

# Poverty and the Environment

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## 1. Introduction

Poverty is becoming a stunning phenomena, denial of opportunities are causing more problems to the process of human development, to sustainability of development and to environmental conservation. Poverty as phenomena stem from a complexity of economic, physical social and political factors, and it has adverse impact on both physical and social environments. The results of which mean more degradation more hunger and lower population quality. Lower population quality means some vulnerability to death at all ages, more ignorance and inability to execute development.

Out of the 174 countries listed the Sudan Ranks No. 143<sup>1</sup> That means Sudan is faced by a complexity of problems that cause poverty and consequently suffering from poverty with all its dimensions.

It worth mentioning that the Sudan was on of the participants in the earth summit which was held in the year 1992 at Rio. As well it was one of the signatories of Rio declaration. Being so the Sudan is committed to what was stated about poverty in chapter three of Agenda 21.

Agenda 21 set long term objectives to enable all people to achieve sustainable lively hood, and that such objectives should provide an integrating factor that allows policies to address issues of development, sustainable resource management and poverty eradication simltainiously. The details of the objectives set in agenda 21 are as follows:

1. To provide all persons urgently with the opportunity to earn sustainable lively hood.
2. To focus on integrated human development policies, including income generation, increased local control of resources, local institution strengthening and capacity building and greater involvement of non-governmental organization and local governmental as delivery mechanizes.
3. To develop for all poverty-stricken areas integrated strategies and programmes of sound and sustainable management of the environment, resource mobilization, poverty eradication, and employment and income generation.
4. To create a focus in national development programmes and budgets on investment on human capital, with special policies and programmes directed at rural areas, rural poor women and children activities.

This paper surveyed the causes and impacts of poverty, and presented a country poverty profile, As well the efforts done by both government and NGOs to eradicate poverty are presented. From the finding of this paper one can see to what extent that Sudan is committed to what it signed ten years ago.

### 1.1 Definition of Poverty:

Poverty is a multidimensional phenomenon. It does not mean "*the lack of what is necessary for material well being, but also mean the denial of opportunities and choices most basic to human development, to lead a long, healthy and creative life, to enjoy dignity, self-esteem, the respect of others, and things that people value in life*"<sup>2</sup>. Therefor, lack of income is not the total sum of human lives, and so it can not be considered as the sum total of human deprivation. It is within this definition that concepts of poverty in the Sudan will be viewed and analyzed. It is not

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<sup>1</sup> UNDP Human Development Report 1998

<sup>2</sup> UNDP, Human Development Report 1998

income poverty that will be considered here, but also denial of opportunities and their impact on human development concepts.

The denial of opportunities in the 'human development index' (HDI) will be used for the assessment of the status of poverty. But this index has got a serious shortcoming when attempting to apply it for a country that is physically and culturally diverse. Such diversities are viewed within the social and economic status of the various physical and cultural Sudanese regions<sup>3</sup>.

Tahir Nour (1998) emphasized disparities such as rural/urban and regional disparities. On the other hand, gender disparities in the Sudan are so remarkable that the use of the Global Human Development index for the Sudan will lead to misleading results.

Another limitation facing this study is the validity and reliability of statistical data. Since the 1993 census lots of changes had occurred; affecting the demographic, economic and environmental map of the Sudan.

Over and above, with regard to the factors pertaining to the validity of census data, concerns were raised as to the degree of the 1993 census coverage. Thus, shadows are casted on the validity and reliability of such data. Another question is to what extent that such data can be used for the purpose of scientific analysis.

Other sources of data are available on ministerial reports, strategy reports, Economic review, but they contradict each other. Sometimes, they lack the time sequence. But, despite the shortcomings of the data, it will be used with a note showing its weakness and reliability wherever that is deemed to be necessary.

## **1.2 Causes of Poverty in the Sudan:**

Causes of human deprivation vary in nature and impacts. Poverty could be attributed to natural disasters or socio-economic factors. These factors may be local, regional or global. Broadly speaking, they can be classified into the following categories:

1. Natural disasters.
2. Misuse of environmental resources.
3. Inappropriate national policies.
4. Armed conflicts

In recent decades, poverty in the Sudan became a widely spreading phenomenon. All the factors mentioned above contributed to the fact that, presently, 93% of the Sudanese population live below poverty line.

### **1.2.1 Natural causes:**

The Sudan has experienced periods of drought during the 1980s and 1990s. As a result, many people have lost their means of living and accessibility to water resources and other essential services. For instance, rural populations were forced to move to other areas, with different climatic conditions and capabilities; areas that are not equipped to absorb large numbers of displaced population. In both cases, the displaced persons were neither equipped with the basic skills that enable them to earn decent living in the new environments nor trained enough to compete in the urban labour markets. The receiving areas can be classified as follows:

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<sup>3</sup> Ibid

1. Rural areas and those received nomadic tribes. The best example is the movement of the Zaghawa into the Rezaigat areas.
2. Urban areas that received those who lost all means of living. The best example is the movement of western tribes, due to armed conflicts, to the out-skirts of the large urban centers, which resulted in serious environmental and social problems. This aspect will be discussed later.

Drought is not a local or a national phenomenon. All the countries in the Savannah and semi-desert belts are affected at different degrees. Cross-boundary movements of both human and live stock have affected the Sudan, beside the drought problems that were generated at the local level, causing further environmental degradation to the already drought-hit regions in the Sudan.

### **1.2.2 Misuse of environmental Resources:**

This factor is considered to be a direct result of poverty and governmental policies. Poor people derived by the instinct of survival tend to rely heavily on the environment in many ways, for their living choices are very limited. They rely on the forest for their energy, sources of protein and cash crops. Three cases may be cited here:

1. Dependence of the river Rahad villages on the adjacent Dinder National Park for their living and daily needs.
2. Practice of millet farming in northern Kordofan and Darofur proved to be very damaging to the already fragile environment.
3. The agricultural practices of durah cultivation in the central clay-plains have reduced the soil productivity to very low levels.

Framers, being poor, are unable to restore the fertility of the land, or improve their agricultural techniques and practices. Due to the degradation they cause to the environment, they are forced to move to other areas and, thus expanding the boundaries of the degraded environment or move to the out-skirts of the urban centers; causing more degradation and decay to the urban environment. The immediate implication of the above argument is that poverty and degradation is closely inter-linked.

Governmental policies are as well responsible for the misuse of the natural resources. Large-scale rain-fed agriculture has started in the Isohyte 300 mm in the 1940s. During the 90s the Sudan government formulated an investment map, which extended the rain-fed agriculture beyond the Isohyte 700 mm.

A number of older farms in the Gadanbaliya, Dali and Mzmum areas are abandoned either due to low productivity or lack of sufficient financial resources and/or unfavorable taxation policies. Those agricultural lands are desertified Not only that but some of them are undergoing irreversible damages such as hard paning. A question may be raised, at this juncture, as to what had happened to the agricultural laborers who used to earn their living, depending on those farms?

### **1.2.3 Inappropriate national policies:**

Various agricultural policies were responsible for the degradation that led to loss of material income. On the other hand, economic policies were responsible for deprivation of opportunities. The best examples of the economic policies are the adjustment and liberalization policies, which were adopted since 1993. For instance, such policies resulted in the liberalization of health services, inter alia. Medical care is provided against charges. It is found that the charge for a common illness like colds, malaria, in government hospitals is Ls5000, which constitutes about 7% of the income of a monthly paid worker. Table (1) below shows the causes of deaths attributable to the most reported diseases.

**Table (1): The leading causes of death in Sudan for selected years**

Year	Malaria		Pneumonia		Diarrhea		Dehydration		Malnutrition		Anemia		T.B	
	Death	%	Death	%	Death	%	Death	%	Death	%	Death	%	Death	%
1986	4464	13.3	1573	11	1928	13.5	-	-	467	3.3	-	-	717	5
1988	1610	12.7	1130	8.6	766	6	-	-	-	-	426	3.3	347	2.7
1989	1948	19	1078	10.5	-	-	-	-	360	3.5	364	3.6	208	2
1990	1434	13.3	1421	13.3	1029	9.5	-	-	359	3.3	278	2.9	408	3.7
1996	1944	18.5	705	6.7	593	5.6	487.6	4.6	386	5.5	468	4.4	475	4.5

Sources: Annual statistical Reports, Ministry of Health

It is observed, from the above table, that people in the Sudan still die from manageable and curable diseases. The percentage of death from income-poverty related diseases are increasing steadily. Percentage of deaths attributed to T.B has risen from 2.7% in 1988 to 4.5 in 1996. Which constitutes an annual rate of increase of 23%. Death from malnutrition diseases has risen from 3.3% in the year 1986 to 5.5% in the year 1996, or 22% increase annually.

Likewise, the adjustment policies have affected school enrollment rates in the Sudan. For example, in the first National Human Development report, it was mentioned that school enrollment rates have dropped from 72% in 1990 to 52% in 1998.<sup>4</sup>

Employment opportunities have been affected negative by the adjustment policies. The government in order to reduce public expenditure, during the past ten years, forced thousands of workers and employees into involuntarily retirement. No alternative jobs were created or even proper safety nets to absorb the huge number of demoted persons.

At the same time, the government enhanced various forms of support that used to be given to the industrial sector such as customs' concessions on raw materials and other production inputs. These policies has escalated the rising costs of production and, as a result, many factories were forced to close down for they can not produce better quality goods compared to the imported ones. For example, custom duties on a locally produced flourmill grinding-stone are Ls18000 while those on a similar imported one from India is Ls 5000. Similarly, custom duties on a locally produced Iron (nut) is Ls 800 while duties on an imported one is Ls 443 pounds.<sup>5</sup>

The imported commodities being cheaper and of a better quality has hampered the marketing opportunities of the local products. As a result the national industry has been collapsing and, eventually, its workers joined the masses of the unemployed persons in the Sudan.

The adjustment and liberalization policies has a direct bearing on the process of human development and have triggered increases in the rate of poverty, in its all aspects; lack of income and loss of opportunities to lead a long, healthy and creative life.

<sup>4</sup> Computed from the Ministry of Education Statistical Year Book

<sup>5</sup> Nariman M. Musa The Impact of Taxation On the Industrial Sector-In Arabic –Unpublished B.Sc. Dissertation Omdurman Ahlia University 1999

Economists generally attribute causes of poverty to the declining economic conditions, and, henceforth, suggest that poverty eradication could only be achieved through economic development. Such a solution will result in a short-term relief. That is to say the maximization of the economic goals at the expense of the environmental and social goals will result in a diminishing returns. There is a world-wide evidence that plans, which do not consider social and environmental factors as integral parts of the development plan, lead to degradation, loss of national income at the individual and national level, which in turn will result in denial of opportunities and consequently to entanglements in absolute poverty.

The importance of the social factor lies in its aspects of human development for:

1. Healthy and knowledgeable persons are capable of shouldering and sustaining development.
2. Empowered population is capable of maintaining physical and man-made assets.

#### **1.2.4 Armed conflicts:**

Armed conflicts result in the destruction of both physical and social structures. The armed conflict in Southern Sudan is a case in point:

1. Large numbers of Southerners were displaced and forced to live under very harsh conditions in Northern Sudan and neighboring countries. It is estimated that displaced population in the Sudan amounts to one third of the total population.
2. For safety reasons, the villages of those who managed to stay behind are moved away from the main routes of transportation, to locations deep inside the bush, and consequently away from the sources of social services and markets.
3. The survey, which was conducted for Bahr El Jebel State, established that rural population is encountering the difficulty of marketing their products or even having access to the meager social services in their neighborhood.<sup>6</sup>
4. The homelands of the displaced population are suffering from further degradation of the soils and invasion by Fibrous and tough re-growth, which makes the possibility of its rehabilitation in the future quite a difficult task.
5. For security reasons the warring parties set fire to the tall grass, which in most cases extend to the forest causing remarkable disruption to the biological ecosystems in the area.
6. The displaced persons are causing degradation to the receiving urban environments.

#### **1.3 Consequences of poverty:**

Poverty inflicts a negative impact on both the environment and the process of human development. Due to diverse physical and cultural structures of the Sudan, the impacts of poverty on Sudanese population vary from one region to another.

The main characteristics of the rural poor in the Sudan are as follows:

1. High level of illiteracy rates;
2. High incidence of disease;
3. Low income per capita;
4. Conflicts over natural resources: water, pastureland etc.;
5. Short life expectancy;
6. High infant mortality rates; and
7. Lack of access to social services<sup>7</sup>.

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<sup>6</sup> Hassan A. Ati. and Others - Social and Economic Condition in Bar El Jabel State- Abase Line Survey done for Sudan govt. and UNDP 1999

The impact of the poor on the environment is intensified by the following attributes:

1. Their inability to conserve or rehabilitate their environment;
2. Their inability to acquire appropriate technologies;
3. Their inability to protect themselves against the hazards of the environment, and so their health and human quality is always kept at a low level; and
4. Their inability to acquire decent housing, which makes their living conditions the most unsuitable for human habitation.

## **2. Impacts on the Environment:**

### **2.1 Poverty Impact on Physical and Social Environments:**

1. Desertification is intensified by the agricultural practices of the poor.
2. Forest removed for energy and new agricultural opening has resulted in the disturbance of the ecological system, leading to the disappearance of invaluable species of wildlife. Herds of Buffaloes, antelopes, leopards, lions, giraffe etc. have been reduced to the fringe of extinction.
3. Surface flow, which was controlled and/or regulated by the vegetation cover, is dissecting the open land through the quickly developing rills and gully systems, transporting large amounts of silt into the main system of River Nile causing salutation to both dams and irrigation networks.
4. The process of siltation had reduced the capacity of the dams and the irrigation canals. The Sennar dam has lost a high percentage of its storage capacity. Roseiris dam has lost its dead storage. A moving submerged silt bar is moving towards the dams. The research team that studied the environmental impacts of the dam heightening in 1994 detected this bar. Khashm El Girba dam has nearly lost its storage capacity.
5. Gully erosion has caused damage to soil and land configuration, especially in the northern part of Butana.
6. Ecological imbalance resulting from forest removal has distorted the predators/ prey ratio. The outbreak of rodents in the rain-fed agricultural lands and the spread of insects and pest are good examples.

### **2.2 The Displaced Poor:**

The poor people who lost their means of living-due to physical or political hazards - and came to live as displaced in the outskirts of large urban centers has influenced the urban environment by:

1. They came directly from their home with all their culture and values; a phenomenon that led to the ruralization of urban centres.
2. They caused pressure on the social services, especially the educational services. Khartoum State, being the largest receiver of the displaced persons, became the 3rd ranking State, after the Northern and Gezira States, with respect to the increasing percentage of school drops outs in recent years.

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<sup>7</sup> For Figures for those characteristics, see Annex

3. Percentage of population with access to potable water has declined for the displaced population in Dar El Slam, Cartoon Kassala and some parts of Um Bada fall outside the water supply grid system of the capital town. Results of the 1993 census shows that these areas have the highest density of population without access to healthy amenities.
4. Number of vagrant children is rising steadily since 1990. Although the last survey was undertaken in the early 1990s it is observed that their number is still on the increase. By the same token vagrant girls and vagrant families are no longer a strange phenomena.
5. Rates of crime associated with some social problems is on the increase as well, especially crimes of theft, burglaries and child delinquency.
6. Rates of marriages broken because of the inability of the husband to pay for the family requirements, is on the increase.
7. Number of female-headed households has as well increased.

### 3. Poverty Profile in the Sudan:

3.1. As mentioned in the introductory part of this paper, poverty is a multi-dimensional phenomenon and that income poverty is not the total some of human deprivation. Using this concept, the poverty indicators used here are the same as those used for the construction of the human poverty index and for assessing the degree of deprivations. Therefore, the following indicators are used in this paper:

1. Longevity;
2. Knowledge; and
3. Decent standard of living.

The first deprivation relates to vulnerability to death at a relatively young age. The second relates to the exclusion from the spheres of reading and communication. The third relates to decent standard of living from the over all economic provisioning.

As for longevity life expectancy in the Sudan is 56.7% but there are gender disparities; 56.7% for females and 53.6% for males. Also there are regional disparities. The Lowest rates are found in Kordofan, 53.3% for females and 50% for males (See Annex I).

It is worth mentioning here that life expectancy for the developing countries is estimated from the percentage of those unexpected to live up to the age of 45, and in the developed countries it is estimated from those unexpected to live up to the age of 60.

Considering Sudan as one of the countries with low human development rate, the percentage of population that lives up to the age of 56.7 is taken from those who are unexpected to live up to the age of 45 only. The situation of modest life expectancy can be explained only by the relatively low medical services, malnutrition, and lack of access to potable water etc.

**3.2.** The healthy working manpower in the Sudan is concentrated in the two affluent States of Khartoum and Gezira

**Table 2: Distribution of Health Services by Category and Region**

Region	Specialist	All Doctor	Technicians	Medical assist	Nurses
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<b>Khartoum</b>	286	1149	991	1258	3308
<b>Central</b>	106	391	206	1005	4173
<b>Northern</b>	30	129	83	423	1629
<b>Eastern</b>	64	224	93	572	1274
<b>Kordofan</b>	24	93	85	524	1642
<b>Darfur</b>	18	65	116	463	1009
<b>Equatoria</b>	1	18	59	65	1247
<b>Bahr El Gazal</b>	1	18	27	249	1013

Note: Sources: UNDP/MSP, First National Human Development Report, 1998

Upper Nile: not available.

From table (2) above it is observed that the Southern States, with nearly one third of the country's total population, have less than 5 specialists and less than 40 general practitioners. The distribution of health facilities is shown in table (3) below.

**Table 2: Distribution of Health Facilities by Type and Regions**

<i>Region</i>	<i>Hospital</i>	<i>Special Hosp.</i>	<i>Blood Bank</i>	<i>x-Ray</i>	<i>Hosp. Beds</i>	<i>Health Centres</i>	<i>Dispensaries</i>	<i>Dressing station</i>	<i>PHC units</i>
<b>Khartoum</b>	37	25	9	22	4339	70	141	84	57
<b>Central</b>	59	59	15	11	NA	4948	172	778	445
<b>Northern</b>	36	8	6	8	2396	122	211	162	153
<b>Eastern</b>	22	6	6	6	2685	43	162	150	418
<b>Kordofan</b>	26	5	2	5	2227	34	172	130	924
<b>Darfur</b>	16	5	2	3	1380	25	123	35	654
<b>Equatoria</b>	16	2	1	2	1102	7	68	39	238
<b>B. El Gazal</b>	9	1	1	1	993	2	55	NA	41
<b>Upper Nile</b>	7	1	1	1	954	2	40	NA	83

Source: Health Information Centre, FMOH

The distribution of health facilities follows no clear pattern and it reflects the denial of health services to large areas, specially the Southern and Eastern States.

The rate of medical personal/1000 population as well shows very low ratios

**Table 3: Health Manpower/1000 population 1995/1996**

<b>Year</b>	<b>Specialists</b>	<b>General practitioner</b>	<b>Medial Assist</b>	<b>Nurses</b>	<b>Dentists</b>	<b>Teacher</b>
<b>1995</b>	0.02	0.09	0.08	0.62	0.01	0.05
<b>1996</b>	0.02	0.09	0.8	0.62	0.01	0.05

Source: Muneef Abd El Gadir, Health Services in a liberalized Economy. Khartoum, 1998.

### Status of Health Services:

- Figures for nutritional status for the Sudan are different from one source to another. The nutrition bases for the Sudan as a whole for the year 1995/96 consisted of 5,079,000 tons of grains: sorghum 3,648,000, millet 970,000, wheat 448,000, maize 11,000 and rice 2000 tons. Disregarding the exported amount through legal and smuggling trade the average share of cereals/heads is estimated as 187 kg<sup>8</sup>. According to the country's strategic plan of 1997, this was estimated as 352 grams/day<sup>9</sup>. Reducibly enough, in the Sudan's report to the International Committee of Child's Rights, which was delivered in 1997, it was estimated that the annual consumption/head is only 14 kg, i.e. 38.4 grams/day/head.

<sup>8</sup> Idris El Nayal: Youth and Children in the Sudan an Economic Infanticide. Human Development Report Workshop Khartoum 1998

<sup>9</sup> Plan Sudan: Country Strategic Plan Khartoum 1997

- Protein-calorie male nutrition is reported in the Gezira mainland, old Wadi Halfa and the village of Lake Nubia, Goz area in southern Khartoum and Umbada.

To conclude this point, general health service in the Sudan are below the standard and confirm the assumption of the deprivation of Sudanese poor from health services, and consequently hinders the attainment of opportunities that would, otherwise, facilitate leading a long and healthy life. The deprivation from adequate health services coupled with low nutrition status intensifies this assumption of short unhealthy life.

**3.3** Provision of good-quality educational services is hampered by the lack of basic facilities like availability of trained teachers, books, teaching aids and conducive school environments.

Economic policies have negatively impacted on the process of acquiring knowledge and school enrollment opportunities. For instance, enrollment rates for Primacy Education had dropped from 72% in 1990 to 52% in 1998<sup>10</sup>. However, there are disparities in these figures for the combined 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> level gross enrollment rate. Tahir. M. Nour concluded that it was 60.1% and 35.4% for rural and urban areas respectively.

Moreover, he found that the highest percentage of deprivation from primacy education in the rural areas of certain States as 70.1%, 70.7%, 81.1%, 76.9%, and 83.1% in Kassala, Southern Darfur, Blue Nil, West Kordofan, and Red Sea States respectively. The lowest percentage of deprivation in rural Khartoum is estimated as 36.4% (for further details see Annex I of this paper).

Gender disparities can be observed as well. For the gross enrollment ratio of primary education it is 39.4% for females and 49.8% for males (for further details see Annex 2).

Deprivation from the over-all economic provisioning leads to deprivation from decent living and decent living could be:

1. Adequate food intake;
2. Decent shelter and clothing;
3. Access to schooling and health facilities;
4. Access to recreational facilities; and
5. Access to information and technology.

Denial of the above opportunities leads to many hazards that affect the following aspects:

1. Human quality or the process of human development;
2. Environmental and social structures; and
3. The over-all economic provisioning

In the Sudan the percentage of those who suffer from insufficient over-all economic provisioning is calculated as 86.5% and 39.5% in rural and urban areas respectively<sup>11</sup>. In addition, there are regional disparities as well, with the highest in rural West Kordofan, 99.4%, West Darfur 99.8%, and Blue Nil 97.8% This index, when calculated, seems that as if it neglects disparities in the concept of poverty between States. For instance, provisioning of housing, clothes and recreational facilities, construction cost of housing, pieces of clothing and the like, vary greatly between various States. Even income, since what is adequate for food supply in one place could be inadequate in another, varies across States (for further details see Annex I).

<sup>10</sup> A. Basit. M. Ali Education for Development. Human Development Khartoum 1998-Based on Ministry of Education Statistics

<sup>11</sup> UNDP. Sudan National Human Development, unpublished report.

#### 4. What Was Done Since Rio:

Since the Earth Summit in 1992, Sudan government has launched a programme for poverty alleviation, which was incorporated in the National Comprehensive Strategy and the strategic report of the year 2000.

Government plans stressed the alleviation of income poverty through various schemes such as income-generating schemes, Zakat and Takaful funds.

The actual collection of the Zakat between 1984/85 and 1996/97 has exceeded the estimated amount by 131%. For the same period the proceeds has risen from Ls 48.4 billion to Ls 60.8 million, indicating an annual increase of 60-70%. Due to inflationary pressures, the Zakat proceeds remained at 0.13-0.50% of the GDP, far below the estimated figure of 3.5% by Zakat officials<sup>12</sup>.

The Zakat Bureau distributed the sum of Ls 30.9 billion among some 1.6 million households, constituting 40% of the total population. This provided the family with an average income of Ls16,522 per month which is less than the minimum wage in 1996, which was set at Ls 18000 (reflecting a deficit of 9% below the minimum wage). By comparison, the 2986 Zakat employees, who are employed by Zakat bureau, received 9% of Zakat proceeds i.e. a total of Ls 5,472 million were paid, on the basis of Ls 68,667 per month, on average . It is worth mentioning that during the 1997 the Zakat bureau expenditures amounted to 34% of the total proceeds from Zakat. Of these, 12% were paid in wages to employees, 9% spent on construction, 5% were collection fees and 5% other expenses, 43% of the proceeds went to the poor, 1% to the indebted and 20% to the propagation of the faith and to non-Muslims.<sup>13</sup>

It is noted that farmers and animal owners whose income is very low compared to the income of those in other sectors contributed 75% of the proceeds. By contrast, operators in the industrial and service sectors, who contributed 55-71% of the GDP, and on the average owned more valuable assets than those owned by the bulk of the farmers and animal herders, subscribed only 25% of the GDP. Most Jurists assume that the Zakat should be collected on the surplus assets and income, which exceeds normal consumption. Nevertheless, the Zakat Bureau applies it to wages, and total earning of craftsmen and taxi-drivers. Yet the Zakat authorities admit that 97% of the government employees' total annual income is less than the nisab of LS 935000 in 1996<sup>14</sup>.

In addition, the government launched, through the Ministry of Social Planning and the saving Bank income-generating Projects. These were in the form of short-term investment loans. The following patterns are observed in their performance:

1. The recipients of those loans were basically poor, and starting their business from scratch. The loans normally constitute part of the working capital thus making it very difficult, if not impossible, to work at a full capacity.
2. Beside their inability to produce at a full capacity they are expected to earn their living out of the income they generate from such projects. Such a situation is anticipated to erode this capital.

<sup>12</sup> M. Hashim Awad, Poverty Eradication in the Islamic and Other Systems. UNDP Workshop, 1998.

<sup>13</sup> Ibid

<sup>13</sup> Ibid

<sup>14</sup> Ibid

Not only that but the project owner will be unable to refund required installments whenever they are due.

3. They lack the management and marketing know-how, and most of those who received such loans failed to generate sufficient income to sustain and promote their business enterprises.

4. The quality of the product of such investment is generally inferior in relation to similar imported goods or produced by larger firms. In the end, they will be faced with unsold products (that is overstocking) and will be compelled to sell at lower prices. As a result they will fail to settle their debt. In other words, recipients of such loan will be entangled to poverty and indebtedness.

By and large, a number of NGOs exerted significant efforts geared towards poverty alleviation through income-generating activities. Their efforts can be classified into two main categories:

1. Short-term loans, with the exception of CARE efforts in Kordofan, the rest followed a model similar to that of the Ministry of Social Planning. CARE followed a different procedure that can be outlined as follows:

2. Before offering loans they launch training programmes in each village in management and technical aspects of the investment. Only those who attend the training will be eligible for the loan. Also it helps in the marketing of the final product. In the end, Kordofan became the main supplier of fine quality cheese to the main urban centers.

3. The second approach is an integrated development programme adopted by some national NGOs and this proved to be helpful in maintaining children throughout their education and the vocational training periods.

### **What Is To Be Done?**

Both government and NGOs has equal responsibilities as far as the alleviation of poverty is concerned:

1. Access and affordability of services, and their equitable distribution are the main responsibilities of governments. The denial of such services strengthen the entanglement to poverty, denies the population the rights to participate in development, and reduces their ability to sustain development and natural resource utilization.

2. Development plans should strike a balance between the goals of economic, biological and social systems. This is the case because the maximization of any goal at the expense of the other two will result in the destruction of the other two systems.

3. Quality of the human population should be improved through capacity building programmes, and their skills should be upgraded so that they can cope with the new global systems.

4. To mitigate the impacts of globalization through better educational programmes.

5. To raise the awareness of both the public and governments about the close link between development, quality of human population and the environment.

**Annex I: Map 6 A State-Level Rural-Urban Sensitive Human Poverty Index (R-US HPI)**

HPI Rank	State	Rural share in total population	% overall survival deprivation P1		% overall deprivation in education & Knowledge P2		% overall deprivation in economic provisioning P3		Rural-Urban Sensitive Human Poverty Indicators			R-U sensitive HPI (R-U SHPI)	R-U HPI Rank
			R	U	R	U	R	U	P1	P2	P3		
1	Khartoum	0.169	04.8	06.4	36.4	30.9	56.6	39.5	06.2	32.0	43.4	33.7	1
2	Gezira	0.809	05.9	05.6	45.2	30.5	54.0	23.0	05.8	43.1	50.6	41.2	2
3	River Nil	0.704	06.6	05.9	49.6	27.5	75.9	25.6	06.4	45.2	67.9	51.3	3
4	Northern	0.873	05.9	05.4	41.9	29.8	77.8	37.1	05.8	40.7	74.7	54.5	4
5	Red Sea	0.456	12.9	10.9	83.1	39.8	98.5	47.9	11.9	66.6	78.9	64.1	5
6	Whit Nil	0.661	07.6	06.5	58.4	40.9	78.9	53.0	06.6	53.7	79.3	60.2	6
7	Gadarf	0.751	09.4	12.5	50.9	41.1	86.6	57.8	10.4	48.8	81.2	60.2	7
8	Sinnar	0.756	07.6	62.0	40.3	91.4	31.0	07.4	58.1	83.1	83.6	63.9	8
9	Kassala	0.699	09.5	09.6	70.1	41.5	92.1	39.8	09.5	64.0	82.7	65.1	9
10	N. Kordofan	0.762	07.9	05.9	76.3	38.1	99.7	45.0	07.5	70.6	91.6	72.2	10
11	N. Darfour	0.835	06.9	06.4	60.7	37.4	99.7	73.0	06.8	58.0	96.3	71.3	11
12	S. Kordofan	0.822	09.5	09.2	64.6	51.4	97.2	93.1	09.4	62.4	96.5	72.6	12
13	S. Darfur	0.846	07.6	07.3	70.7	77.9	99.6	75.0	07.5	67.9	96.6	74.0	13
14	Blue Nil	0.993	12.3	10.1	81.1	46.6	97.8	65.0	11.9	76.3	92.8	74.6	14
15	W. Darfur	0.902	10.7	08.8	65.0	45.7	99.8	85.9	10.5	63.6	98.6	74.0	15
16	W. Kordofan	0.844	07.7	09.6	76.9	45.7	99.6	83.0	08.1	74.3	97.4	76.3	16
--	N. Sudan	0.679	09.6	07.8	60.1	35.4	86.5	39.5	09.1	54.5	77.2	59.2	--

## Annex II: Map 2: State-Level Gender-related Development Index (GDI)

State	HDI rank	Female share in total pop.	Male-female Human Development Indicators								Gender Sensitive Indicators			GDI	HDI Rank minus GDI rank
			life expectancy at birth (Year)		Adult (+15) literacy rate (5)		Combined 1st, 2nd, 3rd level gross enrolment ratio		Adjusted per capita consumption (pounds)		life expectancy index	Education Index	Consumption Index		
			Female	Male	Female	Male	Female	Male	Female	Male					
Khartoum	1	0.464	59.8	56.1	60.6	79.2	62.2	63.0	2060	2746	0.550	0.673	0.425	0.549	0
Gezira	2	0.511	61.3	55.6	49.6	71.5	49.8	55.7	1394	1859	0.558	0.566	0.247	0.457	0
River Nile	3	0.515	58.8	57.0	50.6	69.5	42.9	55.3	1188	1548	0.546	0.549	0.194	0.430	0
Northern	4	0.523	58.7	54.7	51.1	71.1	57.6	60.4	1076	1435	0.528	0.592	0.164	0.428	0
Whit Nile	5	0.507	57.1	55.1	37.4	59.4	43.5	53.1	1368	1824	0.517	0.466	0.241	0.408	0
Gedaref	6	0.482	52.6	50.5	42.0	69.5	37.3	49.6	1300	1733	0.442	0.496	0.225	0.48	0
N. Darfur	7	0.500	55.5	53.1	23.6	59.8	34.9	43.1	1283	1650	0.487	0.418	0.208	0.371	0
Sinnar	8	0.518	57.9	53.7	24.9	67.5	32.6	54.6	1049	1398	0.513	0.378	0.158	0.350	-1
Red Sea	9	0.469	52.2	50.1	35.5	54.0	39.0	38.6	1241	1654	0.436	0.423	0.211	0.357	1
Kassala	10	0.484	55.4	53.5	32.2	50.3	31.9	40.3	1064	1419	0.490	0.384	0.164	0.346	0
S. Darfur	11	0.501	56.7	53.1	18.3	55.4	20.7	36.6	1241	1655	0.498	0.275	0.209	0.327	0
W. Darfur	12	0.516	56.0	52.8	15.0	68.8	21.2	42.0	1077	1436	0.489	0.262	0.165	0.305	-1
N. Kordofan	13	0.522	56.4	52.4	21.9	45.1	25.4	44.5	968	1291	0.489	0.301	0.137	0.309	1
Blue Nile	14	0.582	51.2	49.0	15.9	39.3	19.7	29.1	1384	1845	0.418	0.236	0.247	0.300	0
W. Kordofan	15	0.510	57.5	52.8	17.4	39.3	22.6	33.9	926	1234	0.502	0.251	0.126	0.293	0
S. Kordofan	16	0.514	53.3	50.0	27.6	48.8	33.5	47.7	647	863	0.443	0.365	0.035	0.287	0
N. Sudan	--	0.498	56.7	53.6	37.1	63.8	39.4	49.4	1308	1745	0.503	0.462	0.219	0.395	--

## Annex III: Map 1. State-Level Gender and Rural-Urban Disparities Blind HDI

State	Human Development Indicators					Gender & Rural-Urban Blind Indices			
	HDI rank	Life expectancy at birth (Years)	Adult (+15) Literacy rate (%)	Combined 1st, 2nd, & 3rd level gross enrolment	Adjusted per capita monthly consumption (pounds)	Life expectancy Index	Education Index	Consumption Index	Human Dev. Index (HDI)
Khartoum	1	57.5	70.7	63.5	2746	0.542	0.683	0.510	0.578
Gezira	2	58.4	59.8	54.0	1859	0.557	0.579	0.311	0.482
River Nile	3	57.9	59.3	53.8	1584	0.548	0.575	0.249	0.457
Northern	4	56.7	60.1	60.0	1435	0.528	0.601	0.216	0.448
Whit Nile	5	56.1	47.8	48.1	1824	0.518	0.479	0.303	0.433
Gadarf	6	51.5	56.2	43.7	1733	0.442	0.520	0.238	0.415
N. Darfur	7	54.3	46.3	38.9	1650	0.488	0.438	0.264	0.397
Sinnar	8	55.8	43.7	43.0	1398	0.513	0.435	0.207	0.385
Red Sea	9	51.1	45.6	39.7	1654	0.435	0.436	0.265	0.379
Kassala	10	54.5	41.5	37.6	1419	0.492	0.402	0.212	0.369
S. Darfur	11	54.9	35.7	29.1	1655	0.498	0.335	0.265	0.367
W. Darfur	12	54.4	39.6	31.8	1436	0.490	0.370	0.216	0.359
N. Kordofan	13	54.4	32.2	36.6	1291	0.490	0.337	0.183	0.337
Blue Nile	14	50.1	27.8	24.3	1845	0.418	0.266	0.308	0.331
W. Kordofan	15	55.1	27.4	28.1	1234	0.502	0.276	0.171	0.316
S. Kordofan	16	51.9	36.8	40.1	863	0.448	0.379	0.087	0.305
<b>N. Sudan</b>	--	<b>55.1</b>	<b>50.1</b>	<b>44.6</b>	<b>1745</b>	<b>0.502</b>	<b>0.483</b>	<b>0.258</b>	<b>0.423</b>