

Civil Strife and Environment “The Sudanese Case”

by

Ahmed M. Abu Sin & Yousif Takana

1.0 Abstract:

The overall aim of the paper is examine to the inter-relationship between civil strife and environment. The specific objectives are:

- 1-develop a conceptual framework on civil strife impact on environment.*
- 2-explore the root cause of civil strife.*
- 3-identify the environmental factor role in civil strife initiation, acceleration.*
- 4-assess the environment impact of civil strife along specific socio-economic and natural environment parameters.*

The main arguments that dominated the paper include:

- 1-Access to and control over power (at different levels) and resources, out weigh other factors viz. ethnicity/culture/religion in initiating civil strife.*
- 2-civil strife is leaving devastating negative effects on people, local environment in areas of origins and host communities of dis-located people and livestock i.e. war zones interface points, urban settings and fragile zones.*
- 3-sustainable peace and environment is an ambition that could only be realized if genuine commitments to new policies and legislation related to civil strife and environment are guaranteed e.g. local people access and control over resources that affect their livelihood systems and specially land use policies.*

The method used:

- 1- literature and secondary data related to the theme. It is important to take the figures with caution, considering difficulties to access reliable data in war zones.*
- 2-own researches field observation and primary data in relevant field, particularly in tribal conflict zones and government controlled areas.*
- 3-discussions with individuals and groups e.g. a discussion panel.*
- 4- case studies chosen on basis of availability of sources and the resources and time limits.*

The paper as perceived by writers could hopefully reveal the importance of research related to civil strife, through the apparent gaps identified. The Rio Agenda in the future should focus on addressing these gaps.

2.0 Conceptual Framework:

The paper introduces a general conceptual framework to address the civil strife and environment relation. This paper, within the limited time available and meager literature and data, could only try part of this framework. The framework, annex (1), focuses on the impact of civil strife along a) Socio-economic impact and b) Impact on natural environment. The framework also emphasized the livelihood system and its linkages with environmental factors, annex (2).

Civil strife is an armed, violent conflict which active parties tend to involve civilians (not in uniform) and become massive by time. In the Sudanese case, civil strife, using this broader definition cover the long lasting violent civil war between North and South, the opposition- GOS armed conflict in other parts of the country and the so-called tribal conflicts. At the end result, it is becoming a social conflict.

Conflicts denote disputes into which the threat of armed confrontation has been introduced. It results from efforts to settle disputes between parties by resorting to physical coercion (violence)

or threat of physical violence (Amoo, 1992). Conflict resolution, denotes the termination of a conflict or dispute through the elimination of the underlying bases or causes of conflict (Barton 1990) or elimination of causes by agreements between the conflicting parties and establishment of peaceful resolution mechanisms.

As quoted from (Lederlach 2000), Simmel (1955), subsequently, Coser (1956) undertook the study of human disputes from the perspective of its role in maintaining and changing social groups. Others have concentrated on the communicative patterns and patterns of conflict, concentrating on the micro-episodes and structure of interpersonal exchange (Hocker and Wilmot 1991). Marx, at the opposite, delineated a macro view of conflict based on the concept of historical materialism and the struggle of classes, which posts economic structure and control of the means of production as the primary determinants of social conflict (McLellan 1977). The debate then is whether conflict between different cultures, a socially constructed social event or purely on material gains. The Sudanese case, as argued in this paper, illustrates civil strife determinants as primarily access to resources, power structures (not necessarily at central level) and by time fueled by culture, ethnicity and sometimes religion. A variety of political decisions and policies, in particular those related to resource use and control, are held responsible for ignition and continuation of civil strife. Issues of ethnicity, though become dominant in interpreting the war, but are used by conflicting parties to wire alliances and fuel the violent strife.

3.0 Background on the Sudan:

Sudan, like many African countries, had been prone to internal conflicts, ethnic strife and socio-political and economic crisis.. Both political and economic power were, predominately, centralized in the hands of urban elite's, sectarian and tribal chiefs. 75% of the Sudanese population lives in rural areas. In Sudan multi-ethnicity is obvious, as there are 132 tribes and sub-tribes groups. While people of African origin dominate the South, Western and Eastern Sudan, those of Arab origin are in the North and the mixed tribes in centre. The climatic zones ranges from high rainfall Savannah (South) to low rainfall Savannah (centre) to semi-desert and desert (North). The soil types comprise iron soil (South) clay (Centre) sands (North) and hilly (east). The Nile is 2258km extending from South to North with various tributaries. The Rainfall is 1200 mm/pa in southern Savannah (4° N) decreasing to zero in the Northern desert (22° N).

The majority of population is river rain farmers, pastoralists' cattle herders and camel herders and the rainfed farmers. The Nilotic tribes' control grasses lands of the South and is mainly agro-pastoralists. The Zandi, Bari and other tribes cultivate the wooded land along the Southern boards with Uganda.

The Sudanese livestock population is 27.7m Animal units (Au).¹ The total Arable land is 36 million ha (85 m feddan). Only 38% of land is cultivated. The grazing land pasture is estimated by 100 m ha (240 m feddan) while the natural forest cover 17.6ha (42 m feddans).² The land under cultivation by farming type, as in Sulieman (2001) is 4.5 m feddan (irrigated), 18.0 m feddans (Mechanized Farming MF, 10.0 m feddans (traditional cultivation. The total land utilized is 32.5-m feddan i.e. 38 % of total arable land.

The sufferings of people stricken by recurrent wars and natural calamities are outstanding. Problems of social differentiation, population mobility and family dislocation and difficult access to subsistence means, were apparent socio-economic consequences since late 1983.

¹ Au = 1 low + calf or their equivalent

² 1 hectare (h) = 2.4 feddan

Moreover women destitution and marginalized position within the society, had been significantly accelerated. On the other hand, the natural environment degradation problems are evident i.e. soil erosion, deforestation, overgrazing and desertification.

Sudan has the highest rate of urbanization in the African Sahelian countries. The 1993 census indicates the total population by 25,587,000 people. Out of this 35% inhabit Khartoum and central parts of the country. The annual growth rate estimate is 2.6%. The Muslims are 85% and the rest are Christians, Animists, Hindu and Jewish. Islam is not necessary connected with Arabic language. According to 1955/56 census the Sudanese ethnic composition was 39% a mix of Semitic migrants and indigenous Negroid Arabs, 36% Nilo Hematic and Sudanese Negroid, 6% indigenous Negroid with some Semitic and Hematic elements (Nuba and Nubians) and the rest are indigenous Negroid Funj (1.7%) and West African migrants (7%)(Sahel, etal 2000).

The displacement mainly caused by the ongoing civil war and the pattern of repeated drought manifested in famine that resulted in effecting rural urban exodus. Yet macro economic polices (liberalization, privatization and lift of subsidies from basic services) and political instability, poor programming and lack of accountability have exacerbated rural urban exodus. This has lead to a state of absolute poverty expressed in lack of common basic needs, food, shelters, clothing, education etc. The various researches and studies (UNDP, 1996), that almost 96% of the Sudanese population lie under poverty line. The trend of poverty is apparently increasing, if comparing estimates of 85% and 92% as percentages of population living under poverty line, according to Abdel Ati., public lecture, May 1999, quoting the UNDP Human Resource Development Report 1994) and National Human Development Report (1998) respectively. Sudan is rated 57th out of 78 poorest countries according to the UNDP Human Development Report (1997). A report of Committee on Eradication of Poverty, in Al-Ayam daily newspaper (5 September 2000) indicated that:- 48% of population die before the age of 40, 30% have no access to health services, 60% have no access to healthy drinking water and 34% of children under 5 years are under normal weight.

3.0 The Scale and Causes of Civil Strife:

Civil strife wreckage the Sudan for the last 40 years. It started 1955 in Torit in western Equatoria, Southern Sudan. By 1995 the war had spread almost all over Sudan. The war causalities resulted in the death of one million people (due to war) and displacement of 4 million people. Sudan has the highest record for IDPs worldwide. Mortality rate among children is 115 per 1000 live birth in the North and 180 per 1000 in the South. There is an increase in child mortality rate from 145 to 200 per 1000. Malnutrition among children is 10.5% in the north and 43% in the south.

Currently the whole south, the west (Kordofan and Darfur) the Eastern region and Southern Blue Nile province in the eastern centre are included. People of these areas claim to be marginalized in power and wealth. They generally blame the elites in the centre, who inherited the colonial state machinery after independence in 1956. Albeit political reasons (power sharing) are manifested as the main reasons, yet, conflict over resources (wealth sharing) is one of the main root causes³.

The thesis of Jellaba (H. Bashier, 1998 and M. Sulieman, 2000 &20001) helps to interpret that the civil strife is mainly caused by conflict over resources. The land resource, though important determinant in the Nuba Mountains case, but has much to do with tribal conflicts (farmers –

³ Dr. M. Suliman 2001

pastoralists and transhumance vs farmers) all over Sudan. On the other hand the (north –South) conflict and the recently involved regions (Nuba Mountains, Blue Nile and Kassala State) are rich in resources and all suffer from underdevelopment and unbalanced development compared with other parts in central Sudan. In justice in to access to power and consequently to resources (near them) i.e. oil, water, land, is becoming a serious political determinant. The political decisions, viz. Land Ordinance (1970), dismantled Native Administration, Commercial Farming and politics of oil and water, explain the political dimension. The timing of the civil war (1983-2001) is well explained by specific historical events. The political decision related to investment in Jongoli canal (1978), the discoveries of oil and consequent decision over Unity State (1981), the refinery, pipeline (1983) contributed to re-igniting the war. The international and regional dimensions could well be qualified within this period. Issues of ethnicity and the religions used to wire alliances and fuel conflicts, but difficult to consider them as root causes of conflict. Even the civil strife of the 1950s and 1960s has much to do with the colonial era and national governments which polices contributed to unbalanced development and social injustice, hence contributing to the marginalization of these war zone from power structure and use of the resources near them.

The colonial era concentrated on use of rich clay soil land Gezera irrigated farm and other areas since 1920s. The native administrative system was established by the British to grantee stability at local levels without endangering their interest. The mechanized commercial farming benefiting urban elite's during the period 1960s-70s and was expanding annually till reaching 18 million feddans. Same period witnesses the famous Jongoli Canal (1978). Exploration of oil started in Red Sea area in 1960s. The first refinery was established in Port Sudan 1962. The Chevron oil exploration in Western Sudan took place for the period (mid seventies to mid eighties). The commercial discovery of oil, the issue of refinery and pipeline were sensitive issue bringing in conflicts between Northern and Southern politicians. The decision over Unity State 1991', the refinery location in Kosti and the pipe line between Khartoum and port Sudan were reacted upon immediately by SPLA mutiny (1983). Ethnicity's (Nuer/Dinka) was used by conflicting parties to develop alliance and fuel the war. The first strategic targets for SDPA were Jongoli Canal and Oil Fields (1984). In the Nuba Mountains the target was the mechanized farming schemes. Therefore, land, water and oil are becoming the centre f or the civil strife. Their resources are not far from the regional and regional interests. Although the rebellions mutiny started by offices (in uniform) but by time a built up of militias. To reach a stage of massive war, ethnicity, culture and religions were systematically used for mobilization fueling the war. However the rebel was direct reaction to specific political designs that has much to do with political power mainly in the south and control over resources natural resources. The Nuer/Dinka conflict and changing alliances has much to do with these issues of power and resource control.

4.0 Southern Sudan and Civil Strife:

The Sudanese North- South painful conflict started before independence (1956). Since then the inflicted war had resulted in grievances of human life and sufferings and resource losses, which are irreparable. The successive governments and rebel movements were accelerating the war and pursued total destructive strategies. Many attempts were tried to reach a peaceful settlement, but without a sustained one. Inter and intra- ethnic conflicts accordingly were common. Endemic violence, using modern weapons and conflicts related to pasture, marriages, cattle theft and eloping of girls were reported.

Geographically Southern Sudan is comprised of three zones: the rich Savannah zone (flood region), the high rainfall Savannah and the iron stone plateau. The rich Savannah zones almost cover 363,500 km². It is approximately 10.6% of Sudan total area. This zone mainly covers

Upper Nile and the Western Past of Bahr el Gazal. The area is flooded 4-6 months every year and characterized with poor drainage system. The cattle herding, subsistence farming and fishing makes the main livelihood systems of the area. Th inhabitants are mainly shuluk, Dinka and Nuer.

The high rainfall Savannah zone is characterized by dominance of clay land, rich pastures and tree cover. This is mainly the area of west Bahr el Gazal, Western Equatoria and Zandi area. The farming and trade with Uganda communities make the main livelihood activities. Intensive farming of dura, Cassava, Etc and production of poultry, goats and sheep are common.

The Jur and Dinka, on the other hand, mainly inhabit the iron stone plateau. It is mainly an agricultural production area (North Wau). The main crops are Dura, Kassava and Forest products (coffee, tea, and sugar). The dominance of Tse Tse fly on the plateau curtails cattle herding.

The civil strife is disastrous on the natural environment. On this regard the civil war disturbed the natural resources of the rural communities. To escape the trauma of the war, rural communities in the different parts of the country witnessed huge movements from the inflicted areas to where they could find save heavens. Some communities disappeared and new ones emerged in new areas. These demographic changes disturbed the natural ecology to a great extent. These movements usually affect the already demarcated Dars of nomadic and sedentary tribes in Kordofan, Darfur, Gezera, and Eastern region and greaten Khartoum provinces. The near comers usually trapped with their animals and livelihood activities in marginal areas with little potential or already cropped and exhausted. The nomadic tribes in the deferent parts of the war zones, perhaps, were the most affected groups by these demographic shifts. The Savannah zone had always been an area of high rates of movement, resettlement and come together of new groups (Leif Manager. 1993). Yet the civil war spills over into the area and affected the whole ecology tremendously. Food insecurity and dependency on relief aid was an obvious result. The relief had targeted (2,50 0,000) IDPs in 1998. UNDP famine report (1998) indicates that 43% of IDPs suffer from malnutrition⁴. 18% suffer from severe malnutrition. The food deficit in the area of western Bahr al Gazal e.g. is 40% (2001). These communities depend on fishing hunting, cattle and agriculture. A/atti et al (2000), indicated that the IDPs in Bahr el Gazal only make 27.4% of the total population which was 193,400 (2000). Inter-tribal Dinka-Nuer, Dinka-Fertit and inter-tribal Dinka Bur-Dinka Awil are common. Same as for conflicts between grazers and framers. This affected negatively the peaceful coexistence of different tribes. Militia activities and alliances with warring parties accelerated these conflicts. The social organization based on kinship, extended family, solidarity and social support system; were damaged by cattle theft, use of weapons and the militia from different tribes (Dinka-Baggara, Nuer-Dinka; Shuluk-Dinka). Other social effects of the civil strife include:

- *The change towards sedentary life and loss control over resources*
- *Family dislocation (women, children, eldest, disability-streetism)*
- *Indigenous knowledge and generation gaps (Dinka cultural organizations)*
- *Lack of identify-birth certificate, relatives, school certificates and family ties destroyed*
- *Children war training (troops)-without consent of parents or relatives*
- *Culture of violence even among children of the non-conflict zones.*

⁴ The Human and Ecological impact of the civil war in the Sudan IN Terje Tuelt (ed), Conflict in the Horn of Africa; Human and Ecological consequences of war fare Uppsala (1993)

5.0 The Nuba Mountains and Civil Strife:

Southern Kordofan State (SKS) has emerged under Federal Government Administrative convention. Nuba Mountains area of approximately 88000 square Kilometers, which falls under five provinces of Kadugli, Dieling, Rashad, Abu Gubieha, and Talodi. The State is inhabited by a large number of tribes and ethnic groups, with Nuba tribes representing the dominant tribe in the region. The Nuba Mountains cover an area of roughly 30,000 square miles located in south Kordofan state. Out of the estimated state population 1.1 million, the SPLA control 200,00 on approximation 20% of the state area.

A UN mission (year 2000) noted that in the Nuba Mountain, Muslims, Christians and Animists are living together in a state of harmony (p-12). The people of this region belong to 50 ethnic groups. They people reside on the fertile plains and valleys. They previously own a significant number of cattle. However, in several locations women and community leaders mentioned that abduction of women and children us a major problem in villages near the "front line". People in SPLA and government controlled are still living the 1991-92 trauma. During that time their properties were looted and their houses were burnt down to ashes and many women lost their husbands in the war.

The fist target of SPLA in Nuba Mts.(1987) was on the mechanized farming schemes and the Jallaba garden around serf el Gidad and Um Dorain. Instantly it stopped the work on 510 schemes, which were about 80% of the total mechanized agriculture in the area in Kordofan. In 5-year time the war devastated the total economic structure of South Kordofan. About ½ a million of the natives had been directly affected by the war in south Kordofan locality. The deaths from Govt. militias were estimated to be 400,000. Those who migrated from the war zone to other regions within S. Kordofan were 200,000 persons. About 150,000 persons were reported to flee South Kordofan State. 156 primary schools were deserted and 45,000 pupils were considered as "drop out". 1853 of the mechanized schemes were deserted. Cattle losses were about 71,000 and 99,000 sheep were confiscated or looted. Then, the whole life and environment system of the area collapsed. An estimated total population of 840000 is settled in about 1500 villages and village clusters around the main towns representing 95% of rural life patterns of sedentary pastoral and displaced landless farmers. The annual household average income is estimated down to US\$ 145 compared to GNP of US\$ 290 per capita, pointing to a very low economic status.

Nuba Mountains region has suffered a wide spread disruption and devastation due to civil war, and ethnic tensions, which resulted in spontaneous exodus and destitution of large population out of homeland to towns and northern states. About 25% of population staying in the region are living under conditions of uncertain security and severe poverty in areas currently inaccessible by government services. Women due to their immobility are forced to stay, while men coping with the situation were either move to towns, rebel or migrated to the north to secure part of their families' needs.

Nuba Mountains region is among the least developed area countrywide has suffered historical negligence of past governments and regimes. High illiteracy rates, lack access to social services and economics opportunity, low ration of the national cake, are facts that had aggravated a sense of inequality, reduced rights over power and wealth, marginalization and mistrust. Such bitter feelings have exacerbated war and tuned aspiration towards sustainable peace settlement, which becomes every one's.

Livelihood systems in the Nuba Mountains area were severely damaged. In GOS areas much of the rich land became an accessible as been lost or is inaccessible. Farmers result to small and

often infertile land near their houses. Food self-sufficiency had largely given way to times of poor rain and low farm products. Livestock, which was the time-tested safety net, was lost. - Cattle have been looted. Access to land, water and fisheries diminished. Change upon land use patterns e.g. cultivation now take place on slopes of the mountains without any terracing system. Shortage of labour and absence of recognized land tenure system. The process soil degradation and erosion, is increasing due to farming on marginal lands.

Considerable human and social capitals that exist i. e. civil society is organized and proactive at both ends. Voluntary labour and participation in decision making within governance structures became a claim. The poor and severely poor of Nuba within rebels controlled areas as indicated in UN mission report 28% of households requirements were secured from own farm production. The livestock production covers 4%, petty trade wild food collection, hunting, fishing and remittance contributes 8%. The rest of food (60%) is met by OLS relief operation.

In both government land rebel controlled areas food insecurity caused by conflict is serious, despite the rich fertile black cotton soil and pastureland. Due to insecurity farmers were forced to move from fertile land to peripheral infertile soil and cultivate small plots. The high percentage of female headed households, the involvement of youth in the war, women indoor activities and fetching of water and fuel wood leaves limited time for production.

The peak of the cultivation season usually coincide with the hunger period therefore poor people see wage labour in the relatively better of farmers. This is done at the expense of the labour need for own. Moreover, the conflict situation reduced supplies of farm and livestock inputs e.g. seed, farm implements (x-ploughs), animal drugs etc. These factors coupled with normal farming constraints i.e. erratic and insufficient rainfall, crop pests and diseases and livestock diseases etc, lack of extension and credit, hence from productivity could hardly guarantee 25% of needed food. The humanitarians needs in this conflict-effected region:

- very limited and inadequately equipped and supplied health facility.
- children vulnerability to epidemic diseases due to limited EPI coverage
- Mortality is high due to risk of epidemics
- education is seriously disrupted, where a whole generation of children have been deprived of schooling
- In SPLA areas maternal and child mortality are very high due to poor quality of traditional birth attendants. high prevalence of STD due to wide spread of rape incidences
- The rural and urban IDPs both suffer from poor conditions, limited access to income opportunities and limited instance from the humanitarian community.

Before the war the Nuba Mountains is self sufficient in agriculture. This has been completely eroded over the past 10 years. The population has been driven from the fertile clay plains to peripheral areas of cultivable land due to insecurity. The best produce did not exceed 25% of their hh food requirement. The livestock economy has been completely destroyed, reducing incomes and quality of nutrition. The alternatives are barter economy in SPLM areas and ad-hoc IGA in the government controlled areas. Sizable food deficit normally occurs in the period May to September every year. The small areas cultivated, lack of inputs and insecurity are responsible for poor productivity.

(UUN) a political organization in **the Nuba Mountain**, headed by Gabush and Hasseb, was a territorial oriented one. The other “Comolo” of late Yousif Kowa was formed in 1970s as a shift to ethnic orientation. All through the history competition over territory and resources has been

couched in ethnic, religion and in racial terms. The history of slavery was central to conceptualize the relationship between Nuba and other groups. The Nuba had been fighting for Nuba identity and access to land in competition with the neighboring Arab groups. Nuba Mountains, as a frontier region with history of slave hunting, ivory and gold exploration and being part of the battle field between earlier Savannah states, there had always been a high rate of movements, resettlement, and new groups coming together.

H. Beshier (1998) and M. Sulieman (2000) share ideas about the contribution of capitalist farming in degrading the ecosystem and social fabric and consequently contributing to ethnic conflicts in the Nuba Mountains area. The following points indicate this statement:

1. As an agricultural area, the Nuba Mts is strategically located between the equatorial Southern Sudan and the desert Northern Sudan, the region provides sources of food for both parts of the country and exports to some neighboring countries. Rich petroleum fields were also discovered in the Western part of the region, therefore added more economic, political and strategic significance to the region. Besides it is basically being at cross roads between Northern (Arabic) and Southern non-Arabic and Nileotic Sudan.
2. The mechanized capitalist agricultural schemes (which covered about three million feddans) have marked an economic climax of Jellaba traders, the river rain migrant Arabs, who assumed full control of all economic spheres in the Nuba Mts. At the sometime it crystallized the present social structure and stratification in the Nuba Mts. where the Jellaba Arabs, Baggara Arabs and the Nuba occupy the top, the middle and the bottom of the class system respectively.
3. These investments had resulted in environmental degradation, social stratification (along ethnic lines) and an administrative and leadership vacuum at grass roots levels. The balance of traditional ecosystem was disturbed and the indigenous environment conservation mechanisms were dismantled. These dynamics had in turn prepared the socio-political scene for an inter-ethnic war in 1985, which is still in progress.
4. Different sets of conflicts have arose between various factions (groups) in the region due to the major environmental collapse stemming from the unusual rural agricultural development venture at least among the major ethnic groups (Nuba-Arabs) and economic group (peasants, pastoralists and large-scale capitalist investors).

At the end it is a question of access to resources, in particular, land. The political dimension was reinforced by the policies of capitalist farming, consolidated by the land act (1970) by which land became govt. property all over the Sudan. Communal land use systems and tribal leaders sense of ownership and control over land resources were abolished. The period of 1970s and 1980s coincides with IMF/World Bank, multi-lateral and by-lateral aid and foreign investment interventions. This explains that international politics was not far from the scene.

Govt. policy i.e. Resources allocation, ethnic polarization and allegations of acceleration of islamization and Arabisation in the 1980s and 1990s are held responsible for continuation of the conflict. The blames rests mainly on the mid 1980s policies, believed to encourage and support the Bagarra (Messeria and Hawauer tribes) with training and arms. These groups, however, later conducted negotiations with Nuba elite and came with agreements of peaceful settlements. The core issues of this settlement are peace and mutual resources utilization and management. A number of agreements were reached behind the govt. back but they were intentionally aborted. These were in the years 1993, 1995, and 1996.

The two groups in 1996 agreement stated that:

- 1) *The Bagarra lost huge numbers of the cattle and some of them compelled to desert their tribal homes. On the other hand, the Nuba stressed that the war destroyed the whole system and ecology of their life.*
- 2) *They claimed that their economic well being depends mainly on trading between the two ethnic groups, which was hindered by the war for a long time.*

In the different aborted agreements the two parties had indicated that war is imposing on them by the two conflicting parties (the govt. and SPLA forces. This awareness among the Nuba and the Bagarra groups in the ailing region is the only hope for the future. The lesson to be learned from this sour situation is that prospects for peaceful coexistence are there, provided that local people access to resources that affect their livelihood systems is guaranteed. This also indicates the role played by outsiders and politics in initiating and fueling conflicts.

6.0 Kassala State and Civil Strife:

Over the past years (1960s-1990s) Kassala was a host for refugees from Eritrea due to the protracted Eritrea-Ethiopian regional war. Mechanized and irrigated farming characterize the 1960s, 1970s and 1980s. The independence of Ethiopia and removal of Mengistu of Ethiopia (1991), a new era in the horn of Africa was in place. Changes in political alliance did occur e.g. pressures on SPLA in the Sudanese Ethiopian border, the emergence of the NDA, from both the Northern Parties and SPLM. The government of Sudan declared by Eritreans (1994) as supporting Islamic opposition. Once Asmara Declaration (1995) was in place, the Eastern borders were immediately declared as a war zone. The conflict situation build up and Kassala State became a theatre for occurrence of civil war. This coupled with the occurrences of natural disasters i.e. drought, Gash river floods, collapse of the Gash Agricultural scheme The influxes of displaced caused a serious stress on the already fragile town service infrastructure. The vulnerability situations even worsened by the border war between Eritrea and Ethiopia (1998-2000) adding up to the refugee's population in Kassala. Same time insecurity, land mines, Gash river floods decreased land under cultivation in both irrigated and mechanized rainfed farming. The nomadic movement, border trade with Eritrea dramatically deteriorated.

Kassala State was one of the highest production areas in Sudan (86-87). The population was 1,901,000, total grain production was 124 Metric tons and the demand was 278 metric tons. The balance was 956 + (1987). The expansion of rainfed and framing in area, Refugees and IDPs are reported by the Forestry department to put heavy pressure on wood, charcoal making. On the other hand, Kassala was relatively a rich state, self-sufficient in food production up to early (1990s), became one of the four poor states. Currently it depends on central government support and the main recipient for food for food aid and other services of humanitarian organizations. The emergency situation of war among the rural populations, who used to depend on traditional substance farming and livestock herding, made them suddenly facing a number of problems. These include loss of property (land, livestock etc); loss of traditional livelihood systems and jobs and destruction of the basic infra structures of services (education, health, border roads etc).

In the host community of Kassala town, which population increased rapidly by early IDPs (1984/85) and Refugees (1965-1990s), there are serious problems namely dwindling employment opportunities; deficiency in food and sky rocketing food prices and deteriorating basic health, education services etc. Despite the reception camps' service provided by the international humanitarian organizations, IDPs and Refugees suffer from: scarcity in potable water, poor sanitation, rise of STD including HIV/AIDS, poor Mother and Child Care (MCH)

services and high malnutrition among children (40% among IDPs and 32% among Refugees). (Hussien 2000), indicated the situation as follows:

- *For security reasons, e.g. in Hamash Korib, Sitit and Rural Kassala the water yards are abandoned.*
- *The mechanized farming land under cultivation decreased by 8% i.e. 50,000 feddan out of 900,000 were completely abandoned.*
- *Agricultural costs increased by 20% due to decreased labour for insecurity*
- *Pastoralism routes blocked across borders with Eritrea*
- *30% of the Gash delta became completely inaccessible.*

The consequent impact was that the overall crop production dropped to 70%. This is mainly due to decreased land under cultivation and shortage in lobar due to land mines and insecurity situation. The statistics (ibid.) indicated that:

- *The revenues from the mechanized farming in Sitit province decreased to 30% due to land mines problems. The investors in MF decreased from 30 external investors (1996) to zero (1999).*
- *The hotel business booking decreased to 35% over the period 1996-1999. This business used to be a major characteristic of Kassala town*
- *The urban growth in Kassala town increased by 30% over the past four years due to refuge from Eritrea and displacement by civil war (NDA-GOS).*
- *The expenditure the pre-war era was completely shifted for security and defense purposes. Some time expenditure on health decreased from 83% (1996) to 53% (2000) of the state budget.*
- *The education services, on the other hand, suffered from the conflict situation 36 schools were abandoned, 4872 pupils (boys) and 1135 (girls) lost education opportunities.*
- *The rural social fabric of Beja was disrupted and serious social problems (crimes, STD, etc) were reported due to poverty.*

Over the period (1996-1999) the land mines explosion cases reached 122 incident, resulting in 327 victims. 93% of the victims are civilians. The Death cases reached 42 of whom 86% are civilians. 60% of (149) reported physical disabled due to land mines are in the productive age group (20-50 years). 21% of the victims of land mines are female. These victims include self-employed (38%); wage labour (50%) and 14% students (Hussain 2000).

In Kassala, the most recent conflict zone (1996), though relatively on small scale compared to the war in the south, huge losses did occur on land used to be under cultivation. The mechanized farming, the Gash Delta rich clay lands were severely reduced due to insecurity, land mines, and shortage of lobar over all productivity of farm products decreased by 30%.

The economic cost of war, as the case of Kassala is reflected in:

- *Decreased local revenues from farming*
- *Hotel business dropped down due to tourists fees*
- *The increased expenses on defense and security at the expenses of basic services.*
- *Decreased expenditure on public health, education ... etc*
- *The damaged infrastructure of roads, schools, dispensaries and abandoned water yards.*

7.0 Tribal Strife and Environment:

For the last two decades Darfur witness more than 40 armed tribal conflicts (Y. Takana 1997). This phenomenon of tribal conflict is closely related to environmental changes within the region. Ecological changes in the region (Drought and desertification) that started early 1970 had driven

a number of tribes in the north from their tribal "Dars" to the South. This large movement to the south provoked very high competition over the resources (land, pasture and water). Southern Darfur tribes, especially camel owners, began to resist this new invasion. Conflicts between the Mahria and the Baggara became common phenomena (1985-1995)⁵

In the late 1980s conflicts shifted to a new area, the Jebel Merra region. This shift could be explained in two aspects. The first was the resistance of the Bagarra groups to the incoming of the Mahria and the Zagawa was very strong and effective and the second is that Jebel Marra region is still the most resources rich area where land prater and grazing lands. With this influx into the area the tension between the Mahria pastoralist and the sedentary population of the Fur (the owners of the Dar) amounted. Casualties between the warring tribes was estimated to be more than 1000 persons. It is important here to emphasize that it was a conflict over the concept of the "Dar" and its resources⁶. In this stage of the conflict between the Fur and the Arabs, ethnicity became a fueling element in the War and gave a new dimension to the conflict. The profound result of this tribal war was eruption of the whole ecology of Jebel Marra region with direct damage on the environment. On that account, a huge amount of animal and human population migrated to the area forcibly and without any planning⁷. Now and after two decades, resource management is still chaotic and the environment of the whole area is under real pressure (misuse and over grazing).

Dar Masalit in West Darfur is another area that is undergoing the same phenomena. Since the 1971 drought, the same tribes of North Darfur, namely the Mahammed (camel owners) and the Zagawa tribes, shifted their traditional seasonal routes (Murhal) into the heart of Dar Masalit. The human and animal population pressures on land, pasture and water sources became beyond the capacity of the Dar. The tension between the new comers and the natives of the Dar broke into a damaging war in 1995. Since most of the new comers are nomadic Arabs and the natives of the Dar are Masalit, ethnicity again became a fueling element. The tribal civil strife in Dar Masalit (1995-1998) as well as that in Jebel Merra area (1988-1998) both stemmed, mainly from competition over the resources, though apparently an ethnic conflict. Table () illustrates the effects of the tribal war in Dar Masalit. Though it is difficult to quantify the economic cost of this conflict, table (2) is an attempt to address that challenge. It is worth noting that these human and economic costs occurred within a two-month period in 1996. The Northern parts of the Dar, which was once the dry season's habitat for nomadic and semi nomadic tribes is no longer, the case. The environmental system of the Dars of (Aringa, Gimer, Jebel and Marrasa) had collapsed. The majority of the population with their animals moved to the central and Southern parts of Dar Masalit. These migrants and their animal population are congested in a very small strip of land between the two main seasonal rivers "Wadis" of Kaja in the West and Azum in the East. Now this area is under intensive resources exploitation and a drastic environmental change is taking place. Tensions between the different groups are rising, especially around drinking water points and rangeland.

Conflicts in the area generally emerge from within pastoralists/ farmer's conflicts. The period 1995-1999 had been quite worrying, especially for sedentary populations. The Masalit/Fur conflict, Arabs/Masalit conflict and recently the Zagawa/ Gimir conflicts had turned the area into an insecure, conflict zone, which was officially declared as an area of emergency. Kulbus

⁵ During this period the conflicts in S. Darfur included the Mahria and (1) Beni Helba 1983 (2) The Mahria and Habbania 1986 (3) The Mahria and the Birgid 1998 (4) The Zagawa and Birgid 1990, (5) Zagawa and Tergam (6) Zagawa 1993 etc

⁶ This and others customary traditions that regulate tribal resources management in Darfur has eroded due to successive policies of the central govt. since 1970 land ownership ordinance.

⁷ Very high tensions still exist in this area and future conflicts are expected to erupt.

province is still tense. Armed robbery tends to target even military forces within the State. The researchers, however, were able to access the official records indicating losses during 1995-1996 conflict (Table 7.2). In the period 213 persons were reported killed, 84 injured. Losses in livestock were estimated by 3,758 cattle, 142 camels confiscated. More than 14 villages were burnt. Despite state of emergency, conflicts were accelerated in the period 1999-2000. The total losses for the period 1996-2000 include 1781 deaths among civilians, injured 397 and 30,000 heads of livestock lost. The following make some of the important reasons behind conflicts in the study area, according to local leaders in sites visited:

- The competition for power and seats (localities, the conference party leadership, the province posts, etc.)
- The conflict between modern governance structures and the traditional native administration.. While the first has access to power and resources, the later still enjoy popular recognition and respect.
- The general tendency among tribal youth (nomads and sedentary) for military training, access to weapons and their internal conflicts over (personal interest, defend the tribe or his national defense role).
- The conflict over access to power structures between local elite and tribal chief is said to be common, particularly after the recruitment of locality managers from within tribal elite (teachers/accountants, etc.) The tribal affiliation and persistent conflicts between “Dar owners” and the ‘Nomadic tribes’ fueled this.
- The parallel Masalit native administration structures (sultanate) and newly created emirates of nomadic Arabs
- The common farmers/pastoralists conflicts over resources (vegetable land, water points, etc. and the consequent robbery of cattle from sedentary population.
- The numerous new power structures i.e. new organizations, officials, elite and other local leaders
- The problems in access to water resources, accessibility to water points and the keenness of farmers to protect their farms from nomads.
- Replacement of farming and pasture conservation laws which used to rely on customary laws by new ones heavily politicized and prepared under pressure of some lobby groups to serve short term benefits. Currently there are two conflicting cultures ‘pastoralists culture and the farmers culture’.

8.0 General Impact of Civil Strife:

8.1 Impact on Production Systems:

Abdel Ghaffar (1992) indicated that producers abandoned productive activities in the South due to insecurity, displacement and refuges. Fishing became difficult and barter trade i.e.. Livestock for grains completely halted. Wild life destruction occurred due to use of weapons. In Nuba Maintains producers lack production inputs and the feeling of insecurity started to build up after Yousif Kowa offensive (1987). Farmland was difficult to reach, marketing is impossible

between villages and markets centers. Producers' fear of confiscated harvest by rebels and militia. War zones land mines and cattle trade was also interrupted cattle movement. Other effects include:

- Destruction of subsistence farming for being a battle land, land mines, insecurity to reach farm land.
- Dislocation of people from their means of production, IDPs and refugees of people in active productive age.
- Forest destruction by war officers (Forestry Department report). Eastern Sudan tree cutting by refugees is cited as an example of how refuge devastate the forests by tree cutting. On the other hand some positive impact of war on natural forests (regeneration) was reported.

Insecurity, displacement and refugee did negatively affect the production systems in war zones. The rich Savannah zone, the high rainfall Savannah and the iron stone platue where subsidence farming, fishing and rich pastures for livestock herding, are completely abandoned. The food security situation in the south completely depends out on food aid "Sudan life line. The Dura, Kassava and Ferteet products were severely reduced. Cattle herding are becoming risky for looting, land mines, and ethnic tensions between the different tribes. The coffee, tea, sugar projects were completely destroyed.

War caused damages on agriculture, transhumance, education and health. The loss of 6.6 million heads of cattle, 2 million sheep, 1.5 million goats and the destruction of six major agricultural schemes have deprived most of rural civilian from their resource base, subjecting them to vulnerabilities. This has created an atmosphere of hatred and mistrust thus eroding the social capital of the society (El Bathani, 1997).

8.2 Economic Impact of Civil Wars:

This is to indicate only few parameters of economic cost of war at regional and national levels. The economic cost at national level is very high. The defense cost is said to increase from 1.2% of GNP (1986) to 4.3% GDP (1999). A sharp decline in public service public per head lowest in the world (1997). It is estimated by US\$ 0.5 compared to US\$ 28.0 in sub-Sahara Africa. It was generally reported that civil war costs the government one million US\$ per day. On the other hand, it is difficult to imagine economic losses from lost and under used resources (human and natural), which opportunity cost is exceptionally high. A small tribal conflict in Darfur (1997) costs that poor community an estimated economic loss of US\$ 2.3 million within a two-month period (Table 2).

Production projects EEC Funded after Addis Ababa ACORD completely stopped due war in the South. Awil Rice Project (7000 feddans) and Upper Talenga Tea Project (12,000 Feddan). Add also losses from the cases reported within this paper, though very limited. The tea project (A/Gaffar 1992) produced 2100 tons annually. Other losses include project officers jobs e.g. Bahr El Gazal Milk Project (200 officers lost posts). Other losses (Ibid) using the 1989 conference figures show that 6.6 million cattle head (Dinka and Nuer lost). The forced migrants lost all livestock lost all livestock.

8.3 Impact on Demography, Urban Growth and Poverty:

The urbanization rate reported to be tripled in the last two decades (1980s-1990s) from 11% in 1956, 24%(1983) to 32%(1993). While the rate of growth of rural population is 23% the urban

growth rate reached 6%(1993). At same time not accompanied by positive change in the economy e.g. industrial sector 15% to the GNP. A recent paper by a Doctor in the Ministry of health showed that Khartoum receive daily about 1,000 IDP and accordingly, its annual growth rate is 7%, according to daily Al Ayam, 1st November (2000).

The profile for Khartoum population as obtained from national censuses is summarized below:

<i>Year</i>	<i>Population</i>	<i>% increase</i>
1955	400,000	
1973	900,000	125%
1983	1,800,000	100% (peak influxes due to drought & war)
1993	5,900,000	227% (peak of displacement due to war)
2000	7,000,000	18% (Sources depopulated and or more stable)

From the above information it could be observed that, the highest increase in the population of Greater Khartoum took place for the period 1983-1993 which coincided with the climax of ongoing civil war and the famous Sahelian Drought which are the major causes of massive displacement. The Lifeline Operation Sudan became well established by 1993. People in Southern Sudan started getting relief supplies and health care since mid 1990.

Here the compound numbers of Southerners IDPs account for 62% of the total displaced. By 1989, 67% of displaced where from Bahar Elgazel and 22% from Upper Nile. Demographic/ Socio-economic information on the displaced showed that 56% of the displaced had come from rural areas. It also show that 87% of women were married and of these 29% were not living with their husband (these are possibly dead or furthers displaced into the South) 72% of the displaced persons were of ages 20-35 years (in the productive age group). Most of the elderly could not survive the move up to Khartoum (more than 1,000 km.) or had resisted leaving the village.

8.4 Social Impact of the Civil Strife:

According to (M. Sulieman 2001) the direct consequences of war were the 1986 famine in southern Sudan. In 1990s the Civil wars covered wide regions in the whole country. Its effects are profound in every aspect of human life. The total death was estimated about 3000,000, most of them are from the South and the West. According to A/Gaffar (1992) the losses among armed personal were 4,543 (GOS troops); 2,545 (tribal militia), 27,733 (SPLA) i.e. total of 34,034 in the period (1984-1989). In the same period deaths due to famine, epidemics and diseases due to war, reads: Uganda (25,000); Miram (1,000) and Awil (8,000 The UN estimate death cases due to famines by 1.5 million (1986) and 250,000 (1988). In brief it is estimated that 3 millions lost their lives due to armed conflicts and the famines. More than four millions are displaced within Sudan and three million migrated and sought refuge in neighboring countries.). 5,000, are the physically disabled persons in Juba.

UNHCR report (July 2001), Population Data Unit-Geneva estimated refugees by 206,106 (Kenya), 218,984 (Uganda) and Sudan by 158,709. The Sudanese refugees It is most striking to discover that 50% of refugees are women. Those below 5 years of age are 15% and those in the active age (18-59) are about 60% of refugees.

The impact on women and children is difficult to assess. 600,000 was the estimate of street children. SCC (1987) and El Nagar (1992) carried out most of the work. About 1.7-m children were displaced to urban center. Diarrhea, respiratory disease, malnutrition are common among this category. 75% suffer from Anemia that need clinical treatment. 60% of the girls 57% of boys in education age are illiterate. 66% of street children are from the South.

Family dislocation is a striking consequence of civil war, within the IDP communities the social states read 14% of women are married and 38% unmarried women. The deserted wives (15%), the divorced (12%) and the widows make (22%). The imprisoned Sudanese women, according to Casper Perrot report (1995) are mainly from South or and Western Sudan (96%) mainly because of alcohol marketing.

9.0 Conclusion:

The conflict acceleration is not due to scarcity of resources. It is rather due to politics that determine access to, used and control over resources. Oil and water are very important resources that are becoming very important involving the civil war. However, the regional and international dimension related to control over these two resources, play the major role in the current war and the related efforts for peaceful settlement. At the same time the war zones in the South, East, Central – East and the West, share the characteristic of in balanced regional development. Most of these areas were either closed areas or enjoyed a degree of self-governance in the under development, besides continuous claims of marginalized form decision – making structures in the center are held responsible as root causes of the civil unrest in Sudan.

The immediate concerns for the Agenda 21 raised by different cases include:

1. *Protection of civilians under war zones, particularly women and children.*
2. *The land mines and the related environmental hazards has to be top of agenda in conflict zones*

Sustainable long-term peace shall be difficult to achieve unless local people have access to decision making benefit from the resources near them. The rhetoric of power and resource sharing, hence should not be a kind of division of the cake between active politicians of different conflicting parties, neglecting poor people. As far as social justice is ruled out, massive civilian conflicts are possible to sustain. Sustainable peaceful settlement, therefore, could be a dream if settlements focused on power sharing and control of resources by the political leaders of conflicting parties. Development and peace have to be inter linked to guarantee sustainable peace and environment. The following make the core of any attempt to realize this endeavor:

1. *Creation of a stable and peaceful local environment*
2. *Reconstruction and rehabilitation plan within a conducive, just socio-economic and political environment that promotes peaceful co-existence and multi-ethnic interaction.*
3. *Self-management and improved livelihood systems, based on access to resource assets and enhanced people capacities.*
4. *Democratic governance based on own people social capital and their trusted organizations.*

References:

1. M. Suliman El Sudan “*Hurob El Mawarid Wa El Hawiya*”.
2. M. Suliman Women, Children and Elderly Refugee Population Data Unit (UNHCR), Geneva, July 19/2001.
3. M. Suleiman Civil War in Sudan: the Impact of Ecological Degradation – Institute of Africa Alternatives UK (IFAA)ENCOP.
4. IDP Global Survey 1998, UN and other Sources.
5. Abdel Gaffar M.A. Rural Production Systems in the Sudan. A General Perspective. In: M. Dronbose et al. (eds.) Beyond Conflict in the Horn. The Hague: Institute of Social Studies. and London: James Curry (1992)

6. Human and Ecological Impact in: the Future of Peace and Development in Sudan, Sudanese Studies Center, Cairo (in Arabic) 1995
7. El Nagar, S. Children and War in the Horn of Africa, in: the Future of Peace and Development in Sudan (Arabic), Sudanese Studies Center, Cairo.
8. UN Humanitarian Report Dec. 2000.
9. UN Famine Report (1998).
10. UNHCU Annual Report 2000.
11. UN Humanitarian Operation in Sudan, Annual Needs Assessment, Dec. 2000.
12. Hussien El Obied 2001. The Effect of Land Mines in Kassala State, Darfur Report.
13. Curtis Doebbler – 1999 The human rights of IDPs in Sudan, Hagen communications.
14. FAO et al. 1999 Report of the Interagency Assessment Mission – Sept- October 1999 in Nuba Mountains, South Kordofan- Sudan.
15. Moore 1999 Paper Presented at all Africa Conference on African Principle of Conflict Resolution, Nov. 8-12, 1999 UN Conference Center, Addis Ababa.
16. Life Manager Feb. 2001.
17. Sharon Elaine Hunchinson 2000.
18. Hamed El – Bashier 1998.
19. Hassan Abdel Ati, Bedawi Babiker & Safaa' Al Agib “Conflict Mitigation & Peace Building Program, Wau, Western Bahr El Ghazal State, for CARE International –Sudan, January 2001.

ANNEXES

Annex 1: Conceptual Framework

1. Socio-Economic Impact

a. Negative impact:

- IDPs/squatter (quantification).
- Losses of resources (human, livestock/farm outputs etc).
- Refuge (data July 2001)
- Family dislocation
- Curtailed economic
- Streetism (children)
- Alcohol-making etc. (women imprisonment)
- Pressures on services (health, education, water)
- Population concentration (pressures on resources, services, conflicts in host communities)
- Human, financial (huge losses (lives, expenditure on arms and mobilization)

b. Positive impact:

- Access to education, health services etc.
- Exposure to other cultures. Experiences, skills
- Awareness about need for sustainable peace and development
- Mining (oil/gold)(envisaged economic growth strategies) despite related negative effects.

2-Impact on Natural Environment

a. Negative impact:

- Abandoned land /resources (mobility/landmines)
- Changing land use system
- Pressures on resources (soil, pasture, water farm land, forests etc)
- Destruction of livelihood in host communities (farming system livestock, civil life, forests)
- Pollution of resources if any

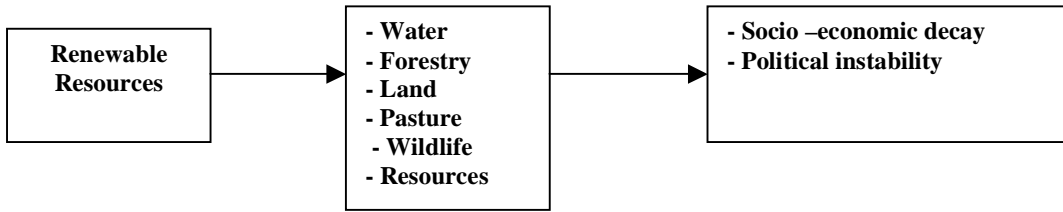
b. Positive Impact:

- Regeneration of vegetation (depopulation).
- Infrastructure (feeder roads, bridges etc.)

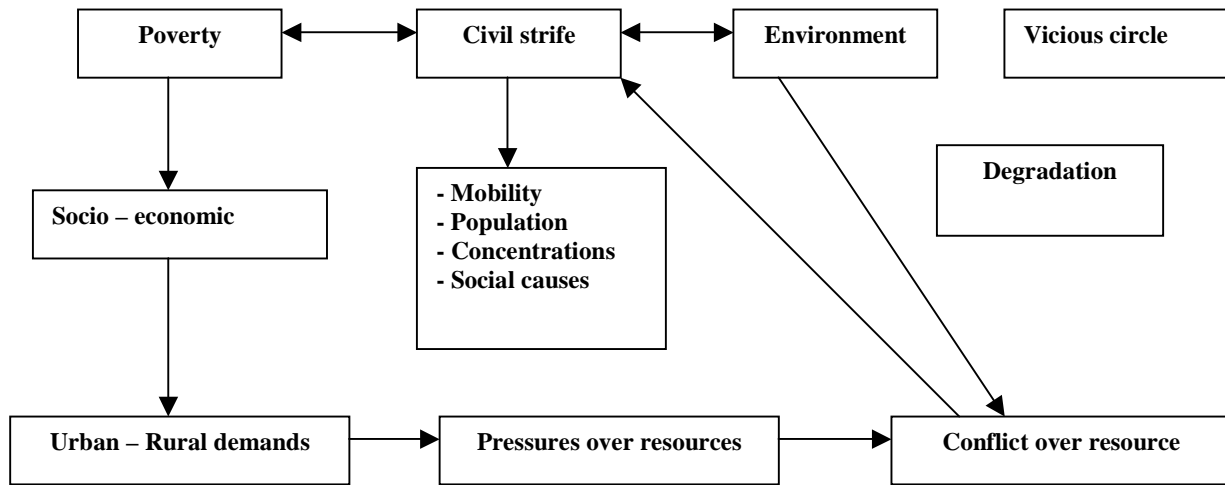
The specific question to be addressed in the paper

- 1- What is meant by civil strife /environment?
- 2- What role played by ecological factors in initiation and accelerating conflicts?
- 3- Magnitude of socio-economic and ecological impact of civil strife.
- 4- What exactly the environment policies that impact negatively on affected people (origin and host communities) and what alternative policies to advocate?

Annex 2: Conceptual Framework: people livelihood systems and civil war



The vicious circle: civil strife-environment – poverty and destitution



Cases -----South -----Darfur ----- Blue Nile

- Government controlled
- Rebel controlled

Table 1: The Losses of the Masalit Tribe in their Conflicts with the Arabs in 1997*

No. of Deaths	No. of injuries	No. burnt Villages	No. of lost cows	lost camels	Lost horse	lost sheep	Burnt Huts	incident	Liquid Cash (SD)
18	15	3	50	-	-	-	212	12/1996	19.000.000
12	5	3	35	8	6	200	68	12/1996	22.000.000
29	5	1	160	-	-	-	68	3/1997	-
58	20	14	1000	-	30	-	980	4/1997	200.000.000
19	6	1	-	20	-	-	21	4/1997	-
21	5	1	-	-	-	3500	78	4/1997	50.000.000
50	10	3	-	-	-	-	190	4/1997	60.000.000
2	-	1	34	-	-	-	-	4/1997	-
3	-	-	-	4	-	-	-	4/1997	7000.000
2	-	-	-	-	-	-	-	4/1997	-
1	-	-	-	2	-	-	-	4/1997	-
215	66	27	1297	24	36	3700	1617	5/1997	360.00.000

Table 2: The Economic Cost of Masalit Conflict with the Arabs Over a two-months period in 1997.

Loss type	No.	Cost in SD	Dollar equivalent
Burnt huts	1617	40.425	161700
Sheep	3700	9.25	37000
Horses	36	1.26	5040
Camels	24	2.4	9600
Cows	1297	38.91	155640
Liquid cash	-	35.8	1.806.000
Blood money	215	451.5	1806000
TOTAL	-	579.545	2.318.180