attention to people with special needs and children affected by conflicts and natural disasters.
7. Upgrading the quality of education by providing inputs and improving school environment and performance.
8. Developing the objectives and content of the curriculum, assessing its ability to cope with developments and meeting learners' needs.
9. Developing examination and educational evaluation systems.
10. Paying more attention to teachers in terms of selection, preparation, qualification, training, improving their conditions and upgrading the training of general education personnel.
11. Utilizing technical progress for mainstreaming and strengthening the implementation of the education programme.
12. Developing curricula that suit children of pre-school education, and parallel curriculum for the out-of-school children.
13. Seeking to consolidate peace, achieve social security and strengthen bonds of unity.
14. Promoting a culture of resistance and preservation of identity through the curriculum and other educational activities.

¹ Khalid El Mushrif, higher education and population, ministry of higher education

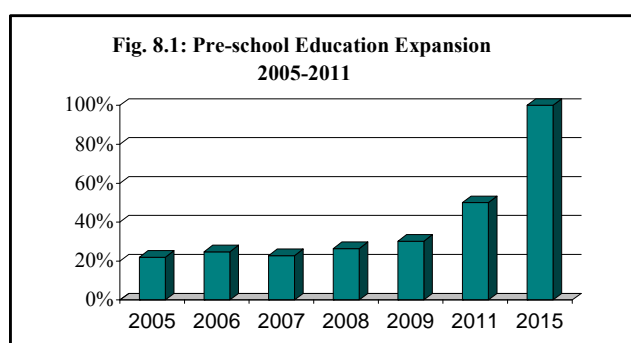
15. Coordination between the Federal and state Ministries and other relevant institutions.
16. Completing the restructuring and educational infrastructure within the federal system of government.
17. Establish an education fund and pay attention to the economics of education through research and studies.
18. Establishing a National Council for Education Planning.
19. Expanding areas of cooperation with friendly countries and organizations.
20. Supporting students' extra curricula activities.

2.1 Pre-school Education:

Pre-school education has expanded in recent years as indicated by the high registration during the last ten years (2001-2010). In the year 2008-2009 registration reached 10%. Preschool education in Sudan is characterized by the existence of numerous private institutions, enrolling about 58% of children in preschools. The state and needs of this stage vary from one state to the other. For instance, the proportion of children to teachers is 15:1 in Khartoum state, while it reaches up to 198:1 in the Red Sea state. If we look at the government teachers, we note that a large number of them are either volunteers or performing their national service and that leads to a huge discrepancies in the service provided to the children in preschools.

Table 8.1: Number of Pupils and Teachers in Preschool Education

Academic Year	No of Pupils			No of Teachers.	No of Institutions	Teachers/ students Ratio (%)
	Total	Male	Female			
2004/5	450,132	228,944	221,188	14,964	8,648	1:30
2005/6	505,271	257,004	248,267	17,480	10,645	1:28
2006/7	506,000	254,331	251,677	28,185	10,695	1:17
2007/8	587,899	295,948	291,951	22,603	11,640	1:26
2008/9	762,291	407,162	355,129	22,990	13,925	1:33



2.2 Basic Education¹:

Between 2005 and 2009, gross enrollment rate in basic schools rose from 68% to 82% and the apparent enrolment rate reached 76%, and the net admission rate in the first grade rose from 29.7% to 48%. The fastest relative growth rate of enrolment during the last ten years was recorded in the year 2008/2009 reaching 5%. Basic education enjoys the highest rate of enrollment in the general education and the number of applicants for the basic schools reached 1.6 million students in eight years and this confirms the high public desire for it, as well as the government's commitment to implement the "education for all" policy by raising the enrolment rate in basic education to 78%. Here we note that more than a million children in the school age have not joined schools, most of them girls who in rural areas suffer the dual problems of living in a rural area and being girls. Children, especially in rural areas are also subject to the risk of dropping out of school when parents do not realize that learning deserves to be invested in, in terms of money and time, especially when the cost of education exceeds their desired benefits.

The central government is making considerable efforts to raise the enrolment rates in basic education through the construction of extra classrooms and new schools without affecting the specifications of school buildings to ensure a healthy school environment, taking into account the commitment in this expansion to address disparities between states and genders and to raise the admission rates of categories experiencing special circumstances including people with special needs, nomads and the displaced (whose number reached 4.3 million IDPs), most of them in Darfur and Khartoum states. This IDP number amounts to 14% of the total population and nomads constitute 8.5% of the total population. According to education statistics for the school year 2008/2009, about 8.7% of basic schools in Sudan are nomadic and displaced schools, which means low numbers of these categories enrolled in schools. The percentage of girls in nomadic schools is 38% and 44% in displaced schools. Studies and surveys have shown a steady rise in girls' enrolment in the first grade as a result of the exerted efforts.

Table 8.2: Enrollment Rates in Basic Education

Age group	2005	2006	2007	2008	2009	2011
6 years	67,3%	67,8%	69,7%	70,1%	76,3%	100%
6-13 years	63,7%	64,5%	66,2%	68,7%	66,1%	82,8%

Several states are working to bridge the shortage of teachers by recruiting new ones and organizing advisory meetings to address the problems of education and distribution of teachers. The average distribution of teachers

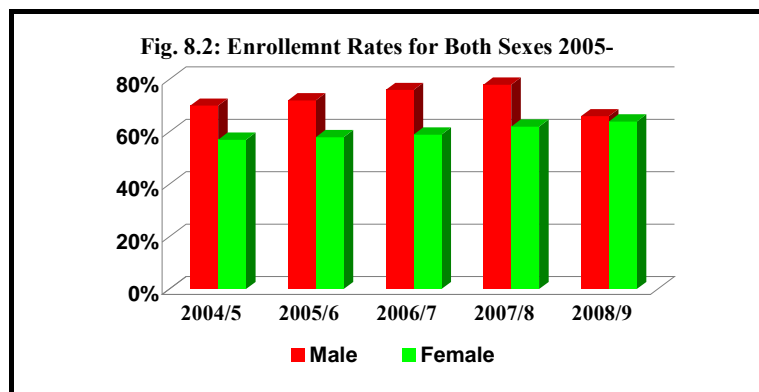
¹ The number includes children outside school, children dropped out of school

to schools is 49%, the lowest in sub-Saharan Africa except for Liberia and Burundi. The teacher-student ratio in basic schools is 1:49. Also, and as shown in Table 8.3, despite the steady increase in the total number, the rate of increase varied between girls and boys (Fig. 8.2). The proportions of female students also vary considerably between states, ranging from 39.5% in the Western states (Kordofan and Darfur) to 90% in the Northern states.

Table 8.3: Girls Enrollment Growth Rates in Basic Education

Academic year	Female % (6-13 years)	Male %
2004/5	58.7%	68.6%
2005/6	59.3%	69.8%
2006/7	60.3%	72%
2007/8	63.4%	73.9%
2008/9	64.6%	67.4%

However, there are still about 3 million children outside the education system, most of them girls. In Greater Darfur state, up to 750 thousand children are out of school, most of them girls, and the opportunities available for adolescent females to learn reading and writing or to learn some technical and life skills are also limited, preventing them from being qualified to find work to increase their income¹. Some of the important reasons for children dropping out of school include the lack of interest on the part of the family in education, early marriage of girls, the low quality of education, the poor school environment, the low value of education in the labor market and the low households' incomes compared to education costs and the costs of living, causing school drop out for both sexes.

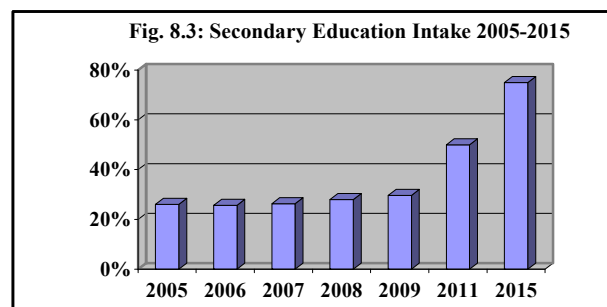


2.3 Secondary Education:

The fastest relative enrolment growth in secondary schools during the last ten years was recorded in 2008/2009, reaching 6%, while the dropout rate

¹ UNICEF, "Girl Education Strategy for Northern States", 2009

was about 10%. The percentage of students who repeat the year in the first and second year reached about 4%. Estimates indicate that a quarter of those enrolled in the third class are “repeaters” and at the same time, the rate of secondary school students who succeed to join higher education is equivalent to 9 out of every 10 students. Compared with the region, the enrollment rate at this stage in Sudan is higher than countries in sub-Saharan Africa and is similar to that of North African countries. However, the skills acquired by students are inconsistent with the labor market. The attention devoted by the Ministry of Education to this stage is clear in the expansion and the establishment of new classrooms to provide necessary space to meet the growing number of those admitted to the first year, the appointment of qualified teachers and provision of necessary laboratory facilities, in addition to the expansion in technical and technological education to meet the needs of the labor market.



2.4 Financing Education:

The Ministry of Education seeks to assess the state of education with a view to respond to the needs of its upgrading and development. To achieve that, it consults with stakeholders and partners on the challenges, strategic priorities, and improvement of output to ensure good performance so that the government of Sudan is able to provide the necessary support for education in compliance with its commitment to free and generalized education. The Ministry is working with partners to decide on their contributions and studies are being conducted to calculate the unit cost in various stages of general education in order to reduce fees for licensing of private institutions so that the community can invest in education and the students' intake in localities and states will increase.

Despite the increased spending on education since the year 2000, the share of Sudan's education spending from the total public expenditure in the development plan is less than that of countries with similar income, and the average spending on the basic school student as percentage of per capita, amounting to 8%, is less than that of other sub-Saharan countries where it reaches up to 12% and North Africa where it is 17%. For secondary

education, the average spending is 25% of public spending in the Sudan, which is again lower than that of sub-Saharan countries where it is to 30%. Teachers' salaries in Sudan receive the largest share of the running costs, reaching 75% of total the cost, especially with regard to the basic education which requires families to contribute to the running costs of schools. The average household spending in running schools in 2009 reached SDG 15 per student which exceeds the government spending which amounts to SDG 12. The development expenditure on education in Sudan amounts to 9% of the total public expenditure on education, which led to many schools lacking adequate infrastructure. The decentralized system of education services is facing challenges of variations in capacity in different localities and the poor coordination with the Centre, especially when the roles and responsibilities of different levels of government are not clearly defined. The Ministry of General Education is also seeking to increase its monitoring role over the performance of States in coordination with the Ministry of Finance and National Economy to control the expenditure of resources allocated to general education in States.

2.5 Information Technology:

The Ministry of Education is pursuing the introduction of modern technology in all states and schools to connect each level with the higher level in order to facilitate the flow of information and its accuracy and timeliness. In a more practical step, and with funding from the European Union, each state was supplied with ten computers and a server, located at the departments of statistics and educational planning to link the states with center, as an initial step. Work is still underway to link the states with localities and localities with administrative units and then connecting schools with administrative units.

2.6 Efficiency of Basic Educational System:

Efficiency of internal systems is measured by the rates of success (pass), repeat and drop-out. The education policy automatically allows the pupil to move to the following class until the pupil reaches class four after which he/she will have two chances to repeat the year in the rest of the classes and many incentives are provided to students in order to reduce dropout rates. Survey results indicate that the rate of students passing to the higher classes is very high in all grades but it seems there are schools that do not implement the policy of automatic movement of pupils to the higher grade and that is due to the high rate of repeat in grade one to four.

2.7 Children Outside Schools and Dropout Rates:

Despite the fact that illiteracy rate among children aged 9 to 14 years reached 74% until the year 2006/2007, the number of beneficiaries from

adult education programmes reached 78,847 students. They have been taught in 3,135 classes operated by 5,123 male and female teachers (2007).

Results of educational survey indicate that the average dropout rate in grades from one to five is higher among girls compared to boys. The percentage of girls reached 8.1% compared to 7.1% for boys, while the general dropout rate reached 7.6%. It is noted that boys' dropout rate is higher compared to girls in all grades except grade three and four. Male dropout is rising in grade six and seven reaching 14.5% and 13.3% respectively. The highest percentage for female dropout is in grade four (13.3%), which requires conducting studies to explain such phenomenon and to try to identify the actual dropout causes. But nevertheless, the commonly known causes of school dropout include economic, social, health and environmental factors, in addition to security and political factors.

2.8 Nomads Education Strategy¹:

In 1994, the responsibility of nomadic education, which is part of basic education, was assigned to authorities of localities. Between 2005 and 2009, the rate of basic education among nomads has increased from 14.5% and the overall enrolment rate of nomadic children also increased from 16% to 33% during the same period. However, there is a gap between males and females estimated at 11.9% in favor of males. There is also a difference in enrolment rates between and within States. Education of nomadic children in Sudan remains a key challenge for education authorities. Nomads' education is one of the pressing problems which have been neglected for a long time and despite the developments experienced in nomads' education there are still challenges facing the experience, including:

1. Gender inequality among the nomadic communities and discrimination against girls, which led to absence of valuing girls' education among nomadic communities.
2. the education system weak response of the needs and conditions of nomadic children.
3. Poor quality of teaching and education provided.
4. Incompatibility of the syllabuses with the environment and needs of the nomads.
5. Inadequate community participation.

¹ UNICEF, strategic plan for nomad education, 2009

Table 8.4: Numbers of Nomadic Schools by State

State	2005	2006	2007	2008	2009	2006-9 (+/-)	Cumulative Growth Rate
Northern	10	13	13	13	16	3	23%
River Nile	29	65	65	62	65	0	0
Blue Nile	21	32	27	38	39	7	22%
Sennar	25	28	50	50	50	22	79%
White Nile	24	51	52	48	49	-2	- 4%
Northern Kordofan	183	208	119	112	126	-82	-39%
Southern Kordofan	71	96	92	81	108	12	12.5%
Northern Darfur	114	186	190	190	164	-22	-12%
Southern Darfur	211	216	300	344	252	36	17%
Western Darfur	108	175	196	197	213	38	22%
Red Sea	57	63	62	62	69	6	10%
Gedarif	15	77	61	74	63	-14	-18%

The current nomadic education system is ineffective and its response is weak to meet the educational needs of nomadic children. It is characterized with low enrolment rates and high dropout rates, and the rate of completion of basic school and passing to secondary schools is extremely low. The high school dropout rate among nomadic children reflects the lack of clarity in the policy framework governing nomads' education and the lack of flexibility in methods used in the educational process. Moreover, it seems that the causes of absenteeism and dropout are associated with the prevailing concepts and living conditions of the nomadic households, but the main reason for the low rate of completion of basic school and passing to secondary education is attributable to the absence of an appropriate education system and structures that help nomadic children continue education beyond the fourth grade. Dormitories were supposed to be established in centralized schools to meet the requirements of children who have completed the fourth grade.

Future Vision for nomadic education is based on the provision of suitable and good quality education for nomadic children that takes into account their heritage and enables them to integrate into society to perform their duty, gain their rights and increase their productivity, in accordance with the following principles:

- Education for All.
- Integrating national vision and the nomadic community heritage.
- Developing policies that are responsive to the needs and aspirations of nomadic communities.
- Providing long-term education.
- Encouragement through the provision of incentives.
- Ensuring the availability of appropriate and friendly environment.

That aims at achieving the following results:

1. Enabling nomadic children to join secondary education.
2. Enabling them at least to receive good quality basic education.
3. The upgrading of nomadic mobile schools to permanent schools in areas of settlement

This strategy requires the provision of books, tools and teaching aids and the development of mechanisms to monitor and measure pupils' performance.

2.9 Literacy and Adult Education¹:

As shown in Table 8.5 below, the number of learners in literacy classes and adult education in the 2008/2009 academic year dropped to 181,465, a decrease of 302,111 learners, i.e. 74.3% compared to the year 2004/2005. The number of schools of adult education and literacy classes in the first three years of the five-year plan (2005-2007) dropped from 8,582 to 1,384, a decrease of 7,198 schools, a drop of 84.3% compared to the pre plan year (2005/2006), while the number of teachers double four times during the same period reaching 18,924. Table 8.5 also shows variability and irregularity in the numbers of pupils or teachers from year to year. Illiteracy rates among both sexes have fallen in 2007/2008 as the number of schools reached 11,384, the number of teachers 6,242 and the number of learners 301,903, but in 2008/2009 the number fell to 6,802 schools and learners to 181,465² while the number of teachers tripled.

**Table 8.5: Number of Students and Teachers
in Adult Education Classes**

Academic Year	Students number			No of Teachers	No of Schools
	Male	Female	Total		
2004/5	49784	130627	180411	4118	8582
2005/6	90839	331737	422576	13483	13759
2006/7	96181	192075	288256	8591	18250
2007/8	81514	301903	301903	6242	11384
2008/9	43534	181465	181465	18924	6802

2.10 The Role of Civil Society in Supporting General Education:

In many developing countries, civil society organizations (CSOs) participate in supporting the activities of the service sector. The results of several studies indicate the growing role of CSOs in providing basic needs, especially in rural areas. In the field of education, we note the concern of many local, regional and international organizations to provide support to develop infrastructure and expand the institutions needed to absorb the target segments of the population.

¹ National Council for Strategic Planning, Assessment of the first 5-year plan

² Illiteracy programme includes 5607 prison inmates

The Sudanese Education for All Network, which was registered in 2005 as part of a network of organizations and associations working in the field of education in Sudan, contributed in advocating education issues, improving school environment to make it attractive, training teachers, upgrading curricula in social education, protecting children, adult education and adolescents to harness them with life skills, training of young people and in the dissemination and implementation of the right to "Education For All".

2.11 Challenges to the Development of Basic Education¹:

1. The drop in retention rate of children in the education system in basic education to the eighth grade and the number of children out of school has gone up, with a high dropout rate among girls
2. Poverty
3. Population movement
4. Limited use of educational innovations
5. Acute shortage of trained teachers
6. High dropout rates coupled with the increase in child labor (of children in school age).

All these factors threaten the idea of achieving Education for All.

3. Higher Education Role in Achieving Population Policy Objectives²:

3.1 The Current State of Higher Education:

Prior to 1989, higher education was characterized with its limited number of institutions (5 universities, 2 private colleges and 12 technical colleges) and its low intake (6% of those sitting for the Sudanese School Certificate). All higher education institutions were concentrated in the capital, denying regions of their social, cultural and developmental benefits, in addition the large number of Sudanese students studying abroad and the financial burden involved.

The Higher Education Revolution aimed to provide more opportunities for students to join higher education institution and at rooting knowledge. In 2011, the number of higher education institutions rose to 30 government universities, 6 private universities, 44 colleges and higher institutes and 20 technical colleges.

The intake capacity of the institutions of higher education reached more than 500 thousand students, representing about 10% of the population in the age group 17-23 years. Annual admissions rose from 6 thousand (male and

¹ Sudanese Network of Education for All

² Salah Saeed, Higher Education and its role in achieving population policy, Ministry of Higher Education and Scientific Research

female) students (9% of the successful in the Sudan school certificate in 1989) to 167,000 (61% of the successful in the Sudan school certificate in 2009). Females in higher education institutions represent 52% of students, but with lower percentage (35%) in engineering specializations. According to Household Baseline Survey (2009), 7% of the population, 15 years of age or more, received or are pursuing their study to acquire a higher education (above secondary) degree. The proportion of those pursuing their education above secondary level is 6% of the population in urban areas and 2% of the population in rural areas.

In order to meet the needs of society and the labor market, educational programmes have been developed in many areas, including:

1. Computer and information technology, petroleum engineering and technology, medical engineering, engineering and aviation sciences, catering, tourism and folklore, interior design and decoration, programmes for preparing teachers of basic schools, training of health cadres and community college programmes.
2. The presence of a considerable numbers of specialists in these areas that was not available in States in the past. (In addition to community participation in higher education institutions represented in the development of educational and health services by establishing training schools and teaching hospitals)
3. Leading awareness and advocacy activities by lecturers of the faculties of Islamic and legal studies.
4. Conducting research and consultancies to executive bodies.
5. Training of staff in the fields of management, finance and IT.
6. The development of rural women and literacy through the activities of community colleges and their branches spread in localities.
7. Organizing seminars, conferences and workshops on spreading the culture of peace and conflict resolution through the activities of peace studies centers in universities.
8. In implementing the peace agreements, universities absorbed returnee students (4500 students under the CPA Agreement) and under the Abuja Agreement, which allocated 15% of intake in national universities in the capital to Darfur students (5723 students)

For the equitable distribution of opportunities in higher education and to make it available for population in the least developed states, state admission system has been introduced, beginning with allocating 20% of intake in State universities for students of the state, which was later raised to 30% and then to 50% since 2004. The number of state intake reached 14,952 in 2010, including 568 in medical specializations and 763 in engineering specializations and 13,621 in the other specializations. Despite the positive discrimination policies in admissions for the states, there are significant

differences between them. According to the 2008 census results, admission in the eastern states, Darfur, Kordofan and the South is less than 3 per thousand, while it is more than 5 per thousand in Khartoum, Central and Northern States (Table 8.6).

In response to the growing desire in university education to suit the social and economic conditions of community members, and in integration with the role of the traditional education institutions, the Sudan Open University was established in 2002 to provide this type of education. The university established several centers in various Sudanese states targeting teachers, employees, women and regular forces. The current intake of the university is more than 40,000 students studying education, administrative sciences, law and languages. Community colleges were also established in universities in order to lay the foundations for social peace and to bring about change and qualitative development for the Sudanese people through providing short training programmes (6-9 months) focusing on the training of rural women in the areas of health, environment, food and nutrition, handicrafts and religious education. There are currently 10 universities in States with branches of community colleges in different localities.

Table 8. 6: Number of Students in Universities and Colleges¹

Universities and Collages	No	No of Bachelor Degree Students			No of Diploma Students			Students %
		Male	Female	Total	Male	Female	Total	
Government	33	165,350	199,015	36,4365	4,6351	44,273	90,624	87.4
Private & Foreign	42	22,916	29,444	52,360	7,322	6,206	13,528	12.6
Total	75	18,8266	228,459	41,6725	53,673	50,479	104,152	100.0

The question of the development of the educational system is one of the most important roles of higher education in the development of society to achieve comprehensive development. This includes the rehabilitation and training of teachers and education leaders, contribution to the development of the general education curriculum through serious and oriented research. By reviewing the general educational system, university education became the minimum level needed for the practicing the teaching profession. In response to the growing need of teachers for basic and secondary schools and as a result of the policy of generalizing basic education and the expansion of secondary education, many colleges of education and teachers of basic schools training were established and their number exceeded 35 faculties with an intake of about 100,000 male and female students. The

¹ Figures include universities of Juba, Bahr el Ghazal, Upper Nile and Rumbek, 364,365 bachelor students and 90,624 diploma students in 2010, Khartoum State is home to 33% of government universities, private and foreign universities and colleges.

higher education also contributes to the committees tasked with upgrading and developing the curricula and the educational system.

Sudan is a vast, multi-ethnic, multi-lingual and multi-cultural country, the thing that requires consolidating national unity through finding means of co-existence and integration of these cultures. The higher education, given educational and intellectual capacity, can contribute in devising appropriate solutions to promote and sustain peace. For this reason, the higher education established centers for peace studies in several of its institutions seeking to promote the culture of peace, conflict resolution and developing the concept of constructive dialogue between cultures and to uphold values and principles calling for tolerance, fraternity and peace. The most important activities of the centers are: symposiums, conferences, training traditional leaders and conducting researches and studies to promote peace and development. So far peace centers have been established in ten government universities and one non-governmental university and these centers are concentrated in conflict zones and areas affected by civil wars.

To engage the community in bearing the cost of higher education and reduce the burden on universities to devote themselves for the educational process, the National Student Support Fund was established to mobilize society and direct community's resources to support students. The Fund aims to upgrade university environment, provide accommodation to students, sport poor students and provide social and health care to students, thus contributing to the efforts of poverty alleviation. The Fund made great strides towards increasing the intake of hostels, improving health and social care for students and in supporting poor students.

3.2 Spending on Higher Education:

Funding is the main obstacle faced by higher education institutions and the state has been a leading financer but remained limited to meeting basic operational and development needs, prompting universities to seek additional sources of income, such as investment, but the main source remains to be the students' fees in both the general and private admissions, or for the diploma and postgraduate programmes. Government spending on higher education is estimated at 2.5% of the general expenditure and about 0.4% of the GDP, compared to over 2.5% in the developed countries.

3.3 Challenges:

Several factors affect higher education as a result of developments in its surrounding environment including demographic, economic, social and political changes, most important of which are:

1. The increasing demand for higher education due to rapid population growth and the expansion of enrollment in general education due to

policies taken by the State to achieve the MDG and Dakar Declaration targets.

2. The limited intake capacity of the new universities under current situation of small size of teaching staff and available space in lecture rooms and laboratories. This requires the development of new policies such as the introduction of distance education, e-education and the expansion in non-governmental and private institutions in order to attain the objectives of the state in the development of higher education.
3. The failure of financial resources to match the increase in intake, which resulted in a severe shortages and the inability to meet the requisites of the educational process.
4. Heavy reliance of most of the universities on government funding (over 70%), which seems very difficult to increase significantly in view of the economic crisis and this requires a search for additional sources for supporting the expansion and improving the quality of higher education.
5. Aggravation of the problem of graduates' unemployment as a result of the economic liberalization policies and encouragement of foreign investment in Sudan, which allow the entry of foreign labor, making competition in the labor market difficult for graduates.
6. Shortage of teaching staff, as a result of the failure of training plans to cope with expansion that occurred, the brain-drain in pursuit of better opportunities, and the decline of foreign scholarships and foreign aid.
7. Shortage in infrastructure and the degradation of university environment, especially in the new universities as a result of limited funding. Besides, the mass higher education trends, in light of the limited resources, will lead to drop in the quality of education.
8. Lack of interest and limited demand for diploma and technical programmes despite their importance for development and the drop in the number of students enrolled in spite of the continued increase in opportunities in the diploma programmes and despite the tremendous growth in knowledge and information revolution and the challenge it may pose to national higher education institutions.

3.4 Policies:

The policies pursued by the state to overcome the challenges facing higher education include:

1. Providing access to higher education on the basis of merit and efficiency to raise it to match its levels in the regional (over 10% of the population in the age of higher education), with a special consideration to specific vulnerable segments of society.
2. Preparing qualified and specialized cadres in various fields of knowledge, improve the quality of education and provide students with knowledge, skills and technologies necessary to help them participate in the development of society and achieve their aspirations and provide an

academic environment conducive to creativity, excellence and innovativeness.

3. Promoting and supporting scientific research, especially applied research directed toward community service and its development to support innovation-based economy and raise the level of its funding to 1% of the higher education budget.
4. Improving the quality and efficiency of higher education outcomes and adapt it to the needs of the society by improving the quality and developing the of the education system to produce competitive graduates.
5. Keeping abreast with developments in information and communication technology and utilizing them in supporting the educational process in its content, teaching and evaluation methods.
6. Promoting community-service-related scientific research and functions of higher education and activities that aim at developing technology, combating poverty and spreading education.
7. Taking into account the economies of education that can secure the necessary funding for the higher education and developing appropriate mechanisms for the distribution of available financial resources and their use in an efficient and effective manner.

3.5 Future Vision:

The lessons learned from the policies applied, the achievements made and the difficulties encountered during implementation constitute the best support to the future of higher education. That is through the redressing of shortfalls in infrastructure, the improvement of university environment and the training of teaching staff and improving their conditions and periodic reviews and updating of the curriculum to keep pace with the requirements of the labor market, explosion of knowledge and the development in modern technologies.

4. Science and Technology¹:

The pillars of the main policy themes of the Ministry of Science and Technology five-year strategic plan are the following:

- Continued production of knowledge in various fields of development.
- Promoting knowledge in human resources and health development programmes and in industrial and agricultural production systems
- Developing administrative and coordination systems with all relevant bodies
- Devising a mechanism for technology transfer and indigenization and to stimulate the active participation of beneficiaries to consider it an

¹ Ministry of Sciences and Technology, Report on Developing Scientific Research

essential means of production in view of its economic, social and environmental benefits.

4.1 Available opportunities and means:

Opportunities for the advancement of the research and development sector include:

1. State recognition of the importance of technology to research and development sector as stipulated in the Presidential Decree No. 22 of the year 2010.
2. Training opportunities in higher education institutions, which can accommodate a considerable number of employees of various ministries as part of implementing the approved research components of the plan and through that their qualification for higher scientific degrees.
3. Interaction with community development issues that can be a major way for spreading the culture of research and development through extension sessions and the organization of capacity development training courses by focusing on segments targeted for the use of tested technologies, particularly that the institutions under the Ministry of Technology have the qualified human resources.
4. Reaping the benefits of the agreements signed between the Ministry and similar bodies at the local and international levels in the field of conducting joint research, organization of scientific activities, exchange of experience, training and working to find a suitable mechanism for smart partnerships with various agencies and organizations.

As for the available and possible means, they include:

1. Utilizing the infrastructure (laboratories, libraries, workshops) available within the different departments within the Ministry.
2. Encouraging the organization of trade fairs to expose the productive sectors to the latest innovations in science and technology and enhancing the possibility of cooperation with the manufacturers of devices and equipment.
3. Creating and encouraging existing consultancy firms and design centers, to contribute to the technology transfer and indigenization in every possible way through the preparation of technical, scientific and economic feasibility studies for various production projects and ensuring the selection of appropriate technologies that are technically and economically feasible and to make use of university professors and distinguished researchers at home and abroad in the activities of technology transfer and indigenization.
4. Encouraging the establishment of joint production projects with different countries, especially developed countries, provided that it is based on mutual benefits and principles of equality.

5. Supporting and coaching the creative and innovative people and people with scientific talent, and seeking by all means to promote their talents and marketing their inventions whenever possible, and paving the way for their development and progress.
6. The development and activation of existing scientific cities (Science Parks) by benefiting from similar experiences in other countries.
7. Supporting publication, writing and translation activities in the area of technology transfer and looking into the possibility of establishing a printing press and administrative service center to provide hardware and office equipment, tools and stationeries on commercial basis.
8. Designing guiding rules and manuals in the various fields of technology transfer to make the maximum use of it, particularly for institutions that are new to technology transfer activities.

4.2 Scope for utilizing produced technologies:

We believe that the results of research through which quite a large number of researchers were trained can form an integrated system for the development of research through the adoption by the beneficiary users of the use of the tested technologies. To name but a few, there are technologies that have been produced in various fields that will have a positive impact on several dimensions of sustainable development, such as the low-cost construction methods and the new and renewable energies among others.

Table 8.7 below shows some examples of research results that have been implemented and that can be developed to successful technologies that can be marketed and encouraging the targeted groups to use them. This necessarily requires providing incentives to encourage local and foreign investment to develop such technologies, which will lead to lower cost of production and encourage targeted segments of the population to use them to increase their incomes and hence reduce poverty rates.

Table 8.7: Some Samples of Research Leading to Generating Technologies

Research Topic	Importance of Output in Technology Production and Applications
Evaluation of Malases-urea Supplemented and un-supplemented groundnuts hay as maintenance diet for feeding of sheep	The study proved that groundnuts hay, supplemented by molasses Urea is highly effective in securing sheep feed needs and preventing weight loss, especially during droughts with poor pastures
The Effect of Environmental Health and Water Supply Quality on Children Health in Karary Locality, Omdurman Area	The study proved that most of children diseases are caused by drinking water from polluted wells, causing food poisoning (Hepatitis, Guardia, etc.,). The study recommended raising community health awareness and applying an efficient system of refuse disposal
Vegetable Tanning Material From <i>Acacia nilotica</i>	The powder extracted from (Garad)
A study of Viruses Causing Camel Respiratory Infections (Parmanisco Virus)	For the first time a camel lung virus was discovered and that the small ruminants plague is the main cause of transmission of camel respiratory system infection
The impact of Adding Urea on fattening among Baggara oxen	Bagara cattle can be fattened using hay supplemented by urea as a cheap alternative for proteins
The Impact of cultivation between trees and local climate on the efficiency of water use for millet and groundnuts irrigation	Ground nuts productivity increased by 6.1% and corn by 15.3% when cultivated under Amplis and Astovilla trees respectively and there was a clear drop in the irrigation water requirements
A Study of Geological Characteristics of the area between Gabalain and Dueim and its suitability for construction	A sample of stones was collected suitable for concrete and quartz could be used for Asphalt mixture
Production of writing paper from local timber materials (Kenav & Sisal)	It was found that the non-wood materials are higher than wood samples for extracting cellulose and it is easier to collect and has several economic, chemical & physiological properties
The impact of organic and non-organic fertilizers on soil properties and increased cotton productivity in Rahad scheme	Results show that fermented cattle manure and chicken manure improved soil properties and productivity
Chemical analysis of propolis and the study of its impact on bacteria isolated from diabetic wounds	The active compounds in the propolis samples which include Pinocmberin, Galangin, Caffic acid and Ferulic led to the healing of wounds during a period of 3-6 months
Ethanol Production From Sudanese Sweet Sorghum, (<i>Sorghum bicolor</i>)	The study showed that the juice extracted from corn contains rich sugar that can be fermented which increases the chances of Ethanol production in Sudan

Some of the achievements of the science and technology section in the Ministry of Science and Technology which have economic, social and environmental return include the following:

- The establishment of a photovoltaic assembly lab, which produces photovoltaic cells with one megawatts capacity per year for devices with a maximum capacity of 50 watts, and the production, installation and operation of solar power plants in more than 300 locations in rural areas in Sudan.
- The production of bio-fuels from the *Jatropha* plant as an alternative to traditional fossil fuels
- Production of safe bread enhancers from local materials for consumer protection and saving hard currency
- The modification of diesel and gasoline engines to work with biogas fuel and establishment of a database for the operation of different engines with biogas and generation of electricity from these engines
- The production of ethanol from agricultural residues
- Production of mango and tomato rolls (*Gamardeen*) in Abu Jibaiha and Kutum
- The production of extracts from *Neem* tree and *calotropis parocera* used in agricultural pest control and pests of public health with efficiency rates exceeding 85% and 92%, respectively.
- Production of medicine for diabetes extracted from the urine of camels of effective and high quality.
- Use of technology to sterilize male mosquitoes to eradicate malaria
- Designing and manufacturing units for the production of bricks at a cost 40% less than red brick and 60% higher in efficiency.
- Designing a mobile unit for the manufacturing of paper and pulp
- Recycling of plastic olefins. This technology contributes to protecting the environment through the use of waste in asphalt for paving roads and re-molding of plastic materials after use and it saves 13.7% of the total cost.
- The development of a device for testing acidic batteries. The device provides analytical data for producers and to those responsible for standards and quality control.
- The production a mobile device for extracting aromatic oil. It is a vapor distillation apparatus used to extract essential oil from aromatic plants such as basil, mint and camphor and other plants for the production of aromatic oils.
- Designing a device to recycle Freon gas: The machine is designed to meet the increasing demand for cooling and air conditioning services and to contribute to the preservation of the ozone layer through the restoration and recycling of Freon R-12. The device helps to reduce the cost of maintenance through the process of recovery.
- Usage of non-destructive testing (NDT): NDT is part of the quality control requirement in the industrial process. It provides considerable service because it performs testing without damaging the product, i.e.

the product can be used after testing. It thus provides the advantage of wider testing which sometimes reaches 100% of the product.

- The production of hormones measuring sets: Local experts were able to produce antibodies locally and began work for the production of sets for measuring hormones and tumors. The sets were approved by experts from the Atomic Energy Agency.
- Developing faster and more sensitive methods for measuring vitamins in food stuffs using GCMs
- Measuring potassium bromide in water bread using HPL. A more sensitive way was developed to measure the percentage of the complex.
- Manufacturing a vaccine against cattle tropical fever which will lead to controlling the disease and reducing treatment costs and prevent environmental pollution caused by using pesticides.
- The development and manufacturing of a local vaccine to protect sheep from malignant fever from local parasite strains

4.4 Obstacles to development of the research and development Sector

The main obstacles to the development of this sector include:

1. The volatility and instability of the organizational structure of research institutions operating in the area of science and technology and the poor coordination between technological institutions.
2. Weakness and wear out of the infrastructure.
3. Shortage and irregularity of financial resources provided to the research and development sector.
4. Distortions in economic systems and imbalances in the development of various sectors in society, such as the exclusion of rural areas from the developments in urban areas, wide spread illiteracy and lack of awareness among rural population about the technologies produced by the Ministry.
5. Weakness and duplication of central planning for the technology transfer, development and localization and therefore the absence of western technology, in addition to the lack of local capabilities and resources needed to run imported technology with the required efficiency and its preservation.
6. Weak base for heavy industry and total dependence on imports and the absence of national institutions capable of independently undertaking technological development.
7. The confusion in the selection of technology suitable or adaptable to local environmental conditions as well as the narrow view in terms of giving priority to current interests above the long term environmental protection considerations.
8. Inability of the private sector to make use of the approved technologies and this is attributed to the traditional pattern prevalent among

businessmen, causing retardation of local development and preservation of traditional production systems.

9. Lack of opportunities for new recruitment since 2007 and the lack of opportunities for training abroad.
10. Lack of exposure to developed technologies in the advanced countries.

4.5 Requirements for advancement of science and technology Sector:

1. The allocation of more financial resources to support scientific research through the establishment of a national fund to support scientific research.
2. Developing organizational and administrative structures and using time in a more efficient way by using modern management techniques, and considering the Ministry of Science and Technology the key national entity and supervisor of science and technology, guiding all research bodies such as the Agricultural Research Corporation, the Livestock Research, Research and Industrial Consultancy Center and Meteorological Department.
3. Encouraging the private sector to identify its priorities and support research and development budgets and providing incentives for industries that contribute to research funding.
4. Training of personnel in the field of research and development and the increasing vacancies for recruitment.

5. Recommendations:

a. Developing the content and curriculum of education through:

1. Allocating sufficient resources to the education sector.
2. Reviewing and updating the curricula to cope with the expectations of families and challenges of information and technical revolution.
3. Utilization of educational innovations.
4. Expanding recruitment and training of teachers.
5. Supporting technical and vocational education programmes, apprenticeship centers and Adolescents centers to address the problem of children out of school and linking the curriculum to society needs.
6. Developing a database through periodic surveys.
7. Developing the teaching profession and improving conditions of teachers through continuous training.
8. Allocating more financial resources to support scientific research through the establishment of a national scientific research support fund.
9. Developing organizational and administrative structures; modernizing management systems and techniques based on electronic and information technology.

b. Creating a favorable environment for education process through:

1. Resolving ongoing conflicts
2. Activating social development funds to support vulnerable families in meeting the costs of their children education.
3. Development of infrastructure, provision of drinking water and improvement of health facilities in schools.
4. Attracting NGOs' support to provide school meals to encourage families to send their children to schools.
5. Combating cultural and social obstacles hampering children completion of school.
6. Raising community awareness about the importance of girls' education

c. Maintaining justice in access to education through:

1. Adopting the integrated rural apprenticeship system.
2. Implementing the "Education for All" policy, providing long-term education encouraging it through providing incentives.
3. Developing policies that are responsive to the needs and aspirations of nomadic communities.
4. Integrating the national vision for education with the heritage of nomadic community.

e. Addressing obstacles to girls' education through:

1. Adoption of the Millennium Development Goals calling for gender equality and women empowerment.
2. Improving educational outcomes in the areas of life skills.
3. Combating cultural and social obstacles to children completion of schools.
4. Providing adequate resources to meet the costs of girls' education.
5. Raising community awareness about the importance of girls' education.
6. Encouraging and assisting adolescent girls to join schools.

f. Raising the value of education to meet the needs of the labor market

1. Involving employers in curriculum design and development.
2. Enhancing life skills-outcomes of education.
3. Encouraging the private sector to set its priorities and to contribute to funding research and education.
4. Adopting the concept of public-private sector partnership to speed up scientific and research institutions shift to new working methods.
5. Offering incentives for industries that contribute to research funding.

f. Upgrading scientific research and technology through:

1. Creating a scientific research database that includes all activities, research, human resources and laboratory equipment.
2. Developing performance indicators to assess institutions of higher education and scientific research use of modern technologies with an annual updates of the indicators and publication of results.
3. Education and training of personnel in the field of research and development and increasing opportunities for recruitment.
4. Utilizing science and technology indicators developed by UNESCO to develop policies and strategies in Sudan.
5. The establishment of a national center for technology transfer to be tasked with monitoring global progress in science and technology and its innovations and coordination with local productive institutions of maximize the utilization of these developments.
6. Universities, especially technical universities, should monitor developments in modern technology and disseminate them to productive institutions in order to make the maximum use of them and assisting them in creating the scientific talent needed to implement them.
7. Productive institutions should document activities of technology transfer and indigenization in order to use them in the preparation of its plans and development programmes by selecting appropriate technologies and avoiding past mistakes of buying technologies that are no longer used by similar institutions because they are old, of low productivity or unjustified technical or economic utility.
8. Expansion in the use of science and its advanced methods and the modern developed and transferred technologies in agricultural and industrial production systems to meet the needs of the society with special emphasis on new technologies; agricultural, biological and materials science, space science, renewable energies and computer science.
9. Enhancing field presence and interaction of the Science and Technology sector with local communities through the expansion in the establishment of research units and stations and laboratories and intensification of awareness and extension programmes, technology transfer and the development of local technology and indigenous knowledge which are economically and technically efficient.
10. Creating a climate conducive to investment which is based on scientific and technical research.
11. Establishing scientific and technological relationships and cooperation agreements with international and regional bodies and seeking with the concerned authorities to establish consulates for science and technology in some countries and utilize that in

technology transfer, capacity building and activating regional and international agreements and protocols.

12. Bridging the gap in infrastructure, develop university environment, training and improving conditions of teaching staff, conducting periodic reviews and updating of the curriculum to keep pace with the labor market requirements and the explosion of knowledge and developments of modern technologies.
13. Expansion in education programmes should be linked to the needs of the labor market and the involvement of employers and beneficiaries of the higher education output in curriculum development
14. Committing required funding for governmental higher education institutions in line with internationally-recognized standards and providing incentives to non-governmental higher education institutions.

CHAPTER IX
The Vulnerable Groups
Children, Women, the Disabled and the Elderly

Chapter IX

The Vulnerable Groups

Children, Women, the Disabled and the Elderly

1. Introduction:

Sudan experienced many political, economic and social changes since the endorsement of its National Population Policy in 2002. These include the conflict in Darfur, the secession of South Sudan, the global economic crisis, rising rates of migration and population mobility and the implication of that on the family and the individual. As Sudan is seeking to achieve the MDGs and to work out a sound formula that tackles failures in populations issues and the negative development indicators, reviewing and updating of the population policy becomes of paramount importance.

The population policy which was endorsed in 2002, based on the national parameters and the policies pursued over the past three decades (1973-1994) entails revision due to the fundamental changes that took place over the last ten years, which led to radical changes in the demographic, ethnic and economic structure. That in addition to the changes in internal and external migration patterns, as Sudan experienced over the past five years an increase in population mobility and internal and external migration and the return of a considerable number of Sudanese migrants back home.

The guiding principles and foundations of the National Population Policy for the year 2002 called for gender equality in all areas of development, the importance of human resource development, rationalization of production and consumption patterns, preservation and protection of natural resources as a foundation for sustainable development, securing and managing conditions and programmes of mother and childhood, ensuring freedom of movement within and outside the country as well as the preservation of human dignity through the consolidation of good governance. The national population policy directives also aim at bringing about optimum geographical and demographic distribution of population, upgrading family functions and promoting its social and educational role, provision of social services, securing the needs of safe motherhood and childhood, securing public, higher and vocational education, building youth capacity and talents and strengthening their role in community activities, in addition to enhancing gender equality and women empowerment, especially in the areas of decision-making and economic activity.

Sudan has witnessed, in recent years, continued efforts to address children's issues in various areas where government and civil society organizations' roles were integrated resulting in the creation of a broad database aiming at developing knowledge and awareness about the rights of children and

people with special needs. Despite these efforts, the challenges to promote the rights of children, the disabled and the elderly remain, as the three categories represent more than half of the Sudan population. Children (age group 0-18 years) represent 51% of the total population (Table 9.1), the disabled 5.8% and the elderly 6.3% of the total population.. Females, in all age groups, constitute 49% of the total population. The progress that has occurred in some indicators is below ambitions and with such rates it would not be possible to achieve the agreed upon quantitative and qualitative targets for children, the disabled, the elderly or women. The matter urgently requires a greater focus on various aspects of human development, starting with children and integrating efforts in the areas of economic and human development, including social protection policies that target vulnerable families and communities as a strategic necessity to achieve the desired progress for these categories.

Table 9.1: Number and Percentage of Children (0-18) by State

State	No of children (0-18 years)	Children % of Total Population
Northern	302,610	40%
River Nile	496,723	45%
Red Sea	636,792	47%
Kassala	890,579	50%
Gedarif	737,266	55%
Khartoum	2,236,127	43%
Gezira	1,760,809	50%
White Nile	885,793	52%
Sennar	669,956	53%
Blue Nile	454,836	56%
North Kordofan	1,563,461	54%
South Kordofan	789,288	57%
North Darfur	1,138,435	54%
West Darfur	735,543	57%
South Darfur	2,291,703	57%
Sudan	15,589,923	51%

The promotion of institutional capacity in terms of human, financial, administrative, and legislative resources is essential to ensure the implementation of policies and legislation relating to those fragile and vulnerable groups. While the primary responsibility of promoting the rights of those groups falls on governments, it actually requires a concerted effort and effective mechanisms for the participation of the different sectors of society at national, state and local levels. The population policy did not overlook the enumeration and distribution of these categories, disaggregated by age and gender and by state. Some of the policies also focused on addressing the problems of these groups, especially children, who represent

the largest segment in the demographic composition and the base for sustaining society in the future.

This paper covers theme of "children, people with special needs, women and the youth", one of the nine thematic areas that formed the base for the national population policy. The theme has social and cultural as well as demographic dimensions. The family represents the pillar of society and its issues reflect the social and demographic status of the categories covered by the theme. By reviewing the state of each of these categories, this chapter seeks to address four key issues: First, the analysis of the current demographic structure and the social and institutional status for each category; second, presenting efforts, policies and programmes, implemented by relevant government institutions; third, highlighting population policies that seek to address issues related to each category; and fourth to provide some recommendations and suggestions for alternative policies for each category.

2. Current Status of Vulnerable Groups:

2.1 Children:

Sudan ratified the International Convention on the Rights of the Child in 1990, and that was followed by its endorsement of a number of international and regional agreements and documents related to childhood. Subsequent years saw several legislative measures to ensure compatibility of national legislations and laws with the provisions of the international agreements and covenants with. The Child Act of 2010 is considered an important legislative step in the field of children's rights. The act came in twelve chapters and 87 articles containing rights of the child in various fields, and stipulated the principles and general provisions as essential foundations for the application of these rights. In implement these agreements and legislative instruments, a National Council for Child Welfare was established in accordance with a law passed in 1991 as a national mechanism tasked with devising policies and strategies in accordance with the Comprehensive National Strategy and in adherence to the international conventions for planning, coordination and follow-up on all activities of childhood in Sudan and branches of Council were established at the state level. The established three important institutions tasked with planning and implementation of programmes relating to children's issues, these are: family and child protection police in collaboration with the Ministry of Interior, the Sudan Disarmament, Demobilization and Reintegration Commission and the Unit of Child Rights in Armed Forces.

The 2008 census and the report on Sudan Population: characteristics and dynamics (2010), provided important background information about the

demographic composition of the children that will help planners and educators to draw up adequate policies and objective and realistic mechanisms and programmes. Statistics have shown that children (0-18 years) make up 51% of the total population in Sudan and 57% of the total population of the states of West Darfur, South Darfur, South Kordofan and Blue Nile. States with lower percentage of children include the River Nile, Northern and Khartoum (Table 9.1). It is noted that the current demographic situation present a serious problem, necessitating increased efforts to bring about a balance between the distribution of children population in the different states and basic services provided to them, as well as the demographic and development indicators that need to be addressed.

The results of surveys, including the Household Survey, Child Health survey and the Poverty survey, have indicated serious demographic variables of negative impact on the future of children in Sudan. Despite the declared policies and programmes, there are many gaps. For example, the infant mortality rate has reached 68 per 1000 live births, while mortality rate for children under five was 113 deaths per 1000 live births and the rate of malnutrition among children less than five years reached 47%.

There are general policies that cover children in all age groups and there are policies targeting each category separately, all included the following documents:

1. The Reproductive Health Strategy (2006-2010).
2. The Strategy for combating female genital mutilation (2008-2018).
3. Sudan's policy for the promotion of nursing and assisting cadres.
4. The National policy to combat AIDS.
5. The National Nutrition Policy.
6. The Curative Medicine and the Higher Hospitals Council Policy (a group of policies)
7. Educational policies in Sudan, which included a commitment to the principles of access to education for all, gender equality, achieving geographical balance in the distribution of educational inputs, the national curriculum and its continued revision and development.

In the following pages, we will review the current status of the children by age, gender and social status and analyze policies, programmes and challenges to each category from the perspective of population policies future visions and recommendations as made by the National Council for Child Welfare.

2.1.1 Infants and children under five:

According to the 2008 census results:

1. The proportion of children under 18 years of age amounts to 51% of total population.
2. The number of children under 5 years of age reached 5,845,991, of whom 51.4% males and 48.6% females, representing 15% of the total number of children.
3. The birth rate amounts to 59.3% (Family Health Survey, 2010) but the percentage varies between states. It is hoped that the Civil Record Project will increase this rate through the establishment of a comprehensive and effective system of the registration for newly born babies and children who have not been registered and by focusing on children who live under difficult circumstances and in remote areas.
4. The crude enrolment rate for male children has increased from 26.7% to 31.1% and for females from 26.2% to 29.1% for the year 2008/9. The number of pre-school institutions reached 13,925 in the academic year 2008/9, an increase of 19.6% over the academic year 2007/8.

The children health care policy is based on three inputs (a) The National Policy for Child Health (2005), (b) The Second Five-year Plan for the Expanded Programme of Immunization (2006-2010) and (c) The Basic Primary Health Care Packages policy. The programmes associated with the implementation of these policies have been translated into the following:

1. The primary health care programme;
2. The integrated management of childhood diseases;
3. The Expanded Programme on Immunization (EPI);
4. The National Nutrition Administration; and
5. The Health Insurance Programme (1994).

Key challenges to policies targeting childhood development include:

1. Enrolment in pre-school education was below ambitions.
2. One third of the under five children in Sudan are underweight. According to the Family Health Survey (2010) results, 5% of children are suffering from severe malnutrition (SAM), a life-threatening condition that requires urgent attention.
3. Food security along the Sudan-South Sudan border is threatened by conflict

Alternative population policies required in this area include:

- a. Generalization of primary health care services and the improvement of their quality as a key intervention to reduce the under Five mortality.
- b. Providing budgets and qualified health staff in rural and remote areas.

2.1.2 Children under 18 years:

The main characteristics of this category can be summarized as follows:

1. According to 2008 census data, the growth rate of the age group (zero to 14 years) has dropped by about 3% and the census figures has shown that the percentage of under 15 years age group constitutes 42.6% of the total population.
2. The size of population in basic school age in the age group (5-14 years) reached 10,691,354, i.e. more than one third of the population. There is also an increase in the number of population in the age group (6-13), who are in the age of basic education, which requires the establishment of more schools and availing more teachers. The same applies to secondary schools (academic and technical) due to the massive increase in admission in this level.
3. According to results of the 2008 census, the burden of poverty falls on 44.3% of the population who are under 15 years of age.

Policies targeting this category are governed by the "Educational for All and Without Discrimination" policy document. The services and programmes that were implemented include:

1. The establishment of an administration for girls' education and the adoption of the Girls education strategy at the national and state levels in 2000, which helped to bridge the gender gap in basic education.
2. Leaving the matter of pre-school education to the efforts of civil society and the private sector led to low enrolment at this level, while the gross enrollment rate for basic education during the period 2004-2009 increased at the rate of 1.1% per year.
3. The number of girls' secondary schools has increased and hence the number of female students in the year 2008 rose from 312,885 to 367,486, an increase of 14.9% compared to the year 2005.

Alternative population policies that can contribute to the development of these programmes and the target groups include:

- a. Enhancing capacity development programmes rooted on children rights and that will lead to achieving a high performance and equipping teachers with skills in various education levels.
- b. Stimulating the child right to education by striving to provide through affirmative and sustainable measures e.g. reviewing and assessing current policies and budgets, especially at the state level to apply the free and compulsory basic education principle, to raise the school enrollment and reduce school dropouts.

2.1.3 Adolescents:

Adolescents are defined as the age group of 9-12 or who have completed 9 years and have not attended school. According to the 2008 census, their

number is 3,939,865, of which 52.9% are males and 47.1% females. No special population policies are directed to this category because they are directly included in the education policies and indirectly in health policies.

Services and programmes targeting adolescents and their effectiveness can be summarized in the following:

1. Illiteracy rates among adolescents reached 47% for the two sexes, 35.9% for males and 64% among females.
2. The education system is suffering from the large number of children out of school. An adolescents' education and rehabilitation programme has been established within the context of their local environments. It is a type of flexible education targeting children aged 9-14 years (60% of them girls) and who have not been enrolled in schools or have been but dropped out prior to the completion of basic school. The number of beneficiaries reached 188,666, of whom 39,750 were males and 148,916 females, with a gender equality index of 3.7:1 in favor of girls. The number of centers reached 5,042, manned by 6,021 male and female pioneer instructors.
3. The key challenge is the gap between legislation and practice with regard to free education and this can be seen from the large number of education losses and dropouts caused by fees imposed by schools.
4. The recommendation is the need for the establishment of centers for the development of adolescents socially, educationally and culturally to occupy their leisure time by sound educational means and methods.

2.1.4 Children with disabilities:

A child with a disability refers to the child born or suffered a physical, mental or sensory impairment that affects him/her partially or totally (Children Act, 2010). From the 2008 census data the following facts emerged:

1. The total number of children with disabilities reached 490,030, 262,674 of them males (53.6%) and 227,356 females (46.4%). Children with disabilities constitute 26.4% of the total number of disabled people in Sudan estimated at 1854985, according to the 2008 census.
2. Male children who frequent visit or are staying in hospitals are more than females and mostly in the age group of 1 - 6 years.
3. Physical disability is on top of disabilities in hospitals and with a large margin, followed by speech and language disorders, mental and hearing disabilities, and cerebral palsy.
4. Rehabilitation programmes for disabled children in kindergartens are limited compared to the needs and it focus on the social and psychological aspects and do not include rehabilitation or services for the families of the disabled.

The most important policies and laws that have been developed for addressing issues of disability include:

- Sudan Interim Constitution (2005), Articles 12, 44, 45, dealing with children with disabilities rights to work, social justice, education and health.
- Welfare and Rehabilitation of Children with Disabilities Act (1984), Amendment of 2009, under which a National Council for children with disabilities Care and Rehabilitation was established (2010).
- Children Act 2010
- Public Service Act (2007), which allocated 2% of jobs for qualified disabled persons
- National Policy on Disability (2010) issued by the Ministry of Social Welfare in collaboration with the Ministry of Education, which include the integration of people with special needs in education

Services and programmes targeting disabled included:

- a. Measures were taken to rehabilitative services at kindergarten before the integration, although mostly medical.
- b. Centers for physiotherapy for the disabled have been established in Dongola, Kassala, Damazin, Kadugli, Nyala and Gedarif.
- c. Physiotherapy services have also been introduced and supported with aids for the movement of disabled, which included 12,500 large crutches, 25000 small crutches, 1,000 white sticks for the blind and 330 wheelchairs. These centers were also provided with domestic and imported operating materials.

Challenges facing the delivery of services to the disabled include:

- a. Lack of information due to the lack of adequate statistics and studies;
- b. Lack of means of early interventions and specialized cadre; and
- c. Lack of health programs and services for the disabled.

Therefore, alternative population policies should include the enumeration of persons with disabilities, identification of their geographical distribution disaggregated by gender, age, type of disability and their education attainment in each state.

2.1.5 Street children:

A street child refers to the child living in the street in an abnormal manner to the degree that subjects his moral, psychological and physical security to danger (Children Act, 2010).

The National Council for Child Welfare in collaboration with the Institute of Development Studies at the University of Khartoum and UNICEF

conducted a study on "The Situation of Street Children in Khartoum state: the reasons and consequences of the phenomenon" in 2008. The study included 7,474 cases of street children whose total number, is estimated at about 13,000 children in Khartoum, Khartoum North, Sharg al Nil and Omdurman localities.

The national policy (the Ministry of Welfare and Social Security) set its strategic goal to address the phenomenon of street children (2009), in improving the health, economic, social and psychological conditions of the target groups and enabling them to reintegrate into community and families.

The services and programmes targeting this category of children include:

1. South Kordofan and Khartoum states adopted the experiment of protecting street children through the establishment of a strong social welfare system responsive to the protective need of vulnerable children in their localities and administrative units (started in South Kordofan in January 2008 and in Khartoum in January 2010).
2. The establishment of community-based protection mechanisms to prevent the exploitation of children. Currently, there are 25 such mechanisms in South Kordofan and seven in Khartoum state. The care system includes the provision of a well-trained staff, social work offices, volunteers with the skills to detect cases of child abuse and effective family follow-up and family reintegration programme. The social workers continue monitoring the state of each child on continuous basis through regular follow-up visits even after the reintegration of children with their families.
3. Initiating a good database.
4. Directing UNICEF funding to all actors in the field of child protection (the police, state social welfare and Child Welfare Council and the Ministries of Education and Youth). This has produced shared roles and responsibilities among all actors and the application of an integrated approach. The Zakat Fund also contributes to social protection through providing food rations to vulnerable families and free health care to children living in the street.
5. Registration of street children in the accelerated education programme and the vocational training programme (in their communities of origin) before or after reintegration.

Despite the relative successes achieved by these projects in the states of South Kordofan and Khartoum, they have soon stalled and were later stopped and it seems that the main reasons were technical and administrative in both states, a matter that requires more human and material resources and technical skills to address the problem of street children in the framework of this project.

Top challenges facing this kind of programmes are wars and conflicts and natural disasters that resulted in unorganized population movement and increased displacement of families and groups, the thing that directly and indirectly affects children, especially when the child is separated from his family. Therefore, alternative population policies should activate the protection policies and social work within the family and community environment for all children and protect them from all forms of violence, beside the comprehensive review of the systems and mechanisms of social protection of families and society at the grassroots level.

2.1.6 Children in conflict with the law:

This category includes delinquent children in the age group 12 and below 18 years. A delinquent child, according to the Child Act (2010) refers to every child who reaches 12 years of age but has not reached 18 years when committing an act against the law).

With regard to legislation relating to delinquent children, the Child Act 2010 determined the age of criminal responsibility at 12 years in Article (4) and Article (5). In addition, in its eleventh chapter, the law specified ten mechanisms concerned with children in conflict with the law, articles 54 through to 83, which stipulates the establishment of a special police for children and identified their mandates and necessitated investigation with children in the presence of the guardian or a social worker or a lawyer. It also stipulates the establishment of social work offices and that the arrest and detention must be in the presence of a guardian and by children police and the child should not be kept in jail with adults and the duration of the child imprisonment should not exceed seven days. It also necessitated the establishment of special remands, prosecutors and courts for children and set the special trial proceedings and also identified the care needed for children under 12 years vulnerable to delinquency and reform measures for the delinquent child taking into consideration the child age when imposing measures. Laws also provided for the establishment of education centers for children and youth and the law gives authority to the court to stop the measures taken in case of reformed children and it stipulated reporting about the education centers every three months.

The law also provides that Children's Court orders and rulings shall be subjected to appeals and also provided the condition of a defendant child should be subjected to a case study to determine appropriate treatment as directed by the concerned authority. The law also stipulated that no death penalty be imposed on a child and the child's right to privacy during trial proceedings should be respected. The law also gave the court the right to address the charges against a delinquent child through any community or

institutional party determined by the court without resorting to trial before the court. The law also stressed the confidentiality of all child records and the role of the social worker if the child is put under observation and the rights of children as victims or witnesses.

The following are some of the services provided and programmes targeting delinquent children:

1. Several specialized children courts were established in a number of states and the Chief Justice issued directives for the establishment of specialized courts for children in a number of other states. Also, a number of specialized judges were appointed to these courts and other measures have been taken including the creation of several specialized prosecutions for investigating children cases.
2. The most important mechanisms established for juvenile justice is the family and child protection unit to play the role of children police and deal with child victims and their reintegration with family and society. These units were provided with all necessary aids and, in collaboration with UNICEF, the staff was trained both internally and externally.
3. The establishment of the family and the child protection units within Khartoum state police in January 2007. The units were able to achieve unprecedented successes and are working along scientific, administrative and legal procedures that contributed to the reduction of violations against children and maintenance of child and family safety.
4. In accordance with the decision by the Director General of Police on 09/02/2008, concerning the establishment of family and the child protection units in the states and also the establishment of a coordinating mechanism to follow up the implementation of the decision, following the success of the experience of Khartoum State, 15 units were established in all Sudanese states.
5. The training of judges working in the field of juvenile justice and the establishment of a unit specialized in juvenile justice within the National Supreme Court to review the provisions and appeals concerning children and provide the courts with judicial publications and directives in accordance with the standards of children protection.

It is important to note that, within the context of the steady development of the legislative framework in Sudan concerning juvenile justice, work is currently underway for the completion of the comprehensive legislative, judicial and administrative structures for juvenile justice and the setting up of the mechanisms stipulated in the Children's Act 2010.

Key challenges in this area are:

- a. How to establish a comprehensive system at all levels to protect children.

- b. Establishing a system for monitoring and data collection on children in conflict with the law.
- c. Implementing juvenile justice provisions stipulated in the Children's Act 2010.

Therefore, alternative population policies must include:

- 1. The allocation of adequate resources for the juvenile justice system at the national and state levels
- 2. Intensifying training for staff working in the justice system on children rights and on the international standards regarding juvenile justice.
- 3. Strengthening coordination between the systems of social work and the justice system to provide adequate services to children.
- 4. Training children and equipping them with technical and vocational skills.

2.1.7 Orphans:

It is clear from the available data that there are statistical records on this category despite the viability of their enumeration through the household survey, population survey or through special field surveys. Despite the lack of statistics regarding the number of orphans, the Higher Council for Childhood designed some policies and provided some services to them as a category among other groups of children.

Policies towards orphans are included in the following documents:

- 1. The National Policy for Children who Lost Parental Care (2011)
- 2. The National Policy for Orphans in North Kordofan, River Nile, Gezira and Gedarif States

Services and programmes targeting orphans undertaken mainly by the Zakat Chamber include:

- 1. Providing education. The number of orphans sponsored by Zakat Chamber in 2009 reached 38,500 male and female students at a total cost of SDG 17.3 million.
- 2. Establishing the Orphans Special Cases Centre in Khartoum (2007).
- 3. Establishing an integrated center for orphans in Wad Medani containing a vocational training center and a dormitory.
- 4. Allocating a monthly financial support to orphans to help them with the cost of living, in addition to school needs, Eid clothing and health insurance.
- 5. Implementing (*AlZhil Al Zhaleel*) housing project to accommodate orphans. The Chamber established 1,000 homes in Khartoum State, 500 in Kassala and 300 in North Darfur.

6. Establishing the system orphans community-based sponsorship system. The number of orphans sponsored by Zakat Chamber in 2009 has increased to 63,737 children.
7. The Trust Fund project which is one of the new projects that have been recently implemented to sponsor and care for orphans. The project aims at providing a sustainable source of income for orphans, ranging between SDG 500 to 700 for each orphan.

Key challenges in this area include:

- How to activate the social protection policies in a way that ensures real care for orphans within the family and community environment
- How to protect orphans from all forms of violence;
- How to secure the necessary resources to implement the community protection programmes; and
- How to build a database of statistical information disaggregated by gender, age and geographical distribution.

These challenges dictate on the alternative population policy to seek to establish a comprehensive information system, collect data on orphan children in Sudan and to conduct a comprehensive review of the system and mechanisms of families and community social protection policies.

2.1.8 Children in armed conflicts:

There is a clear failure in the enumeration of this category, despite its importance and danger for the sustainability of safe childhood and well being. There are no special legislations for this category except for what is contained in the framework of child protection in international agreements and other national legislation.

Services and programmes that targeted this category included:

1. The National Council for Child Welfare (NCCW), in coordination and cooperation with all national bodies working on protection of children in armed conflicts, established a mechanism involving the Disarmament, Demobilization and Reintegration (DDR) Commission, Child Rights Unit at the Ministry of Defense, Police Family and Child Protection Unit, Ministry of Foreign Affairs, in addition to national organizations working in this area, such as the Adolescents Development Organization, for discussing and finding solutions for all issues of mutual concern.
2. The NCCW, collaboration with its partners, implemented a national media campaign in to raise awareness about children issues, particularly the fight against children conscription.
3. The North Sudan DDR Commission implemented programmes to educate and brief leaders of the armed forces and community leaders in

Darfur to sensitize them about the effects of child conscription and the need to curb it.

4. The Child Rights Unit at the Ministry of Defense implemented several training courses for officers of the armed forces on the rights and protection of children in conflict zones.
5. The organization of training workshops for the Sudanese-Chadian joint forces on child rights and child protection across the border.
6. The North Sudan DDR adopted the comprehensive concepts of reintegration for children which has been applied in the Blue Nile, Gedarif, Kassala, Red Sea and West Darfur States. The programme includes provision of social and psychological support, in addition to awareness about the effects of children conscription.

Promoting the culture of peace, resolving conflicts and disputes and wars in conflict-affected areas, and changing perceptions and practices among different tribes to ensure protection of children from conscription, are considered the main challenges facing these programmes. The alternative population policies must focus on activating the laws and pressuring the armed movements not to involve children, and making sure that children in areas of armed conflict have access to education and health services and conducting surveys to identify their problems and find appropriate solutions for them.

2.1.9 Refugee children:

Within the framework of Asylum Act (1991), the Commission of Refugees (COR) provides basic education, health and other services, organizes protection of vulnerable groups and care for orphan refugee children. Care is provided for orphan children, mothers and their children in the affected towns, and shelter is provided for unaccompanied children at reception centers, where age and gender are taken into account. Refugee children in towns are issued identity documents and facilities in accordance with the provisions of the relevant laws. Besides, the adoption of refugee children is dealt with in accordance with the national and international legal standards, and the beliefs of the refugee, and under the supervision of the legal protection unit COR and its counterpart in the UN High Commission for Refugees (UNHCR).

Halting unorganized migration, cross-border smuggling from neighboring countries and the application of the laws and regulations to control, constitute the most important challenges at present. This entails that the alternative population policies should work to coordinate with neighboring countries to combat unorganized migration and human trafficking to or through Sudan and call upon the international community to undertake its part in supporting Sudan to provide services to refugees, especially children.

2.1.10 Working Children:

According to the Child Act (2010), a working child refers to a child who is working in an age of 14 to 18 years. According to the Labor Law (1986), employment of persons less than 18 years of age is not allowed.

The most important legislation governing state's handling of child labor is the labor law of 1997 which came consistent with the International Labor Organization (ILO) Agreements No 138 and 182 defining the minimum age for employment and the worst forms of child labor. Also, a partnership protocol was signed between the European Commission and the ILO and the Government of Sudan regarding child labor in Africa and the Caribbean and Pacific states, which was signed on behalf of the Sudan Government by the Ministry of Labor, the National Council for Child Welfare and the Ministry of General Education in October 2008. The protocol primarily aims at building a partnership to develop and support efforts to combat child labor through supporting education in all areas, with a focus on girls' education and initial steps to implement the Protocol began in June 2010.

The most important accomplishments here was the compensation of children who were used in camel racing in UAE, with an emphasis that they will not be allowed to be used in the future. Regarding services and programmes, field surveys have been conducted in the past few years on child labor, carried out by the National Council for Child Welfare in collaboration with the Ministry of Labor, the University of Khartoum in Kassala and Khartoum states with the objective of understanding phenomenon and its causes. The Ministry of Labor compiled a list of the worst forms of child labor that included 42 types of work that children are not allowed to engage in because of their impact on the health, education, or the social and psychological growth and physical development of the child. The establishment of a system for protection of children working in the informal sector represents a major challenge for the state in addition to changing perceptions amongst families and communities about child labor.

There is a need to conduct a new study to find out the size of the phenomenon of child labor, to apply the principle of free education and to increase enrolment of children in the basic schools and supporting poor families whose children are forced to work to support the family.

2.1.11 Children subject to abuse and torture:

The Child Act 2010 included comprehensive measures to combat child abuse and protect children against violence through the enforcement of the following articles:

1. Article 45, which reads, "shall be committing a crime anyone who (a) kidnaps or sell a child or transfer an organ or organs of any child or (b) rape any child" and is punishable by death or imprisonment for a period not exceeding twenty years with a fine.
2. Article 46/1 reads "shall be committing a crime anyone using children in slave trade in all its forms and it is not allowed to enslave a child or subject him/her to forced labor or perform work forcibly". This is punishable by imprisonment and fine and confiscation of property used in committing the crime.
3. Article 46/2 reads "shall be committing a crime anyone who smuggles or help in smuggling a child or children across the border with the intent subjecting them to forced labor, trafficking or violence in all its forms" and it is punishable by imprisonment for a period not exceeding twenty years and a fine.

The NCCW also issued the National Strategy to Eliminate Female Genital Mutilation within the generation of 2008-2018 in collaboration and coordination with the National Council for Strategic Planning and partners from government and national and international institutions. The Council managed to carry out several activities in this area within the framework of this strategy.

The most important programmes and services provided to this group of children were:

1. The Family and Child Protection Units played a remarkable role in the protection of children using scientific administrative and legal measures. It made a remarkable contribution to the reduction of violations against children and in maintaining the children safety. The units benefited from community-based efforts through cooperation with community police in the family and child protection to reduce the physical, emotional and sexual abuses and the negligence of tackling their psychological and social impact.
2. Delivering lectures, seminars and training workshops to raise public and families awareness about the importance of their role in maintaining their children.
3. The establishment of a free telephone line for the rescue of children.
4. The NCCW, in collaboration with UNICEF and partners from relevant government institutions and national organizations organized a national campaign under the slogan (*every girl was born healthy let her grow healthy*) which led to a drop in the rate of female genital mutilation from

68.4% in 2006 to 65.5% in 2010 and the percentage of women (15-49 years) agreeing to FGM for girls was 42.3% 2010¹. The rate of FGM practice is still very high in the Northern state, where it reached up to 83.8% and 83.4% in the River Nile State. It is also high among women in the age group 15-49. The percentage of girls and women who continue to practice the habit is 87.6% and this is a significant setback from what it was in 2006, when the figure was 69.4%.

The implementation of policies and laws contradiction with practice is the top challenge to the fight against FGM. Therefore, alternative population policies should focus on the following:

- Strengthening the capacity and skills of families to care for and protect their children.
- Ensuring the provision of social work service for the individual, family and community
- Strengthening the ongoing efforts to rehabilitate and integrate children who are victims of violence through a comprehensive and integrated system that include all mechanisms working in the field of child protection.
- Enactment of the anti-FGM laws.

2.2 Persons with special needs:

The definition of disability has evolved from one period to another, beginning with the medical model and ending with social model adopted by the International Convention on Persons with Disabilities (2006), which defines disability as "the state of a person who suffers from a long-term disability or disability for the duration of his life, whose causes may be hereditary or the result of accidents or drugs or any other acquired causes, and which include sensory disabilities that include the deaf, dumb and blind or intellectual, mental or physical disabilities and may be total or partial. The Convention recognizes that the concept of disability is still developing (the International Convention for Rights of People with Disabilities 2006). The national policy in Sudan defined a disable person as "any person who has been afflicted or plagued with a permanent functional limitation, physical or sensory or mentally born with it or acquired after birth, which has an a total or partial effect on the progress of his natural life".

¹ The Family Health Survey, 2006, 2010

2.2.1 Key Achievements in serving people with special needs:

The agreement was negotiated in eight sessions of the Ad Hoc Committee of the UN General Assembly between 2002 and 2006, making it the fastest negotiated human rights treaty and it was passed in August 2006¹.

1. Within the framework of the protection and promotion of the rights of persons with disabilities, Sudan ratified the International Convention for Rights of People with Disabilities, 2006, in accordance with presidential decree dated 25/2/2009 and submitted it to the UNGA Secretariat in New York on 24/4/2009, and accordingly Sudan on 25/5/2009 became a member of the states bound by the terms of the Convention.
2. The Ministry of Social Welfare set up a committee for monitoring and follow-up from the concerned authorities and unions of the Disabled to assess what has been implemented since the ratification of the Convention, and prepare the national report accordingly.
3. There are unions, centers and associations for the various categories of the disabled and they have branches in most states. These entities provide some services, such as training and rehabilitation, health insurance and psychological and family counseling and other cultural programmes, in addition to community awareness to change the negative perception about the disabled.

The 2008 census depended on the international standard classification for measuring disability, and according to the results of the census, the disabled in Sudan constitute 4.8% of the total population; 5% of males and 4.6% of females. Census figures also show that their percentage is higher in rural areas (5.1%), 4.6% among nomadic groups and 4.3% in urban areas. The highest rate of disability was recorded in the state of West Darfur (6.2%) and South and North Kordofan (5.9% each) and that in most states disability among males is higher than females (Table 9.2).

Table 9.2: Distribution of the Disabled by State and Gender (%)

State	Total	Male	Female	State	Total	Male	Female
Northern	6.8	5.1	6.7	Khartoum	4.1	4.3	3.9
River Nile	5.0	5.4	4.5	Gezira	4.5	4.8	4.2
Red Sea	3.7	3.9	3.5	White Nile	4.7	5.1	4.4
Kassala	4.5	4.7	4.3	Sennar	5.0	5.4	4.6
Gedarif	4.9	5.3	4.6	Blue Nile	4.6	5.0	4.6
North Kordofan	5.9	6.0	5.7	West Darfur	6.2	6.1	6.4
South Kordofan	5.9	6.1	5.6	South Darfur	4.4	4.4	4.3
North Darfur	5.0	5.0	5.0	Sudan	4.8	5.0	4.6

¹ The ad hoc committee unanimously adopted the draft text and the optional protocol on December 13th 2006, and the UNGA officially adopted by consensus the agreement and its optional protocol and called it “UN Convention on the Rights of People with Disabilities” (UNCRPD)

It is clear that the census did not cover all the indicators for the disabled, and it focused on education and economic activity indicators. Statistics show that the percentage of persons with disabilities who do not have any academic qualification represents the highest category (38.8%), followed by “Khalwa” education (30.9%), basic school (23.7%) and the lowest is secondary school and above (6.8%), which confirms that they do not obtain a significant amount of education that can help them get secure jobs and that is due to the lack of teaching aids needed for them, such as Braille for the blind, sign language for the deaf and the lack of modern technical equipment necessary for rehabilitation centers for the disabled.

Regarding education enrollment of the disabled in the age group 6-24 years, the percentage of those who have never attended school is 41% compared to 37% currently enrolled and 14.7% who have been enrolled before. As for economic activities, the census results showed that 30.8% of persons with disabilities in the working age and above are economically active compared to 62.3% who are not.

2.2.2 Policies Targeting the Disabled:

The Disable Act 1984 was amended to the new Disabilities Act, which was passed in 2009, and which included rights and privileges represented in 24 privilege that guarantee the disabled the right to a decent life, in addition to the establishment of a secretariat and department for persons with disabilities for the technical and administrative functions.

The national policy for the disabled 2009, affirmed what is stated in the National Constitution and international and regional conventions and the consequent responsibility for providing rights, care and protection and reintegration of the disabled. The most important policy directives are:

- The advancement of persons with disabilities in health, socially and economically, academically and professionally, culturally and in athletics and make use of regional and international experience
- Comprehensive rehabilitation of people with disabilities by observing the prevailing social norm, values and traditions and that through the mobilization of and through clear policies and plans pursuing the empowerment of the disabled and integration them in society.
- The provision of educational, rehabilitative and health services for people with disabilities

2.2.3 Most Important Services and Proposed Programmes:

- Community awareness to achieve integration in all fields
- Positive discrimination in services
- Legislation oriented to provide services for persons with disabilities and integrate them in society

- Stimulating and encouraging the NGO sectors to create job opportunities for persons with disabilities.
- Designing and implementation of training programmes for persons with disabilities and workers in the field
- Provision of economic support in the form of productive family projects, income generation activities (IGAs) and direct support to the families of persons with disabilities in education and health
- The development and localization of the industries of technical aids and prosthetic devices in Sudan
- Strengthening and developing coordination mechanisms between institutions and bodies concerned with disability.
- Exchange of experiences at the regional and international levels
- Reforming the National Council for Persons with Disabilities and its structures and supplying it with the aids necessary for its work.

2.2.4 Alternative population policies:

- Activating and improving policies for the integration of persons with disabilities who are qualified in professional work in the public and private sectors.
- Utilizing the skills acquired by persons with disabilities in the informal labor market (the experiences of East Asian countries).
- Reviewing the national policy for persons with disabilities, which was passed in 2009 and developing a national strategy for implementation.

2.3 The Elderly:

The aged who are also known as the elderly are a category in the age group of 65 years and above and they include the retired and pensioners. The results of the 2008 census showed that the number of the elderly in 2008 was 1,110,139, 621,630 of them males and 488,509 females with an M/F ratio of 103%. Based on the actual number of elderly in 2008 as a base year, projections indicate that the number of elderly in 2032 will be more than 3.5 million for both sexes.

The state has given special attention to the elderly and gave them a special place in the Comprehensive National Strategy (1992-2002). A national committee was formed to develop policies, plans and programmes for the elderly. The Pension Fund and the National Insurance Fund are also making some efforts towards the elderly, by introducing the social security system that covers key social risks such as senility, health disability and death, work accidents and total disability, through undertaking insurance expenses in form of pensions, bonuses and compensation or interest-free loans. The social security system in the Sudan has also a unique characteristic compared to other regional and international systems, which is the adoption

of a diversified basket of benefits for social support for pensioners, which is not funded through subscriptions. The basket includes services such as sponsoring university female students, orphans of pensioners, treatment of pensioners and their inclusion in the health insurance and other forms of social support e.g. *Iftar AlSayem* (breakfast for fasting Muslims), *Farhat Al Eid*, (Eid Joy) sheep for sacrifice, and *Ghoot Al Amileen* (food of public sector employees). The National Pension Fund also adopted "microfinance" since 2000 as a means for poverty alleviation among pensioners until it became a window for microfinance recognized by the Sudan Central Bank.

In addition to this, there are also the voluntary efforts that led to the establishment of the association of civil service pensioners and the social insurance association. The achievements of these two associations included the establishment of branches in states, the covering of university expenses for daughters of pensioners, the implementation of small business projects funded by the investment fund of the National Pensions Fund, in addition to paying attention to some important aspects of life such as *Ghoot Al Amileen* and *Kees Al Sayem* (the fasting bag). The Sudanese Association for care for the elderly (Gisr) was also established in 1994. It is a national voluntary and charity society which provides care for the elderly and work with them to meet their needs, defend their rights and enable them to achieve their interests.

The policies devised by the Ministry of Social Welfare as a national policy for the elderly in 2009, aimed at providing social care and integrated health service for the elderly, to increase his family income and enable it to play its role towards him. This policy has focused on the following issues:

- Consolidating the values of reverence for elderly in the community
- Establishing an information base.
- Training of cadres working with the elderly, building their capacities and developing their skills.
- Coordination and integration with the actors implementing preventive, curative and development programmes for the elderly
- Combating poverty through empowering families economically and educationally to enable it to perform their roles towards the elderly.
- Providing financial support for the implementation of preventive, curative and developmental programmes
- Training and rehabilitation of the elderly who are able to work by absorbing them in the productive sectors to make use of their experience

The general orientation of programmes was:

- Reducing institutionalization in sheltering houses.
- Establishing recreational, cultural and social centers for the elderly.
- Conducting social studies to know with social conditions of the elderly

- Organizing programmes through the various media and means of communications for community awareness.
- Engaging community leaders in elderly care programmes.
- Building the economic capacity of poor families with elderly people
- Forming societies and associations that provide care to the elderly.
- Enabling the elderly to engage in productive work, each according to his/her abilities.
- Establishing a network of actors in the field.

Alternative policies are supposed to be based on:

1. The need for the elderly to renew their social relationships by providing cultural and recreational facilities.
2. Creating a database for the elderly to be periodically updated.
3. Establishing a national fund to support elderly programmes and projects
4. Conducting research and studies in collaboration with universities and research institutions and engaging elderly people with expertise in these studies.
5. Developing a plan for the training and rehabilitation of the elderly before retirement in order to prepare them for this stage.

2.4 Women:

The national population policy gave women special space to reflect their issues and most important needs in line with the regional and national view vision about the importance of women in the development process. The national population policy also emphasized gender equality as a fundamental pillar in realizing population and development programmes. In this part, the chapter will discuss women's issues and their current status and challenges, consider the national and sectoral policies relating to the question of women empowerment and equality with men wherever possible, and also include a future vision concerning the alternative national population policy.

From the gender and development perspective, there are more than one approach for addressing the issue of women empowerment and gender equality. Firstly, the approach to empower women, which focuses on increasing women participation in power, enabling them to make decisions at all levels and liberating women from the negative cultural and social constraints that affect their status in the family, community and the public space. Secondly, the approach of gender mainstreaming, meaning to inclusion of women empowerment and gender equality in all walks of life at the policy, strategic, institutional and budgetary levels, in order to achieve gender equality and justice. As the gender mainstreaming is the most modern approach, it was expected to be used in the analysis and presentation of the issues of women's empowerment in national policy, and that by

integrating women and gender issues in all thematic areas of the national population policy.

Women represent 49% of the total population in the Sudan, which requires strategic and gender-sensitive thinking and planning that can allow for the integration of this segment of society in a way that leads to development and progress. As for the indicators of status of women in Sudan, the 2008 census data indicated that the fertility rate is 5.8, average life expectancy for women is 55.5 years compared to 52.5 years for men and average family size is 6 members and that maternal mortality rate is 435/^{100,000} live births.

Regarding, education, the census data showed the high rate of illiteracy among women and men alike, where 39% of men and more than half the women (50.7%) are illiterate. Illiteracy rates increase further in rural areas, where it reaches 58%. The data also reflected that access to education among the young generation is still low, as 68% of males and 69% of females did not join schools in rural areas. This low level of education among women, especially in rural areas, requires the attention of policy makers due to the close connection between the level of education and the high morbidity and mortality rates among mothers.

Women constitute 28% of heads of households and this increase is attributed to the high poverty rates, deterioration of economic conditions and the increasing rate of male migration from the rural areas, reflecting the new roles undertaken by women in Sudanese society, as women support to the family was not common in the past and that was because of family cohesion and stability and the support provided by the extended family. But with the change in the economic situation, increasing poverty, weak social cohesion, family support diminished. This requires the state to take some measures to alleviate the suffering of women heads of households through social safety nets, which in most cases is oriented to men as the family supporters, based on the traditional conception of family framework in Sudan. It also requires policy makers, within the macroeconomic and development policy framework, to take into account the families that have more than one bread winner (a woman and a man). As for labor participation, women are actively participating in the labor force and contribute to household income through paid and unpaid labor. Women economic participation rate is estimated at 31.8%, 49.5% of them in the agricultural sector.

In the legislative bodies, women hold 25% of the seats in parliament, 6.8% of the federal cabinet posts, and 8.6% of ministerial posts at the level of state ministers in the federal and state cabinets. Despite the increase in the participation rate of women in the legislature and the executive, it is still

below women ambitions to be able to influence the decision making process.

2.4.1 National and sectoral policies for empowering women:

Despite the fact that recent data provided by the 2008 census is disaggregated by gender, which made it one of the main factors for reviewing and updating the national population policy, there is still qualitative gaps in health data relating to maternal mortality and women access to family planning services and in the data on women living conditions and their children within their families, which requires health surveys and surveys of household consumption and spending.

Successive governments focused on the formulation of policies and strategies targeting women, the most important of which was the comprehensive national strategy (1992-2002), which devoted special strategy for women and was followed by the establishment of the Ministry of Social Welfare and Women and Child Affairs after the Beijing Conference, which represents the national mechanism tasked with the advancement of women. It was followed by the formation of the National Committee for the Advancement of Women which formulated a national plan for the advancement of women, which included the crucial themes of the Beijing approach.

At the level of sectoral ministries and states, women units were created to be responsible for the implementation of the national plan for the advancement of women. Along the same path, in 2007, the national policy for empowering women was formulated. It was the result of scientific and intellectual effort of the Sudanese women keen to advocate women issues in government institutions and civil society.

In 2005, the national plan to combat gender-based violence was launched. It was prepared by the Unit for Combating Violence against Women at the Ministry of Justice. The national policy for the education of girls was passed in 2007, followed by the National Strategy to Eliminate Female Genital Mutilation in 2008, as a step towards addressing the risks arising from circumcision.

At the legislative level, the quota system applied in the General Elections Law of 2008, guaranteed 25% of the total seats in parliament for women in any legislative body, as a clear policy of empowerment of women in Sudan.

2.4.2 Mechanisms and institutions for the advancement of women:

The State, within its pursuit of women empowerment, sought to set up a number of mechanisms and institutions tasked with the implementation of

the national policies for empowerment of women and the sectoral policies associated with them. Some of them include:

- New organizational structures for protecting women have been established, including units to combat violence against women and girls at the Ministry of Justice (now under the Council of Ministers), units in states under the office of the State Wali advisor on Women and the Ministry of Interior in 2006 established units for family and child protection at the federal and States levels.
- At the constitutional level, a woman adviser to the state Wali for Women and Children Affairs was appointed in all States.
- In the economic sphere, the public administration for the development and regulation of the banking system issued an order decree from the Central Bank of Sudan in 2007 allowing banks to finance women with administrative concessions to the tune of 12%.

2.4.3 Challenges facing women Empowerment:

a. In the field of health:

- A drop in average life expectancy for men and women
- Increase of morbidity and mortality rates among women, infants and the under five children.
- The high maternal mortality rate
- The increase in the rates of health problems among women.

b. In the field of education

- The need for alphabetic and professional literacy
- Bridging education gaps, especially in rural and nomadic areas
- Limited options and technical skills in the educational system
- The inherited negative traditional social and cultural attitudes, which impede the education of girls, especially in rural areas
- Poor and unsafe school environment in conflict zones
- Lack of specialized skill training programmes for girls and lack of in-service training through incentives, grants and financial support

c. In the economic field

- Difficulty to access to assets or credit
- Increased poverty rates and chronic unemployment coinciding with the decline in technical training and the decline in the coverage of social security networks
- The impact of globalization and integration into the global economy, translated into the privatization policies.
- Increase ratio of female heads of households coinciding with the absence of support by social security nets or credit institutions.

- Increase in the proportion of women in the informal sector with the absence of state protection or support.

d. In the area of policies and legislation

- Women's participation rate in decision-making positions is still modest
- There is a need to revise a number of laws and legislations concerned with the discrimination against women.
- Weak budgets directed to the implementation of women empowerment policies at the federal, sectoral and state levels.

e. In the field of information and gender disaggregated data:

- There are gaps in the health data regarding maternal mortality and data on women livelihood conditions within the family.
- The macro policies of the state are mostly not based on information disaggregated by gender.
- Poor awareness about the importance of information disaggregated by gender and how to use and utilize them

f. Women in the population policy

- Seeking to improve health services provided for pregnant women and during delivery
- Rising poverty and malnutrition, which impact negatively on the pregnant woman
- Considering the effort exerted in domestic work and lack of justice in load distribution, particularly during pregnancy.
- Paying attention to awareness raising and training of illiterate women
- High fertility and family planning services
- Delayed marriage and ensuring continuity in education.

2.4.4 Future Alternative policies:

1. Preparing a national programme for safe motherhood and allocating the necessary budgets for its implementation.
2. Integrating maternal and child care services in the free health care packages and raising awareness about reproductive health and women health rights.
3. Designing a curriculum for education and child upbringing in formal education system and the introduction of social work and services in education institutions.
4. Raising awareness among families about the importance of girls' education, increasing spending on basic education and creating support programmes of microfinance to ensure the continuity of girls in education.

5. Integrating and including gender issues in economic policies at all levels.
6. Raising the level of knowledge of economic analysts at all levels on gender-sensitive planning.
7. Raising women administrative and developmental capacities to overcome barriers to women participation of women in the non-traditional sectors and professions.
8. Increasing women participation in economic policy formulation.
9. Building partnership and dialogue to develop a social contract based on gender in the pursuit for social and cultural changes that promote community awareness on gender issues and gender justice.
10. The adoption of a policy of equal opportunities in the public and private sectors.
11. Creating a database at the national level.
12. Increased material resources for the implementation of the national policy for the empowerment of women.
13. Emphasizing the importance of decentralization of power and wealth, which require delegating more powers and transferring more resources to the states to ensure the implementation of the national policy for the empowerment of women.

3. Conclusion:

From this analytical review, it is clear that intensive and organized efforts are ongoing with regard to the different groups of children with their diverse characteristics. But there are some shortcomings because the population census survey was unable to cover certain groups, such as orphans, the homeless, street children, refugee children and the children in areas of armed conflicts. Besides, there is an absence of population statistics to disclose children who are suffering from different forms of violence and those living with broken families or single parent families. For that reason, the population census and the concerned authorities could not include them in the population strategies. Population policies have also devoted attention and high priority to infants and the children under five. It is natural that attention be focused on these two groups as long as there are indicators of diseases and high mortality among them and at the same time their number represents the largest population segment. It is clear that there are variations between what is contained in the general policies and those concerned with each category and what the population policies should for each category. It is wiser that we make proper development planning when we have adequate and accurate demographic information. Furthermore, when we are to formulate population policies and strategies, we depend on the demographic composition, geographical distribution, and distribution by gender, age, occupation and other indicators that reflect the situation and the

demographic, social and economic characteristics. Therefore, when formulating policies and strategies we must make sure to integrate these indicators at the same time as the linkages between and interdependence of all these indicators is important to ensure sound social and economic planning processes with a guaranteed return.

The conference on population and development focused on population information as a basic foundation in the process of planning and follow-up of programmes and development projects, regardless of the age group and gender. That is why the drive to achieve this goal focused on the need for more efforts in the area of coordination, networking and partnerships between formal, communal and private sectors. Since the current population policies, which were developed in 2002, sought to achieve common grounds that included mobilization of public participation, the comprehensive vision to the interdependence and integration in the comprehensive national development and the continuity of implementing population development, it means that when we are drawing up and implementing population policies we must reform the demographic equation to satisfy both economic growth and social changes. At the same time, we must address the influential factors and the social and economic results in a way that ensures an optimum population equation. Finally, in order to achieve these goals and visions we must pay a greater attention to human development, and formulate policies, strategies and mechanisms aimed at upgrading human cadres working in all population and development sectors, in addition to building administrative, informational, institutional and legislative structures as well as the working environment for population development. And to ensure the successful implementation of programmes relating to population policies, branches of the National Population Council must be established at the state level, especially the states with low population and development indications.

Sources and References:

- Central Bureau of Statistics, Population census 2008, Khartoum
- Federal Ministry of Health, Periodic Reports
- International Convention for Human Rights
- Ministry of General Education, Periodic Reports
- Ministry of Health, Sudanese Family Health Survey, 2006, Khartoum
- Ministry of Health, Sudanese Family Health Survey, 2010, Khartoum
- Ministry of Health, The Expanded Program on Immunization (EPI), Khartoum
- Ministry of Social Welfare, National policy for the disabled, 2009
- Ministry of Social Welfare, the National policy for the elderly, 2009
- National Council for Child Welfare, Periodic reports to the International Committee for the Rights of the Child.
- The Child Act, 2010

CHAPTER X
Nomads and Pastoralists

Chapter X Nomads and Pastoralists *Dr. Hassan Abdel Ati*

1. Introduction:

Nomadism traditionally referred to people on the move and randomly mobile groups who depend on livestock. The terms nomadic and pastoral are generally interchangeably to describe communities that heavily depend on livestock for livelihood without paying much attention to the real differences in the two modes of life. The definition of pastoralists/ nomads has historically been based on the classical economic definition of “earning all or most of their income from livestock and mostly dependent on natural resources” is no longer valid, nor that based on mobility, particularly in arid lands. Such definitions do not take into account the changes that occurred and/or the new adaptation strategies applied by pastoralists to keep that life style alive. For example, according to Pantuliano (2000), opportunistic tracking, herd diversification and alternative livelihood are some of the numerous strategies pastoralists developed to adjust to the non-equilibrium environments in African dry lands and thus pastoralists can not be regarded as mere livestock producers¹. However, nomadism in the sense of total dependence on livestock and continuous mobility only exists in very limited areas in the world. Yet nomadism in the form of dependence on livestock but combined with other activities and partial or seasonal mobility is not dying out in spite of what many people think. In Sudan, the 1992 Organizations of Farmers and Pastoralists Act of 1992 defined the pastoralist as “any person who is dealing with animal husbandry and practicing it by himself”.

There are over 200 million nomadic people in the world today practicing a very productive way of life in the arid, semi-arid and marginal regions they live in, which proves that "they are very resourceful and adaptable people, sadly misunderstood by most governments, aid agencies"² as well many researchers sometimes and this probably why they are amongst the most un-reached people in the world. Pastoral nomadism, on the other hand, combines both mobility and herding, but the mobility is not random, rarely involves the whole household and may or may not involve all the livestock owned by the household.

Taking into account the above qualification of the term, in this paper the term nomadic will also be used interchangeably with pastoralists and agro-pastoralists in order to avoid misquoting as the description and analysis of

¹ Sara Pantuliano 2000, 3-7

² David Zeidan, Nomads of The Middle East, Middle East Handbook, Volume 4, OM-IRC, 1995

demographic and socio economic characteristics will depend on the national census that use the term "nomadic" and most of the recent literature (by geographers and anthropologists) use pastoralists and agro-pastoralists.

Pastoral groups are not homogenous or identical in culture, attitudes or interest. This in addition to variation in physical environments, technical choices adopted for livelihoods and intensity of contacts with outside groups and hence some caution needs to be taken when making generalizations made about them. This in fact represents a major challenge to researchers and development agents and their policy recommendations and projects' design. It may also provide some explanation for the whole sale failure of most of the development programmers targeting pastoral communities. The pastoral crises in the Sahelian zone, including Sudan were attributed among other things to:

1. The negative impact of colonial and modern state policies¹
2. Inappropriate development interventions.
3. The encroachment of external systems on pastoral areas both economically and politically²
4. Disruption of traditional survival strategies by changing environmental conditions
5. Increasing insecurity and conflicts in pastoral areas

2. The Nomadic and pastoral Sector in Sudan:

2.1 Demographic characteristics:

According to the 2008 census figures, the total number of nomadic population in Sudan is about 2.8 million, representing 7.1% of the total population prior to South Sudan split³ (Table 1). This indicates a drop of 49% of nomadic population ratio since 1998 when it constituted about 11.5% of the population⁴. Although nomadic population numbers show a steady growth since the first national census (1955/56), its ratio to the total population show a steady decline dropping to half its ratio in 1956. A sharp drop was recorded in the 1993 census (11.4%) but it seems more of an error in definition or enumeration rather than a real drop (Table 1, Fig. 1).

¹ Pantuliano, 2000, pp 7-8

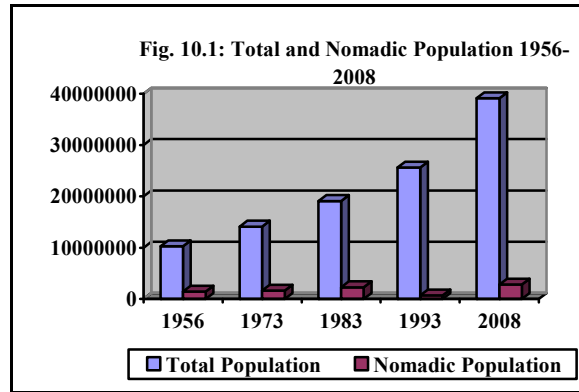
² Abdel Ati, 1996, pp 56-68

³ Nuha Mohammed El Amin Ahmed and Nazla Abdel Rahman (2010)

⁴ Sudan Statistical Yearbook, 1998

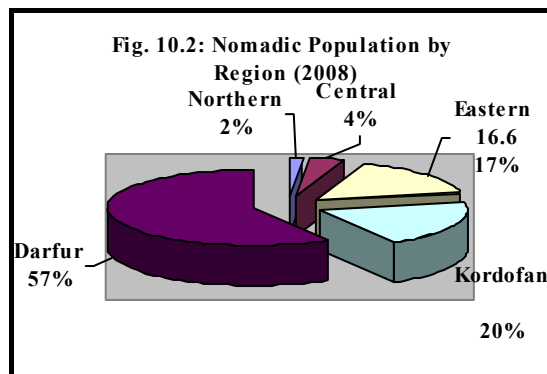
Table 10.1: Nomadic Population

Census Year	Total Number	% of total population	Growth Rate
1956	1,405,951	13	-
1973	1,629,710	10	0.9%
1983	2,264,830	11.9	3.4%
1993	696000	2.7	-11.4%
2008	2,778,774	(7.1)	9.2%



2.2 Distribution:

Regarding their geographical distribution, 57% of them are original residence of Greater Darfur, 19% Kordofan, 17% Eastern Sudan, and the rest (7%) are scattered in other parts of the country (Fig. 2). Because of their attachment to their livestock, most of those classified as nomadic reside in their state of birth¹. The heaviest concentration however, is in South Darfur state which accommodates about 35% of the total nomadic population of the country.



¹ See Table 13.8, p. 472 in Nuha ElAmin and Nazla AbdelRahman (2010)

2.3 Age-Sex Structure:

As shown in Table 2 below, just over 46% of the nomadic population is under 15 years of age, 70% are under 30 years and only 7.4% are above 49 years. The pattern is generally similar for both sexes, expect that males outnumber female in the older age groups. Regarding the sex structure it is highly unbalanced with the sex ratio standing at 120% and in the older age groups it rises up to 168%. Male numbers are higher than females in all age groups except the 20–29 age bracket, a phenomenon that is most probably caused by male migration and may be linked to the trend of nomads' settlement and engagement in jobs outside the pastoral sector. However, the exceptionally high difference in the age groups above 50 years, suggest a high mortality rate among women, something that indicates the poor health and living conditions of nomadic women. The sex imbalance has increased in 2008 compared to 1993 census figures and in most of the states and it was highest in Kassala, Red Sea and South Darfur state registering respectively 154%, 137% and 129% (Table 3).

**Table 10.2: Distribution of Nomadic Population
By Age Group and Sex Ratio**

Age Group	No	%	Sex Ratio
Total	2778747	100	120.5
00 – 04	426230	15.3	112.4
05 – 09	477105	17.2	128.0
10 – 14	383133	13.8	143.5
15 – 19	297088	10.7	138.0
20 – 24	240942	8.7	108.6
25 – 29	209730	7.5	87.8
30 – 34	19293	6.9	98.1
35 – 39	154976	5.6	107.4
40 – 44	123067	4.4	123.7
45 – 49	67156	2.4	128.8
50 – 54	62233	2.2	145.7
55 - 59	37160	1.3	102.2
60 – 64	43258	1.6	154.5
65 – 69	17994	0.6	164.3
70 – 74	22945	0.8	168.1
75+	24435	0.9	165.5

Table 10.3: Nomadic Population by State and Sex Ratio (2008)

State	Number (2008)			Growth Rate 1993-2008		Sex Ratio (%)
	Total	Male	Female	Male	Female	
Northern	14,302	7,574	6,728	4.3	3.5	113
River Nile	28,833	14,701	14,132	-0.1	-0.4	104
Red Sea	252,894	145,978	106,916	9.5	7.8	137
Kassala	195,678	118,747	76,931	4.2	2.0	154
Gedarif	18,612	9,670	8,942	1.3	1.6	108
Khartoum	0	0	0	-	-	-
Gezira	4,276	2,329	1,947	-6.3	-8.5	120
White Nile	39,202	19,771	19,431	3.3	3.2	102
Sinnar	27,694	14,715	12,979	1.4	1.7	113
Blue Nile	31,978	16,320	15,658	7.9	9.1	104
N. Kordofan	378580	198,456	180,124	11.6	11.3	110
S. Kordofan	166511	84,777	81,734	5.5	6.0	104
N. Darfur	400,914	216,058	184,856	15.2	15.2	117
W. Darfur	227,564	115,438	112,126	9.2	8.6	103
S. Darfur	981,710	553,898	427,812	15.9	14.7	129
Sudan	2,778,748	1,518,432	1,260,316	9.5	8.8	120.5

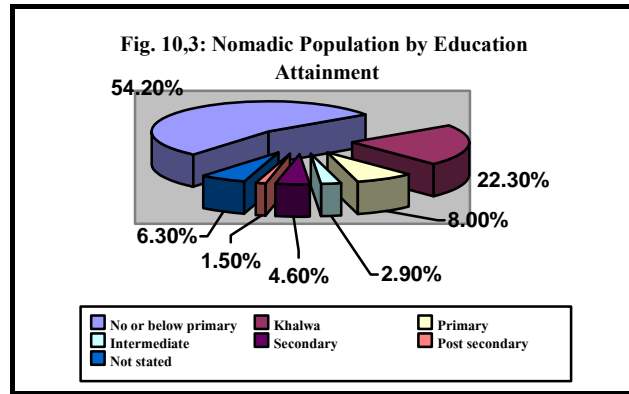
2.4 Literacy status

The 2008 census results show that:

- 78% of nomads are illiterate, which is more than double the national average of 38.8%.
- 82% of females are illiterate.
- Over 70% of the literate population is under 25 years of age for both sexes.
- About 91% of the nomadic population never attended school (88% male and 93% females) and this includes over 82% of the population aged 6–19 years.
- Only 3.9% of nomadic population above the age of 6 years is currently attending schools; 5% of males and 2.7% of females
- 86% of females in the 6–19 age group never attended schools¹.

As shown in Fig. 10.3 below only about 1.5% of nomadic population has attained a post secondary education and 15.5% have attained or are currently enrolled in primary (8%) intermediate (2.9%) or secondary education (4.6%). Over 22% have been or are currently enrolled in religious (Khalwa) education. The majority (54.2%) have not received any education.

¹ See Nuha Mohamed and Nazla Abdelrahman (1010), Table 13.14, p. 486



Although nomadic life style and cultural values have contributed to this distressing picture, more influential factors seem to have been: (a) the limited access to education institutions in nomadic region, (b) poor facilities in available school, (c) the irrelevance of curricula to nomadic community needs, and (d) the general decline in the value of education as means of employment and for awareness raising. All these factors tend to discourage children from going to school or push them to drop out.

2.5 Material Status:

As shown in Table 4, 55.4% of nomadic population above 12 years of age is reported married, compared to 29% who never married. About 65% females above 12 years are reported married, 3.6% widowed and 1.4% divorced and only 21% reported as never married. Compared to urban and settled population, nomadic communities are known for early marriage and limited divorce cases. About 35% of females and 21% of males were married under the age of 20 years and 15% of females under the age of 15 years. According to the 2008 census results, the median marriage age for nomads is 27 years for males and 17 years for females and the average marriage age is 24.7 and 20 years for males and females respectively¹.

Table 10.4: Distribution of Nomads 12 Years and Over by Sex and Marital Status (%)²

Status	Never Married	Married	Widowed	Divorced	Not stated	Total
Total	29.4	55.4	2.3	1.0	11.9	100
Males	36.3	47.4	1.1	0.7	14.5	100
Females	21.3	64.9	3.6	1.4	8.8	100

¹ Ibid, p 500

² Ibid Table 13.19, p. 497

2.6 Fertility

Nomads are generally known for their low fertility compared to settled population. About 58% of married nomadic women in the age groups 15–49 years have given birth to between zero (16.6%) and 3 children and only 8% have 7 or more children. The average for the 15–49 age group is 3.3 children and as age increases the population of women with lower parity generally decrease. For example, the proportion of children drops sharply with age up to 30–34 then remains almost constant for all older age groups. This has been attributed to older women's tendency to equate having no surviving children with childlessness and/or the gradual diminishing of primary sterility among young women as a result of the advances in medical care. According to available figures fertility among nomadic women does not show any differentials in relation to education or economic activities¹. However, it is important to draw attention to the enormous variations between different nomadic communities, most noticeable the very low fertility rate in the Red Sea State compared to those of Darfur

2.7 Mortality Rates

As indicated in the Table 10.5 below, mortality rates among nomads are generally high particularly among infants and women during maternity. The indicators reflect the poor living conditions of nomads, absence of or poor health services and limited health awareness. Maternal mortality is also high among nomadic groups, more than double national average (1413)². Rates also vary considerably between states, and are particularly high in South Darfur and Kassala states³ (Table 10.6).

Table 10.5: Mortality Indicators Among Nomads

Indicator	Value
Crude Death Rate CDR	16/ ¹⁰⁰⁰
Male Crude Death Rate	15/ ¹⁰⁰⁰
Female Crude Death Rate	16/ ¹⁰⁰⁰
Infant Mortality Rate IMR	64/ ¹⁰⁰⁰
Child Mortality Rate	57.3 / ¹⁰⁰⁰
Maternal mortality rate	503 / ^{100,000}
Highest Age Specific Death Rate	71/ ¹⁰⁰⁰ at age 5-9 years
Lowest Age Specific Death Rate	4.3/ ¹⁰⁰⁰ at age 10-14 years
Gross Reproductive Rate (GRR)	2.5
Net Reproductive Rate (NRR)	1.7
Life Expectancy at age 20	50 years
life expectancy at birth	64.1 years

Source: Nuha, p. 522

¹ Ibid, pp 514-518

² Al Noory, p. 152

³ Ibid pp 154-156

Table 10.6: Maternal Mortality Among Nomadic Women

State	MMR (Total Population)* per 100,000 Women	MMR (Nomadic Population)** per 100,000 Women
Northern	437	0
River Nile	443	499
Red Sea	556	672
Kassala	466	565
Gedarif	564	694
Khartoum	389	-
Gezira	422	-
White Nile	503	621
Sinnar	509	553
Blue Nile	578	627
N. Kordofan	532	648
S.Kordofan	591	639
N. Darfur	618	648
W. Darfur	615	633
S. Darfur	581	727
Sudan	417	503

Sources: * Al Noory, (2010) p 143, ** Nuha (2010)

2.8 Disability among nomads:

About 7.4% of nomadic are classified as disabled, almost equally between males and females and in all age groups but about 50% of cases are under the age of 35 years. Most widespread forms of disability are blindness and seeing difficulties (32%), mental disability (27%), hearing difficulties (18%), and loss or limited use of legs or arms (19%)¹. While most of these disabilities are caused by malnutrition and limited access to health services, some of the physical disabilities were caused by conflicts, particularly land mines as most of civil conflicts in Sudan are in nomadic regions.

3. Economic Activities:

Of the 901,000 economically active nomads (48% of total), about 85% are effectively working. Although livestock is the main source of livelihood for nomadic groups, a substantial proportion of them is engaged in other economic activities. About 70% of the employed are engaged in primary occupations, 12% in skilled agricultural jobs and 3.5% in management and professional occupations (Table 10.7). Agriculture represents the activity second to animal herding and involving 35.4% of nomadic households who mainly practice rain-fed seasonal cultivation. In addition to the tendency of diversification of income/livelihood sources, nomads also diversify their herd and rarely depend on one type of animals. Both are considered part of the coping strategies to counter the adverse environmental conditions and

¹ Ibid, Table 13.8, p. 493

other natural hazards, particularly unreliability of rainfall. Diversification also indicates the greater engagement of nomads in the market, compared to old times.

Although nomadic population constitutes less than 8% of Sudan population all estimates hint that they own 70-80% of the national herd. As shown in Table 8, below, goats, sheep, camels and cattle are the principle animals raised by nomads. About 48% of nomadic households raise poultry, an indicator of the growing trend of nomadic households' total or partial settlement.

Table 10.7: Percentage Distribution of Economically Active Nomads (10 years +) By Age and Occupation

Age Group	Major Occupation groups										
	Total	Managers	Professional	Technicians	Clerical support workers	Service and Sales Works	Skilled Agricultural, Forestry & Fisheries	Craft & Related Trade Works	Machine operators and assembly workers	Primary Occupations	Not Stated
%	100	3.0	0.5	0.2	0.1	1.1	12.2	0.9	0.2	69.8	12.0
10 – 14	14.8	2.2	1.2	1.9	0.7	5.8	6.7	7.0	2.0	17.3	14.4
15 – 19	13.8	5.8	3.7	6.5	5.3	8.8	8.6	9.4	4.9	15.1	14.6
20 – 24	12.6	11.0	13.7	11.3	12.2	12.7	11.2	11.9	11.5	12.5	15.1
25 – 29	11.8	13.7	19.7	14.0	17.5	15.1	12.8	13.8	14.1	11.1	14.0
30 – 34	11.9	16.4	19.8	15.7	21.6	14.8	13.5	14.1	17.7	11.2	12.7
35 – 39	10.4	15.1	14.9	15.1	15.1	12.8	12.3	14.3	15.0	9.8	9.9
40 – 44	8.5	13.0	10.3	11.7	8.4	10.0	10.7	10.8	13.9	8.1	7.2
45 – 49	4.7	7.0	4.5	6.0	9.2	6.9	6.4	6.2	8.2	4.4	3.8
50 – 54	4.2	6.1	4.4	7.4	2.7	5.2	6.2	4.9	6.1	3.9	3.2
55 - 59	2.1	3.1	1.9	2.9	2.1	2.9	3.0	2.6	2.7	1.9	1.6
60 – 64	2.4	3.3	2.3	3.7	2.4	2.8	4.0	2.5	1.8	2.3	1.5
65 – 69	0.9	1.3	1.0	1.5	1.4	0.9	1.6	0.9	1.2	0.8	0.6
70 – 74	1.0	1.2	1.0	1.5	0.7	0.9	1.8	0.9	0.6	0.9	0.7
75+	0.7	0.9	0.7	0.8	0.9	0.6	1.3	0.7	0.3	0.6	0.7

Table 10.8: Distribution of Nomadic by Type of Animals Raised

Animal Type	Total HHs %	Nomadic HHs %
Camels	47	60
Cattle	17	57
Goats	14	82
Sheep	22	73
Donkeys	20	81
Horses	7	35
Poultry	11	48
Pigs	6	0

One of the main problems facing nomadic communities is the shortage of fresh water. According to the 2008 census figures, about 77% of nomadic households depend on open and seasonal sources for water supply, including shallow wells and open hafirs or other open sources (*Turda, Fula ..etc.*) and only 16.4% rely on permanent and/or protected water sources such as deep tube wells, boreholes and surface wells with hand pumps. Over 7% rely on water venders (tankers) supply¹ (Table 10.9).

Table 10.9: Water Sources for Nomadic Households

Source	No of HHs	%
Shallow Wells	327,815	63.7
Deep Tube wells & boreholes	55,987	10.8
Static open water sources (Turda, Fula)	29826	5.8
Water Vendors (Tankers, animals)	35,157	6.8
Surface well with hand pump	27470	5.3
Hafir without Filter	20573	4.0
Running Open Water Source	10415	2.0
Hafir with Filter	1466	0.3
Water Filtering Station	1410	0.3
Others	729	0.1
Not Stated	3861	0.8
Total	514709	100%

From the above account based on the 2008 census it can be concluded that:

1. Nomads continue to suffer from underdevelopment as indicated by the human development indicators recorded and the shortage of basic services
2. Nomadism as a source of income for nomads is in decline as indicated by the engagement of nomads in secondary and seasonal activities or the pursuit of alternatives to the sector through migration to towns and or settlement

¹ Nuha Mohammed El Amin Ahmed and Nazla Abdel Rahman (2010)

3. Prompted by forced displacement or difficult living conditions, there is a growing trend of settlement among nomads but for many of them outside their home areas or in towns
4. The scarcity of resources, restriction of movements caused by expansion of agriculture, mining and oil exploration activities into traditional pasture areas and damage to traditional stock routes are contributing to tribal conflicts among nomadic groups and with the settled farming population
5. Nomadic women and girls seem to be the main victims paying most of the price of environmental degradation, conflicts in nomadic regions and state negligence of nomadic regions with regards to basic service provision. The high price is reflected in the high mortality rates, especially maternity-related death, hard and hazardous work to fetch water and other household needs to maintain the family and the lack of opportunities for education and development

4. Changes among Nomads and Pastoralists:

Nomadic population and the pastoral sector in general have, over the last three decades, experienced several shocks which negatively affected the population and their resources, especially their livestock. These include:

1. Frequent epochs of drought which, in many cases and places, led to massive loss of livestock and the displacement of the owners.
2. Continuous and systematic erosion of range and natural grazing areas by modern agriculture both irrigated and rain-fed
3. The explosion of urbanization and increasing demands of the urban population for rural resources that were mainly met from pastoral domains
4. The increasing insecurity and flaring and expanding wars and armed conflicts in several parts of Sudan, all of them in nomadic/ pastoral areas. Conflicts are either over resources in the areas of scarcity between tribal groups or larger political conflicts that cause extensive destruction to natural range and pasture areas.
5. In appropriate or irrelevant development interventions that in some cases cause more harm than benefit

In defiance of these crises, the nomadic/pastoral sector proved to be very resilient and, except under extreme circumstances, it managed to survive and regenerate and rebuild the herd, at least quantitatively in terms of livestock numbers. However, in terms of structures and management systems, the sector experienced great changes that were in most cases by default more than by design. The most influential factor leading to those changes was the policies directed towards the sector by the State and other

"development" agents. These policies and development approaches towards the pastoral sector were by and large governed, in part, by the decision makers' incorrect perception and conceptualization of the sector but, mainly, by instant reactions to circumstances in the form of crises management.

Up to the 1970s, the pastoral sector in Sudan used to possess over 90% of animal stock that was totally dependent on nature and managed through traditional, tribal/ community-based system of values and tradition. In that system, herds' management, resource utilization system and social relations were controlled by collective decisions. Relationship with the market was limited and its magnitude was primarily sized by the basic and seasonal needs of the pastoralists or, in several cases, by the need of disposing livestock, dictated by the threats of drought or epidemics. Government interventions were largely targeting animals and limited to the improvement of veterinary services (animal health) or temporary interventions to provide relief in conditions of crises and in return the livestock owners pay taxes and cover costs of some of the services their animals received. Although some services were provided to the people free of charge, such as health and education, very few nomads benefited from it. The few attempts to push pastoralists to commercial production and market relations have largely failed. Despite its significant contribution to export earnings (13-15%), expenditure on the pastoral sector received very little of the public expenditure on productive sectors, most of it going to the livestock (water points, drugs, veterinary services etc..) and not the owners.

The academic debate about nomads and nomadism, then, was also dominated by myth, misconceptions and pessimism about the future of the sector and the debate was dominated by the calls for what was called "modernization" and sedentarization of nomads.

At the policy level, during the 1970s, nomadic communities experienced four major changes:

1. The first major intervention to provide water in what was known as the *anti-thirst campaign* implemented by the government in the early 1970s, involving the drilling of numerous wells and hafir excavation in pastoral regions
2. The massive expansion of modern agriculture in traditional nomadic grazing lands: irrigated in Central Sudan (e.g. Kenana and Rahad schemes) and rain-fed in Western and Eastern Sudan, e.g. Habila and other mechanized schemes.
3. The abolishing of the "Native Administration" which marked the beginning of the state loss of control over the sector
4. The large scale involvement of the state in livestock exports, particularly to the Arab markets

The implications of these interventions were:

- a. Overgrazing resulting from the squeezed grazing areas and from livestock congestion around water points
- b. Increasing demand on livestock production and gradual engagement of the sector in the market
- c. The state loss of taxes (*ushur*) that used to be collected by the native administrators

5. The Debate on Nomads and Pastoralists

The seventies also witnessed a strong debate about nomadism among four schools or view points, split between the two positions of nomadism as "a way of life" or "a way of making a living". The first group, which saw it as a way of life, was impressed by the self containment of the pastoral society in which the animal and the owner interact together with the physical environment in a harmonious way, which enables the system to reproduce itself. The second group shared the same view but emphasized the economic aspects. For them, most pastoral groups were utilizing areas that would have not been used otherwise and they do not constitute any demand on the State. Among this group, some called for the provision of some services such as provision of water and mobile services (schools, dispensaries) to serve the pastoralists as they follow the herds in their seasonal movements. The third group, which is composed of government officials, some economists and animal production specialists, concentrated its efforts on how to maximize the profit from exploiting the livestock wealth. As a result, official policy has, as it still does, catered for the animals more than the owner. Improvement of veterinary services and encouraging exports were from then onwards the main task of the Ministry Agriculture and Animal Wealth. The fourth and much smaller group, however, put more emphasis on environmental issues as combating desertification and environmental degradation. Unfortunately, many of them accused pastoralists for causing desertification on the grounds of overstocking, overgrazing, clearance of vegetation...etc. What was generally common for all these groups and the policies adopted was the concern about the animals and negligence of the owner, as indicated by the types of interventions undertaken.

The environmental crisis of the 1980s together with the penetration of "new" western conceptualization of pastoralism which accompanied the influx of foreign NGOs and aid agencies that contributed the relief efforts after the famine of 1984/5, in addition to the growth of some national environment groups, forced the reopening of the debate about pastoralism. The new debate, learning from past experience and under the pressure of the crisis, covered the following areas:

- a. adaptation systems and coping strategies of nomadic communities;
- b. the development of environmental indicators and early warning systems; and, to a lesser extent
- c. a new drive to respect and appreciate the pastoralists' wisdom in the utilization of natural resources and a belief that they were victims of rather than instigators of environmental degradation.

The displacement caused by the drought and famines of the 1980s, brought nomadic groups into stronger contacts with urban and settled population and with the market, as most of the displaced camped around towns. The second half of the 1980s witnessed a gradual recovery of the pastoral stock from the drought and famine shock, especially the smaller animals and also new herd management systems emerged. Official policies continued to be governed by the old wisdom, focusing on the improvement of breeds, production and productivity and increasing livestock and meat exports, but very little of the revenues generated went to pastoralists. Also the much talked about integration of livestock in the agricultural cycle, never materialized.

In the 1990s, with the decline of agricultural production and in the absence of other alternative sources, a substantial portion of the state revenues came from the pastoral sector through exports, tax and Zakat collection, while it did not cost any inputs from the State. In recognition of its importance, the state established the Livestock Resources Bank in 1993 as a public company, one of its main objectives was to develop and upgrade projects relating to animal resources sectors, the traditional sector and small producers. At present the bank has 18 branches but 8 of them in Khartoum, the lowest in livestock production but only three in each of Darfur and Kordofan¹ which together produce over 50% of animal stock of Sudan, the thing that indicates the bank's limited outreach to the nomads.

The pastoral sector has also been significantly affected by the liberalization and privatization policies of the 1990s and the adoption of the federal system of government, as a result of (a) the expansion of cultivated land (irrigated and rain-fed) at the expense of the natural grazing areas², while at the same time, no serious effort was put towards the improvement of range stated in the NCS, thus squeezing pastoralists more and more into yet smaller areas; and (b) the high rise in animal taxation that was vigorously pursued to compensate for deterioration in agricultural crop production and to fund the then newly established state governments. Besides, all the inputs to the sector were again put on the stock and excluded the owner.

¹ <http://www.ar-bank.sd/en/index.php>

² The 10-fold expansion in agricultural land envisaged in the National Comprehensive Strategy (1992-2002) implied the reduction of natural grazing areas utilized by pastoralists by 60.7 million feddans

Other factors that have some direct or indirect influence on the sector were:

- a. The emergence of formal bodies and structures to look after the interests of nomads and pastoralists. First, was the formation of the Pastoralists Union (1991) as the first formal organization of pastoralists, thanks mainly to the academics and researchers who put the effort in sympathy with the pastoralists. The impact of the union is still intangible, as it is largely dominated by urban-based educated tribal elite. As a result, it contributed little to increase nomads' negotiating powers in demanding services or sharing revenues from the rising animal prices. The second was the establishment of the Nomads Development Council in 2007, under the Presidency to serve the interests of nomadic groups in Greater Darfur. The main objectives were to coordinate with relevant state ministries to facilitate nomadic movements, to provide services and development projects to nomads, improve the animal breeds and production, to empower nomadic women and enhance the culture of peace and coexistence between pastoralists and farmers¹. Although the mandate specified in the Presidential Decree was limited to Darfur, the Council has extended its services to several nomadic groups in other parts of Sudan. Also a number of informal and voluntary organizations were established during the 1990s to serve nomads, most important of which at the national level are Al Masar, Al Hawdaj, SUCA all providing services to nomads and their livestock.
- b. The sharp rise in urban husbandry, which is dependent on improved and imported breeds and managed in more modern and scientific way under controlled condition. This again made use of the credit provided by the Animal Resource Bank and reduced the demand for animal products from pastoralists.
- c. The flaring of civil wars and localized tribal conflicts in southern, western and eastern Sudan, all taking place in pastoral areas. These wars led to extensive human displacement and livestock mobility towards safer area. This, on the one hand, denied pastoralists the use of natural grazing and raised production costs and, on the other, considerably reduced what was known as "the disease free zones", as animal diseases started to spread in most parts of Sudan. Nomads and nomadic herds were also under constant security hazards and were subject to animal raids which spread in most of the war zones and adjacent areas.
- d. Several NGOs that started working with pastoral societies during the relief era of the 1980s, in the 1990s shifted to provide some development and social services in the form of water provision,

¹ <http://www.nomadsdc.net/nomad/contact.php>

restocking and breed improvement, with the objectives of revitalizing the pastoral system through restocking and/or range improvement ..etc. At a latter stage, these NGOs started to engage more and more into community development projects, providing nomads with basic health service and drinking water, and adult education.

This new drive among NGOs has been driven by several factors, including:

1. The reopening of the global debate on pastoral resources management systems and herd dynamic in which some development actors were very idealistic and optimistic in their approach and/ or expectations.
2. The rise in the global concern about the issue of climate change and its impact
3. The failure of the late 1980s fallacy of putting the pastoralists back where they were before the drought¹
4. The drastic reduction during the 1990s of the resources available to NGOs working in Sudan at the same time of the increasing crises in the pastoral sector.

The new interventions have also involved providing alternative sources of livelihood, capacity and skill development programmes and more emphasis on human development in the form of literacy and female education, health and sanitation services and awareness raising programmes. One important characteristic of most of these interventions was that they were carried out with the consent and the participation of the nomadic groups.

All these changes and developments implied new realities that brought back the debate on nomadism and pastoralism to the forefront, though mainly on resource management and adaptation systems. These realities include:

1. The pastoral sector although it possesses about 80 % of the animal wealth in Sudan and contributes about 13-15% to the GDP, it is still marginalized in terms of expenditure and investment.
2. Most of the intervention has so far concentrated on the improvement of animal and have by and large left out the pastoralist in terms services and/ or infrastructure.
3. Since the 1970s pastoral areas, are being squeezed as a result of expansion of agricultural schemes and more recently oil exploration or became inaccessible because of armed conflicts

¹ See Abdel Ati, H.A., The Development Impact of NGOs Activities in the Red Sea Province, Sudan, Development and Change, Vol. 24, Jan. 1993

4. Although prices of livestock have risen substantially over the last two decades and the country's earnings of livestock exports have steadily increased, the share of the pastoralists in the revenues generated is still very negligible. Thanks to the liberalization policies adopted in the early 1990s and the government withdrawal of support to social services, nomadic groups limited benefits have been diminished by the rising costs of production inputs (e.g. animal feed and drugs), the high cost of consumer of living, heavy taxation and by the unfair terms of trade that favor the urban-based exporters and middlemen.

In short, although the nomadic population animal stock has returned back to its pre-drought levels, they were denied most of the "free" natural inputs (from nature or the state subsidy) and are paying higher production costs and taxes. This probably explains why engagement in secondary/seasonal occupations and temporary migration are on the increase. Thus, the pastoral sector remains ramshackled by (a) traditional management systems that might not necessarily be compatible with the present economic conditions; (b) the rising production costs; (c) unfair terms of trade; (d) the growing competition from urban husbandry; and (e) the continued negligence by the State to their service and development needs. All these factors may threaten the viability of the sector under the present circumstances and question its sustainability.

In the most recent study conducted by Feinstein International Centre of Tufts University and published in June 2012 on pastoralism and pastoralists in Sudan¹, carried out in collaboration with UNEP, SOS Sahel and the Nomads Development Council, the major challenges to the pastoral sector as identified by the stakeholders and summarized in Table 10, include:

1. Environmental degradation and depletion of natural resources (50.4%);
2. Conflicts and security threats (tribal, resource-based, political conflicts) (12.9%);
3. Lack of services, especially health and education (11.7%);
4. Problems related to state policies towards the pastoral sector including the poor understanding of the sector, marginalization of pastoralists and limited finance to the sector (9.9%); and

¹ Helen Young, Afaf Rahim, Abdelhafiz Mohamed and Merry Fitzpatrick, "Pastoralism and Pastoralists in Sudan: A Stakeholder Mapping and Survey", Feinstein International Center (FIC), Tufts University, June 2012

5. Problems related to livestock mobility (livestock migration, stock routes, restriction of movement) (9.6%)

Some broad areas that need to be looked into in a more comprehensive way include:

1. Pastoral resource management system under conditions of scarcity, uncertainty and competition, and how to improve forecasting skills to attain stability and food security for both pastoralists and their stock.
2. Means and mechanisms of pastoralists' empowerment via organization & awareness raising and capacity development and skill training.
3. Provision of basic services, especially water, education and health in a cost-effective and sustainable manner
4. Highlighting the problems and potentials of the pastoral sector (through research and the mass media (to attract the attention of government authorities, development agencies and investors.
5. The new trends among pastoral groups, including the gender roles and division of labor

Table 10.10: Major Challenges facing Pastoralists

Challenges	%	%
Environmental and natural resources issues		50.4
Water scarcity	16.0	
Pasture scarcity and depletion	10.0	
Problems relating to natural resource management	8.1	
Agricultural expansion	5.5	
Land tenure and land rights	4.1	
Climate and climate change	3.8	
Desertification	2.9	
Conflicts and Security		12.9
Education, health & basic services		11.7
Government policies		9.9
Marginalization	4.1	
Governance (voice)	2.5	
Poor understanding of pastoralism	1.9	
Finance and trade	1.4	
Mobility (livestock routes, restrictions)		9.6
Livestock health		3.1
Others		2.2
Total		100

Adapted from Table 1, Helen Young et. al. (2012), p. 7

6. Concluding Remarks:

6.1 The future of nomadism:

Most of the conclusions of studies on nomadic population in Sudan a few decades back opted to settlement as a policy recommendation but all attempts made proved a failure. The failures of previous attempts were due to some or all of the following:

1. Conceptual confusion between nomadism and agro-pastoralism resulting in misguided policies
2. Most policies were designed to induce settlement rather than improve the welfare of the pastoralists. Hence they focused on material change and technical solutions (Dams, water points, milk collection centers, fire lines etc..) and ignored the social dimensions that ultimately determine the pastoralists' choices
3. Development interventions were left to technicians alone and this why they focused on pastoral production and the animals and ignored the owners.
4. Several NGOs and UN agencies interventions focused on alternatives (e.g. credit and service centers) that do not necessarily suit the needs of agro-pastoralists, instead of trying to develop the system to transform itself

It is true that nomadism and agro-pastoralism are becoming less viable the way they are practiced now, but not because of internal problems as many believe, rather because of the changes taking place around them. Yet it is important to note the following:

1. Nomadism and pastoralism remain the only suitable option in some parts of the country, particularly with the high adaptation skills the pastoralists command
2. Although most conflicts are in pastoral areas, pastoralists are not necessarily the instigators of conflict
3. Like other human beings pastoralists are receptive to change if the benefits are proven and previous attempts to change them were not convincing because they were either forced on them or they were only partial or temporary measures taken by planners
4. Pastoralists have always been involved in a market economy but the least beneficiaries of it and most of the recent attempts to bring the pastoralist into market production had more to do with accessing and/or exploiting pastoralists' resources rather than a genuine integration based on fair terms of trade
5. Large scale settlement or sedentarization is not always the best solution or the viable option because of its high costs, it will generate new problems of land tenure and land rights that are equally problematic and if settlement implied converted into farmers, farming has its own

problems which are not less complicated than those of pastoralism and raises the question is land available?

6.2 The integration of nomads:

Recent reports concluded that integration of pastoralists and nomads stands as the best option and alternative to settlement¹. But the integration policy has to:

1. Be based on a new conceptualization that:
 - a. Goes beyond integration of pastoralists in the market to their inclusion in the life of the nation
 - b. Recognize that there are several forms of pastoral nomadism in Sudan and hence one model may not give all the needed answers.
 - c. Depart from the wide spread believe that conflict in pastoral areas is just over resources to an the understanding that the conflict is over political power from which pastoralist stand to loose more
2. Accepted by nomads
3. Gradual in approach with trials and experiments
4. Integrated in package that takes into account and involves resources, politics, the market and social relations.

Integration at the political level means increasing nomads' voice and enhancing their political and economic capacity to choose and compete, which requires increasing nomads' political and economic awareness, engaging them in planning processes that affect their lives, organizing them along business and economic interest as opposed to tribal lines and creating a parliamentary lobby group from MPs from nomadic areas.

Integration in the market on the other hand should target developing the productive capacity of the sector in a sustainable manner rather than replacing it and that depends on supplying nomads with information, improving breeds and productivity and setting quality standards, introducing incentives for improved production comparable to farmers' incentives, organizing livestock markets and engaging producers directly in the trading process and revitalizing the disease free zones to ensure international competitiveness.

The entry points to make it acceptable include

- Maintaining peace and security as a pre-requisite
- Food security for humans and livestock

¹ El Sammani, M.O. and A. A. Salih, Nomads Settlement in the Sudan: the experiences, the lessons and the future perspectives, a study report to the UNDP Reduction of Resource-based Conflict Project, June 2006

- Providing proof of change in attitudes and policies towards pastoralists (advance dividend of the new policy)
- New research to detect change and needs and suggest new alternatives

Research has to depart from the old wisdom of stock routes (*masarat/maraheel*) demarcation, conflict resolution and adaptation mechanism since nomadism, pastoralism, agro-pastoralism and even conflicts are in essence systems of adaptation not only to environmental changes but also to political and economic negligence and marginalization. Besides, historically pastoral groups in their customary practices and rules command the best conflict prevention and resolution mechanisms.

Research need to (a) deepen the understanding of the social and cultural dimensions of pastoralism to incorporate that in future planning; (b) study the impact on pastoral practices of changes that occurred including urbanization, federal system of government, development of other sectors, the unfair market relations in the context of economic liberalization and globalization, pastoralist exposure through the media and the communication revolution (mobiles and internet), (c) study the new phenomena among pastoralists such as urban breeders, specialized breeding (e.g. racing camels) and (d) the conditions of the ex-nomads who settled voluntarily.

References:

Abdel Ati, H.A. "External pressures on indigenous resource management systems: a case from the Red Sea Hills, Eastern Sudan", in A. G. M. Ahmed and H.A. Abdel Ati (eds) *Managing Scarcity: Human adaptation in East African*, OSSREA, Addis Ababa, 1997

Abdel Ghaffar M. Ahmed and H.A. Abdel Ati (eds) 'Managing Scarcity: *Human adaptation in East Africa*', OSSREA, Addis Ababa, 1997

Alnoory, Mohammed Hamad, "Maternal Mortality Analysis", CBS National Analytical report, Vol 1.0, CBS, 2010.

Central Bureau of Statistics (Sudan), Sudan Statistical Yearbook, 1998

Central Bureau of Statistics (Sudan), Fifth population and Households census (2008), 2010

David Zeidan, "Nomads of The Middle East", The Middle East Handbook, Volume 4, OM-IRC, 1995
Pantuliano, 2000, pp 7-8

El Sammani, M.O. and A. A. Salih "Nomads Settlement in the Sudan: the experiences, the lessons and the future perspectives", a study report to the UNDP Reduction of Resource-based Conflict Project, June 2006

Helen Young, Afaf Rahim, Abdelhafiz Mohamed and Merry Fitzpatrick, "Pastoralism and Pastoralists in Sudan: A Stakeholder Mapping and Survey", Feinstein International Center (FIC), Tufts University, June 2012

Manger, L. O., Abd el Ati, H., Harir, S., Krzywinski, K. and Vetaas, O.R. "Survival on Meagre Resources. Hadendowa Pastoralism in the Red Sea Hills". Uppsala: Nordiska Africainstitutet, 1996.

Nuha M. E. Ahmed and Nazla Abdel Rahman, "Demographic and Socio-economic Characteristics of Nomadic Population", Unpublished CBS Thematic Research paper, 2010

Pantuliano, S. "Changing Livelihoods: Urban Adaptation of the Beja Pastoralists of Halaib Province (NE Sudan) and NGO Planning Approaches", Unpublished PhD Thesis, University of Leeds, 2000.

CHAPTER XI
Internally Displaced Persons
a case study on IDPs in Khartoum

Chapter XI

Internally Displaced Persons

a case study on IDPs in Khartoum

Hassan A. Abdel Ati and Munzoul A. Assal

1. Introduction:

According to IDMC (2012), as of the end of 2011, the number of persons who have been uprooted from their homes as a result of conflicts and violence across the world is more than 26 millions, the vast majority of them in Africa. In addition, there are 42.3 million persons displaced by natural hazards 92% of them in Asia¹. Internal displacement affects 52 countries across all continents, 20 of them in Africa where displacement is usually associated with civil conflicts and human rights violations. More than a third of IDPs are in Africa, where they outnumber refugees by five to one. Sudan, Democratic Republic of the Congo (DRC) and Somalia have the continent's largest populations of internally displaced people².

With the massive increase in IDP numbers over the last two decades, interest in addressing the needs of IDPs has also grown steadily among a number of UN, international and national non-governmental organizations. Thus, responses to displacement situations are now involving far more actors than before. This increase in the number of actors has influenced both the definition of "IDPs" and the approaches to addressing their needs. The United Nations defines internally displaced people (IDPs) as "persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized state border" (UN Guiding Principles on Internal Displacement, 1998). This is a general definition that includes all persons who are forced to leave their original areas. However, there are many qualitative differences between these types of groups. For instance, some people experience impoverishment during the process of forced movement, while others do not. Similarly, some people move as a result of moving institutions, as was the case with the universities in southern Sudan when relocated to the north due to civil war. The students and personnel of these universities indeed experienced some form of displacement, but not the same as the one experienced by ordinary

¹ UNHCR, 2012 - <http://www.unhcr.org/4ec230ebb.html>

² Internal Displacement Monitoring Centre (IDMC) Internal Displacement in Africa: A development challenge; Exploring development initiatives to alleviate internal displacement caused by conflict, violence and natural disasters, 2012, p 3.

southerners who were put in IDP camps around Khartoum. Therefore, that the term displacement is analytically useful not as a label for a generalized kind of person or situation, but only as a broad legal description that includes within it a world of different socio-economic statuses (Assal 2002, Malkki 1995).

In most African countries, however, the least active in trying to meet IDPs' needs are national governments and national NGOs, either because of lack of capacity or the lack of will. In fact with both groups, refugees fare far better, mainly because there are established legal instruments that allow the UN and the international community to provide assistance, resources and protection. Among the millions displaced in Africa many were targeted by their own governments and the efforts to offer them protection were undermined by the intensified counter insurgency campaign under the pretext of the “War on Terror”¹. For IDPs, unfortunately, the lack of that legal status usually slows national governments' responses and in Africa, quite often national governments are themselves the cause of IDPs' predicament. As shown in table 11.1 below, in 2003 the total number of IDPs was just under 25 million, more than half of them in Africa².

Table 11.1: Distribution of IDPs Worldwide by Region (2003)

Region	No of countries	IDPs (millions)	%
Africa	20	12.7	51.6
Asia-pacific	11	3.6	14.6
Americas	4	3.3	13.4
Europe	12	3.0	12.2
Middle East	5	2.0	8.1
Global	52	24.6	100.0

Sources: Global IDP data base.

While IDPs in all countries share similar conditions and characteristics, in Africa some new features have emerged during the last two decades, including:

- a. The role of national governments is either limited or absent.
- b. Most of the displacements are caused by civil/ ethnic conflicts.
- c. IDPs are often targeted by fighting factions (government troops, rebels or both warring parties), bringing to the forefront the element of protection.
- d. Unlike the 1980s, when displacement was in search of survival, at present most displaced are fleeing the threat of immediate death and are more likely to loose all their properties and assets.

¹ NRC, Global IDP Database Project, Sudan Country Profile, 2004, p.7

² Hassan Abdel Ati Displacement and Poverty in Khartoum: *two faces of the same coin?*, A Study Report for MEAwards, the Population Council, Cairo, Egypt, 2004

1.1 Displacement in Sudanese History:

Internal displacement in Sudan is not a new phenomenon, even though since the mid 1980s population displacement caused by famines, civil wars has become the main form of population mobility in the country. Historically, the population of Sudan has been highly mobile to the extent that on average 40 percent of the total population in Sudan is believed to be on the move every year for different motives and durations¹. In the modern history of Sudan, the Mahdist period (1885-1898) witnessed massive population displacement due to internal wars between the different tribal groups, and between these groups and Mahdist forces (Al-Mubarak 1995), the policy of forced military conscription and external wars that the Mahdist fought against Abyssinia which led to population destabilization. Forced conscription policy, while resisted, led to migration particularly from western Sudan, to the national capital. When the Mahdist rule collapsed in 1899 through the Anglo-Egyptian invasion, some migrants returned to western Sudan, others dispersed in different parts of the country, especially Gedarif area while others remained in the national capital.

The process of migration and displacement led to population mixture that in a way shaped the current national scene in Sudan. The south was an exception to the extent that the Mahdist influence was minimal. The relationship of IDPs from the western Sudan with the host communities in central Sudan has social, economic and political implications for nation building and national integration. While the different types of population movements in Sudan have historical trajectories that require investigation, the focus in this paper is primarily on internal displacement from the 1980s onwards.

2. Recent Displacement in Sudan:

Long years of drought and of protracted conflicts in Sudan resulted in massive population displacement. Whole communities were uprooted and forced to take refuge in major urban centres; notably Khartoum. The Sudan Government estimated that there were 35,000 IDPs in 1983, 1.9 million in 1989, 3.7 million in 2003. But the UN OCHA estimated IDPs to be 4.3 million as of August 2002. Only about 700,000 IDPs in Sudan live in camps². Although precise numbers are difficult to determine, it is estimated that the displacement caused by the Darfur crisis has increased the number of IDPs from more than 4.5 million to nearly 5.5 million by 2004 (17% of Sudan population). Until 2010 it is estimated that there were between 4.5 and 5.2 million internally displaced persons (IDPs); in Darfur, Khartoum, South Kordofan and South Sudan. While the civil war in South Sudan

¹ Hamid, 1996, p. 6

² Global IDP Project, 2004 p 55

(1983-2005) already displaced over 2 million southerners who sought refuge in the north, in Darfur the failure to an inclusive peace agreement prevents the large-scale, safe return of more than 2 million IDPs and refugees who remain in displacement¹ in the camps or in the major towns of Alfashir, Nyala and Al-Gineina. In 2006, it was estimated that there were 6 million IDPs in Sudan (Verney, 2006). As shown in Table 11.2 below, and according to OCHA reports prior to the signing of the CPA and Darfur conflict there were 4.3 million IDPs in Sudan, most of them took refuge in Khartoum. By 2010, the number has risen to almost 5 million as a result of the Darfur crisis and the limited return of IDPs from South Sudan, especially from Khartoum.

Table 11.2: Internally Displaced Population in Sudan (2002 & 2010)

Region	IDPs 2002	IDPs 2010
Khartoum	1,800,000	1,500,000
East Sudan	102,370	420,00
Central	38,000	
Darfur	203,000	2,968,000
Kordofan	555,500	80,000
South Sudan	1,598,250	
Total	4,317,720	4,968,000

Source: OCHA, Aug. 2002, IDMC, Dec. 2010

The question of reliable figures, however, remains one of the main challenges in dealing with displacement in Sudan. What is clear from the table is that by 2010 there was a slight drop in the number of Khartoum IDPs (mostly returnees to south Sudan) but a massive increase in Greater Darfur states, in addition to south Kordofan and the eastern states. These figures are volatile and fluctuating mainly because of the continued conflicts in Darfur, Blue Nile and South Kordofan. UNHCR's Global Appeal 2011 uses a lower figure of 4.3 million for all of Sudan as of December 2010 and 4.4 million for December 2011, only 30% of them are reached with humanitarian assistance²

Around Khartoum, IDPs were settled in four official camps that were established in 1992. The idea of establishing these so-called official camps was to make possible the provision of services to IDPs, although at the time of establishing these camps their location was far from city centers where IDPs could get work opportunities. Until 1998, international NGOs provided food, health and education for IDPs, but in subsequent years NGOs scaled down their intervention in camps around Khartoum, particularly in 2003 when the crisis in Darfur started, and, following the signing of the

¹ <http://sudan.iom.int/index.php?lb=en>

² <http://sudan.iom.int/reports.php?lb=en>

Comprehensive Peace Agreement (CPA) in 2005, international NGOs shifted their focus to Darfur and South Sudan. IDPs around Khartoum were left largely on their own. The examples of two IDP areas (Jabarona and Al Fath) illustrate how IDPs strive to seek out their living in the urban context, and how incipient community based organizations attempt to serve their communities. While official efforts to serve the community of IDPs, especially around Khartoum had little success, a major step toward integrating IDPs was the policy of reorganizing camps into neighbourhoods. To the extent that the majority of targeted IDPs are from southern Sudan, the results of the referendum represented a blow to such policies, and the country missed an important opportunity for national integration and peace building.

The implications of internal displacement on human development are grave. The overall picture is marred with problems and challenges, especially in the national capital, Khartoum, where it is marked by extreme socio-economic inequalities. The expansion of squatter settlements and IDP camps at the same time of the remarkable real-estate and infrastructural development in Khartoum, provide evidence to the widening gap between the rich and the poor.

3. National IDP Policy and Response¹:

The main pillars of the Sudan government IDP policy, as stated at the Ministerial Conference on Internal Displacement in the IGAD Sub-region (Sept. 2003), include:

- Overall goals of Sudan's National Policy for IDPs include employment, development, promotion of peace, and national unity;
- Implementation of IDP policy will be guided by issued national resolutions and decrees and by international covenants ratified by the GOS;
- Short-term policy measures include reception, registration, provision of basic needs, protection as well as assessment surveys;
- Mid-term policy measures include rehabilitation of infrastructure, training, income generation, and reconciliation activities;
- Long-term policies include resettlement and return, land and property rights and provision of agricultural implements.

Since 1988, the government of Sudan developed several official IDP policy documents. In 1995 it set up the Humanitarian Aid Commission (HAC) which is responsible for managing protection and assistance to IDPs. In 2003 the Ministry for Humanitarian Affairs was created. In 2002, the

¹ Hassan Abdel Ati, 2004, p 5

government revised its 1990 National IDP Policy and committed itself to creating an IDP Department within the HAC, as well as an IDP Support Fund. None of these initiatives, however, materialized and the government's response to displaced people remains insufficient. The HAC has offered minimal assistance, and its early warning system appears to focus exclusively on natural disaster rather than man-made risk factors (UN, November 2002, p.21).

Despite an encouraging government initiative to grant land to IDPs in Khartoum, the actual way this process has been carried out has raised serious concerns, as thousands of displaced families have been left homeless. Out of some two million IDPs in Khartoum state, the vast majority live in squatter areas and about 270,000 were settled in four camps in 2004. Since the government started re-planning the camps into residential areas, over 13,000 displaced families have had their houses demolished alongside schools and health facilities. Thousands of families have been left with no place to live because plots allocated are too few and no temporary shelters have been provided. One third of the households have received a new plot, but only a few could afford to start re-building their houses

4. International Response to IDPs Crisis:

International Response to IDPs crisis was characterized by¹

1. All humanitarian agencies in Sudan have been operating in a very complex environment with great political restrictions and logistical challenges given the sheer size of the country and the dispersal of IDPs.
2. Since 1998 funding has steadily decreased for all the appeals made by the UN (e.g. Consolidated Appeal Process), and funds received rarely reached half the funding needed. For example in 2003 out of the total CAP requirements, about 42% had been received and in 2004, the UN Consolidated Appeal had received only about 4 per cent of the funding asked for.. The shortfalls in pledges for food have sometimes forced WFP to arbitrarily cut rations by 50%. (NRC Global IDP Database, pp 259-260).
3. The failure to create conditions conducive to return (reconstruction and rehabilitation projects) caused many IDPs, in the Nuba Mountains for example, who had voluntarily returned home to moved back to camps.

¹ Ibid p 6

5. Causes of Displacement:

5.1 General Causes:

Internal displacement in Sudan is not an isolated phenomenon but it is both a result and a cause of the state of crisis in the country. The Sudan has the biggest number of internally displaced persons in the world, which is indeed an indicator of the protracted crisis and malfunctioning of state institutions in the country. Sudan is characterized by so much ethnic, religious, cultural, climatic and livelihoods diversities so much so that it is described as representing a microcosm of Africa. However, in political lingo and international circles, the Sudanese are classified as forming binary social categories on the basis of geography (North versus South), religion (Muslims versus Christians) and ethnicity (Arabs versus Africans). The emphasis on these broad dichotomies not only polarizes the entire country along these lines and deepens its problems, but it also overlooks the diversities that exist within each of these categories.

Rising rates of poverty (Ali 1994), rising inflation and shrinking international assistance are some of the characteristic features of the Sudanese economy from the 1980s to the present. The decline of the Sudanese economy prompted people to opt for survival strategies that in many ways contributed to escalating conflict. For example, while the move by livestock owners from north Darfur southwards fleeing drought conditions brought them into conflict with farmers in the South, rural migration to greater Khartoum conurbation in search for security, services and job opportunities contributed to the dramatic increase in the population of the national capital and hence stressed the service sector. According to the 2008 population census, the population of Khartoum, which accommodates 17% of Sudan population, equals one and a half times the population of the next 20 largest towns in the country.

As a result of oil discovery and export the Sudanese economy started to grow at faster rates averaging 8% during the period 2003-2008. However, mistrust between the CPA signatories, the continuation of US economic sanctions against the country and the international financial crisis of 2008 contributed to halt that growth. A major blow to economic recovery and growth was the secession of south Sudan, with which Sudan lost over 75% of the oil revenue, thus causing the recreation of the economic crisis of the 1990s.

The Sudanese development model has been characterized by concentrated development projects and investment in certain areas, especially in the central parts of the country in the form of modern large-scale irrigated agricultural schemes. As a result of lack of investment in the countryside, people resort to destructive patterns of land use and to armed conflicts over

depleting resources. Therefore, causes of conflicts and underdevelopment are essentially the same. We see this especially in the case of Darfur (Assal 2006, Black et al 2008). The Sudanese state has consistently favoured mechanized and irrigated farming over traditional production (rain-fed cultivation and livestock production)¹ In particular, the growth of mechanized farming schemes since the early 1970s has denied pastoralists access to seasonal grazing and to the migration routes through which they move in search for water and grazing sources; and has pushed small rain-fed farmers off the lands they once cultivated. In recent years, the state policies have particularly favoured large investors; national and foreign, through the appropriation of lands for different purposes.

In short, political instability, economic malfunctioning, misguided development policies, religious and ethnic polarization are all factors that resulted in conflicts of a protracted nature and culminated in one of the worst humanitarian situations in the world. The problem of IDPs is therefore an offshoot of the general macro political and economic failures. However, there are some specific factors that directly cause displacement, as shown in the following section.

5.2 Direct causes of internal displacement

The direct causes of displacement can be summarized in the following:

5.2.1 Drought and Famines

Droughts and famines have been one of the main direct causes of displacement in Sudan, especially during the 1980s. The 1984-85 droughts resulted in the disruption of traditional production systems in eastern and western Sudan and led to mass displacement from these areas, particularly from Darfur and northern Kordofan. A succession of dry years from 1978 to 1987 resulted in the resettlement of close to 3 million people along the Nile Valley and urban areas, especially Khartoum (Black et al 2008: 54). Droughts and famines in 1985 forced several ethnic groups, including Kababish, Kawahla, Maganeen and Zaghawa-Kagmar, to move eastward from Northern Kordofan and settle in AlSheikh Abu Zaid area in the outskirts of Omdurman. Some of them voluntarily returned to their original areas following the recovery of drought-stricken areas in 1988 (Assal 2002). However, droughts in western Sudan recur frequently; a fact that affects the decision of those displaced when considering a return to their former places

¹ In a public lecture Mohammed I. A. Kabaj claim that Khartoum state receives 65% of all development expenditure in Sudan and that in 2008, the last good year in terms of government revenues, 2% of the budget was allocated to agriculture but in actual expenditure it received 5% of the allocation (18 million SDG). The livestock sector was allocated 0.25% of the budget and it received 19% of that quarter percent. (10 million SDG)

of residence. For instance, during 1990-91 there was a drought in western Sudan which resulted in another wave of displacement from Darfur and Kordofan. From 1990 and onward, the tendency among drought IDPs was to settle in Khartoum on a permanent or long-term basis. Thus, the disruption of traditional production systems led to transforming small producers (pastoralists and farmers) either into displaced persons or to impoverished labourers who seek wage labor in urban areas.

5.2.2 Armed Conflicts:

Up to 2006, the majority of IDPs in Khartoum were from southern Sudan and the Nuba Mountains who primarily fled their areas as a result of civil war, followed in numbers by other groups from Darfur and northern Kordofan. It is estimated that 70 percent of IDPs are displaced by wars in different parts of the country. The remaining 30 percent are drought displaced who are predominantly from western Sudan. War displaced may well exceed 90 percent if recent IDPs from Darfur are factored into the numbers. It took two decades of war in southern Sudan to displace 4 million people, but less than 3 years to displace 2 million in Darfur (Verney, 2006). This means that civil war as a direct cause of displacement has differential effects; in terms of severity, duration and geographical location.

5.2.3 Forced Regrouping:

This is yet another direct cause of displacement, and is represented by forced regrouping of people in peace villages and camps in the Nuba Mountains and Khartoum, respectively, that happened during the 1990s. While regrouping in peace villages and camps may allow humanitarian organizations to provide assistance to IDPs, such regrouping represents some form of displacement to the extent that people are forced to move to certain locations. Evidence from Khartoum below suggests that IDPs who were forcibly moved to camps resisted relocation but eventually had to accept it. In 2003, some IDP camps in Khartoum underwent a process of reorganization where many IDPs were allotted residential plots.

To sum up this part, internal displacement has been driven by insecurity resulting from civil wars, by famine and droughts, and by government unbalanced development policies which have concentrated investments, development projects and services in few urban centers, notably Khartoum, and have undermined traditional rural production. In this way, state policies, old and new, directly increase incidences of migration; mainly from the countryside to towns. However, according to some researchers, "The existence of large displaced populations in Sudan is not necessarily only a by-product of internal warfare; there is also evidence to suggest that it constitutes part of a strategy aimed at controlling territory, resources, and peoples." (Hendrie, et al 1996, pp. 185-186).

6. IDPs in Khartoum:

Since early 1980s, Khartoum has been receiving millions of IDPs, especially from southern Sudan. However, since the signing of the peace agreement in 2005, Khartoum did not witness influx of IDPs, except for those who got back to Khartoum after initially returning to their original areas (IOM 2011). The information in this section thus refers to IDPs who were in Khartoum prior to the CPA (2005). In the early 1990s, the main policy of the government towards IDPs was to bring them together in fixed locations to simplify the job of providing services to them. In 1992 hundreds of thousands of IDPs who were living in squatter settlements and unfinished buildings in town were brought to the four camps established by the government (Assal 2004). The location of these camps in the outskirts of the national capital means that IDPs are not able to engage in activities that would enable them to generate income and are cut from all social service centers, which also implies that the displaced will have to be provided with relief food and services.

The camps established in 1992 were: Al Salam Omdurman (Jabarona), Al Salam Jebel Awlia, Mayo Farm, and Wad Al Bashir. In 2002, an additional area was organized, mainly to house IDPs who used to squat in some of the planned areas. The new site is called Al Fath, located north of Omdurman. In addition to these four camps which are recognized by the government, there are many other sites where IDPs live (Table 11.4). The problem of estimates about the number of IDPs is present, even with the case of official camps. Tables 11.3 and 11.4 below show the different estimates. But generally, different reports agree that there are between 1.8 and 2 million IDPs in Khartoum. Out of these, 273,000 live in camps and the rest are scattered between the town's residential areas and squatter settlements. Based on the Humanitarian Aid Commission's (HAC) estimates in 2004 the four camps (Wad Al Bashir, Al Salam Omdurman, Jebel Awlia and Mayo Farms) hosted 42,000 households, each with an average of 6-7 persons. IDPs in the camps were mainly from South Sudan and Greater Kordofan.

Table 11.3: IDP Camps Population (2004) and Services Available

Camp	Number of households	Total population	Number of basic schools	Water sources
Wad Al Bashir	7,000	55,500	4	3 containers
Al Salam	18,000	117,000	11	7 containers
Jebel Awlia	8,000	52,000	7	62 boreholes
Mayo	9,000	58,500	6	72 boreholes
Total	42,000	273,000	28	

Source: Assal, 2004.

The estimate of CARE and IOM (2003) of the total number of IDPs living in camps (official and non-officials) is provided in table (4) below.

Table 11.4: Number of IDPs in Camps around Khartoum (2003)

Camp	No of HHs	Total Population
Idd Babiker	2,571	16,712
Baraka	4,006	26,039
Salama South	2,123	13,800
Soba Aradi	3,505	22,783
Mayo Farm	5,286	34,359
Mayo Village	5,000	32,500
Dikhenat	1,600	10,400
Jebel Awlia	7,429	48,289
Wad Al Bashir	3,286	21,359
Al Salam	14,286	92,859
Total	49,092	319,100

Source: CARE and IOM 2003, p. 28.

6.1 IDPs adjustment in the urban setting:

In dealing with urban life, IDPs adopt different strategies. They initially depended on relief food provided by NGOs, which started as far back as 1984 when the first wave of displacement started. But relief distribution was greatly reduced in 1998 and IDPs in Khartoum have been left largely on their own since 2003 when the crisis in Darfur began, and most NGOs directed their attention to the crisis in Darfur and to the so-called recovery and rehabilitation of the transitional zone and the south (Assal 2008a). The cases of Al Salam IDP and Al Fath camps provide some clues as to how the displaced survive in the city.

6.1.1 Al Salam (Jabarona)

Jabarona was the biggest of the four official IDP camps in Khartoum. While officially called Al Salam (peace), the camp is popularly known as Jabarona (*we were forced*), which indicates a state of dissatisfaction of its inhabitants with the location which about 15 kilometres from Suq Libya in the western periphery of Omdurman. It was established in February 1992 to host IDPs evacuated from different parts of Khartoum and as a result, Jabarona is ethnically diverse and it is inhabited by tribes from Darfur, Kordofan and South Sudan. By December 2005, Jabarona's inhabitants stood at 117,000 persons.

Until 1998, when relief assistance was still coming a few men from Jabarona were working, mainly in construction sites in Khartoum and some women were selling tea or engaged in domestic work outside the camp, or brewing local liquor within the camp. But since 1998, when relief support started to dwindle, the population of the camp have had to increasingly rely on income generation from wage labour and the informal sector jobs. Young men and women go for work in the different neighbourhoods and sometimes stay for the whole week and return during the weekend. Women commute

daily between Jabarona, Suq Libya and other locations where they could get work or sell tea and there was considerable dependence on women for providing food to the family in the camp.

One of the problems facing IDPs from Darfur who live in Khartoum, was that they were not allowed to stay in official camps and therefore many stayed with relatives or dispersed within local communities (Young et al 2005: 104-5). Recent IDPs from Darfur use kinship networks as entry points to the town and sometimes ethnic clustering as a means for access to social protection and employment.

Another problem for IDPs was that work opportunities for unskilled work are meagre because of the huge numbers of unskilled IDPs who are looking for work. Competition is fierce and wages are low. IDPs from Darfur are engaged in marginal activities like selling water and vegetables. Women were selling food and tea and in domestic work but also under severe competition from refugee women from Ethiopia and Eritrea both in tea and food selling and as domestic workers.

Jabarona has undergone substantial change since it was established. In November 2003 the authorities began a process of reorganizing some camps. The idea was to upgrade camps into normal neighbourhoods. Jabarona was chosen. IDPs living in Jabarona at the start of reorganization were given tags to ascertain their eligibility for residential plots. The process of reorganizing which involved large-scale demolition and the camp was divided into twelve blocks; each containing 2080 plots. By the end of 2005, nine blocks were surveyed and organized. The process of reorganizing Jabarona involved bulldozing thousands of mud-brick houses. The authorities claim that reorganizing Jabarona is part of an overall plan whose aim is to provide plots for residents on legal basis and bring services to them (Assal 2006: 18). Some 25,000 families applied for the new government allocated plots and priority was given to those who were residents in the camp since 1997. From these families 11,000 could afford to pay plot fees and had the necessary documents, such as birth certificates or other form of IDs. Thousands of families were excluded on the basis of eligibility criteria.

During 2009, massive demolitions and relocations took place for IDPs and migrants living in unauthorized settlements in Soba Al-Arabi, Al Salama and Mayo, south of Khartoum. Some of the residents were relocated further south what was called "peace villages" in Jebel Awlia area while others were relocated in Al-Fath area. Located on the very edge of the city, often from squatter sites much closer to the city centre, the IDPs lose access to the job market and the opportunities offered by the city space and critically their social networks. In such situations, many of those who are relocated to

distant parts of the city return to their squatter areas to access livelihood activities within their pre-existing networks. Ironically, some end up squatting in social housing newly built on the land that they previously inhabited and this way they remain exposed to the risk of further evictions, but they see this as a better choice than their relocation sites.

6.1.2 Al Fath

Established in 2002, Hai Al Fath is located 40 kilometres north of Omdurman. The population in Al Fath is a mixture of IDPs and other groups who used to squat in different parts of Khartoum, notably Soba, Mayo and Salama. The movement to this area began in 2002 and continued up to 2010. Al Fath is different from other settlements in that it was already planned by the government when people moved in. The first inhabitants, 8,000 households were relocated to the area in 2002. Al Fath has since been rapidly expanding and by 2007, its population was estimated at 260,000 (De Geoffroy 2007: 14) and in 2010, the population was estimated to be more than 300,000 persons. Still, many people return to their former squatting areas. Popular committee members in Al Fath claim that of those who were moved from Salama between 2006 and 2008, 80% returned back but continued to rent out their houses in Al Fath.

The cost for a 200 square metres plot is SDG 300, which residents are supposed to pay in instalments; with down payment of 30% of the plot value. While for middle class residents this amount is reasonable, for most IDPs and other poor segments it is unaffordable. Many of the residents of Al Fath claim that their standard of living dropped compared to their previous situation. In their previous locations, they were close to basic services, health facilities, social networks, transport and job opportunities. But one major advantage of moving to Al Fath, however, is that people now have their own legal plots in which they can construct permanent buildings. Another aspect which people consider as positive is the mixture of population as land was allotted through a lottery process.

Popular committees run the show, so to speak, in Al Fath. A key responsibility of the popular committee, for a specific fee, issues official papers for people, especially residence certificates, and other papers necessary to access services and help deal with the Government bureaucracy. Significantly, many people claim that they do not know how these committees are selected, nor what the money charged is used for. People do not deem these committees representative.

Transportation costs from Al Fath to the city constrain the ability of residents to access areas where work opportunities are available. It is estimated that the cost of round trip Al Fath-Khartoum is 20-40 percent of

the daily income. The cost of a round trip to and from Khartoum is about SDG 5, compared to SDG 1-1.5 in their former locations. It is to be noted that around 95 percent of people in Al Fath commute daily for work in different parts of the capital. Like the case of Jabarona, some people in Al Fath spend the week days in Khartoum, Omdurman and Khartoum North and get back during the weekend. On average, a family in Al Fath area, needs SDG 15-20 for daily subsistence and SDG 3-10 per month for public schools. Work opportunities in Al Fath for men are limited to brick-making and for women food and tea selling.

6.2 Displacement and Human Development

As back as 2004, it was estimated that 17 percent of the country's population was internally displaced. An obvious consequence of population displacement is the rapid urban growth which the country is witnessing. This is especially the case with Khartoum state, the capital region, whose population is 5.2 millions, which is 13.5% of the country's population. Rapid urbanization, resulting mainly from displacement, is not only in Khartoum but other cities also witnessed substantial expansion such as Nyala in South Darfur and Port Sudan in the Red Sea state.

The results of the joint survey conducted by CARE, UNDP and IOM among the IDPs in Khartoum State in 2003, revealed the following regarding access to health services, education and employment:

1. Unlike those living in squatter areas, IDPs living in camps were relatively well covered with health and water facilities
2. 30% have no access to medical services
3. The HIV/AIDS rate among IDPs and refugees is considered to be at 4.4% while the national prevalence rate is at 2%¹
4. Most spread diseases include malaria, respiratory diseases, nutritional diseases and diarrhoea.
5. 44 percent of IDPs in Khartoum have no education (2003).
6. 67% of IDP children (6-18 years) had attended primary school but the vast school age majority are not currently enrolled. The Gross Enrolment Rate was 57.7% (2002)².
7. Only 12% of the teachers have a basic Teacher's Training Certificate
8. Only 11% of school and classroom structures are permanent.
9. Small numbers of IDP men manage to obtain jobs on construction sites and women as domestic workers, but transport costs prohibit the majority from going to work.

¹ Source: The Norwegian Refugee Council (NRC) Global IDP Project Report (2004)

² The survey revealed also that (a) most IDPs depend on NGOs and UN agencies for access to education and that (b) inadequate school facilities and inability of parents to pay fees are behind the low enrolment and high dropout rates.

10. Displaced women had very little means to provide for themselves and their children and resorted to beer brewing which is an illegal activity, as a result many ended up in jail
11. 74.7% of IDPs were unemployed
12. 37% of IDPs in Khartoum have a birth certificate and 8% an ID document
13. 42% of the under-5 Nuba IDPs, have no documentation (NRC, 2004, p. 146).

In all studies and reports, IDPs were listed as a major category of the poor and the most vulnerable, irrespective of the basis of classification. Yet, with or without external support, IDPs tend to develop their own coping and survival mechanisms. This is particularly true in response to the initial shock of displacement and before external assistance arrives. Collective thinking, short distance movements, geographical concentration, sharing of resources that could be moved and/or utilized, etc. are some of immediate responses, followed by longer-term decisions, such as where to move to and how (Abdel Ati, 2004: 11-13). Osman and Sahl (2000) and Abdel Ati, (2000) and described a long list of ways and mechanisms adopted by IDPs to survive and cope with the changing conditions in the new environment. Initially dependency on relatives and humanitarian assistance is high but gradually new ways for long term settlement develop, some of them clearly targeting long term residence and integration in the local market. Besides, one major and important change observed in the attitude and behaviour of IDPs is that while during the 1990s IDPs were trying to secure basic needs; of food and shelter, from 2003 and beyond they were up to claim their rights. While this is a significant shift, it does not mean that their basic needs are now secure. Still IDPs and other categories of poor migrants are far from achieving a meaningful threshold of rights and importantly, they do not seem to have become an integral part of the urban system in the national capital.

Over the past two or three decades many changes happened within the IDP communities in Sudan. The scholarship of internally displaced persons in Sudan reveals that the overwhelming majority of these people were either pastoralists or farmers. Few of them had other professions (fishing and handicrafts) before becoming IDPs. In becoming internally displaced, they lost their former means of livelihood and had to cope with a new urban life. They had to compete for meagre jobs in the urban informal sector, and since they are unskilled, they mainly get the opportunity to engage in casual work; vending and construction work in particular. Women could work as tea and food sellers or in homes of affluent people. Yet, being an IDP also offers some opportunities, meagre as they are. These include the opportunity to send children to schools, gaining new skills, getting legal residential plots and eventually establishing connections in the new residence. In fact, some

of these opportunities underline the reluctance of most IDPs to return to their original areas. Nevertheless, the overall picture is marred with problems and challenges, especially in Khartoum, top on that, as we mentioned earlier, is widening socio-economic gap.

6.3 Urbanization without Integration

Human development cannot simply be measured through numerical indicators, although this is important for policy matters. Human development can sociologically be conceptualized through peaceful coexistence. The conspicuous urbanization that took place as a result of displacement could have led to the integration of millions of IDPs in the urban fabric hence entrenching peace and eventually development. Unfortunately, Khartoum's urbanization is pathological. It is the aggregation of people without their integration into a social and political system that enfranchises them and provides for peaceful coexistence between the different communities that inhabit the city. Khartoum's IDPs, who number half of the city, are not integrated into the urban system in a meaningful manner. These people, who mostly were pastoralists or farmers, lost their rural livelihoods before moving to Khartoum. And they were neither empowered to get return to their former livelihoods nor provided with alternative means of sustainable life in the city. This is urbanization without integration. In fact, we can talk about a process of ruralization of the city. The economic survival of IDPs depends on the lowest-end of the labor market, namely unskilled jobs with long hours, often far from their homes involving long commuting, as the cases of Jabarona and Al Fath show. Most of IDPs' households are headed by women and rely on the labor of children and school dropouts and about 40% of IDPs do not complete primary education (Assal 2006).

Human development in contexts of massive displacement that is mainly concentrated in cities is predicated in the theory of the "melting pot" whereby ethnic and tribal loyalties fade away over time, giving way to identities that cut across different ethnic, regional or tribal boundaries. Unfortunately, Sudan's protracted instability and conflict has defeated the melting powers of urban centers, and instead what we see in Khartoum is a reconstitution of primordial identities. This process is reinforced by the failure of the state to ensure that the basic needs of the poor are met and its policies of revitalizing tribalism and ethnicity. Policies such as "return to the roots," which has tried to establish forms of tribal administration among urban migrants, has led to people affirming their tribal or ethnic identities in search of socio-economic security and physical safety. The new forms of native administration that emerged in IDP camps, whereby a Sultans or a sheikh has a jurisdiction only on tribal and ethnic basis, has reinforced divisiveness.

The failure to integrate IDPs in the social system of the city is one of the main setbacks to human development. That failure was brutally manifested in Khartoum when divisive ethnic sentiments were violently displayed during the events that followed the announcement of John Garang's death at the end of July 2005 (The Black Monday).

7. Conclusion:

Over the past few decades, Sudan witnessed massive population displacement due to a number of interrelated factors that include misguided development policies, civil wars, drought and famines, and development ventures (e.g. oil exploration and dam construction). In effect, almost half of the population in the national capital is made up of internally displaced persons. Most of these IDPs turned to be long-term or permanent residents in Khartoum and other towns to which they fled. The protracted nature of Sudan problems meant that the move from the countryside to the city is a one-way process. This situations begs many questions related to how can the integration of IDPs be achieved, and how human development could be conceptualized and realized.

When the CPA was signed, there was a general euphoria that peace has come, and there is possibility that IDPs voluntarily return to their original areas will end their miseries. But that euphoria was premature: not only did very few IDPs returned, but also some returnees got back to Khartoum owing to the deteriorating security conditions in original areas. Additionally, it was when the peace agreement was signed that the crisis in Darfur was peaking. In south Sudan, tribal fighting, lack of services in urban and rural areas, landmines, conflict over land, and cattle wrestling impede the return of willing IDPs (Pantualiano et al 2007).

Internal displacement led to increasing the pace of urbanization in Sudan, particularly in the national capital region. But such urbanization is pathological in the sense that it is not followed by social and economic integration of forced migrants. The economic survival of IDPs depends on the lowest-end of the labor market, namely unskilled jobs with long hours, often far from their homes involving long commutes, as the cases of Jabarona and Al Fath show. It is clear that, despite living for so many years in Khartoum, internally displaced persons are still in the periphery of Khartoum's urban system.

The paper shows that after decades of living in Khartoum, internally displaced persons are still in the periphery of the urban life. One opportunity to integrate IDPs and hence achieve human development was lost due to

failure of the CPA signatories to make unity attractive. In Khartoum, the government policy to reorganize the habitat for IDPs provided some hope regarding the integration of IDPs into the national capital but this hope faded away when the interim period ended, and southerners opted for an independent country. This should ring the bell to formulate a policy towards the remaining IDPs that targets their integration and human development.

References:

Abdel Ati, Hassan (2002) Human Development Indicators in Sudan with Emphasis Problem of Poverty, Mahawir Journal, No. 4/5, Dec. 2000, (in Arabic)

Abdel Ati, Hassan & Galal El Din El Tayeb (2002) “The Impact of Liberalization and Privatization Policies on Social Services in Sudan” in Socialwatch, The Poor and the Market

Abdel Ati, Hassan (2004), Displacement and Poverty in Khartoum: two faces of the same coin?, A Study Report for MEAwards, the Population Council, Cairo.

Al-Mubarak, M. (1995), The political History of Darfur 1882-1898 (in Arabic). Khartoum: Khartoum Publishing and Distribution Co.

Ali, A. A., (1994), Structural adjustment programs and poverty in the Sudan (in Arabic). Cairo: Center for Arab Research.

Assal, M. (2002), “A discipline asserting its identity and place: displacement, aid and anthropology in Sudan.” Eastern Africa Social Science Research Review, 18(1): 63-96.

Assal, M. (2004) Displaced Persons in Khartoum: current realities and post-war scenarios, A Report for MEAwards, the Population Council, Cairo, Egypt.

Assal, M. (2006), Whose rights count? National and international responses to the rights of IDPs in Sudan. Sussex: Development Centre on Migration, Globalization and Poverty.

Banaga, I. Sharaf el-Din (2001) Displaced Persons and Peace Opportunities with emphasis on the Experience of the Greater Khartoum State (in Arabic), Center for African Research and Studies, African International University.

Black, R. et al (2008), Demographics and climatic change: future trends and their policy implications for migration. Sussex: Development Research Centre on Migration, Globalization and Poverty.

CARE and IOM, (2003), Sudan IDP demographic, socioeconomic profile for return and reintegration planning activities: Khartoum IDP households. CARE and IOM.

De Geoffroy, Agnis (2007), “From internal to international displacement in Sudan.” Paper prepared for the migration and refugee movements in the Middle East and North Africa. The American University in Cairo, October 23-25, 2007.

Hamid, G. (1996), Population displacement in the Sudan: patterns, responses, coping strategies. New York: Centre for Migration Studies.

Hampton, J., (1998), Internally Displaced People: a global survey. London: Earthscan.

Hendrie, B. et al (ed.) (1996), Operation Lifeline Sudan: A Review, (independent consultant report)

Internal Displacement Monitoring Centre (IDMC) (2010), SUDAN: Durable solutions elusive as southern IDPs return and Darfur remains tense, A profile of the internal displacement situation, Geneva, December, 2010

Internal Displacement Monitoring Centre (IDMC), (2012), Internal displacement in Africa: A development challenge; Exploring development initiatives to alleviate internal displacement caused by conflict, violence and natural disasters.

IOM (2011), Migration in Sudan: country profile. Khartoum: IOM.

Komey, G. K. (2002) “Internally displaced population of the Sudan and the rights of citizenship,” in Abdel Ati et al (eds.) Civil society dialogue on peace, democracy and development, pp. 59-79. Khartoum: National Civic Forum and Heinrich Boll Foundation.

Malkki, L., (1995), “Refugees and Exile: From Refugee Studies to the National Order of Things,” Annual Review of Anthropology, (24)495-523.

Norwegian Refugee Council (NRC) (2004) Global IDP Database Project, Sudan Country Profile (Internet)

Osman, E and Sahl, I. (2000) Displacement and Poverty: a situation analysis. A report for the Agency for Cooperation and Research in Development (ACORD), Khartoum.

Pantuliano, S. et al (2007), The long road home: opportunities and obstacles to the reintegration of IDPs and refugees returning to southern Sudan and the Three Areas. London: Overseas Development Institute.

Verney, P. (2006) Country guide: Sudan. Forced Migration (<http://www.forcedmigration.org/guides/fmo040/>)

Young, H. et al (2005), Darfur- livelihoods under siege. Feinstein International Famine Centre, University of Tufts.

ANNEXES

Annex 1: Sudan Population Projection Up to 2032

Table (1): Population Projections 2008-2032

Year	2008	2011	2012	2017	2022	2027	2032
Low Variant							
Total	30,978,757	33,928,254	34,973,323	40,395,221	45,955,490	51,393,367	55,536,171
Male	15,790,134	17,252,277	17,772,028	20,475,244	23,252,005	25,968,026	27,499,354
Female	15,188,623	16,675,977	17,201,294	19,919,977	22,703,485	25,425,341	28,036,817
Medium Variant							
Total	30,978,757	33,975,593	35,055,538	40,782,742	46,934,522	53,343,899	58,613,667
Male	15,790,134	17,276,408	17,813,934	20,672,776	23,751,143	26,962,607	29,606,218
Female	15,188,623	16,699,186	17,241,604	20,109,965	23,183,379	26,381,293	29,007,449
High Variant							
Total	30,978,757	33,995,681	35,087,166	41,037,490	47,769,752	55,167,886	61,658,380
Male	15,790,134	17,286,646	17,830,053	20,802,649	24,177,014	27,892,755	31,159,060
Female	15,188,623	16,709,035	17,257,113	20,234,842	23,592,738	27,275,132	30,499,319

Table (2) Population Projections by Age Groups 2008-2031

Age Group	0-14		15-59		15-64		+60		+65	
	No	%	No	%	No	%	No	%	No	%
2008	12,840,084	41.4	16,432,171	53.0	16,948,787	54.7	1,706,503	5.5	1,189,887	3.8
2011	14,282,845	42.0	18,042,424	53.1	18,532,547	54.6	1,650,327	4.9	1,160,202	3.4
2012	14,709,501	41.4	8,695,308	53.3	19,161,881	54.7	1,650,731	4.7	1,184,156	3.4
2017	16,900,825	41.4	20,250,933	49.7	22,692,831	55.6	1,921,302	4.7	1,189,086	2.9
2022	19,541,808	41.6	25,103,430	53.5	25,950,132	55.3	1,641,334	3.5	1,442,582	3.1
2027	21,272,777	39.9	29,194,450	54.7	30,315,503	56.8	2,876,671	5.4	1,755,625	3.3
2031	22,226,677	37.9	32,838,376	56.0	34,257,892	58.4	3,548,614	6.1	2,129,099	3.6

Table (3) Population Projection by Gender 2008-2031

Year	Male		Female		M/F Ratio
	No	%	No	%	%
2008	15,790,134	51.0	15,188,623	49	104
2011	17,276,408	50.0	16,699,186	50	103.5
2012	17,813,934	50.8	17,241,604	49.2	103.3
2017	20,672,776	50.7	20,109,965	49.3	102.8
2022	23,751,143	50.6	23,183,379	49.4	102.5
2027	26,962,607	50.5	26,381,293	49.5	102.2
2031	29,606,218	50.5	29,007,449	49.5	102.1

Table (4) Projections of Children in Vaccination Age (2008-2031)

Age	2008	2011	2012	2017	2022	2027	2031
0	828,322	1,314,519	1,342,849	1,452,519	1,532,702	1,592,960	1,653,973
1	659,045	1,231,778	1,262,225	1,380,457	1,470,963	1,539,290	1,595,418
2	1,034,426	1,183,996	1,212,427	1,342,921	1,438,551	1,509,142	1,560,274
3	998,336	892,431	1,174,665	1,311,821	1,413,494	1,488,290	1,531,637
4	1,023,079	886,675	888,497	1,286,910	1,391,195	1,469,029	1,520,336
5	949,192	882,460	883,408	1,253,713	1,367,724	1,452,388	1,507,675
> 5	4,543,208	4,194,880	4,537,814	5,322,109	5,714,203	6,005,751	6,207,665
0-5	5,492,400	5,077,340	5,421,222	6,575,822	7,081,927	7,458,139	7,715,340

Table (5): Projections of Children and Youth Population in Different Education Levels

Year	Children (6–13)	Children (14–16)	Youth (17–24)
2008	6,838,363	2,068,549	4,721,428
2011	7,073,023	2,375,043	5,180,690
2012	7,104,838	2,448,708	5,357,819
2017	10,050,346	2,622,370	6,343,296
2022	7,960,744	2,706,927	6,970,447
2027	10,949,629	3,725,403	7,559,262
2031	11,500,381	4,002,619	9,044,171

Table (6): A Summary of Sudan Population Projections Indicators Up to the year 2031 (Medium Variant)

Indicators	2008	2011	2012	2017	2022	2027	2031
Fertility							
Input Fertility Rate (TFR)	5.5	5.42	5.39	5.10	4.75	4.37	4.04
Calculated Fertility Rate (TFR)	5.5	5.42	5.39	5.10	4.75	4.37	4.04
General Reproductive Rate-GRR		2.65	2.63	2.49	2.32	2.13	1.97
Net Replacement Rate-NRR		2.22	2.21	2.13	2.01	1.87	1.74
Mean Age of Childbearing		29.4	29.4	29.3	29.3	29.3	29.3
Child-woman ratio	0.66	0.67	0.69	0.69	0.66	0.60	0.55
Mortality Rate							
Male Life Expectancy	58.1	59.0	59.4	60.7	61.9	62.9	63.6
Female Life Expectancy	61.4	62.3	62.6	64.0	65.2	66.2	66.9
Total Life Expectancy	59.8	60.6	60.9	62.3	63.6	64.6	65.2
Infant Mortality Rate	79.0	91.0	89.8	84.7	80.0	75.9	73.3
Under 5 Mortality Rate	111.0	128.1	125.7	115.7	107.3	100.6	96.3
Migration							
Males	0	0	0	0	0	0	0
Females	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
Vital Rates							
Crude Birth Rate per 1000	41.0	41.3	40.8	37.9	34.6	31.6	29.8
Crude Death Rate per 1000	16.7	10.3	10.0	8.8	7.9	7.3	7.1
RNI %	2.43	3.10	3.08	2.90	2.68	2.43	2.28
Growth Rate %	2.49	3.10	3.08	2.90	2.68	2.43	2.28
Population Doubling Time	27.7	22.7	22.8	24.2	26.2	28.9	30.8

**Table (7): A Summary of Sudan Population Projections Indicators
Up to the year 2031 (High Variant)**

Indicators	2008	2011	2012	2017	2022	2027	2031
Fertility							
Input Fertility Rate (TFR)	5.5	5.43	5.36	5.19	5.01	4.84	4.67
Calculated Fertility Rate (TFR)	5.5	5.43	5.36	5.19	5.01	4.84	4.67
General Reproductive Rate-GRR		2.65	2.62	2.53	2.45	2.36	2.28
Net Replacement Rate-NRR		2.24	2.25	2.20	2.15	2.09	2.03
Mean Age of Childbearing		29.4	29.4	29.3	29.3	29.3	29.3
Child-woman ratio	0.66	0.72	0.71	0.71	0.67	0.64	0.63
Mortality Rates							
Male Life Expectancy	58.1	59.7	61.0	62.1	63.1	63.9	64.4
Female Life Expectancy	61.4	62.9	64.3	65.5	66.4	67.2	67.7
Total Life Expectancy	59.8	61.3	62.6	63.8	64.8	65.5	66.0
Infant Mortality Rate	79.0	88.6	83.7	79.1	75.1	72.0	70.1
Under 5 Mortality Rate	111.0	123.4	113.8	105.7	99.3	94.2	91.0
Migration							
Males	0	0	0	0	0	0	0
Females	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
Vital Rates							
Crude Birth Rate per 1000	41.0	40.9	39.3	36.9	34.9	34.4	34.0
Crude Death Rate per 1000	16.7	9.8	8.8	7.9	7.5	7.2	7.3
RNI %	2.43	3.11	3.05	2.89	2.75	2.72	2.67
Growth Rate %	2.49	3.11	3.05	2.89	2.75	2.72	2.67
Population Doubling Time	27.7	22.7	23.1	24.3	25.6	25.8	26.3

**Table (8): A Summary of Sudan Population Projections Indicators
Up to the year 2031 (Low Variant)**

Indicators	2008	2011	2012	2017	2022	2027	2031
Fertility							
Input Fertility Rate (TFR)	5.5	5.18	4.70	4.17	3.57	2.91	2.19
Calculated Fertility Rate (TFR)	5.5	5.18	4.70	4.17	3.57	2.91	2.19
General Reproductive Rate-GRR		2.53	2.29	2.04	1.74	1.42	1.07
Net Replacement Rate-NRR		2.14	1.97	1.77	1.53	1.26	0.95
Mean Age of Childbearing		29.3	29.3	29.3	28.7	27.9	27.6
Child-woman ratio	0.66	0.70	0.64	0.59	0.50	0.43	0.35
Mortality Rate							
Male Life Expectancy	58.1	59.7	61.0	62.1	63.1	63.9	64.4
Female Life Expectancy	61.4	62.9	64.3	65.5	66.4	67.2	67.7
Total Life Expectancy	59.8	61.3	62.6	63.8	64.8	65.5	66.1
Infant Mortality Rate	79.0	88.6	83.7	79.1	75.1	72.0	70.1
Under 5 Mortality Rate	111.0	123.4	113.8	105.7	99.3	94.2	91.0
Migration							
Males	0	0	0	0	0	0	0
Females	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
Vital Rates							
Crude Birth Rate per 1000	41.0	39.2	35.2	31.0	27.1	23.7	19.1
Crude Death Rate per 1000	16.7	9.7	8.5	7.5	7.0	6.8	6.8
RNI %	2.43	2.96	2.67	2.35	2.00	1.70	1.23
Growth Rate %	2.49	2.96	2.67	2.35	2.00	1.70	1.23
Population Doubling Time	27.7	23.8	26.3	29.9	35.0	41.2	56.5

Annex 2: Terms of Reference for Thematic Papers
Reviewing and Updating National Population Policy
National Population Council (General Secretarial)

Introduction:

This comes within NCP endeavor to review and update the National Population Policy. The policy includes a number of procedures, plans and programmes which, aim at influencing population changes and population structure, both quantitatively and qualitatively, in a way that suits the Sudanese society needs, development and welfare. Population policy is not limited to halting speedy increase in population numbers but it is also concerned with stimulating population growth, organizing migration and movements, balanced population distributions, organization of labor force movement and distribution and the economic engagement of women and their social empowerment.

It was therefore important to sponsor scientific thematic papers to review and update the National Population Policy, covering all population policy themes and come out with a comprehensive multi-sectoral framework which will help in realizing the objectives of sustainable environmental social and economic development.

Targeted Outputs:

- A review and assessment of the National Population Policy, quantitatively and qualitatively, with the objective of meeting current and future population needs
- Identifying policies and programmes designed on the basis of the population policy and assessing progress in their implementation
- Identifying gaps and point of strength in the population policy and recommending measures to bridge those gaps.

General Condition:

Condition for writing papers:

- The analysis and assessment of the current situation, using the most recently generated data with a vision to the future in the light of the current demographic trends.
- Identifying strategies, programmes and plans relevant to the theme and assessing its compatibility with the national population policy objectives.
- Identifying challenges and obstacles that faced the implementation of the national population policy.
- Recommending alternatives, including the ideal options.
- Clearly stating references and sources used in preparing the paper.
- The papers should be prepared in Arabic with a short summary (abstract) in Arabic and English.

- The papers should be between 10 and 15 pages using Simplified Arabic, font 14 and 1.5 line spacing.

1. TOR for the thematic paper on Marriage, Family and Fertility

1. Analysis of the current situation of marriage and family formation on the basis of the current population trends
2. Assessing the compatibility of the population policy to the current situation
3. Reflecting policies, programmes and plans relating to marriage, family and fertility
4. Identifying policy gaps
5. Assessing the level of population policy match to those policy
6. Reflecting challenges and impediments to stable marriages and families
7. Projecting future situation
8. Proposing alternative policies
9. Recommending the ideal options

2. TOR for the Thematic Paper on Population and Health

1. Analysis and assessment of the current status of population health, especially that of mothers and children under 5.
2. Highlighting health policies, programmes and plans and their effectiveness
3. Identifying policy gaps
4. Assessing the compatibility of the health situation with the National Population Policy
5. Reflecting challenges and obstacles
6. Projecting future situation
7. Proposing alternative policies
8. Recommending the ideal options

3. TOR for the thematic paper on Age-Sex Structure and Population Projections

1. Analysis and assessment of the current and future situation of Sudan population pyramid
2. Highlighting the factors influencing population structure and their positive and negative effects
3. Assessing the relevance of the population policy to the current population structure
4. Projecting future population age and sex structure

4. TOR for the thematic paper on Women Empowerment, Youth, Children and Persons with Special Needs

1. Analysis and assessment of the current situation of women, youth, children and persons with special needs
2. Highlighting policies, programmes and plans targeting the empowerment of women, meeting youth needs, safe childhood and the special situation of the persons with special needs and assessing their effectiveness
3. Identifying gaps in those policies
4. Assessing whether the population policy is included into policies, programmes and plans targeting those categories
5. Reflecting challenges and impediments
6. Projecting future situation and policies
7. Proposing alternative policies
8. Recommendations including the best alternatives

5. TOR for the thematic paper on Population, Environment and Urban Development

Writing three papers on Climate Change, Environmental Conservation and urban Development, based on

1. Analysis of the current environmental situation with emphasis on the needs of the present and the future in view of the quantitative and qualitative changes of the population
2. highlighting national environmental and urban development policies, programmes and plans
3. Identifying policy gaps
4. Drawing a future vision to those policies
5. Assessing the compatibility of the population policy with the current situation
6. Reflecting challenges and impediments
7. Proposing alternative policies
8. Recommending the ideal alternatives

6. TOR for the thematic paper on Education, Technology and Information

1. Analysis of the current situation of education
2. Reviewing current education policies, programmes and plans and assess their effectiveness
3. Identifying policy gaps
4. Assessing the compatibility of the education policies to the national population policy
5. Drawing a future vision to those policies
6. Reflecting challenges and impediments
7. Recommending alternative policies

7. TOR for the thematic paper on Population and Economy

Writing two papers on poverty, employment and food and human security based on:

1. Analysis and assessment of the current economic situation (GDP, Per Capita Income, social development, human resources, poverty line, food security and human security) and the current and future needs in relation to population quantitative and qualitative changes
2. Highlighting macro and micro economic policies and plans relating to the above issues
3. Identifying gaps in those policies
4. Assessing the compatibility of those policies with the national population policy
5. Reflecting challenges and problems impeding the implementation of the national population policy
6. Projecting a future vision for a new population policy
7. Proposing alternative policies
8. Recommendations including the best alternatives

8. TOR for the thematic paper on Migration and Urbanization

1. Analysis and assessment of the current size and pattern of migration and population movement economic and the current and future needs in relation to population quantitative and qualitative changes
2. Highlighting policies, plans and national efforts concerned with migration (national Records, Nationality Law, Freedom of residence and development projects to reduce the scale of migration)
3. Identifying gaps in those policies
4. Forecasting the future vision of those policies
5. Assessing the compatibility of those policies with the national population policy
6. Reflecting challenges and obstacles
7. Recommendations on alternative policies

Annex 3: Thematic Working Groups

Thematic Groups Chairpersons

Name	Thematic Group
Dr. Widad Ibrahim Hassan	Marriage, Family and Fertility
Dr. El Amin Al Awad Hag Ahmed	Migration and Urbanization
Prof Ahmed hamad AlNoory	Population and Health
Dr. Amira Yousif Badri	Women, Children and Disabled Persons
Prof. Muna Mahgoub M Ahmed	Population and Environment
Dr. AlFirazdagh Mahgoub Mohd	Population and Economy
Ust. Mona Omer	Age-Sex Structure & Population Projections
Prof. Mohammed Adham Ali	Education, Technology and Information

Thematic Groups Members:

1. Marriage, Family and Fertility Thematic Working Group

1. Dr. Widad Ibrahim Hassan Ministry of Social Welfare
2. Ust. Intisar ahmed Abdelhameed Economic and social research Council
3. Ust. Mohammed Attiya Sudanese Fertility Society
4. Ust. Eisa Abakar Central Bureau of Statistics
5. Ust. Ibrahim Abbas CBS
6. Ust. Kamal Ismail CBS
7. Ust. Wisal Hassan Al Mardi NPC
8. Ust Hala Abdalla Abu Seneina NPC

2. Migration and Urbanization Thematic Working Group

1. Dr. El Amin Al Awad Hag Ahmed University of Al Zaim AlAzhari
2. Dr. Abdel Hamed Balla El Nur University of Khartoum
3. Dr. Salam Abdalla Abu AlGasim Ministry of Labor
4. Ust. Mohammed Ahmed Yousif CBS
5. Maj. Gen. Dr. Izz el Din A/Salman Min. of Interior
6. Dr. Huda Mohammed Mukhtar University of Bahri
7. Ust. Amal Ahmed Mukhtar National Council for Urban Development
8. Ust. Sid Ahmed Mohd. Ahmed NPC
9. Ust. Mohammed Mahmoud NPC

3. Population and Health Thematic Working Group

1. Prof Ahmed hamad AlNoory Population Studies Centre,
Univesity of Gezira.
2. Dr. Suleiman AbdelGabbar Abdalla Ministry of Health
3. Ust. Mohammed Hayder Sudan National Aids Program (SNAP)
4. Dr. Nafisa Badri Ahfad University
5. Ust. Nagat Mohammed Mahmoud Sudanese Family Planning Society
6. Dr. Gamal ElDin Mohd. Mustafa Independent Researcher
7. Ust. Hanadi Hassan Mahjoub NPC

4. Women, Children and Disabled Persons Thematic Working Group

1. Dr. Amira Yousif Badri Ahfad University
2. Ust. Awatif AlAwad Musa Population Consultant
3. Ust. Makarim Mohammed Khalifa Ministry of Social Welfare
4. Ust. Salah Eldin Abdelrahman CBS
5. Ust. Amira Azhari Fadlalla National Council for Child Welfare
6. Dr. Ridha Ali Saeed Ministry of Social Welfare
7. Dr. Lamyia Abdel Ghaffar Consultant
8. Ust. Nazar El Tayeb Rabbah NPC

5. Population and Environment Thematic Working Group

1. Prof. Muna Mahgoub Mohd. Ahmed Institute of Environmental Studies
University of Khartoum
2. Dr. Ahmed Moh. Abdel Kareem Weather Forecast
3. Dr. Ismail AlGizouli Sudanese Env. Conservation Society
4. Dr. Sayda Ali Ahmed Khalil National Forest Cooperation
5. Dr. Khatma AlAwad Mohd. Ahmed Higher Council for Environment and
Natural Resources
6. Ust. Kamal Ahmed Ismail CBS
7. Ust. Suhair Khalafalla AlSiddig Ministry of Agriculture
8. Ust. Nadia AbdelRahim Mohammed NPC

6. Population and Economy Thematic Working Group

1. Dr. AlFirazdagh Mahgoub Mohammed Bahri University
2. Ust. Ahmed Mohamadeen Sabeel National social Insurance fund
3. Ust. Osman Hassan Arabi Ma'man Organization
4. Ust. Mashair Mohammed El Amin Ministry of Finance
5. Ust. Nagwa Ibrahim Mohammed Ministry of Labor
6. Ust. Aziza el Tayeb Osman Ministry of Agriculture
7. Ust. Maha Mohammed El Hassan Ministry of Social Welfare
8. Ust. Mukhtar Mohammed Mukhtar NPC

7. Education, Technology and Information Thematic Working Group

1. Prof. Mohammed Adham Ali Sudan Academy for Administrative
Sciences
2. Dr. Mohammed el Nayer Ministry of Science and Technology
3. Ust. Salah Mohammed Saeed Ministry of Higher Education
4. Ust. Khalid Al Musharaf Ministry of Higher Education
5. Rep. Sudanese Education Network Sudanese Education Network
6. Ust. Mai Beshir Mohd. Ahmed Ministry of Communication

8. Age-Sex Structure and Population Projections Thematic Working Group

1. Ust. Amna Omer CBS
2. Dr. Hagir Osman el Jak Neilein University
3. Ust. Salih Abu AlYaman CBS
4. Ust. Ibrahim Abbas CBS
5. Ust. Mukhtar Mohammed Mukhtar NPC

Annex 4: The National Population Council (NPC)

The National Population Council (NPC) was established by the Presidential Decree No 19/1994 to replace the National Population Committee and also to confirm the Government commitment to the implementation of the national population strategy included in the National Comprehensive Strategy (1992-2002), the NPC General Secretariat was formed as the administrative and technical arm of the NPC. The NPC was reformulated in 2002 in accordance with the Council of Ministers' decision No 148/2002, chaired by the President with the Minister of Social Welfare as a Deputy and the NPC director as the Secretary.

NPC Mission:

Building an institutional framework for the State and civil society efforts on population issues through formulation, monitoring and evaluation of population policies, plans and programmes.

NCP Mandate:

- Formulating national population policies in line with the state strategies and plans adopted by the Council of Ministers
- Coordination between Ministries and other state institutions at the Federal and State levels, civil society and voluntary sector at the national and international levels
- Encouragement and promotion of scientific research and publication on population issues, in collaboration with national research centers
- Raising awareness among different population segments on population issues, using media and school curriculum to achieve that
- Regular reviewing of legislations concerned with population issues
- Coordinating the technical aspects within the state Cooperation agreement with the United Nations Population Fund (UNFPA)
- Follow up all State Agreements with countries, agencies and international organizations and supervising implementation
- Working to mobilize internal and external resources to implement the plans and programmes of the national population policy

Mandate and Responsibilities of the NCP General Secretariat:

- Coordination between Federal and State Ministries, institutions and specialized councils, regional and international agencies and civil society organizations at the national and international levels
- Reviewing projects and proposals presented by governmental and non-governmental bodies working on population issues and setting priorities
- Designing the general framework for the population-related awareness programmes in collaboration with the concerned institutions
- Publishing a report on the state of Sudanese population on regular basis

- Building a data bank on Population and Development and encouraging and coordinating research on population policy-related issues
- Encouraging the participation of all levels of State institutions in the implementation of the national population policy
- Organizing national population conferences
- Monitoring and reviewing the national population policy
- Developing and consolidating partnerships with civil society organizations and with the private sector
- Promoting international cooperation on population issues

Current and Future Programmes:

- Strengthening the capacity of the institutions working on population issues to create an environment conducive to the implementation of the national population policy
- Raising awareness, knowledge and level of commitment to population issues
- Integrating the national population policy into the sectoral strategies and programmes

Supporting Technical and Advisory Bodies:

Within its pursuit of realizing the national population policy objectives and its effort to coordinate with the specialized institutions, the NPC General Secretariat formed the following advisory and technical bodies:

- The National Population Council Higher Technical Committee
- The Coordination Working Groups
- The Forum of civil society organizations working on population issues
- National Population and development Experts and Consultants group
- The States' Population Councils

NPC International Partners:

- The Arab League
- The African Population Committee (The African Union)
- The United Nations Population Fund (UNFPA)

The Administrative Setup

