

**Rationale for a Possible Market Support Program in Darfur, Sudan:
A Brief Look at Markets and Food Security**

Commissioned by the USAID and implemented by CARE

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List of Acronyms/Glossary

HAC	Humanitarian Assistance Commission
IDPs	Internally displaced people
Jebel	Arabic name for mountain
Kora	3.5 kg grain selling unit
Mahalia	Name for administrative area, equivalent to province
Mid	5 kg grain selling unit, sometimes refer to the Kora
MOA	Ministry of Agriculture
<i>Um Dowerwr</i>	Merchants who move between markets continuously
Wadi	Watercourse, usually the large ones
SRA	Strategic Reserve Authority
Sebaba	Grain middlemen
Sack	90 kgs grain selling unit
SCF	Save-the-children Fund
SDD	Sudanese Dinnars
DART	Darfur Assistance and Relief Team

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Executive Summary

The objective of this study is to analyze Darfur markets in order to determine the feasibility of a possible market support/stabilization program that ultimately enhances food security of people affected by the conflict. To achieve this objective, a team of three consultants spent three weeks in greater Darfur and visited twelve rural markets, three urban markets and four IDPs camps. Intensive discussions were held with grains wholesalers, retailers, middlemen (*sababa*), truckers, stakeholders, and IDPs. Secondary data/information was collected from SCF-UK, MOA staff, HAC offices, SRA offices, and Market Administration offices in the three states of Darfur.

Most rural and urban markets are well functioning and competitively operating. The flow of grains between the main producing areas and the rural/urban markets is smooth with no barriers and/or interventions from the local authorities, however, the insecurity and onset of rainy season did affect flow of grains and other consumer goods. Some markets did close during peak of the conflict but most of them resumed operations underpinned by the need for market existence in rural areas as perceived by rural people.

Each rural market usually operates on, one or two days per week. Marketing days, are usually attended by residents of nearby villages and traders from different areas '*Um Dawerwr i.e. moving between markets*'. Men and women from different ethnic groups were observed in all markets, trading and exchanging commodities.

Rural and urban markets of Darfur are integrated and grains monthly price movements show similar patterns in all urban markets most of the visited rural markets. The quantities of grains supplied in the rural and urban markets are limited as a result of security situation, start of rainy season and nature of grain selling behavior (usually sold in small quantities by producers in rural markets, resulting in small but steady supply overtime). Grains prices have increased over the past six months by about 50%. Prices usually go up during the rainy season because of restricted mobility of commodities due to bad road conditions and increased transport cost. Transportation cost from producing areas to the main consumption centers ranges between 20-25% (dry season) to 30-35% (rainy season) of the consumer price.

Short marketing channels characterize grain markets. The profit margin of grain traders is small even for middlemen or retailers, and does not exceed 12% of the purchase price. The Profit margin for wholesalers is small, around 5-8%. All the retailers in the rural and urban markets are women. Darfur grain markets are not integrated with markets of central Sudan as the region is self-sufficient most of the time, as high transport cost from central Sudan renders grain trading with Darfur infeasible. Flow of grains between central Sudan and the main markets of Darfur is almost negligible.

The insecurity in Darfur has affected market accessibility and functioning, especially during the peak of the conflict period, as about 35% of the increase in price level is attributed to insecurity. The purchasing power of most IDPs, is quite limited or non existent. Some IDPs sell part of their food aid basket, especially grains at comparatively low price to meet other needs. Furthermore, the prices of six main food items have increased by an average of about 62% over the past six months.

The projected grain production for 2004/05 season was estimated to be around 60%, 50%, and 34% of the average long term production under three different state of nature, the optimistic, moderate and pessimistic yield scenarios respectively, because of the prevailing insecurity. There would be shortage in grain supply, even after taking into account the quantity of food aid to be distributed by WFP during the period Nov 2004 – Oct. 2005. for 1.2 million IDPs or for 1.5 million IDPs, including host families. The shortage in grain supply was estimated under each of the three scenarios.

The shortage in grain supply would cause grains prices to escalate, however the rise in price is expected to be moderate due to the limited purchasing power of the IDPs and eroded assets of the host families in the big cities. For grains markets to operate and function efficiently and competitively, shortage in grains supply should be met through market support/stabilization interventions. Suggested interventions include, cash transfer to IDPs and market support/stabilization interventions to stabilize market and enhance food security. The range of market support interventions includes buffer stock to target markets when price goes up markedly; food-for-recovery to rebuild destroyed social institutions and infrastructure, but essentially to cutback demand and keep grain prices reasonably low; transport subsidy to encourage flow of grains from other surplus regions of the country and cash transfer to IDPs to help them access basic needs that are not covered by the current food basket.

Other necessary interventions are establishing food information system all over greater Darfur linked with central Sudan to enhance accessibility to basic market/food information; increasing connectivity with central Sudan through improving roads and railway as well as local feeder roads; compensation package upon return of IDPs and peace building projects directed towards rehabilitation of essential resources (land and water), and capacity building to open new livelihood avenues for many who remained unemployed.

Central Sudan has a potential to cover production shortfalls in Darfur. Assessment of food security in the county in October-November would be necessary to ascertain realization of one of the three scenarios. Amount and source of food assistance can then be determined. Sorghum shipment from central Sudan could be considered if there is a bumper crop this season in order to avoid possible price distortions as the result of off-take of sizable quantities for Darfur program. If central Sudan has good production, transportation of food to Darfur will be cost effective and will enhance market operation in central Sudan.

The infrastructure that enhances markets operation, including the storage capacity and rural roads are generally poor. Grain storage capacity in the three states of Darfur, especially West Darfur is traditional and very limited as most of the available storage capacity is multi-purpose stores, used mainly for cash crops like groundnuts and karkadeh.

Introduction and Current Conflict

1. Darfur lies in the Western part of Sudan occupying an area of 469,000 square kilometers equivalent to nearly 20% the area of Sudan. Greater Darfur borders three countries: the Republic of Central Africa, Chad and Libya and stretches along the frontier between the Sahara desert and the cultivable savannas of tropical Africa.
2. Darfur is one of nine major provinces recognized since independence. The whole Darfur had been one region with El-Fasher being the capital. With the implementation of the federal system in 1994 the region was split into three states, North, South and West. Each state has further been divided into a number of *Mhalias* headed by the *Mutamad*, who was previously called commissioner of the province (Figure 1). South Darfur is divided into nine *Mhalias*, West Darfur into seven *Mhalias* and North Darfur into six *Mhalias*. Each *Mhalia* consists of a number of *Administrative Units* ranging between five and seven. The total population in greater Darfur amounts to about 5.9 million. South Darfur is the most densely populated state and its population amounts to 2.8 million, while the population of West Darfur and North Darfur amounts to 1.6 million and 1.5 million respectively. The population living in the rural areas in greater Darfur are the majority and represent 80% in South Darfur, 80% in North Darfur and 87% in West Darfur.
3. Darfur region is considered one of the toughest parts of the country. Jebel Marra, which extends in all three states, Jebel Zagawa, in North Darfur and other series of mountains constitute natural barriers that constrain mobility of people, especially in the absence of paved roads. A number of *wadis* (water courses), mostly originate from the hilly areas of Jebel Marra, run west and south and further constrain movement of vehicles especially during the rainy season.
4. The soils of the region are mostly sandy soil in most parts of North Darfur as well as in eastern part. Clay soils are found along wadi plains and in southern part of west Darfur as well as the south west of South Darfur. Rocky areas as well as rock outcrops cover many parts of Darfur, especially north Darfur and west Darfur. The vegetative cover of the region varies from poor in the northern part, where desert and semi-desert dominates, to rich in South Darfur and most of West Darfur, especially in Jebel Marra area. Shrubs and woody perennial are found in the north and woody/dense trees in the rich areas in the south. The topography of the region and the natural barriers, like wadis and hills, cause real difficulties in movement of people and commodities and also has its implications on production and livelihood of the people. North Darfur part is mostly arid zone, which results in precarious production and fluctuating food supply. West Darfur and South Darfur with few exceptions are characterized as poor to rich Savannah and have mostly been better than North Darfur in terms of food production. Natural resources are more intact and better preserved in West and South Darfur as compared to North Darfur.
5. Farming constitutes the main livelihood source for over 80% of Darfur people. Crop production and livestock raising are the two main activities. Traditionally, the two activities have been organized and regulated by the Native Administration when it was strong and capable of exercising its power. Competition over resources, pasture and water has often resulted in conflicts, some times very serious within the same tribe or between tribes. This is true for tribes of Arabic origin and non-Arabic origin as well. The Native Administration often contains such conflicts at the local level, based on agreed upon codes and norms.

6. Over the last 5 decades, the whole region, especially the northern part has experienced a series of drought episodes, namely in the late 50s, late 60s early 70s, the serious being in mid 80s (1983/84 famine) and early 90s. These droughts induced behavioral changes in the way people deal with the immediate environment as a coping strategy. Over-cultivation, over grazing and mass destruction of the tree cover are among the consequences of human misuse of the natural resources that have provided good livelihood throughout the history. Conflicts have become more often and more acute, compounded by the weakening of the Native Administration and limited presence of formal judiciary and power systems that enact formal laws and codes. Migration to urban centers and mechanized/irrigated schemes in central Sudan has been a prominent practice and a way of getting along with the declining resources, especially for those with limited assets. Following the successive droughts, wide spread of poverty has been recognized. This is compounded by the limited development efforts in the region.

7. The current unrest in the region has many faces and dimensions. There are tribal conflicts over resources. There is also armed banditry, which has shaped up and capitalized on the tribal conflicts in a sense that a criminal seeks refuge in his tribe, which wasn't the case in the old days. The third and the most important is the armed movement by the opposition from Darfur induced by marginalization and impoverishment of the region by the central government over the history of the county. All these faces contributed to the wide spread of the conflict and insecurity manifested in mass movement of people to camps or elsewhere. Livelihood of people has been seriously affected and most importantly, farming which is the main source of livelihood has also been affected. Currently Darfur is in a complex emergency context, and needs the help of the international community.

Scope and Objectives of the Study

8. The current complex emergency context of Darfur needs the help of the international community, however, this context needs to be critically analyzed for proper interventions. The overall objective and scope of this study is to carry out an analysis of market conditions in Darfur, Sudan, in order to determine the feasibility of a possible market support/stabilization program in Darfur and identify options for increasing access to food by IDPs, host population and other war-affected population.

The specific objectives of the study are to:

- a) Gain a better understanding of how food markets function in urban areas and in accessible rural areas in Darfur (North, South and West) under normal (pre-conflict) conditions and how the present conflict has affected market functions;
- b) Describe the linkages between rural and urban markets in Darfur under normal (pre-conflict) conditions and how the present conflict has affected market functions;
- c) Analyze the relationships between markets in North Kordofan, Kosti, Khartoum and Gedaref (if any) and urban markets in Darfur; and
- d) Evaluate the potential of alternative market stabilization interventions that will steady an affordable access to basic food staples in Darfur, which may include any of the following components: sales of subsidized grain to targeted food insecure households; cash transfers to targeted households; subsidies of transport (delivery) costs to markets; sales of subsidized complementary commodities, like groundnut oil, to targeted households.

Methodology and Coverage

9. Data needed to accomplish this study was gathered from secondary sources (reports and data), in-depth discussion with key informants and field observations in market places and in the countryside to evaluate certain parameter related to functioning of markets and farming as well. Key-informants included farmers, traders, government officials (Humanitarian Commission Assistance and State Ministries) and personnel from humanitarian agencies in the region (NGOs and UN agencies).

10. Fieldwork carried out by the consultants over three weeks period in the study area included the three main urban markets in the three states of Darfur, namely Nayala market, El Farsher market and El El Genena market. Twelve rural and semi-urban markets were also visited in the three states. These are Mershing, Correllae and Bulbul in South Darfur State; Zalingi, Traig, Delaig, Garsella, Mustari, and Morni in West Darfur State; and Melliet, Kutum, and Tawila in North Darfur State. Information coverage included nature and size of market's agents, nature and functioning of markets at various levels in pre and current situation, impact of the conflict on markets and farming, flow of commodities in side each state and across states and factors influencing such flow.

11. To accomplish the objectives of the study, analysis and presentation of results will cover assessment of national grain production and general food supply in the county; grain production and livestock production in Darfur in pre-conflict and current situation; expected grain supply in the current period; Description and analysis of Darfur markets in pre-conflict and current situation including market accessibility; and possible market interventions based on plausible scenarios.

National Grain Production

12. *Agricultural Resource Base and Farming Systems*: Sudan is a vast country with huge agricultural resources base amounting to around 200 million feddan² of arable land under different ecological zones. The agricultural resource base includes forests lands, cultivable lands and pasturelands. Rainfall in Sudan declines steadily from high in the southern parts to moderately high, to poor and to no rains in the far north where desert prevails. It varies from an average of 1500 mm/year in the equatorial parts, to 700 mm/year in the rich Savanna belt and to 350 mm/year in the poor Savana. The variation and distribution of rainfall permits Sudan to produce a variety of crops. The agricultural sector is thus considered the most important sector in the Sudanese economy. It contributed around 46% to GDP in 2003. Farming is the main source of livelihood for the rural population and provides employment opportunities for over 70% of the labor force.

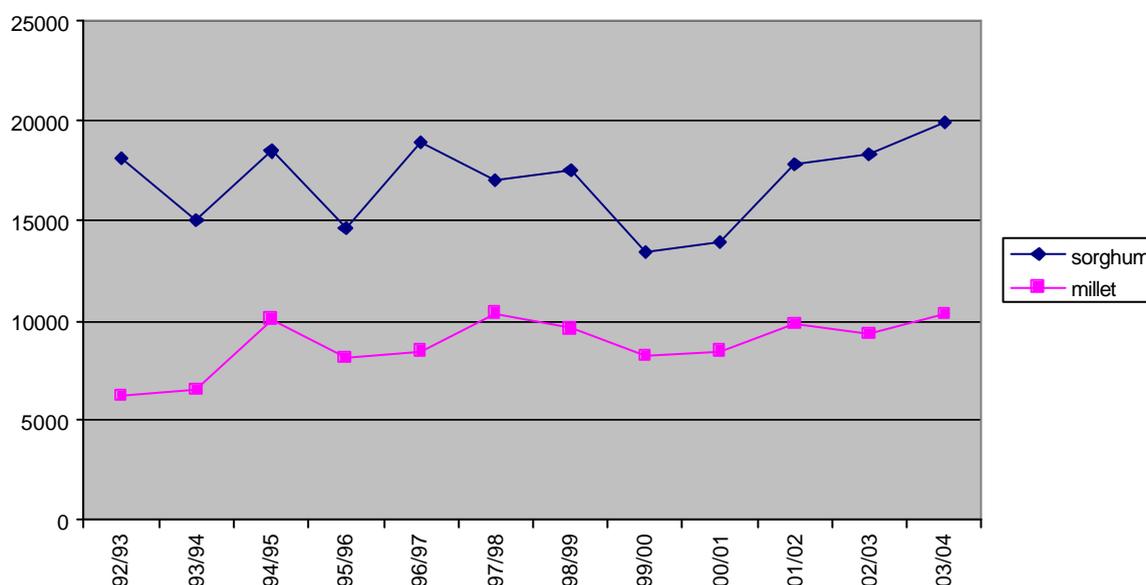
13. The agricultural land utilized amounts to around 20% of the total arable lands. Three distinct farming systems exist in Sudan. These are: (i) Irrigated farming System: The irrigated sub sector is represented by a number of large schemes in central Sudan, small schemes long the White Nile, the Blue Nile and the River Nile. The crop mix in the irrigated sub sector includes cash crops such as cotton, sugar cane, groundnuts, other vegetables and cereals. (ii) Mechanized rain-fed farming system: It is practiced on a wide scale along the central clay plain in the States of Gedarif, Blue Nile, Sennar, Southern parts of the White Nile and the central and north eastern parts of south Kordofan State. (iii) Traditional rain-fed

farming system: It is mostly practiced in the rich and poor Savana belts in North Kordofan, West Kordofan, South Darfur, North Darfur and West Darfur. The crop mix under the traditional rain-fed agriculture includes, millet, sorghum, sesame, groundnuts and gum Arabic as the most dominant crops as well as watermelon seeds and karkadeh.

14. Areas under cereals in the different farming systems: Figures displayed in tables 1,2, & 3 of Annex 1, show in details, total areas planted, total areas harvested, average yield/fed and total production of sorghum, wheat and millet under the irrigated, traditional rain-fed and mechanized farming systems during the period 92/93 - 2003/04. Sorghum area in the irrigated farming is small compared to the mechanized and traditional sub-systems but relatively stable (Annex 1, figure A). In the traditional farming system, area fluctuation is moderate compared to mechanized and steadily increasing over the years. In the mechanized sub-system, sorghum area fluctuates considerably with the biggest drop in 1999/2000. Area of millet is small in both mechanized and irrigated compared to the traditional. However, fluctuation in area under millet is considerable in the traditional sub-system (Annex 1, figure B). The variability in millet and sorghum areas is mainly attributed to annual fluctuation in rainfall.

15. Area trend of sorghum and millet for the entire country is presented in figure 1. Fluctuation in sorghum area is much more than millet. Fluctuation in productivity is also high in sorghum for the entire country as compared to millet, especially in the last 5 years as depicted in Annex 1, figures C. Fluctuation in average productivity of millet and sorghum is largely attributed to fluctuation in annual rainfall.

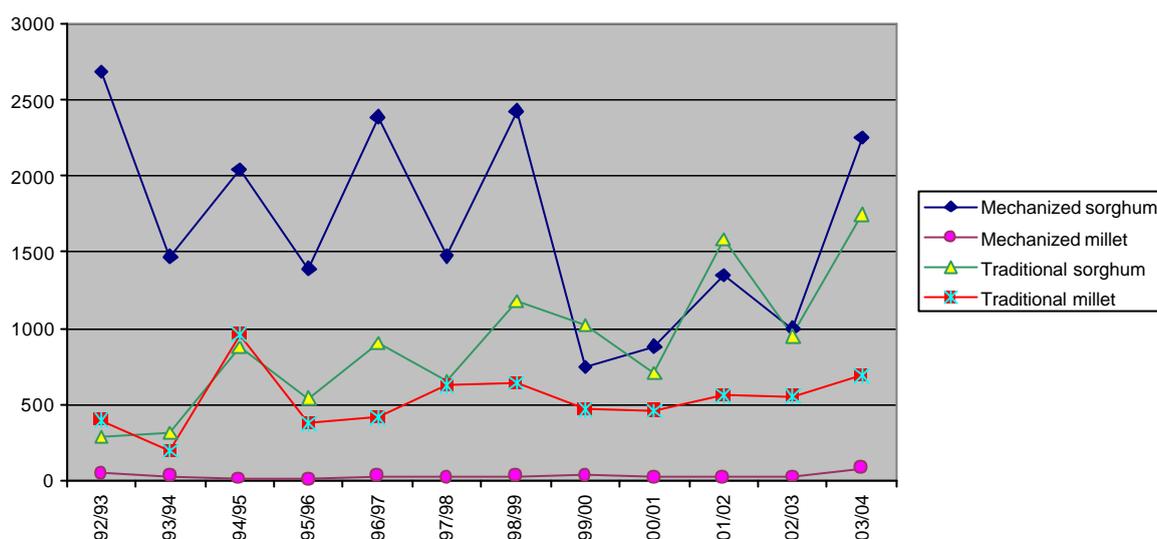
Figure 1: Sorghum and millet area (000 fed) trend in the three systems



16. National Cereals Production Trends: Figures displayed in table 1 show total areas planted, total areas harvested, average yield/fed and total sorghum production under the irrigated, traditional rain-fed and mechanized farming systems during the period 92/93 - 2003/04. The average areas planted have shown a slight increase from 18 million fed in 92/93 to around 20 million fed in 2003/04. However, the area cultivated in the drought season of 2000/02 amounts to 13.5 million fed. The areas planted with sorghum always depend on sorghum price lag one year and the current level of rainfall. Total sorghum production has

increased from 2.54 million metric tons in 93/94 to 4.69 million metric tons in 2003/04, though there are lots of ups and downs in the total production over the years (Figure 2). The average total production during the period 92/93 - 2003/04 amounted to 3.38 million metric tons. Average wheat produced in the irrigated sub- sector during the period 92/93 - 2003/04 represents 9% of the total cereal production in the country. The cereals consumption pattern in urban centers as well as in the rural areas is steadily shifting towards wheat consumption at the expense of sorghum and millet.

Figure 2: National grain production 000 feddan under the mechanized and traditional rainfed farming systems



17. The size of sorghum marketable surplus in the irrigated farming system is small and its movement is largely limited within the rural and urban markets of the irrigated schemes. Sorghum marketable surplus under the mechanized rain-fed agriculture is large and is either exported to foreign markets or moved to other internal markets in the nearby states. Internal use of traded sorghum includes, human consumption, animal feeds and carry over stocks by merchants, ABS or other relevant government entities as strategic reserve. Sorghum produced under the traditional rain-fed agriculture is largely for household consumption. However in the event of good harvest seasons, average households could realize marketable surplus. The marketable surplus is generally traded within the states rural and urban markets and rarely crosses states boundaries. In general sorghum prices in the rural and urban markets in central Sudan as well as in the western states are determined according to the supply and demand forces.

18. Even though, there is fluctuation in grain production, the country at large has a huge potential for grain production, which often meets the country demand.

Table 1: Planted area, harvested area, average productivity & total production of cereal crops produced in all farming system during the period 1992/1993 - 2003/2004

SEASON	Sorghum				Millet				Wheat		
	Area Planted 000 fed	Area. Harvested 000 fed	Yield Kg/fed	Prod. 000 ton	Area Planted 000 fed	Area. Harvested 000 fed	Yield Kg/fed	Prod. 000 ton	Area. Harvested 000 fed	Yield. Kg/fed	Prod. 000 ton
92/93	18123	14762	247	4042	6241	3710	121	449	777	573	445
93/94	15052	11152	214	2386	6574	2545	87	221	851	558	475
94/95	18511	15303	238	3648	10070	7707	126	973	662	677	448
95/96	14663	12007	204	2450	8130	5744	67	383	709	743	527
96/97	18914	15602	268	4179	8492	3889	113	440	784	819	642
97/98	17033	12646	227	2807	10357	6682	96	643	607	964	585
98/99	17501	15024	285	4284	9612	6577	102	670	337	510	172
99/00	13459	10780	218	2347	8213	5699	88	499	217	982	213
00/01	13941	9988	149	2488	8492	5237	92	481	286	1059	303
01/02	17854	13693	321	4394	9832	6800	134	578	265	932	247
02/03	18336	12667	223	2825	9323	5817	100	581	209	1584	331
03/04	19949	17453	269	4690	10324	6285	122	769	410	971	398

Source: Statistics Department. General Administration of Planning & Agricultural Economics

19. The total areas planted annually with millet had increased from 6.24 million fed in 92/93 to 10.3 million fed in 2003/04. The variance between the harvested areas and planted areas during the period 92/93 - 2003/04 ranged between 25% and 45%. However this variance ranges from 35% to 70% under the traditional rain fed farming (Table 1). The variation between area planted and area harvested is largely attributed to fluctuation as well as the distribution of rainfall. This makes millet producers in the traditional rain fed sub-sector relatively more vulnerable to food insecurity in poor and below normal rainy seasons. The figures displayed in table 1 also show that the average annual millet production during 92/93 - 2003/04 amounts to about 5.5 million metric tons. The increase in average area over time was induced by continuous decline in productivity, which forces farmers to increase the area as a compensation for declined yield if they are to get the same level of output.

20. In general, millet production is basically for household consumption, however, in the events of good harvests, households may realize small marketable surplus. The size of traded grains is always small and limited to urban and rural markets in the producing states and sometimes across the western states borders. It is observed that millet prices in the rural and urban markets of South Darfur, North Darfur and West Darfur are determined according to the supply and demand forces, which are highly governed by the market structure and behavior of millet producers (for elaboration see section "Analysis of Darfur Markets").

Agricultural Resource Base, Farming/Production Systems in Darfur

21. *Agricultural potential:* Landscape, soils, vegetation and farming systems in greater Darfur can be divided into six distinct zones. The north sand sheets and sand dunes zone, the eastern goz zone, the north western zone and the south western zone, the ground nut millet belt zone, and Jabla Marra area. Details of landscape, vegetation and farming systems in

Darfur are presented in Annex 2. Darfur possesses a huge farming potential for production of horticultural crops, livestock raising and production of field crops.

22. Production of horticultural crops: Potential and resources for vegetables and fruits production includes good soils, underground water and good climate. There are no available data to reflect the extent to which this potential is utilized. But generally the level of investment in this sub-sector is relatively low due to the relatively high initial capital investment needed and the lack of a developed infrastructure for vegetables and fruits production and marketing.

23. Animal production: Darfur is very rich in animal wealth. The total population of cattle, sheep, goats and camels is nearly 28 million heads representing about 22% of the livestock population of Sudan. Table 2 gives statistics of the livestock population in Darfur.

State	Cattle	Sheep	Goats	Camels	Total
North D	628,530	3,396,505	2,656,808	397,172	7,079,015
South D	3,851,663	3,471,773	2,756,688	74,950	10,155,074
West Darfur	3,702,195	3,528,225	3,236,112	286,989	10,753,521
Total	8,182,388	10,396,503	8,645,608	759,111	27,987,610

Sources: Sudan Statistical Year Book for the year 2001.

24. Production of field crops: The total area grown annually under field crops amounts to 11,500,000 feddans. The main crops are millet, sorghum and groundnuts in addition to some other minor crops like sesame, Roselle, watermelon seeds, cowpeas and okra. Table 3 gives a three-year annual average of the areas under the different field crops. The production of cereals is a major economic activity as cereals occupy nearly 7,500,000 feddans equivalent to 66% of the annually cultivated area. South Darfur is the major cereals producer compared to the other two states, cultivating 52% of the cereals area.

State	Cereals	Groundnuts	Sesame	Karkdeh	Melon Seeds	Total	grain %
North Darfur	2,358,333	136,867	35,567	24,367	179,600	2,734,733	86%
South Darfur	3,939,667	2,106,767	269,000	111,800	550,150	6,977,383	56%
West Darfur	1,195,000	147,000	279,867	710	70,350	1,692,927	71%
Greater Darfur	7,493,000	2,390,633	584,433	136,877	800,100	11,405,043	66%

Source: The Ministry of Agriculture and Forestry.

25. Grains Production: Millet, the main preferred staple food in Darfur, is grown all over the three states, while sorghum is mainly concentrated in Southern and Western Darfur.

Table 4 reflects a summary of 10 years average of the areas harvested, and production of millet and sorghum in the three states and the total for each state and greater Darfur (The detailed figures are in tables 1, 2 & 3, annex 3). South Darfur State is the major grain producer in the region. West Darfur has the least area under grain production, which is 21% and produces 32% of the total grain production due to the high yields obtained. The total area under grains in North Darfur is 30% of the total grain area, but produces only 15% of the annual grain production. The above discrepancies in area and total production could mainly be attributed to the effect of rainfall fluctuation and soil fertility.

State	Millet				Sorghum				Sorghum & millet			
	Area		Production		Area		Produc.		Area		Prod	
	Feds	%	Tons	%	Fed	%	Ton	%	Fed	%	Ton	%
N. Darfur	1,035,009	37	83,091	23%	47,200	5%	7,108	3%	1,082,209	30%	89,584	15%
S. Darfur	1,285,182	46%	169,727	47%	510,108	58%	118,500	52%	1,795,290	49%	312,166	53%
W.Darfur	407,700	15%	107,200	30%	340,900	38%	117,600	44%	748,600	21%	188,333	32%
Greater D	2,771,592	100	362,083	100	886,083	100	228,000	100	3,657,675	100%	590,083	100%

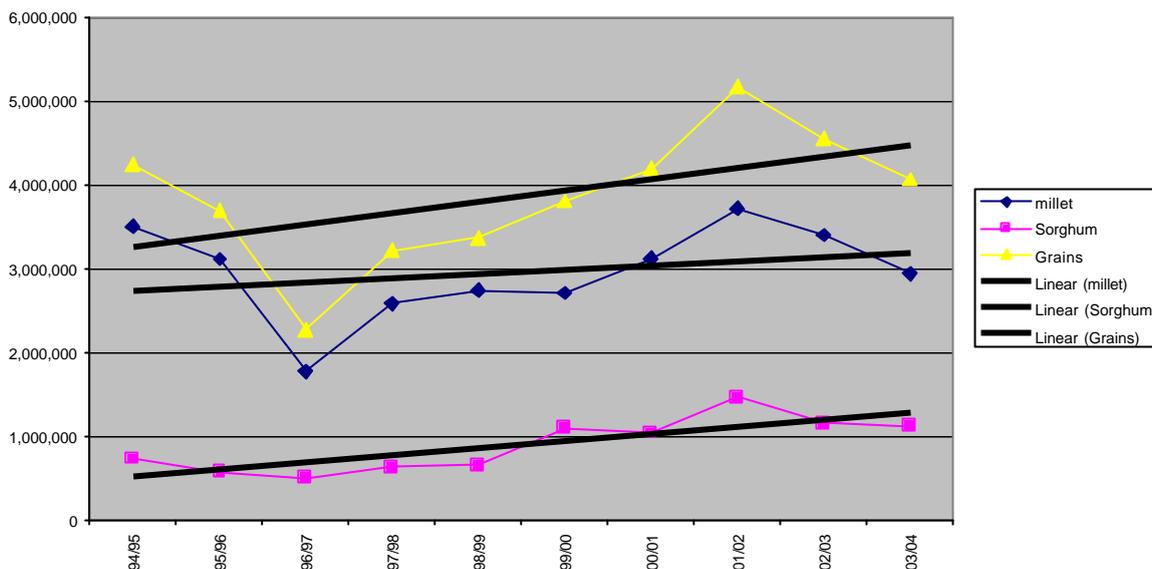
With the exception of using animal traction in some areas, grain production in Darfur region is very traditional and labor intensive and mainly depends on the area cultivated amount of rainfall, amount of available labor for timely weeding and the incidence of pest infestation.

26. Cultivated Grain area and yield trends: Statistics on average area harvested for millet and sorghum over the period 1994/95 - 2003/04 shows that the average millet area exceeds that of sorghum, with a general upwards trend for both crops (details in tables 1,2, & 3 of Annex 3) and also reflected in Figure 3. The millet annual average area for the period 94 to 2004 is 2.9 million feddans, whereas average sorghum area is about 0.9 million feddan.

27. Area harvested is always smaller than planted area. The reduction is caused mainly by rainfall fluctuation, labor shortage and pest infestation (Table 5).

	Millet Area			Sorghum Area		
	planted	Harvested	% harvested	planted	Harvested	% harvested
North D	2,770,176	1,494,100	54%	111,823	54,914	49%
South D	2,699,097	1,552,478	58%	1,347,623	786,943	58%
West D	661,414	448,612	68%	413,129	263,749	64%
Total	6,130,686	3,495,190	57%	1,872,574	1,105,605	59%

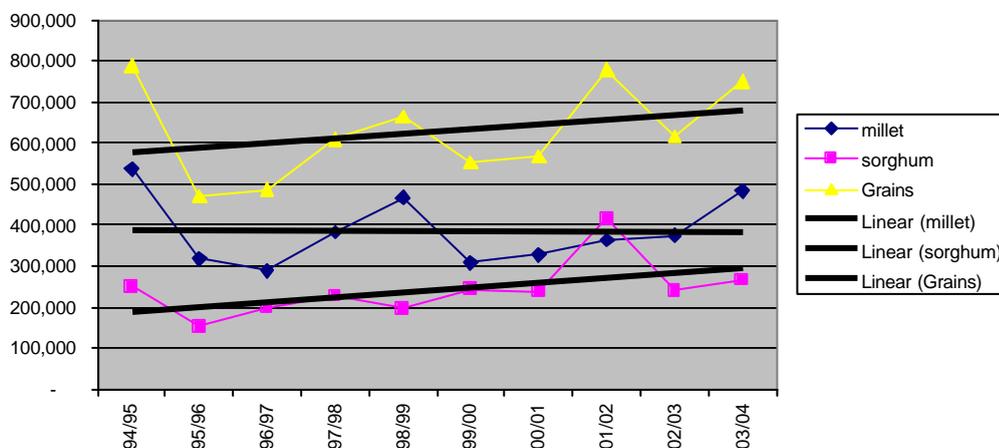
figure 3: Grains Area Trend (1994-2004) for Greater Darfur



28. Grain yields: As production is traditional and labor intensive, yields mainly depend on the amount and monthly distribution of rainfall, natural soil fertility and family labor for weeding. Yield trend is reflected in figures D & E of Annex 3.

29. Cereal Production trends in Darfur: Production of millet and sorghum for the last ten years has been increasing (Figure 4). The increase in production could mainly be attributed to area rather than yields as reflected in figure 3. As farming in the region is very traditional, the only alternative available for the farmer to compensate for the low yield is to cultivate more area. Horizontal expansion would have a negative impact on the vegetative cover and soil fertility in the end. Loss of fertility would result in decrease in yield and repeated low production and food insecurity. The introduction of appropriate technical packages to increase land productivity is essential for improving food security.

Figure 4: Production of Millet, sorghum and both in Metric Tons for the period (1994-2004) in Greater Darfur



Analysis of Darfur Grain Markets

30. *Characteristics of agricultural markets:* The role of agricultural markets in achieving both household and societal objectives is a non-contested fact. For households (producers and consumers), markets maximize benefits from resources available, leading to increased wealth; furthermore markets enhance exchange of inputs and outputs, thus enhancing food and livelihood securities. From a society viewpoint, markets serve the objective of encouraging efficient allocation of resources, resulting in creating wealth and promoting economic growth. Enhancing income distribution is also among the objectives attained by efficient markets.

31. As the case in most Africa, agricultural marketing begins at the level of individual households (smallholders). Producers usually assume some or all of the marketing steps. Mainly because producers are also consumers, little of what is produced is marketed. Evolution of markets over the years has encouraged many who used to produce only for their families, to produce also for the market to achieve objectives other than food availability at household level like fetching additional income or diversifying income sources.

32. Markets and marketing in Darfur Region is not very different from other parts of the country and very similar to most African countries by being rudimentary and traditional. However, markets serve the purpose of rural people effectively and contribute markedly to food and livelihood security of rural and urban population of the region. Most of the products of rural activities go directly to dishes of rural and urban people with little or no processing, mainly through the channels of rural and urban markets. Rural markets are considered vital in enhancing food security of rural people and most of urban sector through allocation of inputs and outputs to where needed.

33. In the context of Darfur, rural markets represent an important event for social gathering and sharing of information beyond just exchange of commodities. It is often argued that most rural people can hardly give up the social utility of rural markets, and visiting the market may occur just for the sake of social utility.

34. The grain market structure and performance is very much linked to and influenced by the behavior of grain producers. Producers are spread all over the region and farm relatively small-scale units ranging, on average, from 6 to about 15 Feddan. Each production unit grows food and cash crops and most of the farming units own small ruminants. Households grow grains primarily for family consumption but also for the market, which creates the marketable surplus that form grain market supply from rural areas.

35. Darfur markets have contributed to the economy of the region over the years through securing food to urban people and generating income for rural producers. Rural and urban markets have helped in enabling local population to access their food needs, mainly cereal or grain. Supply of grains has been precarious due to variability in production induced by low and erratic rainfall, whereas demand has been steadily growing because of population growth. However, there is considerable migration out of the region coupled with increase in use of cereals other than millet and sorghum. It was observed over all visited parts that bread made of wheat constitutes an equivalent of one to two meals in urban centers. In rural areas, rural people utilize bread, especially on market days and big villages have bakeries that operate on daily basis.

36. In general, markets can be classified and characterized in different ways depending on the purpose. In terms of size, mode of functioning, and affiliation, markets in Darfur are classified into:

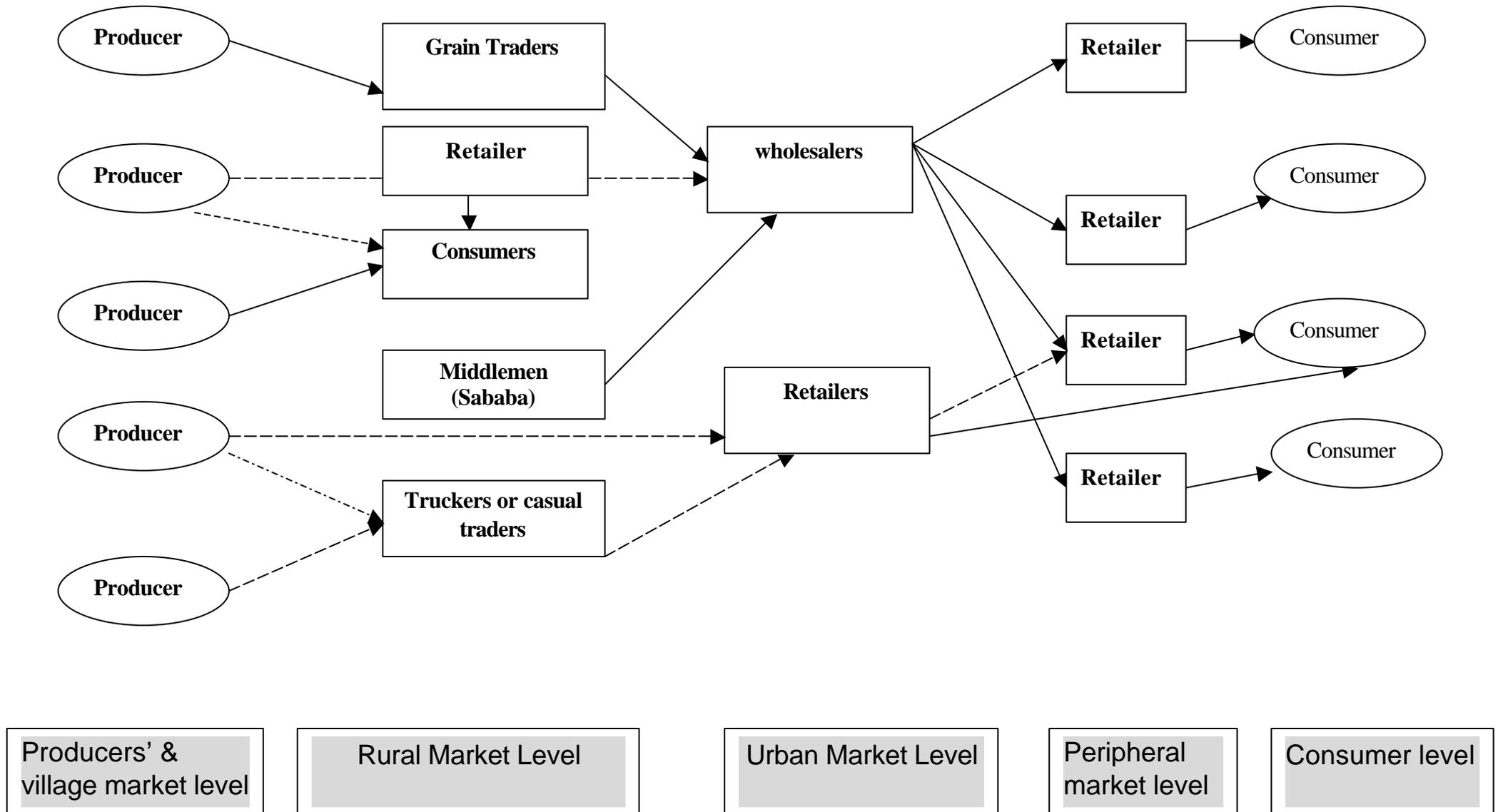
- a) The village market is the first level of the marketing process; a market can be represented by a village shop or a number of shops, it could also be in a form of many villagers coming together, usually around village flour mills or so. Typically this level of markets avails basic consumers goods like oil, sugar, tea,..etc but also these shops purchase agricultural products in small quantities, whether a cash crop or food crop. Generally, the terms of selling such small quantities are not favorable for producers because post-harvest prices are usually low and selling is in small quantities. Producers sell part of their produce to meet urgent family needs; such activity coincides with hunger period, which is before full harvest time. Village market provides maximum convenience to farmers because of easy access and flexibility in furnishing exchange of farm products with other consumer goods. The village shop or market provides urgent family needs on loan basis because of the trust between people and repayment might be in cash but often in kind at a low-set price for the produce, which results in exceptionally high benefits for owners of village shops.
- b) Rural markets are the second level of the marketing system up the ladder. These are weekly or bi-weekly markets, where villagers of many villages come together to exchange goods and benefits. The radius of a typical rural market varies from about 20 kms for footers or livestock riders to more than 100 kms for traders, who move continuously to visit potential markets, exclusively for trade purposes. Truck owners who facilitate movement of people to rural markets might assume a role of traders. A typical rural market is set up in a way that different commodities are displayed in different places in the market. There is usually livestock selling area “*Zariba*”, grain-selling area and there may be sections for other commodities depending on what the market is famous for. Rural markets vary in size markedly, where some are exceptionally big and may even invite traders from across state boundaries, or even from neighboring countries like Chad and Central Africa. A good reflection of the size of a market is the number of trucks attending the market day, where big markets invite up to 15 trucks, which carry commodities and people to and from the market.
- c) Urban and Semi-urban markets. These are the higher order markets, found in big towns and capitals of the states, like Nayala, El El Fasher, El El Genena, Zalingi, Edain, and Kutum. There are specialized grain markets in these urban centers. The central grain market in each main city is linked to peripheral markets within the same city. Retailers, mostly women, dominate peripheral markets and operate comparable to men in urban markets. Wholesalers of central markets often engage in retailing also. There are many, relatively small wholesalers in each market. The size of operation of each, in terms of size of stock at a time, is in the range of 20 to 100 tons. The turnover of the commodity is moderate, fom 1 to 2 tons per trader per week in the peak period of grain trading. Wholesalers access rural markets, mostly through market agents but the common practice is that certain traders or even truck owners move continuously in the rural markets and collect grains to sell to wholesalers in urban markets. Sometimes truck owners might engage in grain trading just to offset the cost of a backward trip from rural markets to urban centers. So the supply is expected to be continuous as there is at least 2 to 3 big rural market operating every day throughout the week in the market radius of each urban market.

37. Short marketing channels characterize grain markets. The chain might be as short as producer to trader to wholesalers to consumers or producer to middlemen/grain traders to wholesalers to retailers then to consumers (Figure 5). Truckers and casual grain traders sometimes play the role of market agents. Producers in the main production areas usually sell to middlemen/sababa in the rural markets. Each middleman usually collects around a truckload and sells it to a wholesaler or a trucker. Truckers usually prefer to buy and/or load cash crops (groundnut or karkedi) after they unload their non food commodities in the main markets there. However the transportation of grains in large loads usually starts after all the cash crops in the area have been moved to Nyala market and other markets in North Kordofan and /or central Sudan. Middlemen also sell grains in small quantities i.e. around 1 – 3 sacks, to retailers in the

rural markets. Retailers in the urban markets also buy from wholesalers and sell directly to consumers by Kora. Kora or Mid (around 5 kgs) is the common measuring unit used.

Figure 5: Schematic Diagram of a Typical Grain Marketing Channel in Darfur

Solid lines in the diagram represent common avenue of the flow Linkage and behavior of grain markets in Darfur dashed lines represents less or rare flow options.



38. Livestock marketing in Darfur: It resembles grain marketing the low the level and differs at the wholesale or high trade level. Grain producers also sell livestock to meet their annual non-grain needs. Accordingly, animals come to rural markets in small numbers and gradually form the supply that ultimately reaches consumption centers. There are certain rural markets that are very famous for livestock trading. For example Um Labasa in South Darfur State, Forbaranga in West Darfur State (both markets are known for supply of cattle) and Sayah in North Darfur State (mainly sheep). Darfur is an important source of livestock for the export markets and the internal markets in central Sudan. Most of the bulls for the internal markets of central Sudan come from South Darfur while considerable numbers of sheep for the export markets comes from North Darfur. Usually livestock markets are more active at the beginning of the rainy season when large merchants from Umdurman or their agents in South, West and North Darfur buy livestock for the local and export markets. They normally buy at this time of the year because it will be easier for them to move livestock on hooves because of the availability of water points and pasture for grazing along the route to El Obeid or Umdurman. Livestock markets are highly linked with Umdurman and other main livestock markets in central Sudan. Prices in these markets move in similar trend, in fact key market agents in big livestock markets of Darfur are traders in Umdurman through their agents. Statistics on prices of livestock is poor and not supportive for further analysis due to lack of data and standardization on collected information of secondary sources.

39. Livestock markets in Darfur usually operate once a week and prices are determined on the basis of free negotiations between buyers and sellers. The consultants were told that all livestock markets were seriously affected as a result of the conflict. Due to insecurity, Livestock merchants were reluctant to take cash and move between markets to buy and move livestock from these markets. In addition, loss of livestock by the affected people has affected supply negatively.

Functioning of Darfur markets in the current situation:

40. Grains marketable surplus and its movement: In general, the main food staples for the households in Darfur are sorghum and millet. Millet is dominant food staple in many parts of Greater Darfur. Almost all farmers in Darfur grow either millet on sandy soils (Goz land) or sorghum adjacent to watercourses (Wadis) and on clay soils. The average millet field size is around 6-8 fed in the northern parts of North Darfur and West Darfur.

41. The average household millet production in a good rainy season in North Darfur and West Darfur is estimated to be around 810 to 1080 Kg (135 kg /fed). With an estimated annual need of around 800 kg/household for home consumption, the average household marketable surplus under such conditions may not exceed 280 kg. The farmers met indicated that in good harvest seasons not all the marketable surplus is traded and reasonable quantities may be held as carry over stocks for the following season. This is a rational behavior justified by high production risk, as rainfall data show that the event of poor/below normal rainy season may occur twice in every three years, however under normal rainy season farmers may hardly be self-sufficient, and in case of below normal rainy season, the average household produces less than its home consumption. Generally, it may be concluded that in normal years, the northern parts of West and North Darfur are considered as millet deficit areas.

42. In South Darfur, millet is mainly produced on goz lands. Goz Sasleigo and goz Dango which cover parts of Eid el Fursan, Rehaid El Berdi, Tulus & Buram localities are the most popular areas for millet production. The average farmer in South Darfur cultivates around 7 fed of millet, 2-3 fed of groundnuts and 1 – 2 fed of sorghum. The rainfall is generally adequate for good harvest and an average farmer's production may amount to 1400 Kg. (i.e., 200 kg/fed).

Accordingly an average farmer may always end up with sizable marketable surplus amounting to 500 - 600 kg, which is ultimately channeled to urban markets in a staggered manner.

43. Sorghum is basically grown in South and West Darfur for consumption and for the market. The popular areas of sorghum production are Wadi Salih, Mukjer and Habbila localities in West Darfur, Ed el Fursan ,Boram and Tulus in South Darfur. The average area of sorghum cultivated /household is 1 – 2 fed in South and West Darfur and around 0.5 – 1.0 fed in North Darfur where soil type permits. The average household in South and West Darfur usually produces around 800 kg each year (i.e., up to 400 kg/fed) and 400 -500 kg may be considered as marketable surplus. Local types of sorghum i.e. Mareg / baladi are preferred by the population to other sorghum types/varieties. Because of the vast areas grown with sorghum and the above normal rainy seasons in the main sorghum production areas, the average sorghum marketable surplus/household is relatively large compared to millet marketable surplus, especially in some parts of West Darfur State. There are also few large farmers in South and West Darfur who cultivate relatively large areas with sorghum and millet and significantly contribute to the generated marketable surplus.

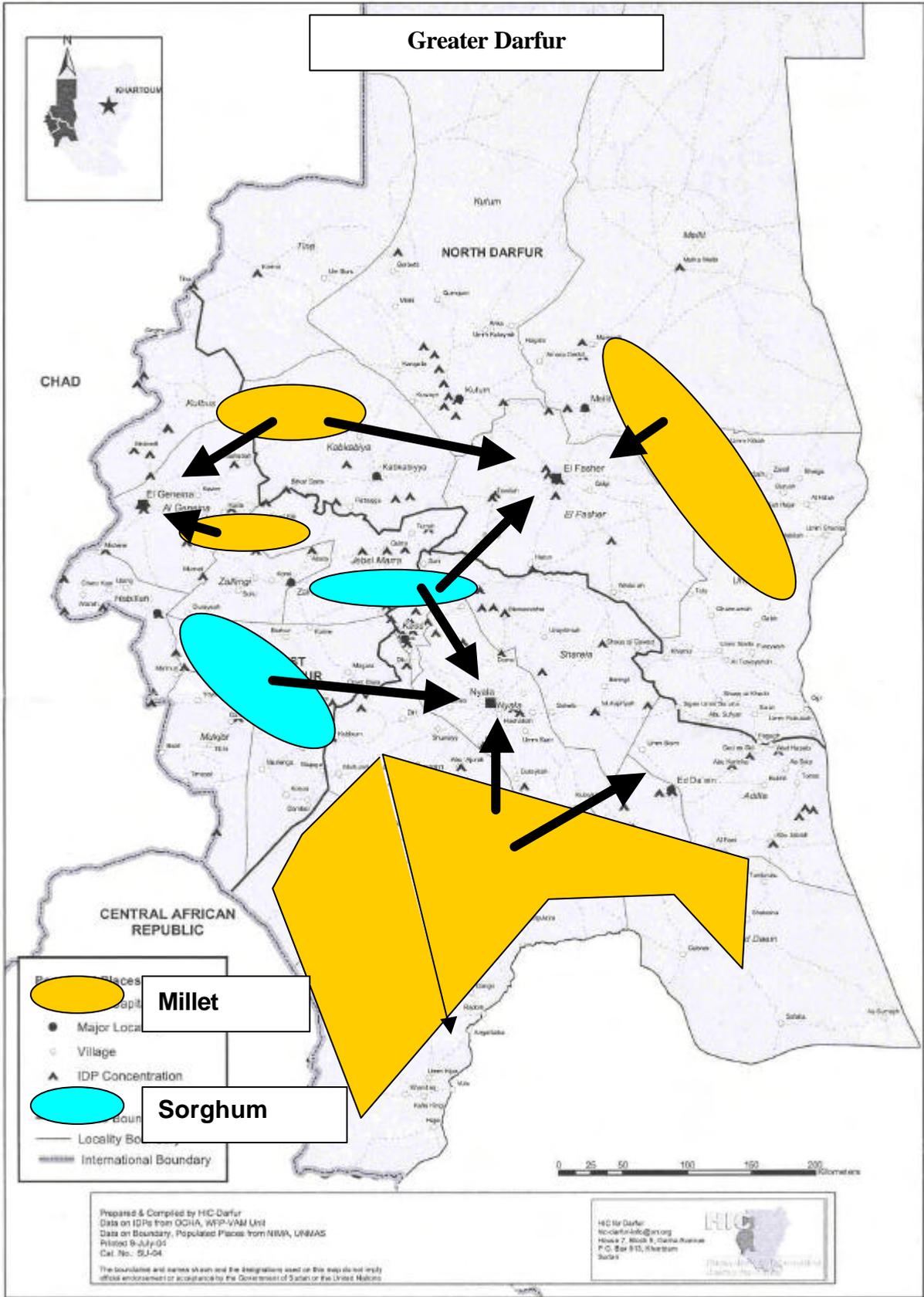
44. Movement of millet marketable surplus: In general millet marketable surplus is not huge but because it is the main food staple, it is reported that the movement of millet from surplus areas to deficit areas and between rural markets within each state is common. Millet was found in all the rural and urban markets which had been visited by the consultants team. However, the consultants' team has observed that millet supply is very limited in all the rural markets as well as in the urban markets. The producers' behavior in regard to selling their marketable surplus is quite similar in all parts of Darfur. The major millet movement in South Darfur State is from the so called millet zone in Goz Dango and Saselgo, which are in the southern part of South Darfour to the northern and northern east parts of South Darfur. This movement targets urban markets in Nayala and Edain basically through the marketing mechanism described above. There is also another movement from producing pockets in Kass area to the west and south west targeting Nayala market and markets in Mershing and Manawashi. So the movement in South Darfur is to the north and northeast (Figure 13 "movement map"). In West Darfur, millet movement primarily from the northern part where lots of production takes place in the Goz land there to El Genena. There is also movement from the millet producing pockets in the southern part of El Genena to the north to target El El Genena urban market.

45. In North Darfur, the main route for millet movement is from Um Kadadah/Melliet belt to El El Fasher. There is another major route from around El Fasher, including Goz AbuZraiga to the north. In good rainfall years there is millet movement from the northern west part of North Darfur to El El Fasher. Millet movement after good harvest is more or less internal within each state markets and with small shipments to Northern Kordofan and Northern Chad. However in the event of poor/below normal rainy season, the northern parts of North Darfur and West Darfur become deficit areas and millet is likely to be moved from surplus areas in South Darfur to the main rural and urban markets in South Darfur as well as the main rural and urban markets in North and West Darfur (Figure 6).

46. Movement of sorghum marketable surplus: After a good harvest, it is likely that all producers in West and South Darfur would have marketable surplus. Producers normally sell their surplus in the village/rural markets in small quantities over a long period of time, starting after harvest time and continue till pre-harvest time of the next season. The major sorghum movement is from the main production zones in West Darfur to the east targeting Nayala and its radial markets as well as to the north targeting El Genena and its associated markets. The movement in South Darfur is to the north to Nayala and from around Kass to the east to Nayala and its lined

markets. Sorghum is usually transported from Nyala and Jebel Marra area to the urban markets of North Darfur (Figure 6).

Figure 6: Movement of Grains in Darfur



Annual/monthly Price movement of sorghum and millet

47. Prices reflect relative values of commodities. They also carry information about structure of incentives and opportunities. Prices influence allocation of resources in production and consumption thus help in coordinating markets and the economy at large. For agricultural commodities, in particular, prices carry information on availability of the commodity and its substitutes; they also reflect quality and preference or taste. Additionally, prices reflect consumer purchasing power for majority of population. Prices as such play an important role in the economy and markets are the places where supply and demand forces interact to determine prices. Market structure is the main factor that affects conduct of market agents and performance of markets in the end. In context of perfect competition buyers and sellers are many and all market agents or players are price takers and in a monopoly context one or few big players determine the price of commodities in concern, while others follow. The sections below assess the nature of annual as well as monthly and seasonal price movement of millet and sorghum in Darfur.

48. Millet is the preferred cereal crop in Darfur as reflected in large areas grown per household compared to sorghum and its higher prices consistently reflected in figures 7, 8, 9). Millet price has consistently been higher than sorghum in the three urban markets of Darfur.

Figure 7: Cereal Monthly Price Movement in Fasher Market 00 to 04

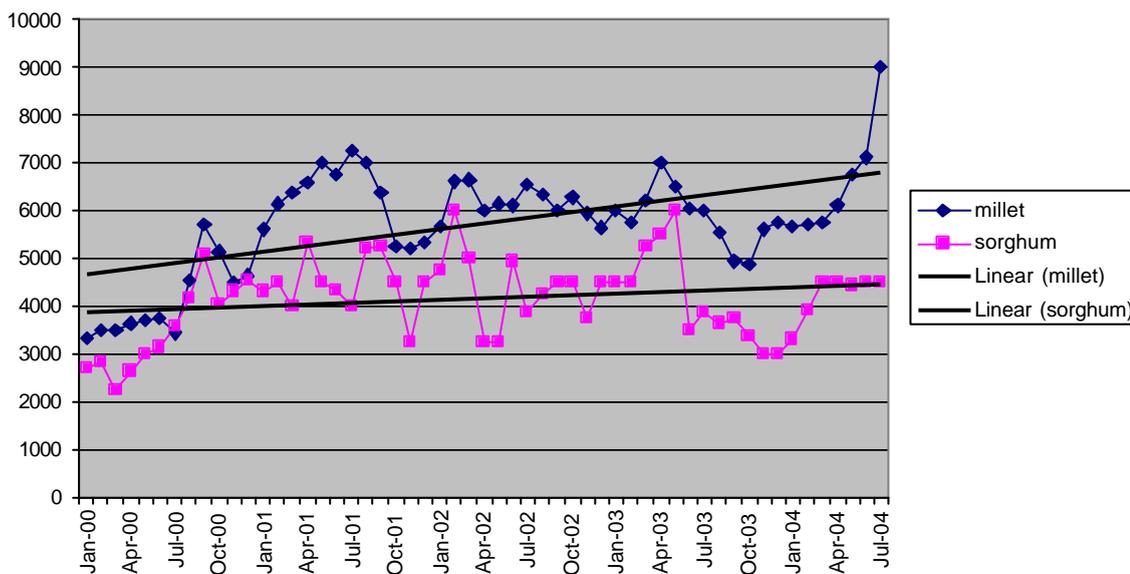


Figure 8: Cereal Monthly Price Movement in Nayala Market 00-04

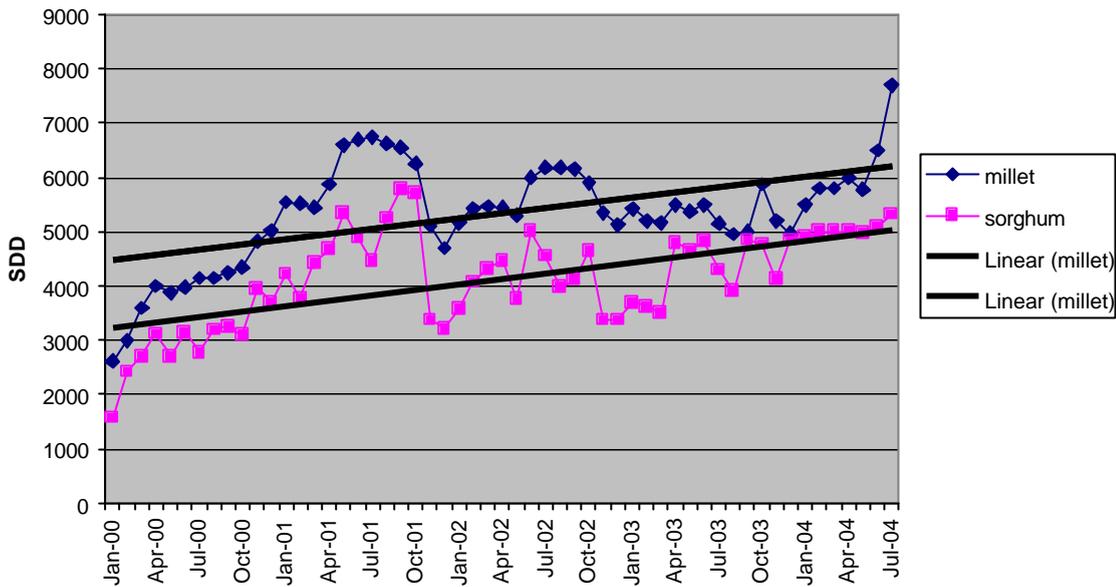
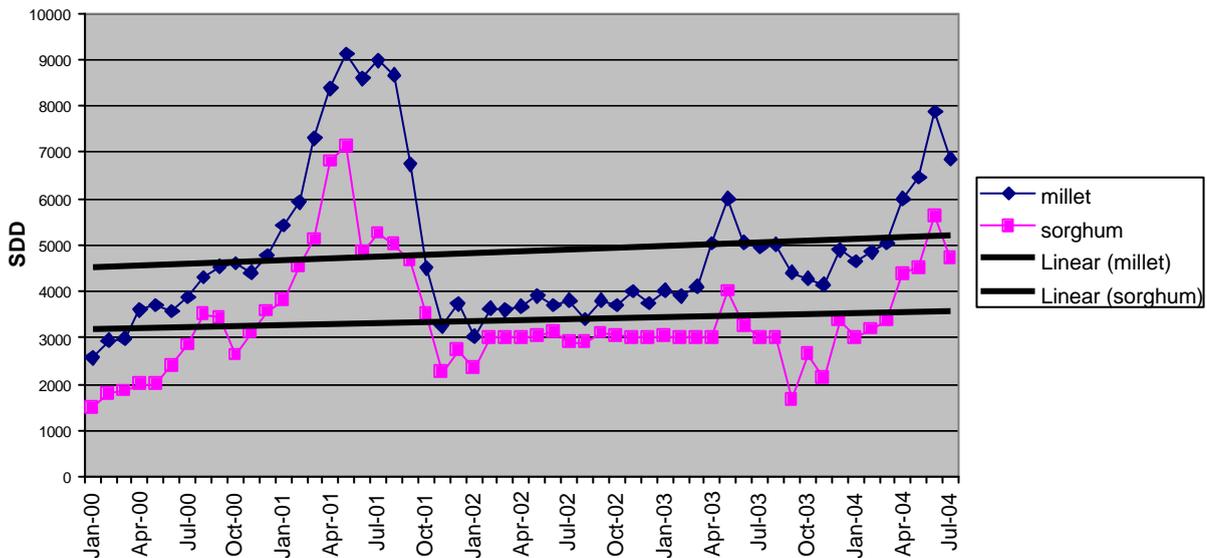


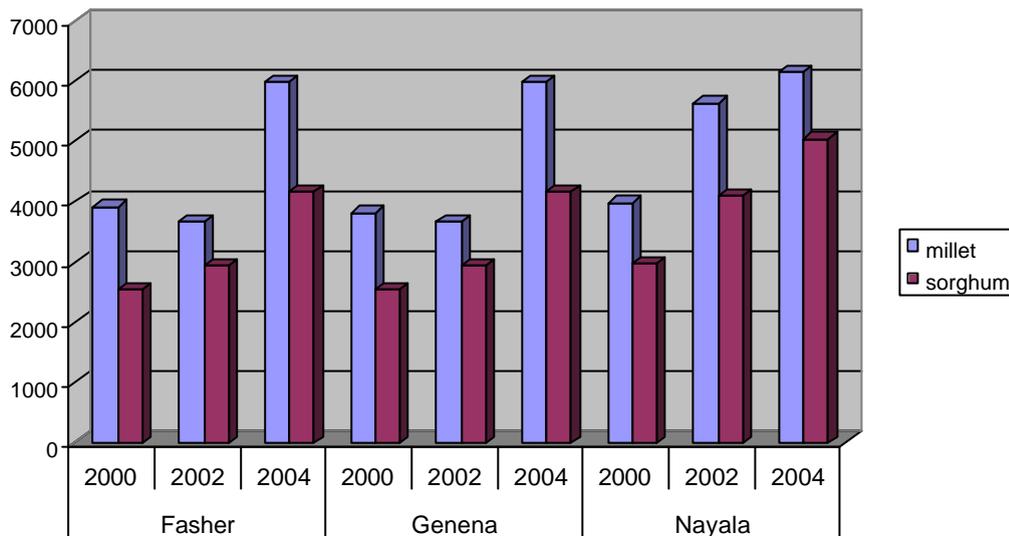
Figure 9: Cereal Monthly Price Movement in El Genena Market 00-04



49. For many households in Darfur, Sorghum is barely a substitute to millet and only consumed under serious shortage of millet –the preferred food. Even under extremely extraordinary situation like the current context of Darfur some IDPs sold part of their ration of food aid to buy the millet (the preferred cereal). During the conflict period the relationship between sorghum and millet price remained the same as in the pre-conflict period in all three states, favoring millet as in Figure 10. In the month of July 2004, the price of millet was exactly double the price of red sorghum in El El Fasher market; even some IDPs explained that they have swapped sorghum for millet at an extremely unfavorable terms of trade and they would be willing to do so for the sake of their preferred taste.

50. In general prices of local sorghum (white sorghum) are about 73% of millet prices. Fatarita sorghum (red sorghum) usually sells for about only 50% of millet prices, for example, the current price in El El Fasher market ascertains this fact, where millet price was about SDD 8800 per sack whereas Fatarita price was about SDD 4500 per sack. Monthly price movement in the period 2000 to 2004 indicates annual fluctuation in prices of both millet and sorghum and both prices show positive linear trend over time, with sharper increase in millet prices.

Figure 10: Comparison of Millet and Sorghum Prices in Urban Darfur Markets pre & Current Period



51. Movement of seasonal grain prices: Grain markets are competitive in the sense that market agents are many and no one can influence the price of grains. All agents are price takers and price determination is subject to supply and demand forces. Usually post-harvest (November to January) prices are low because of excess supply that goes to the market by producers who sell crops to meet urgent family requirements from the marketable surplus. Figures 7, 8 and 9 demonstrate a period of low prices in the post-harvest period (November to January), with few exceptions in the last decade. Although in most cases grains are harvested and threshed later than cash crops like groundnut and sesame, selling small quantities of grain during harvest time to meet urgent family needs rather than cash crop is the common practice. Once households start selling their cash crops they withhold grain and only those who have no cash crops would continue selling their grains in smaller quantities to meet different needs. There is a period of low grain supply coinciding with the peak of cash crop selling. A period of steady supply follows, during which households resort to selling marketable surplus of grains, mainly in markets that are most accessible to the families in staggered manner to generate income necessary for family needs. Selling usually takes place in rural markets nearby.

52. Late in the dry season (May to July) supply diminishes again because most or all of the marketable surplus would have been sold and also because of the expectation of the upcoming season where people start hedging against possible risk of bad rainy season by holding back any grains till, at least, there is assurance that the rainy season is promising. Prices usually rise up late in the dry season due to excess demand and limited supply as depicted in figures 7 to 9. Excess and effective demand is usually generated from increased population before start of the rainy season as results of return of large number of seasonal migrants to cultivate their lands. Any marketable surplus that has been withheld due to expected risk of bad season would also be sent to the market once farmers are sure that there is a prospect of good season. This period usually

coincides with the month of September, which often shows relatively lower grain prices and more supply if rainfall is normal and promising. If however, prospect of upcoming season is not good for vast areas, September prices will continue to rise till harvest from early harvested areas starts reaching the market and lowers prices. In case of a bad season, post-harvest prices move up moderately at the beginning of harvest period and escalate late in the dry season.

53. In case of good harvest, price of post-harvest period (November to December) continues to decrease as more supply comes to the market. Trend of grain price movement is similar in the three urban markets of greater Darfur. However, monthly price fluctuations over the period 2002-2004 are more acute in El-El Fasher and El Genena compared to Nayala, which often has better rainfall and accordingly better production (Figure 7 to 9).

54. Figure 11 summarizes supply pattern of millet and sorghum in Nayala market, representing a supply region and covers both pre-conflict and current periods, thus it typifies the behavior of grain supply in both periods. Supply goes up in the post-harvest period (November to December), declines and becomes limited late in the dry season (May to July). El Fasher market, being a market in a deficit area, behaves slightly different from Nayala market (Figure 12). In year 2003, the supply in the post-harvest period was low and increased comparatively late in the dry season. The impact of insecurity and possibly leakage of food aid may be the reason. The total monthly supply in Nayala market exceeds that of El Fasher market significantly (a range of 100 to 3500 sacks/month in Nayala compared to 20 to 100 in El Fasher).

Figure 11: Grain Monthly Supply in Nayala Market 2001-03

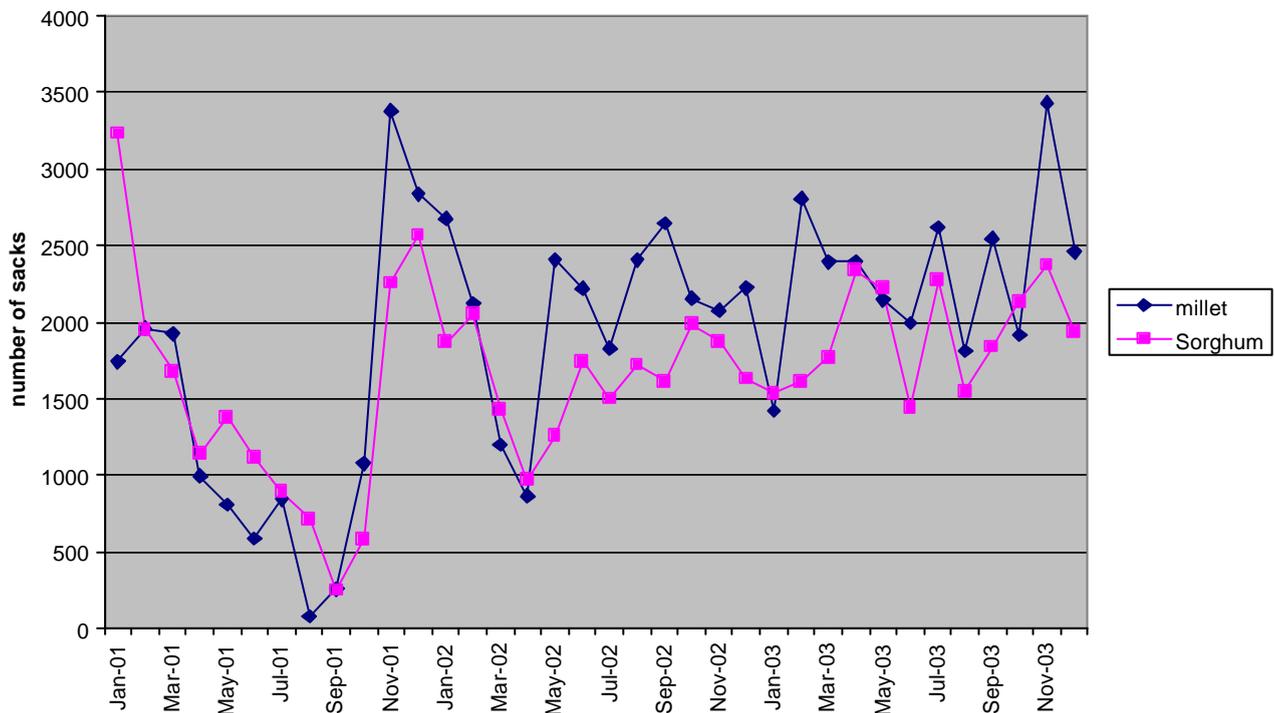
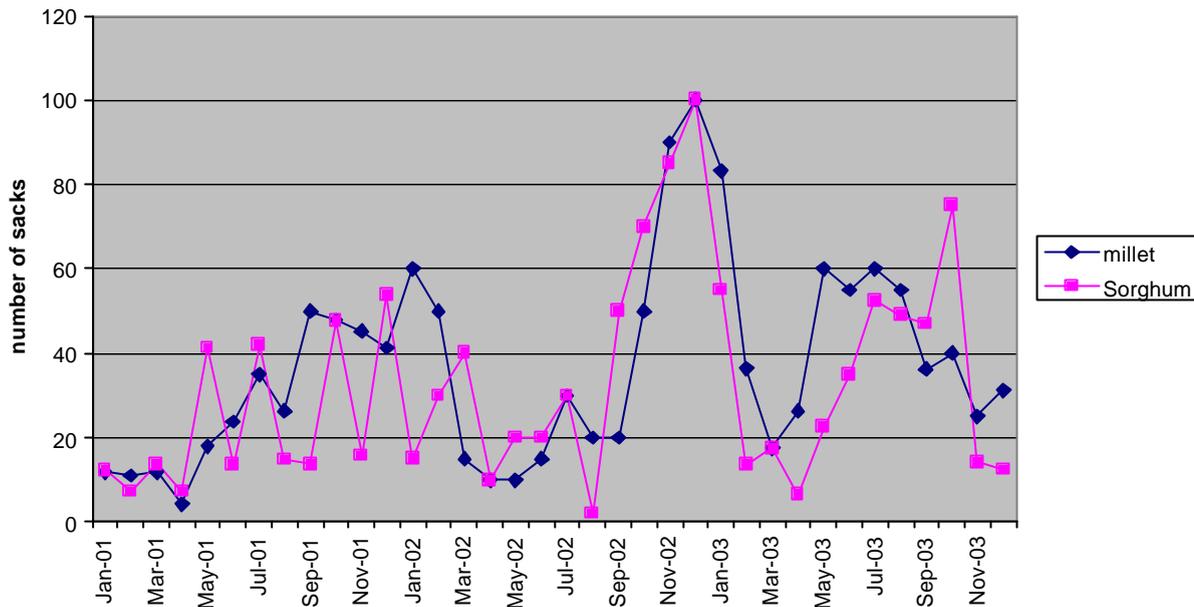


Figure 12: Grain monthly supply in Fasher market 2001-2003



55. Livestock price behavior: Livestock price behavior follow slightly different pattern of grain price and varies by livestock types and location. During the “Hadi” slaughtering of sheep during pilgrimage (HAG) period prices of sheep rise up and rise more in areas where shipping to central Sudan and foreign markets is feasible like Um Kaddadah area in North Darfur. This is simply because of the excess demand created during the HAG period. Such phenomenon rarely affects prices of large animals like camels and cattle. Cattle prices usually go up late in the rainy season (coinciding with post-harvest period) because animal’s health would be good at that time and would enhance bargaining power of producers. Price of cattle increases at the beginning of rainy season as merchants from central Sudan prefer to buy from Darfur at this time of the year and send animals on hooves taking the advantage of water and pasture availability. Improvement in export of livestock raises prices consistently as experienced in 2003/04 when export to Sudia Arabia has improved significantly. Local demand for livestock increases in the post-harvest period where people tend to sell their produce and reinvest in livestock.

56. TOT depends on the nature of the season. In a good season, price of grains decreases and that of livestock increases. The terms of trade of livestock to grains is favoring livestock owners in North Darfur. Over the period 2002 to 2004, livestock prices continued to increase resulting in exchanging more grains for livestock as in figure 13. In West Darfur, the terms of trade disfavor livestock owners. More livestock were exchanged for the same amount of grains over time as indicated in figure 14. Grains have upward price trend in the last decade and livestock have variable price movement (ups and downs) depending on security and cross-boarder trade opportunities.

Figure 13: Terms of Trade between Livestock and Grains in El Fasher Market (2002-04)

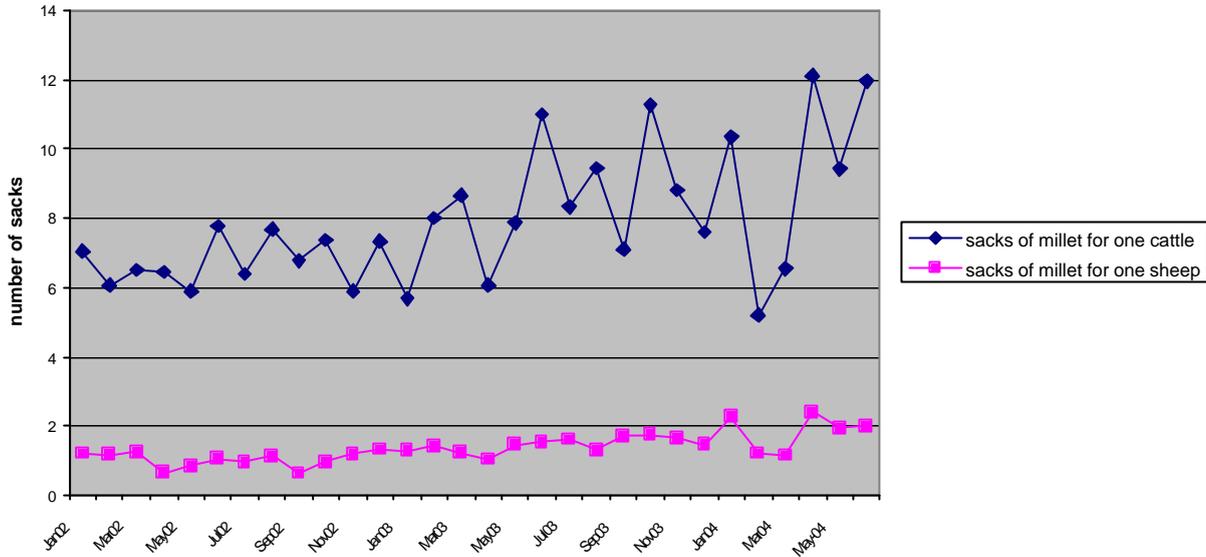
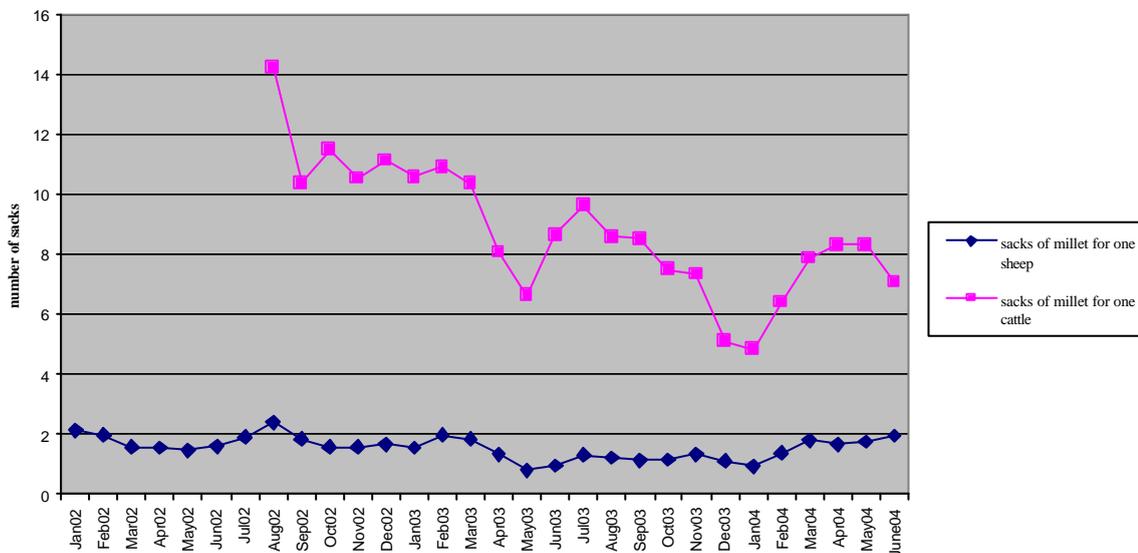


Figure 14: Terms of Trade between Livestock and Millet in El Genena Market (2002-04)



57. Profit margins in grains trading in Darfur: The size of profit margins in grain trading usually depends on many factors including, but not limited to, scarcity of grains, elasticity of demand, magnitude of risks, length of storage period, price speculations by traders, number of middlemen in the marketing chain etc. Generally, grains marketing channel is short and only a limited number of middlemen of two to three are involved. The team of consultants interviewed retailers, middlemen (sababa) and merchants in the rural as well as in the urban markets on the profit margins realized at each level. The interviewed traders revealed the following information. This information applies when grains bought are sold directly or stored for very short periods.

- The profit margin of the village merchant, who buys from producers in the village and sells to middlemen (sababa) in the rural markets, amounts, to an average of 10% of the purchase price.
- The profit margin of middlemen (sababa) who buy from village merchants and sell to wholesalers/truckers, amounts to 8 % of the purchase price.
- The profit margin of the wholesalers who buy from the middlemen (sababa) or truckers and sell in sacks to retailers, amounts to 4 - 6 % of the purchase price.
- The profit margin of the retailers, who either buy from producers or the middlemen (sababa) or the wholesalers and sell directly to the consumers, amounts to 12 % of the purchase price.

However it is worth mentioning that some very few large wholesale traders in Nyaala, El El Fasher and El Genena, have relatively large storage capacity (i.e. around 100 tons) and usually buy large amount of grains after harvest and store these quantities for longer periods. The profit margins of such traders is definitely higher than the profit margin of the wholesale traders who handle small quantities and have high turnover, it may range from 25% to 60 % of the purchase price. The profit made covers the opportunity cost of tied up capital as alternative investment opportunities are limited and shifting between opportunities is simple and easy.

58. Transportation costs associated with grain trading: Usually different means of transportation including camels, donkeys and small to medium trucks engage in facilitating grain movement from producers to consumers. A producer usually hires a camel to transport his produce from the field to his house and pay the rent of the camel man in kind and happens if he or his relatives have no camel. The producers normally either sell part of his surplus to the village merchant or take it on his donkey back to the nearest rural market. The opportunity cost here is close to zero i.e. donkey feed. The middlemen/sababa collect grains and transport it by trucks to other rural markets (Um Dawerwr) or urban markets. The costs associated with grain trading are summarized below:

- The cost of transporting a sack of grain from the field to the producer house is estimated to the equivalent of SDD 100/ sack ((i.e. two Mid (10kg) of sorghum per one Rahal (2 sacks))
- The average cost of transportation from the producer home to the rural market is almost negligible, since the producer usually take small quantity on his donkey's back (5 –10 Kg) to the rural markets. In the rural market the producer is likely to do family shopping, grind grains etc. The transportation cost is considered zero.
- The average cost of transportation of one sack of grain between rural markets by the sababa (Um Dawerwr) using a truck is estimated to be around SDD 2 – 3 depending on the distances between the rural markets.
- The average cost of transportation of one sack of grain between the rural markets in the main producing areas to urban centers i.e. Nyala, & El El Genena, amounts to SDD 500/sack and SDD 1000/sack respectively; in the rainy season transportation cost usually go up by 50%.

It is worth mentioning that the transportation costs from the main producing areas to the big cities of Nyala, El Fasher and El Genena represent about 20-25% of the consumer price in these cities and it reaches up to 30-35 during the rainy season.

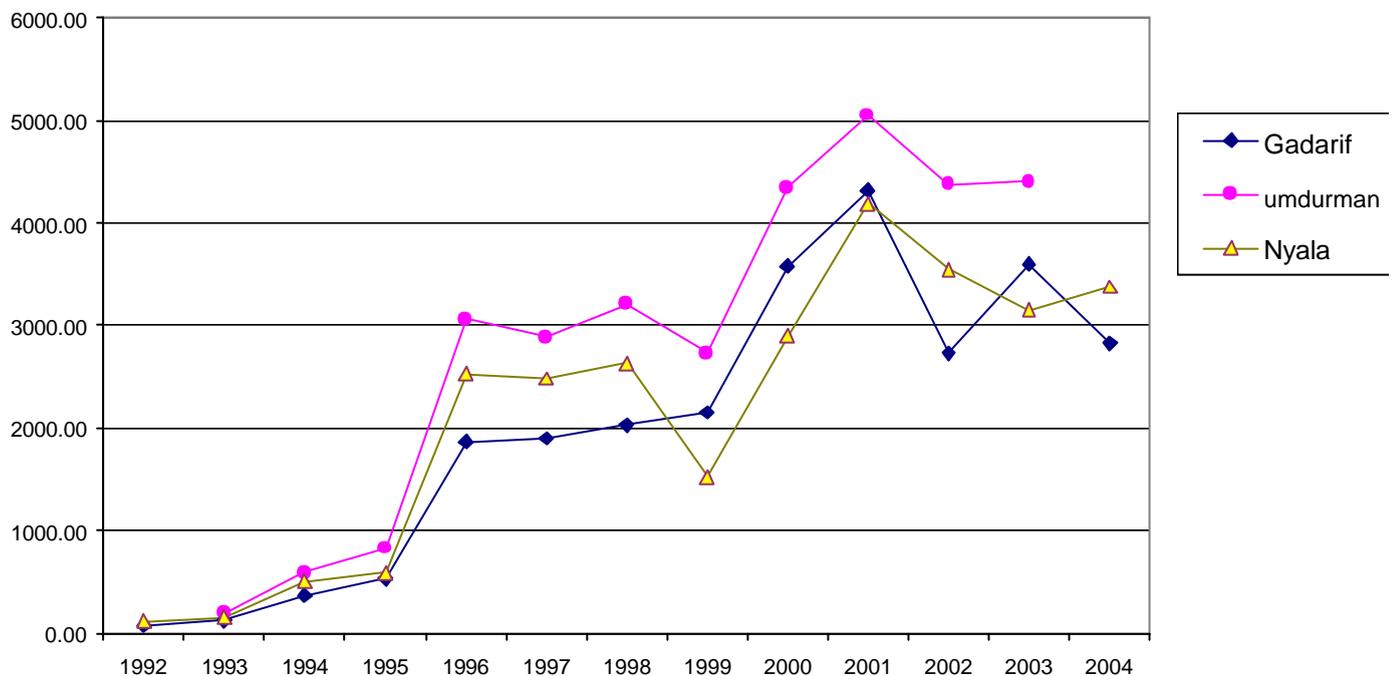
Linkages and behavior of grain markets in central Sudan relative to Darfur

59. Seasonal Price Trends in Production and Consumption Centers: The flow of sorghum marketable surplus from the major producing areas to the rural and urban consumption centers is smooth and carried out by the private sector without government intervention. Sorghum prices in the production areas as well as in the consumption centers are determined according to the supply

and demand forces and accordingly, sorghum markets can be considered competitive markets. Some externalities such as, government restrictions on sorghum export or passing instruction to the ABS to buy sorghum from producers at an incentive price or conducting big purchases for the strategic reserve, which do not take place in systematic manner, may affect market prices. Such interventions are usually taken by the government in response to bumper crop or poor harvest / emergency situation.

60. Sorghum wholesale price trends in central Sudan in relation to Darfur. The wholesale price in Omdurman market is consistently higher than in Gadarif market with the difference being the transportation cost (Figure 15). This indicates that there exist spatial equilibrium between Gadarif and Omdurman markets. On the other hand, the price in Nyala market doesn't seem to have consistent relationship with the other two markets. Sorghum price in Nyala is consistently lower than that in Omdurman market.

Figure 15: Average Sorghum Feterita Sesonal Price Movment at Gadarif Umdorman & Nyala- 1992 to 2004



61. Movement of millet produced in greater Darfur is limited, to a great extent, to the rural and urban markets of greater Darfur. Trading across the borders to or from North Kordofan is very limited and occurs in poor harvest seasons. Figures 7 – 9 show the movement of wholesale prices in Nayala, El Genena and El El Fasher. The average wholesale prices seem to have consistent upward and downward movement. This implies that there is smooth flow of grains between these markets.

62. On average, transport cost from central Sudan to Darfur amounts to SDD 2500 per sack and if grains were to be transported from central Sudan, represented by El-Obeid, the transport and handling cost would account for more than 60% of consumer's price. Any grains transported from central Sudan can't compete with the local produce, which constrains flow of grains between central Sudan and Darfur. Darfur markets are integrated among themselves but distant

and isolated from central Sudan. Market connectivity is bad and discourages grain trade between central Sudan and Darfur.

63. The difference in price between rural and urban markets is the handling cost plus small profit margin of SDD 200-300 per sack of grain; however, at the retail level profit might go up to SDD 400, approximately 10-12% of purchase price. Current Sorghum price in greater Darfour is about SDD 4500, exactly similar to El Obeid Prices. Transport cost per sack is about SDD 2700, which should bring Darfur prices of sorghum to about SDD 7000. Traders and trade sector at large indicated limited or no grain transport from central Sudan on trade basis. Over the last three years, sorghum prices in Darfur fluctuated between SDD 2800 and 5500, while in central Sudan it fluctuated between SDD 2800 and 4200.

Impact of insecurity on functioning of markets and household coping strategies

64. The insecurity of the region has affected operation of rural and urban markets significantly. Price of most commodities increased because of limited mobility of market agents who used to facilitate transactions. The increase in prices was a combination of increase in transport cost and cutback of supply due to closedown of some markets, at least temporarily when conflict escalated in late 2003 and early 2004. Many traders have limited their movement and have been selective in targeting certain markets that pose small risk to them. There is generally an increase in the cost of main items, amounting to 62% in the last 6 months. This tends to erode the already limited purchasing power of both IDPs and most importantly those who are not in the camps.

65. The fighting and associated risk of insecurity has led to the closure of some main rural and village markets in the affected areas all over Darfur. Some markets have resumed activity after the fighting but at a low level, others are still closed. The closure was either the result of complete destruction of the market place or the mass migration of the villages that were served by the market. Other markets in the areas not directly affected by fighting are still operating normally. Table 6 gives a summary of the situation in all Darfur markets. Of the 154 main rural markets, 29% were not affected at all and operating normally, 40% have closed temporarily but resumed activity after improvement in the security situation and 32% are still not operating. The above figures reflect that 68% of the markets in Darfur are currently operating but at varying levels of activity depending on the extent to which areas served by these markets were affected by fighting. In spite of the effect on many markets, still rural markets play an important role in bringing people who have differences but need the services of each other. In all visited markets people from different ethnic groups were found and all expressed genuine interest of paying additional effort and arrangement to keep markets functioning.

Table 6: Summary of the categorization of Darfur markets under the current situation

State	No of main Markets	Volume of economic activity			Current Status of market		
		Large	Medium	Small	Normally operating	Operating at Low level	Not operating
South Darfur	40	2	27	11	22	4	14
North Darfur	51	9	14	28	0	37	14*
West Darfur	63	4	23	36	22	20	21
Total	154	15	64	75	44	61	49

* Data provided by State Ministry of Finance reflect inability to collect dues from markets rather than real closure of. The consultants can't ascertain the number of closed markets in North Darfur. Mostly likely that the number of closed markets is less than 14.

66. The average household in the sedentary farming in Darfur pursues a range of coping strategies in the event of price distortion. He undertakes practices and coping mechanisms that help in

enhancing its liquidity and viability under both normal and abnormal seasons. Most of these strategies and mechanisms are directly linked with the market place. Accordingly, in case of price distortion caused by imbalanced supply/demand relations, rural and urban markets provide the necessary help and environment for coping with the context. If markets are affected or cannot function normally, livelihood of many people will be affected under normal conditions and abnormal condition like the current situation. This justified the statement by those who were interviewed when they say they would be willing to pay any needed extra effort to maintain operation of accessible rural markets, some even started local security arrangements among different ethnic groups.

67. The following statements shed light on some of the common coping strategies followed based on the context. In a normal season and specifically when farming is good and accordingly farm income, household tends to invest in livestock, whether small or large ruminants. The three states differ slightly, where in South and West Darfur people tend to invest their excess income in cattle, whereas in North Darfur they tend to go for sheep, which is the preferred and environmentally suitable livestock types. Buying or investing in livestock usually takes place in the post-harvest period of the season where cash crops like groundnut is sold and replaced by livestock. When the herd size grows big and becomes a burden to the household, one family member might leave the home state and camp with the animals with others where possible to provide the necessary care.

68. Liquidation of livestock to meet urgent family needs starts with small ruminants and rarely goes for large animals. However, to meet big family obligations like marriage of a family member large animals are sold.

69. Household also adjusts to factors affecting its livelihood, especially climatic variables. Diversification and staggered planting are among the common strategies used by the household to reduce the effect of erratic rainfall. In case of serious food shortage or famine, a household responds differently depending on its resource endowment, but the range of options remains to sell assets, starting with those accumulated for such purpose and ending with productive assets. Selling productive assets indicates serious stress. Migration of some or all household members to where they can find living options is among the strategies In a famine context and lack of timely and proper response, people resort to consumption of famine food. Consumption of famine food was experienced in North Darfur at least twice in the previous decade.

70. Most of the coping strategies are effective in presence of well-functioning markets, and market normalization and stabilization is a priority for enhancing livelihood of people. Security is the utmost factor that affects functioning of markets and must be maintained. Local initiatives are always valuable and sustainable in large area like Darfur.

Factors Affecting Accessibility to Rural Markets:

71. Accessibility to Darfur markets under the current conflict situation will be reviewed from two perspectives. The first one is access among Darfur markets and the second is access between Darfur markets and markets of central Sudan. Accessibility was affected by two main factors. The first factor is roads/transportation, which is a major constraint that hinders accessibility over time, especially during the rainy season. The second factor is insecurity has many faces in the context of market accessibility. For sometimes banditry was the main insecurity cause that affects markets and marketing, simply through discouraging money transfer. Transfer of money in Darfur is still traditional and mostly takes place outside banking systems, which either don't exist or are not trustworthy by traders who want to furnish their deals in timely fashion. Tribal conflicts have also affected functioning of markets in the way that trust and bilateral relations

among traders of different ethnic groups have shaken a lot. This has an implication on smooth functioning of transactions and commodity handling.

72. Traditionally quite a significant portion of purchased commodities are channeled through the market by people other than the traders or owners themselves and on trust basis. This mechanism has declined and traditional modes of action have changed slightly. Adjustment to such context needs sometime, but the recent armed conflict in Darfur has pushed the button further and created segmentation in the social fabric of Darfur, which was the major support environment for proper functioning of rural markets and rural life. Rebuilding the social fabric in Darfur requires real investment in peace building from the viewpoint of rural people, mainly local leadership.

73. Roads and Transportation: The roads and transportation factor is affecting access between Darfur markets, which is a function of the internal roads network, as well as access between Darfur markets and the markets of central Sudan which is a function of the national road network and railway transportation.

74. The Internal Roads Network: Darfur is served by an internal network of main roads and feeder roads of around 3000 kilometers in length, out of which only 20% are asphalt and graveled roads. The length of asphalted and gravel roads in Darfur represents 7% and 12% of the asphalted and gravel roads in Sudan. Table 7 below gives a list of the main roads, the length and condition of each.

Other than the above mentioned constructed roads the rest of the internal network, which represents around 80% of the internal network, are dust rough roads. It is very common that between any two rural markets one has to pass at least two watercourses, some are exceptionally big and difficult to pass even without water. Under such roads conditions and in the dry season the average speed of a four wheel-drive vehicle is ranges between 30-40 Kms per hour and for medium sized and large trucks the range is 10- 20 Kilometers per hour. In mountainous areas the situation gets further worse in terms of time needed and effort exerted. Given the road situation, the movement of people and flow of commodities between Darfur markets is very costly in terms of time and material resources.

75. During the rainy season accessibility between Darfur markets becomes even more difficult as most of the unpaved roads become difficult to pass or impassable. A trip of three hours in the dry season may take between 6 to 10 hours or even a whole day depending on the intensity of rains, the landscape and the number and width of the seasonal rivers crossing the area. With the onset of the rainy season, truck owners would only make a trip to rural markets if the premium paid for risk involved is considerable and usually prices double.

Name of Highway road	Length (Km)	Type	Construction status	Road condition
Nayala – Kass - Zalenji	215	Asphalt	Completed	Needs renovation
Nayala – El El Fasher	213	Asphalt	Under construction, 50 km completed.	
El El Fasher - Kabkabeya	160	Gravel	Gravel completed	Needs maintenance
Total	588			

76. Improving accessibility between Darfur markets in terms of roads specially during rainy season facilitates the smooth flow of food commodities between urban and rural markets and between rural markets, and thus promotes stabilization of food markets and improves the food security situation specially in food deficit areas. Improvement of the internal road, including feeder roads network needs short-term interventions as well as long term ones.

77. The Short-term interventions involve construction of Irish bridges in the narrow watercourses (*wadis*) and other temporary facilities in the wide *wadis*.

Paving of the mountainous feeder roads linking remote villages to main rural markets is very important and could be done with different means; enacting a program of food-for-work is one option and proves feasible and successful as the one in Kabkabiya and was implemented by the Intermediate Technology Group (ITG) NGO.

78. In the medium and long-run planning sphere, construction of the main roads and construction of bridges on the wide seasonal rivers is of crucial importance to market accessibility and food security. Table 8, reflects the government plan to improve the road network of greater Darfur and the status of each planned road. Execution of the plan will increase the length of the constructed gravel and asphalt roads from 588 Km to nearly 1350 km. From the table it is clear that the planned roads are concentrated in the Northern and mid sectors of the region. There is a need to expand the plan to improve the network of the southern sector as well, being a supply area, especially areas of Goz Dango, Saseligo and Wadi-salih.

Name of the Highway Road	Length (Km)	Status
El Nehood – El Daein - Nayala	436	Design completed
Zalenji- Al Geneina - Aderi	175	Design completed
Nertit – Geldo- Golo – Rokero (Jabal Mara area)	99	Design completed
Kas – Gbo – Tor- Netnaga Logi- Afogo- Jabla Mara (Jabal Mara Area)	120	Under design
El Nehood – Um Kadada	221	Design completed
Um Kadada – El El Fasher	168	Under construction
Total	1219	

79. **The National Roads Network:** Darfur is linked to central Sudan by road from Khartoum through El Obied and to Nayala. Omdurman is linked to Darfur through Omdurman-El El Fasher-El Genena roads. Except for the sections Khartoum-El Obied-Alkhwai on Khartoum Nayala road, the rest are dust and difficult roads, especially during the rainy season. The current status of the roads between Darfur and other regions of Sudan is significantly contributing to the high prices of food, fuel and other commodities in comparison to other parts of Sudan due to the high transportation cost. Table 9 reflects the transportation cost per ton kilometer for Darfur and for other regions served by asphalted roads. The increment in cost range from SDD17 to 28 per kilometer, which is equivalent to 132% to 208%. In addition to the tough road condition and security situation this high difference can also be attributed to the fact that the level of competition is higher in the transport market on asphalted roads. Construction of the main roads to Darfur will improve access to Darfur markets and may link grain markets in Darfur and central Sudan, which barely exists for grains because of the high cost of transportation.

Trip	Distance (Km)	Type of road	cost/ton/trip (SD)	Cost/ton/km (SD)
Port Sudan – El Obied	1532	Asphalt	17500	11.4
Gadadarif- El Obied	747	Asphalt	10,000	13.4
El Obied Nayala	642	Dust	22000	34.3
El Obied – El El Fasher	632	Dust	26000	41.4
Omdurman - El El Fasher.		Dust	30,000	

80. Railway Transportation: The railway transportation to Nayala started operation in the 1960s and till recently has been actively operating in the transportation of commodities and passengers between Darfur, central Sudan and southern Sudan. The main commodities shipped by railway from central Sudan covered fuel, sugar, wheat flour and other manufactured goods. Cash crops, mainly groundnuts and Karkadeh, livestock and hides were the main items shipped to central Sudan markets for local consumption as well as for export. Since the 1980s the efficiency of the railway transportation, has been declining due to policy issues and mismanagement. Recently and since Sudan has become an oil producer the focus of the railway was shifted towards the transportation of fuel of various forms in different cities. Table 10 reflects the railway shipments from and to Darfur. A shipment from Darfur has fallen by 23% between the years 1995 and 2003. Between 1995 and the year 2000, shipments to Darfur have fallen by 32% from 48,300 to 33000 tons. The increase in shipments in 2003 was due to the decrease of shipments by road due to insecurity.

Year	Tons shipped from Darfur	Tons shipped to Darfur
1995	23,100	48,300
1995	20,700	43,500
2000	19,440	33,060
2003	17,700	40,860

As the result of government policies and management inefficiencies, the cost per ton per kg between 1995 and 2003 has increased 5 fold from 15 dinnars to 75 dinnars, rendering it non-attractive compared to road transportation.

Grain supply in 2004-2005 and possible impact

81. Current grains supply and stocks: The grain harvest of season 2003/04 has been above average in terms of rainfall and total production in Greater Darfur but, with the escalation of the conflict in late 2003 till early 2004 in many areas of Grater Dafur, a sizeable portion of grains was lost, either damaged or not harvested. A portion of harvested grain was also lost or burnt during burning of villages. However some farmers were able to transport all or part of their produce and store it in big cities or secured rural areas when conflict broke out. Discussions with many IDPs revealed that most of them have lost their grains stocks and other assets, especially livestock.

82. The team of consultants has observed in all the rural and urban markets that the amount of grains supplied is very small but no serious shortage is observed. Discussions with the grain wholesalers in Nyala, Zalengi, Al El Genena and El El Fasher revealed that stock available is limited. However, wholesalers are many, spread widely, and the small quantities might pileup to form a reasonable stock but spread all over Darfur. A reasonably big grain trader might have in stock, not more than 50 tons.

Furthermore, based on the visits to the rural and urban markets and discussions with the small grain merchants (sababa) and wholesale merchants, the team of consultants observed that grain prices didn't show any sharp increase in all the rural and urban markets, other than the normal increase which is usually witnessed at the beginning of each rainy season.

83. The team of consultants also observed that there was no significant difference in grain prices in all the rural markets. This implies that there is no grain shortage in any of the rural and urban markets. It is likely that low /lack of purchasing power has seriously affected the demand side and

current supply is enough to meet limited effective demand. Based on the above observation and discussion with rural people who are still on the countryside doing farming, it is fair to conclude that, even though grains stocks in the rural and urban markets are quite limited yet, stocks may be sufficient to meet the demand until the next harvest period.

84. Grain supply for upcoming season under current insecurity & plausible yield scenarios:

This section deals with the impact of insecurity on farmed area this season in Greater Darfur. Furthermore it assesses yield and production based on three scenarios, namely an optimistic state of nature, a moderate and a pessimistic one. As such, the section presents some historical trends and uses them in the development of plausible scenarios. The outcome of this section would then form the basis for the last section, which deals with possible market stabilization interventions.

85. Projected cultivated areas: The areas cultivated with millet and sorghum in 2004/05 season estimates are based on information on, average areas cultivated and average areas harvested of millet and sorghum in each locality during the period 2001/02 - 2003/04 as well as information gathered by the team of consultants on the current security situation in each locality. The state of market operation (fully operational, partially or closed) as well as perception of affected people about the security situation in place of origin, coupled with field and market observations were used to estimate the level of farming activities in the current season. Intensive discussion was held with key stakeholders about security and its impact on farming, they include key informants, truckers, grain traders, IDPs, farmers on fields, humanitarian workers and government officials in concerned ministries.

86. The consultants couldn't visit all places because of the rainy season and security context. However, information about affected areas was sought through people of those areas who are currently at IDPs camps. Gathered information was used to generate a weighted indicator, which reflects the percentage of current cultivated areas. Table 11 Gives statistics on area cultivated/harvested in the previous two seasons, estimated percentage of area grown this season and projected area cultivated/harvested for current season. In South Darfur about 61% of the average of last 4 seasons is expected to be under millet this season. For West Darfur and North Darfur only about 21% and 55% of their 4-year average is expected to be under farming this season, respectively. Detailed statistics of such calculations by locality is found in Annex 4.

Table 11: Average area cultivated, harvested, percentage of harvested areas, percentage of areas likely to be cultivated and projected cultivated areas 2004/05 for millet in G. Darfur states						
States	2001/02 – 2003/04			2004/05 Season		
	Avg. area cultivated 000 fed	Avg. area harvested 000 fed	% of harvested area	% area cultivated (estimated) *	Areas cultivated 000 fed	Projected Areas harvested 000 fed
S.Darfur	2,699.1	1,552.5	58%	61%	1,654.2	1,053.8
W Darfur	661.4	448.6	68%	21%	141.1	96.2
N. Darfur	2,770.2	1,494.1	54%	55%	1,511.9	822.4
Greater	6,130.7	3,495.2	57%	54%	3,307.3	1,972.4

* Percentage weighted indicator for areas to be cultivated under the current security situation

87. Table 12 presents estimated area of sorghum for current season based on the statistics of the last 4 seasons on area cultivated/harvested and estimated percentage of areas this season. Accordingly tale 11 and 12 present the impact of insecurity on areas of grains in the three states. Due to the driving force for farming as the major livelihood for all rural people, it is likely that

people strive hard to farm even under shaky security situation and area cultivated might go up especially for sorghum which can be sown even in August.

Table 12: Average area cultivated, harvested, percentage of harvested areas, percentage of areas likely to be cultivated and projected cultivated areas 2004/05 for Sorghum in G. Darfur states						
States	2001/02 – 2003/04			2004/05 Season		
	Average area cultivated 000 fed	Average area harvested 000 fed	% of harvested area (2/3)	% area cultivated (estimated) *	Areas cultivated 000 fed (2*5)	Projected Areas harvested 000 fed (6*4)
S.Darfur	1,347.6	786.9	58%	58%	779.2	514.7
W Darfur	413.1	263.7	64%	21%	88.1	56.0
N. Darfur	111.8	54.9	49%	45%	50.2	30.3
Greater darfur	1,872.5	1,105.5	59%	49%	917.4	601.0
* Percentage weighted indicator for areas to be cultivated under the current security situation						

Projected production based on yield scenarios

88. This section deals with estimates of production in each state based on estimated areas shown in tables 11 and 12. Three yield scenarios were developed based on the likelihood of prevalence of certain context or situation, and these are pessimistic scenario, moderate scenario and optimistic scenario. Each scenario will have different effect on yield. The anticipated yield under each scenario and the estimated average area harvested for this season (Table 11 & 12) will be multiplied to generate the projected production. The scenarios are described below:

Pessimistic yield scenario:

1. The following conditions are anticipated to prevail in North Darfur under the pessimistic scenario:
 - Invasion of desert locust to large parts of North Darfur, with no adequate control measures being taken, will ultimately lead to a significant decline in millet yield.
 - In view of the inability of Plant Protection technical staff in the state of North Darfur to move out to the fields and carry out pest control campaigns, wide infestation of millet fields by local pests such as spiral worm may take place and subsequently lead to a decline in yield.
 - Large areas of millet were cultivated late in the season due to delay in rainfall, however, if the level and distribution of rainfall in August and Sept continue to be erratic and below average, millet yields will definitely decline.

2. The following conditions are anticipated to prevail in South & West Darfur under the pessimistic scenario:
 - In view of the inability of Plant Protection technical staff in South & West Darfur to move out to the fields and carry pests control campaigns against possible infestation by national and local pests, average millet and sorghum yields will decline.
 - Rainfall in South and West Darfur had started early this season however, below average rainfall during Aug. and Sept., may lead to a decline in sorghum and millet yields
 - Shortage of labor force at time of weeding and harvesting, mainly because of insecurity, may lead to decrease in area and yield.

Under this scenario millet and sorghum yields in each state are assumed to resemble the lowest yields achieved in each state during the past three years (minimum yield over three years).

Moderate yield scenario:

The following conditions are anticipated to prevail in North, South & West Darfur under the moderate scenario:

- In view of the inability of Plant Protection technical staff in North, South & West Darfur to move out to the fields and carry out pests control campaigns, against possible infestation by national and local pests, average millet and sorghum yields will decline.
- Level of rainfall during August and Sept. would be adequate and evenly distributed in the three states.
- Security context will at least, remain, as it is to enable farmers to properly manage their grown area and harvest it.

Under this scenario millet and sorghum yields in each state are assumed to resemble the average yields achieved in each state during the past three years.

Optimistic yield scenario: The following conditions are anticipated to prevail in North, South & West Darfur under the optimistic scenario:

- No national and limited or normal local pests prevalence.
- Level of rainfall during the months of Aug., Sept, and early October is adequate and evenly distributed in the three states of Darfur.
- Enhancement of security context to encourage farmers complete all needed farm operations and harvest their produce; it is necessary that security level encourages all family members to exert maximum effort in weeding and harvesting, not only head of the household.

Under this scenario millet and sorghum yields in each state are assumed to resemble the highest yields achieved in each state during the past three years.

Figures presented in tables 13 and 14 show anticipated millet and sorghum yields under each of the three scenarios in each state and the corresponding level of production.

Items	Anticipated harvested areas - 000 fed	Pessimistic		Moderate		Optimistic	
		Yield kg/fed	Prod. Tons	Yield kg/fed	Prod. Tons	Yield kg/fed	Prod. Tons
S. Darfur	1,053.8	87	91,683	134	141,212	151*	159,127
W Darfur	96.2	180	17,323	240	23,097	307	29,545
N. Darfur	822.4	37	30,430	55	45,234	69	56,748
Greater Darfur	1,972.4		139,435		219,543		245,420

* since 2003/04 yields are exceptionally high in south Darfur a weighted average for the three years was considered to represent the optimistic scenario

Items	Anticipated harvested areas – 000 fed	Pessimistic		Moderate		Optimistic	
		Yield kg/fed	Prod. Tons	Yield kg/fed	Prod. Tons	Yield kg/fed	Prod. Tons
S. Darfur	514.7	174	89,557	222	114,263	301	154,916
W Darfur	56.0	213	11,931	342	19,156	476	26,662
N. Darfur	30.3	62	1,880	123	3,730	220	6,671
Greater Darfur	601.0		103,368		137,149		188,249

89. Grains production gap under the three scenarios:

	Ten years average grain prod. ton	Pessimistic Scenario		Moderate Scenario		Optimistic Scenario	
		Projected Production	Prod. gap	Projected Production	Prod. gap	Projected Production	Prod. Gap/surplus
S. Darfur	380,330	181,240	199,090	255,475	124,855	314,043	66,287
W Darfur	251,666	29,254	222,412	42,253	209,413	56,207	195,459
N. Darfur	83,000	32,310	50,690	48,964	34,036	63,419	19,581
G. Darfur	715,000	242,803	472,197	356,692	358,308	433,669	281,331

Figures displayed in table 15 show the average grain production during the past ten years (94/95-03/04) as well as the anticipated production, based on estimated planted areas, under the current security situation and three projected yield scenarios. The figures presented in the table also show the production gap under each scenario for each of Darfur states.

Projected grain production in Greater Darfur ranges from 34 % of the long-term average production under the pessimistic scenario to around 50% under the moderate scenario and to around 61% under optimistic scenario. The production gap associated with each scenario for G. Darfur would range from 281,331 tons under the optimistic scenario to 358,308 tons under the moderate scenario and to 472,197 tons under the pessimistic scenario.

90. G. Darfur, especially North Darfur might have experienced production shortfall (production gap) in the last decade, but always supply areas in South and West Darfur have been supportive in providing grain needs all over Darfur. At any time purchasing, power of average rural household has been reasonable to help in accessing grains through normal market mechanisms. The production gap that would be realized according to analysis above will be different from any previous one, because most productive areas would be affected and will be in need of supply from outside its boundaries. Covering the identified gap from outside G. Darfur boundaries

would remain the feasible option, coupled with other supplementary measures as detailed in the intervention section below.

91. The amounts to be allocated for the suggested market support interventions program under each scenario were calculated and reflected by the plans in annex 5. The plans reflect two options: Option (A) is based on a total population of IDPs of 1.2 million and option (B) considers 1.2 million IDPs in addition to 300,000 host families. In each option, calculations were made for the three scenarios: pessimistic, optimistic and moderate. The IDPs and the host families will receive free food. The amount of free food is calculated based on the number of IDPs only for option (A) and the number of IDPs plus the host families for option (B). The balance of each food gap in each option and scenario, after deducting the amount of food for the IDPs and host families, is allocated for the suggested market interventions discussed below. This balance is allocated between the states and Mahlias based on the extent of impact of the conflict weighted by the population of IDPs in the states and Mahalias. Accordingly the state which was mostly affected by the conflict will receive the greatest share in quantities earmarked for the market support intervention and the same principle will apply for the Mahalias. Based on the above criteria and as reflected on plans in annex 5, West Darfur State will receive the greatest share, 41.4%, and North and South Darfur States will receive 29.5% and 29.1% respectively.

92. A close monitoring of the agricultural season is very important to provide additional information on the development of factors affecting production. A comprehensive assessment toward the end of October and early November would yield needed information and will help in determining which scenario would hold true and accordingly the size of production gap and food needed for the region. The assessment should be done jointly between concerned agencies and the state ministries of agriculture. State ministries are mandated to do such assessment but they lack capacities and logistical support. A joint assessment will produce one planning figure and will facilitate exchange of food security information. Evaluation of grain production in central Sudan should also be considered in order to assess the possibility of covering expected production shortfall in Darfur from central Sudan. If production is good in Gadarif and Blue Nile areas, the cost and management of the program would be much easier and overall grain marketing in Sudan would be enhanced, as often bumper crop in central Sudan result in low prices, discouraging grain production in subsequent season.

Summary & Conclusions

The team of consultants spent three weeks in greater Darfur and visited twelve rural markets, three urban markets and four IDPs camps. Intensive discussions were held with grains retailers, middlemen (*sababa*), truckers, stakeholders, and IDPs. Secondary data were collected from SCF-UK, MOA staff, HAC offices, SRA offices and Market Admin. offices in the three states.

Some rural markets were closed after the escalation of the conflict but currently most of the markets reopened again and started to operate. The activity in these markets is picking up. Most rural and urban markets are functioning and competitively operating. The flow of grains between the main producing areas and the rural/urban markets is smooth with no barriers and/or interventions from the local authorities.

Grain production in greater Darfur is rain-fed and based on traditional farming practices. The frequency of occurrence of below average rainfall in North Darfur is around 4 times in every 10 years. In below average rainy seasons, North Darfur becomes a grain deficit area and its population would become food insecure.

The rural and urban markets in greater Darfur are functioning competitively, however during the rainy seasons many rural markets become inaccessible due to the poor network of feeder roads connecting the rural markets/production areas. To improve the accessibility to the rural markets in Darfur, important feeder roads and wadi crossings should be maintained and/or reconstructed.

Rural and urban markets of Darfur are integrated and grains monthly price movements show similar patterns. The quantities of grains supplied in the rural and urban markets are limited but no evident shortage is observed. Producers usually sell their produce in small quantities over a long period, starting after harvest and continues until next pre-harvest time. Grains prices have increased over the past six months by about 50%. This is partly attributed to the increase in transportation cost during the rainy season as well as shortage in supply because of the insecurity. Transportation cost from the main producing areas to the big cities of Nyala El Fasher and El Genena represents about 20-25% of the consumer price in these cities and it reaches up to 30-35 during the rainy season.

Each rural market usually operates on one or two days per week. Marketing days, are usually attended by residents of nearby villages and traders from different areas "*Um Dawerwr i.e. moving between markets*". Men and women from different ethnic groups are observed in all markets, trading and exchanging commodities. Grain marketing channel is so short and involves not more than two to three middlemen. The profit margin of each middleman or a retailer does not exceed 12% of the purchasing price. Only wholesalers who have the capacity to buy after harvest at low prices can make sizeable profit. Wholesalers with high turnover realize small profit (5 to 8% of purchase price). All retailers in rural and urban markets are women.

The insecurity in Darfur has affected market accessibility and functioning, especially during the peak of the conflict period, as about 35% of the increase in price level is attributed to insecurity. Prices usually go up during the rainy season because of restricted mobility of commodities due to bad road conditions and increased transport cost.

In most years, greater Darfur is considered self sufficient in grain production and grains' trading is exclusively internal. Flow of grains between central Sudan and the main markets of Darfur is limited. Seasonal and monthly prices of sorghum in central Sudan have typical movement pattern

but this feature is not shared with Darfur markets. However seasonal and monthly grain price movement in rural and urban markets of greater Darfur have typical movement pattern. Central Sudan grains markets are integrated but central Sudan and Darfur grains markets are not.

The quantities of grains supplied in the rural and urban markets are limited but no serious shortage was observed. Producers usually sell their produce in small quantities over a long period, starting after harvest and continue until next pre-harvest time. Grains prices have increased over the past six months by about 50%. This is partly attributed to the increase in transportation cost during the rainy season. Transportation costs from producing areas to the main consumption centers represent around 30% of the consumer price during the rainy season.

The projected production for 2004/05 season was estimated under the current insecurity situation. The projected production turned out to be around 60%, 50%, and 34% of the average long term production under three different states of nature, the optimistic, moderate and pessimistic yield scenarios respectively. There would be shortage in grain supply, even after taking into account the quantity of food aid to be distributed by WFP during the period Nov 2004 – Oct. 2005. for 1.2 million IDPs or for 1.5 million IDPs, including host families. The shortage in grain supply was estimated under each of the three scenarios.

A close monitoring of the agricultural season is very important to provide additional information on the development of factors affecting production. A comprehensive assessment toward the end of October and early November would yield needed information and will help in determining which scenario would hold true and then the size of production gap and food needed for the region would be approximately known. The assessment should be jointly done by concerned agencies and the state ministries of agriculture. State ministries are mandated to do such assessment but they lack capacities and logistical support. A joint assessment will produce one planning figure and will facilitate exchange of food security information.

The shortage in grain supply would cause grains prices to escalate. However, the rise in price is expected to be moderate due to the limited purchasing power of the IDPs and eroded assets of the host families in the big cities. For grains markets to operate and function efficiently and competitively, shortage in grains supply should be met through market support/stabilization interventions. Suggested interventions include, cash transfer to IDPs and market support/stabilization interventions

The purchasing power of most IDPs, is quite limited or non existent. Some IDPs sell part of their food aid basket, especially grains, to meet other needs at comparatively low price in the free markets. Furthermore, the prices of six main food items have increased by an average of about 62% over the past six months.

Recommendations and/or Market stabilization interventions

The above analysis presented facts on the production potential of Sudan, the insecurity in Darfur and its impact on livelihood of people and the prospect of production in the coming season and associated production gap. The following section builds on the above facts and provides possible remedial measures that are necessary for proper functioning of markets in Darfur and for addressing the food security status of affected population.

IDPs have virtually lost means for livelihood, especially livestock. A compensation package to enable IDPs start normal life, namely cost for house rehabilitation, cost for essential household belongings (cash or in kind), and some livestock units would be essential once peace is restored and IDPs start moving to their villages. Such compensation is essential to help in reintegrating IDPs in the local economy.

Market interventions are perceived very important in the current complex context of Darfur. Most of the population is still at villages, making life from their traditional mechanisms, which are affected by the conflict. The anticipated production shortfall calls for more than a mere food aid. Revitalizing rural market ensures sustainable food security for many of rural people, especially under production shortfalls, as some get employment opportunity to support their families. Markets also play an important role in bringing people together to serve their economic interest bypassing some of the constraints, which can be considered as catalyst for bringing peace and stability in the region. Therefore, market interventions are crucial and desirable for Darfur.

The perceived market support stabilization interventions can be classified into immediate/short and long-term. These interventions can target either or both of the IDPs and other war-affected population as indicated below:

A. Prerequisite for market functioning

Security and market accessibility: Restoring security is the main factor that would help in proper functioning of markets in Darfur. Local initiatives as well as national and international efforts are needed to settle the case in Darfur. Normalization of operation of Darfur markets is by itself enough to enhance livelihood of rural people as well as improving the economy of the region.

Market accessibility is limited and needs to be enhanced. On the one hand, flow of market information is important for proper market functioning, but is lacking. This was the case even before the deterioration of the security situation. Establishing an effective market information system in the three states of Darfur, to be well linked with other main markets, especially in North Kordofan would provide the needed information for proper planning and targeted market interventions as some states have surplus and other don't. On the other hand market connectivity has always been bad because of the bad network of rural roads. Improving rural roads would enhance market access, at least supply would be year-round and transport cost will decrease, which is likely to be reflected in lower consumer prices. Enhancing the efficiency of railway (Khartoum to Nayala) will improve linkage between many markets in Darfur and central Sudan, its impact would not be on grain only but on other commodities and crops, especially fruits and vegetables and would enhance food security of many people in Darfur. A sizable portion of valuable fruits produced in Darfur, which could be transported and utilized in markets of central Sudan are usually lost. Expediting completion of the asphalt road between ElObeid and Darfur will further enhance connectivity with markets of central Sudan and should be given priority. Construction of bridges on Wadi Azom in West Darfur and Wadi Kaya in South Darfur as well as

other watercourses that cut-off many productive areas during the rainy season is strongly recommended.

B. Market support/stabilization interventions:

Estimated grain production gap under any of the three scenarios needs to be covered to prevent price distortion and market failure. The gap amounts to 281,000 Mt, 356,000 and 472,000 Mt of grains under the optimistic, moderate, and pessimistic scenarios. Under each state of nature, there should be market and non-market interventions. Non-market interventions include Food Aid, for IDPs primarily. The food aid provided by the International Community targets approximately 1.2 million IDPs with standard ration of 400 g/person/day. Over the period November 2004 to October 2005, food aid will amount to around 172,800 Mt tons of food. If host families and other directly affected population are to be considered for food aid, the number might increase to about 1.5 million, which needs verification and careful consideration. With this planning figure, food aid shipment would be around 216,000 tons.

The amount of food as market support intervention (precisely, non-food aid interventions) will be the difference between the gap under each scenario and the projected food aid based on estimated IDPs number. Suggested market interventions include cash transfer, buffer stock, food-for-recovery and transport subsidy.

Cash transfer or rationing of basic necessities to IDPs:

This intervention is justified on the basis that the food aid basket given by WFP doesn't cover basic needs. Food aid basket to IDPs includes, cereals (sorghum or wheat), oil and pulses. This food basket provides each person with the required calories needed, however, most of the IDPs interviewed indicated that they have no any assets and almost zero purchasing power. IDPs are compelled to sell part of their ration to access unmet needs such as dry okra, dry tomato, dry meat, onion, spices and cost of grain grinding to cook their meal. These items are locally produced and not expected to be part of the food aid basket. In almost all markets close to camps the consultants observed IDPs selling of part of the ration, namely cereals and oil. Selling of part of the food basket would adversely affect the nutritional status of the IDPs, especially women and children. This is probably one of the reasons for high mal-nutrition observed in some of the camps.

Either of the following two types of interventions can be implemented to enable IDPs access basic needs mentioned.

A) cash transfer of a minimum of SDD 5800, equivalent to US\$ 22/month/family of seven is estimated to suffice for the basic needs highlighted in Box 1.

B) A ration of basic needs given to IDPs, using food stamps/coupons and facilitated by local traders. Selected traders from the local communities can be commissioned to supply basic needs to the camps under the supervision and management of the NGO on the ground. The trade sector is capable of carrying out such activity as 60% or more of the rural markets are still functioning and even markets or shops have been established in IDPs camps to avail different commodities.

The timeframe for cash transfer or rations of basic needs is one year (October 2004 to September 2005). After September 2005, IDPs are expected to support themselves from their own production, provided that peace is restored and IDPs return to their villages before the start of coming rainy season in July 2005 to resume farming activities.

Cash transfer is easy to manage if given in two installments to beneficiaries. As IDPs are in camps with the required level of security and markets are either in camps or nearby, the risk created by giving cash to IDPs is manageable and can be reduced significantly. Cash transfer to IDPs is also cost effective to implement. It also creates demand for local products and provides

the needed incentive for local producers in the region. This would enhance the viability of the rural and urban markets in Darfur.

The rationing of basic needs has virtually little or no risk to IDPs, probably to the local traders who know how to manage their business as they are currently doing. Furthermore, the rationing eliminates or reduces misuse of funds that might take place in the case of cash transfer and target the family more as basic needs will be received by women who cook for the family. The same structure of distributing food aid can be used to distribute and manage cash or ration of basic needs. About 172,000 families in the IDPs camps will benefit from this intervention and the total cost of the program will amount to 45 million US\$.

Box 1: Estimate of the basic needs for average family in IDP camps per week

1. Sugar	7 Ib	SD	1200
2. Tea	¼ Ib	SD	100
3. Coffee	½ Ib	SD	200
4. Kerosene		SD	100
5. Dry meat	– 1/2kg	SD	300
6. Oil	1 ½ Ib	SD	300
7. Onion		SD	200
8. Dry tomato	2 Ib	SD	300
9. Dry Okra	2 Ib	SD	300
10. spices		SD	50
11. Millet	20 kg	SD	2,000 or
12. Sorghum (balidi)	20 kg	SD	1,200
13. Millet or sorghum grinding		SD	200

The cost of the basic items needed per month amounts to SDD 5800 (equivalent to \$22) and includes dry meat, dry okra, dry tomato, kerosene, millet grinding and spices.

Items listed above are necessary for the household. Price of all items went up over the last 6 months by about 60%.

Food-for-work program or food-for-recovery: The damage that occurred to the social infrastructure in the burnt and attacked villages including schools, clinics, other government institutions was enormous. These need to be rebuilt or rehabilitated. In addition, the construction of rural feeder roads connecting rural markets and villages or improving some impassible watercourse points may be considered under this program. A sizable portion of the food to be channeled to Darfur should be under this program as most of rural people are still at their villages (options available in Annex 5).

The total number of population currently in IDPs camps represents only 34% of the rural people of West and North Darfur states. This calculation excludes urban population and unaffected parts of rural South Darfur. This implies that the majority of rural people in West and North Darfur are still in their villages and are affected to a lesser degree compared to the IDPs. However, the expected grain production shortfall in Darfur will impact more on rural people off the IDPs camps.

Participation of rural affected people in programs that enhance accessibility to food will be of paramount importance to address food security situation of the bulk of the population. The use of

food-for-recovery or rehabilitation will fit most for this group of affected people. This intervention requires a reasonable level of security, whereby people would have normal life and actively engage in civilian activities, which will not be suitable for burnt and deserted villages and accordingly not targeting IDPs who left their villages. It would definitely work only for those who are still at their villages. Priority can be given to most affected areas and where accessibility is good because the intervention needs considerable management effort by humanitarian agencies and communities.

Food-for-work and recovery has many advantages, centered on building the capacity of local population. Implementation of the program usually requires training of the community to monitor and follow up the implementation. These programs are also very efficient in targeting the most needy people. Only those who are in need will participate. Furthermore, the program reduces dependency on food aid and avails needed food as well as it consolidates collaboration of community efforts for joint goal of building and rehabilitating community social infrastructure. The program is also feasible, as experiences of NGO in the area prove successful, like the ITDG in Kabkabiya and the Red Cross in El Fasher. However, it requires strong presence of an active NGO and considerable logistical work, especially that the area coverage is wide. The food-for-recovery program can be utilized to pilot the reconstruction with permanent material. Building houses with permanent material (mud and bricks) reduces risk of burning and helps in restoring deteriorated environment through cutting back demand on forest timber products.

Based on the three yield scenarios, an average of 160,000 Mts can be directed to the food-for-recovery program to improve food security status of affected people. This amount excludes the buffer stock and transport subsidy interventions. The cost of one ton of sorghum through local purchase delivered in Darfur is about US\$262. The handling cost for one ton of sorghum as per CARE's recent experience is about US\$25. The total cost of the program will be about 46 million US\$.

Price stabilization buffer: In view of the currently limited grain supply in rural and urban markets of greater Darfur and the projected grain shortage in 2004/05 seasons, grain price is anticipated to escalate in the free market but not to a very high level. The establishment of a price stabilization buffer is an important mechanism whereby grains prices could be stabilized and made affordable to the average consumers. Bearing in mind, the current context in Darfur, the immediate establishment of a price stabilization buffer become imperative to avoid an abrupt escalation of grain prices. The real planning for the establishment of this mechanism should start as early as October 1, 2004. The beneficiaries from the intervention are all the people of Darfur who rely on grains as their food staples.

The Strategic Reserve Authority (SRA) is a government agency whose mandate and prime function is to stabilize grains prices, especially sorghum. It has offices in the main sorghum producing areas as well as vulnerable states in terms of food security. The staff in each of the SRA offices in Nyala, Al Genena and Al fasher include one store keeper and one officer (i.e. not a senior officer). Currently the operations of the SRA in the three states of Darfur is highly influenced by non-market directives and accordingly SRA in the three states is not adhering to its mandate and performs grain distribution to the localities councils in coordination with the political leadership in each state. In a nutshell SRA in greater Darfur is not doing what it is meant to.

The buffer stock should be administered by an International NGO and in close collaboration with other NGOs operating in Darfur, the local community leaders and the locality councils and in coordination with SRA to avoid dumping in certain areas/markets. A steering committee should

be set up and includes representatives from these organizations. The steering committee should convene a weekly meeting and closely monitor grain prices in the urban markets as well as the main rural markets. The steering committee would determine the quantities to be dispatched to each market to stabilize the prices. September prices should be the base price which could be maintained through the stabilization buffer till the next harvest. Classification and targeting of certain important markets is the starting step. Monitoring of the operation and market environment are critical and needs good preparatory work

Information provided by grains wholesalers in Nyala and the limited statistics provided by Nyala Auction Market, indicated that the quantities coming to Nyala before the start of the rainy season ranges between 50 to 75 tons/month. Based on this information, the quantities needed to establish a buffer stock which could stabilize grain prices during the coming three months (Oct. Nov. and Dec) could amount to 200 tons in each state. However sorghum price is not anticipated to escalate, for two reasons: the first reason is that the demand for sorghum is not anticipated to be high since it is not the preferred food staple. The second reason is the limited purchasing power of the host families and other rural poor. Accordingly this estimate of 200 tons for each state is conservative estimate and may not be needed. However, many charity organization were observed buying grains from the local markets (Nyala market) and this is likely to cause price distortions. The proper functioning of the buffer stock would counter the adverse effect on local supply and control price escalation. The main markets which would be targeted by the buffer stock are: Nyala, Kass and Mershing in South Darfur, Al Genena, Zalangi, Garsilla and Monri in West Darfur and Al Fasher, Kutum Kabkabia, and Mellit in North darfur.

The supply of sorghum for this program could be from the surplus areas in central Sudan for the following reasons (i) Sudan was grain surplus in the 2003/04 as per the, Special Report FAO/WFP Crop and Food Supply Assessment Mission to Sudan 11 Feb. 2004, “ **A record cereal harvest of 6.3 million tons is forecasted for the Sudan in 2003/04 ,of which 82% will be sorghum as a result of favorable rains, timely availability of agric. Inputs and few significant outbreaks of pests or diseases At this level production is 63% higher than last year production and 47% above the average of the previous five years and is expected to result in a large cereal surplus in 2004**” (ii) the price of sorghum has not markedly increased in central Sudan over the past six months i.e. only from SDD 28000/ton after harvest to a current price of SDD 34000/ton and (iii) the transportation cost from gadarif area or Damazin to Nyala or Al fasher amounts to SDD 35000/ton and to Al Genena SDD 45,000/ton which is by far less than the handling and transportation cost from Port Sudan to Nyala, or Al fasher or Al Genenena. The purchase of sorghum from the local market as well as the transportation would be through local competitive bidding (LCB) procedure.

The International Community could fund this program. The basic cost items for this program include:

- Cost of 600 tons of sorghum amounting to about SDD 22,440,000 (equivalent to US\$ 86,307)
- Cost of handling and transportation of 600 tons from central Sudan to Nyala and Elfasher and Al Genena amounts to SDD 23,000,000 (i.e SDD 35,000/ton to Nyala and Al fasher and SDD 45,000/ton to Al Genena) and equivalent to US\$ 84,615
- Renting of storage facilities in Nyala, Al Genena and Al fasher amounts US\$ 6000 for three months (i.e. for 100 stores each 16 square meter and at US\$ 20/store per month)
- Management cost by an International NGO amounts to US\$ 150,000. This is based on a US\$ 25/ton for handling, transportation and distribution within Kordofan state in addition to personnel and logistics as per CARE experience.

The buffer stock would work on a cost recovery basis. The cost recovered from the sale of grains, in the free market, to grain traders to stabilize price could be used to purchase grains for future operations. The cost recovered would amount to about 20 to 25% of the initial capital required for this program in the first cycle of operation. This intervention should continue after 2004/05 harvest and until 2005/06 harvest. It is anticipated that the operation of this program will pickup before the start of the rainy season. It is worth to mention that there is sizable implied transportation subsidy for the implementation of this program. This subsidy would not be directly transmitted to the consumer.

The benefits of this program are many including: (i) stabilization of grain prices at affordable level thus enhancing the food security of a large portion of the population, (ii) contribute to bridging the anticipated shortage in grain supply and (iii) enhance the competitive and efficient functioning of the grain markets in urban centers and rural areas. However, some risks/constraints that may hinder the efficient functioning of this program include: (i) inefficient coordination between the NGO administering this program and other steering committee members (ii) the improper storage facilities in the urban centers may cause high grain loss (iii) the anticipated area coverage is wide and main rural markets are scattered in distant areas and (iv) the transportation and the management costs are high and represent around 75% of the initial investment cost and this may make the program unattractive.

Transportation subsidy plus profit margin to grain wholesale traders:

Nature of the intervention and system: Darfur grain markets are not integrated with central Sudan grain markets because of the high transportation cost which represent 60% of the market price in Darfur. The objective of the transportation subsidy is to encourage local traders of Darfur to procure and transport sorghum from central Sudan. This will increase the market supply and partially fill the projected identified grain gap. The intervention aims at providing a subsidy equivalent to the full transportation cost in addition to a profit margin. At the current grain and transportation prices, the suggested subsidy equals to SDD 35000/ton from El Obied to Nayala or El Fashir shipments and SDD 45000/ton for shipments to El Ginaina. Shipments will be monitored at El Obied, Nayal, El Fashir and Ginaina by the implementing NGO and the disbursement of the cash subsidy will be effected accordingly. Another option is to contract transportation companies to do the hauling and in this case the subsidy to the traders will be in kind instead of cash. After delivery at the destination the trader is free to sell at any time locally or at other rural markets in the state driven by prices at the different locations. As prices of grains and transportation cost are expected to fall after the rainy season and during harvest period, and as a result of a possible improvement in the security situation, the amount of subsidy should be revised before implementing the intervention.

Objectives and targeted groups: The intervention objective is to increase the supply of grains in urban and rural markets to stabilize prices. Accordingly the intervention is targeting non displaced people in urban and rural areas, who constitutes around 70% of Darfur population.

Quantities and estimated cost: The suggested endeavor is new and has not been implemented before. So it is advisable to allocate around 10% of the quantities earmarked for the market support interventions in each scenario under options (A, 1.2 million caseload) and (B, 1.5 million caseload) as in Annex (5). After implementation and depending on the response of the local traders the allocated quantities can be increased or decreased accordingly and in relation to the operation of the buffer stock intervention above. The following table presents the cost of the intervention under each of the three scenarios under options (A) and (B) according to the ratio suggested above:

Cost of the transport subsidy under option (A)

State	Transport Subsidy per ton	Scenario 1		Scenario 2		Scenario 3	
		Quantity tons	Cost \$	Quantity tons	Cost \$	Quantity tons	Cost \$
North Darfur	134	8600	1,152,400	5300	710,200	3100	415,400
West Darfur	177	12200	2,159,400	7400	1,309,800	4300	761,100
South Darfur	134	8600	1,152,400	5200	696,800	3000	402,000
Total		29,400	4,464,200	17,900	2,716,800	10,400	1,578,700

Cost of the transport subsidy under option (B)

State	Transport Subsidy per ton	Scenario 1		Scenario 2		Scenario 3	
		Quantity tons	Cost \$	Quantity tons	Cost \$	Quantity tons	Cost \$
North Darfur	134	7400	991,600	4000	536,000	1800	241,200
West Darfur	177	10400	1,840,800	5600	991,200	2500	442,500
South Darfur	134	7300	987,200	3900	522,600	1800	241,200
Total		25,100	3,819,600	13,500	2,049,800	5,100	924,900

Time frame: The intervention is suggested to start in November 2004 and continue for 12 months till the harvest of 2005. The quantities to be procured each month should not be rationed and should be left to the traders according to the market conditions.

Justification: The intervention is expected to stabilize prices and enhance the proper functioning of markets. In addition it encourages the private sector both wholesalers and retailers especially women who dominates grains retail market in urban and rural markets. Moreover it demands less management efforts and cost effective relative to other interventions.

Constraints: The endeavor is new to Sudan and the private sector may not respond immediately. Added to that it needs efficient monitoring to prevent leaks and timely disbursement of the cash subsidy to encourage traders' response.

Implementers: NGOs, local wholesale traders, local councils, and transport dealers. Participants should form a committee to plan, implement and monitor this intervention. As the buffer stock program runs in similar way, a close coordination between the two programs is important to economize on the utilization of limited resources.

C. General Recommendations

Peace building initiatives and standard setup of markets: In the medium terms and long-terms, peace-building initiatives that restore and build trust between nomads and sedentary farmers are required. Both factions have strongly expressed a mutual economic interest that brings them together. Some of the interviewed IDPs stated that some farmers entrusted their animals to nomad friends during peak of escalation. This ensures that commonalities among different factions are more than under the prevailing conflict, which divided the population markedly. The Native Administration and the local peace initiatives should be utilized to enhance peaceful coexistence based on prevailing norms and values that have always governed the rural life of the different tribal and ethnic groups.

Rehabilitation and expansion of water sources is one area that would ease the tension. Improvement of pastureland and agricultural land is another area. Empowerment of local communities through various capacity building programs would open new livelihood frontier for many unemployed youth who seek livelihood utilizing weapons. Setting up both livestock and

grain markets in standard way to enhance transaction and maintain good market data is important and preferred to go hand in hand with rehabilitation/rebuilding efforts.

In view of the degraded efficiency of the railway system connecting central Sudan with the western states, the completion of the western asphalt road could be expedited to facilitate the transportation of perishables, especially, fruits from Jebel Mara Area to central Sudan. The local markets in Darfur are relatively small and limited to absorb the sizable fruit production in the area. The completion of the western asphalt road would contribute to the integration of the grain markets in Darfur and central Sudan.

Market information/food security early warning systems is currently functioning only in North Darfur State run by SCF-UK. Other government systems are not efficient and lack technical and logistical support. Information system that provides timely and sufficiently accurate market and food security information is vital in an area of repeated food insecurity like Darfur. Building the capacity of food information systems of Darfur is a long-term intervention that should be considered to enhance market functioning in the long run. There should be an effort to streamline mechanisms and operations. Building the capacity of the government in this area would enhance sustainability of the system.

Annexes

TERMS OF REFERENCE FOR MARKET ASSESSMENT IN DARFUR OF SUDAN JULY-AUGUST - -

Scope of Work for a consultant to carry out an analysis of market conditions in Darfur, Sudan, in order to determine the feasibility of a possible market support/stabilization program in Darfur and identify options for increasing access to food by IDPs and the host population.

Background

The overall situation in Darfur in mid-2004 – the violent displacement of over 1 million people who have lost their homes, assets and means of livelihood – can be considered the worst humanitarian disaster in the world today. Internally displaced people (IDPs) have little or no purchasing power, few options for earning income, and limited access to markets due to the threat of insecurity. Uprooted by conflict and forced to take increasingly irreversible actions that undermine their future food security, IDPs depend on others for basic necessities and survival. These IDPs are vulnerable to hunger and hunger-related diseases. If the IDPs are unable to return home in time to cultivate a main season crop during June-November 2004, prospects look increasingly bleak for a rapid improvement in IDP conditions. Another 2 million people in Darfur are indirectly affected by the conflict as a result of hosting IDPs and providing (part of) their needs. These people also require outside help.

Without access to their farms and crops, IDPs increasingly rely on cereal and food markets – where markets have not collapsed due to insecurity and the risk of looting and where consumers have sufficient effective demand to attract suppliers. However, there has been little systematic analysis to date of the impact of the conflict in Darfur on food and cereal markets coupled by the rains which will greatly constrain market access. The advent of the rainy season adds another dimension to this analysis.

In view of the magnitude and expected duration of this complex emergency (at least 15-18 months), it is necessary to consider and analyse the feasibility of a food market intervention, as well as examine other modalities which will give IDPs more secure access to food. This market intervention would ensure a steady and affordable market supply of basic food staples to those populations less directly affected by the violence who are able to access markets, or those urban based IDPs and war affected host populations who have some purchasing power and are urban based. It should be noted that modalities other than market stabilization ones will be required to support the IDPs to access food given that most rural based IDPs are unable to access markets given the threat of violence they face should they venture outside their settlements or villages they have sought refuge in.

The Darfur Disaster Assistance Response Team (DART) proposes to contract CARE who in turn will contract qualified Sudanese consultant(s) to assess the feasibility of a market intervention for host communities and others not directly affected by the conflict. This consultancy will also examine possible options for making food available to IDPs. This consultancy, not to exceed 60 days, shall start on or about July 10, 2004.

Overall Objectives

The overall objectives of this consultancy are to:

- e) gain a better understanding of how food markets function in urban areas and in accessible rural areas in Darfur (North, South and West) under normal (pre-conflict) conditions and how the present conflict has affected market functions;
- f) describe the linkages between rural and urban markets in Darfur under normal (pre-conflict) conditions and how the present conflict has affected market functions;³
- g) analyze the relationships between markets in North Kordofan, Kosti, Khartoum and Gedaref (if any) and urban markets in Darfur; and

- h) evaluate the potential of alternative market stabilization interventions that will steady an affordable access to basic food staples in Darfur, which may include any of the following components: sales of subsidized grain to targeted food insecure households; cash transfers to targeted households; subsidies of transport (delivery) costs to markets; sales of subsidized complementary commodities, like groundnut oil, to targeted households.

Tasks and responsibilities

To accomplish these objectives the consultant shall:

- a) Review existing secondary information in intended geographical location related to overall objective of this assessment and finalize, with the team, the overall implementation protocol, including specific assignment (to be agreed upon with the team), which should be properly documented;
- b) Travel to all required sites and per implementation protocol to collect, analyze and synthesize relevant data/information;
- c) Undertake price, supply and demand analyses of food markets in El Fasher, Nyala and Geneina. This analysis shall include analyses of price movements this year compared with price movements in previous years (as far as is available) and monthly inflows and outflows of grain and other major commodities (such as groundnuts in Nyala). All efforts will be made pending security and seasonal and logistics constraints, to access interior markets to include Zalingei, Ed El Fursan, and Garsilla markets (West Darfur) all associated with the Jebbel Marra producing area, Kutum and Um Keddada in the North.
- d) Conduct market analyses of food markets in El Obeid, Khartoum, Kosti, Gadarif and the Blue Nile area and ascertain the extent to which these markets are potential and integrated with markets in El Fasher, Nyala and Geneina, this year as well as historically as far as information is available;
- e) Assess the overall potential of grain/food supply from central Sudan (irrigated and mechanized sector) into Darfur markets;
- f) Undertake in depth discussions with food traders and other key stakeholders in El Fasher, Nyala and Geneina to determine basic factors like normal monthly storage capacity and availability (MTs), stock levels, turnover of grain through the market compared with conditions this year;
- g) Undertake in depth discussions with food traders and other key stakeholders in El Fasher, Nyala and Geneina, as well as in secondary markets, to identify constraints in the marketing system *and access to food* that might be remedied by a market support/market stabilization program (modality to be determined);
- h) Examine the supporting and constraining factors for a market stabilization/market support program, whether it is desirable and whether it would ensure a steady and affordable supply of basic food staples for IDPs and those who support IDPs;
- i) Determine the likely impact of the following possible market interventions on grain market supplies and prices in all three major Darfur urban markets, and possibly secondary markets:
 - subsidizing the price of grain in the market by subsidizing either transport (delivery) costs or trader purchase prices;
 - cash transfers to targeted households in and around urban and rural markets; or
 - Other (to be determined by the consultant).
- j) Draft an analytical report for the section or geographical location (to be agreed upon with the team) and hold a debriefing session for presentation of finding and responding to queries;
- k) Consult and make sure that the team leader incorporates in the final report all relevant thoughts, ideas and analysis pertaining to your section, geographical location as per implementation protocol.

Deliverables (outputs)

1. Based on the analysis above the consultant will determine whether a market stabilization/market support program is desirable and likely to ensure a steady and affordable supply of basic food staples for those affected by the conflict and still able to access markets. This group will include some urban based IDPs and those who support IDPs. However, it is envisioned that largest percentage of IDPs and war affected host communities have little or no access to markets given their vulnerability and risk of being attacked should they venture out. The consultant will clearly state the reasons for this determination, with supporting evidence, in the report.
 2. If the consultant determines that a market stabilization/market support program is desirable and likely to achieve the intended objectives, the consultant shall:
 - a) propose the best market intervention that will stabilize market prices at affordable prices for targeted consumers over the coming five months (July-November) until the next national harvest reaches market;
 - b) Recommend modality(ies), location(s), commodity(ies) and their source(s), monthly volumes (MTs), distribution points (markets), duration (including starting and ending dates), participants (such as traders, transporters, city councils, donors, NGOs), and
 - c) Determine best sources of grain (or other commodities), either purchase of internally produced commodities in Sudan (as per WFP actions); import of food aid; or a mix of the two.
 3. Recommend other modalities for war affected IDPs and host communities to access food who presently cannot access the markets largely due to being targeted by violence and little or no purchasing power;
 4. Debriefing session with key stakeholders upon completion of assignment;
- Preparation of written report to be part of the overall report, outlining methodology, main findings as related to overall objectives;

Annex 1:Details of area planted, harvested, aver. productivity & total production 92-04

Annex 1,table 1: Planted area, harvested area, average productivity & total production of cereal crops produced under the irrigated farming system during the period 1992/1993 - 2003/2004

SEASON	SORGHUM				MILLET				WHEAT		
	Area Planted 000 fed	Area. Harvested 000 fed	Yield Kg/fed	Prod. 000 ton	Area Planted 000 fed	Area. Harvested 000 fed	Yield Kg/fed	Prod 000 ton	Area. Harvested 000 fed	Yield Kg/fed	Prod. 000 ton
92/93	1288	1221	630	769	11	11	360	4	767	574	440
93/94	963	904	666	602	2	2	300	1	851	558	475
94/95	1232	1181	615	726	10	10	180	2	656	678	445
95/96	807	737	696	513	10	8	225	2	691	753	520
96/97	914	877	1013	888	20	10	200	2	757	830	628
97/98	981	836	873	678	1	1	200	1	599	972	582
98/99	1129	897	598	526	13	12	200	2	329	514	169
99/00	967	844	686	579	5	5	270	1	210	1005	211
00/01	1103	1040	870	905	7	6	270	2	278	1076	299
01/02	1733	1652	883	1459	7	6	220	2	257	946	243
02/03	1067	1007	856	874	13	11	270	3	202	1609	325
03/04	1017.3	927	740	686	18	13	135	2	404	978	395

Source: Statistics Department. General Administration of Planning & Agricultural Economics

Annex 1,table 2: Planted area , harvested area , average productivity & total production of cereal crops produced under the mechanized farming system during the period 1992/1993 - 2003/2004

SEASON	SORGHUM				MILLET			
	Area Planted 000 fed	Area. Harvested 000 fed	Yield Kg/fed	Prod. 000 ton	Area Planted 000 fed	Area. Harvested 000 fed	Yield Kg/fed	Prod. 000 ton
92/93	12270	10041	268	2687	224	189	249	47
93/94	10631	7896	187	1473	206	162	166	27
94/95	11921	9730	210	2044	98	76	132	10
95/96	8998	7573	184	1395	73	58	138	8
96/97	11666	10346	231	2388	200	168	161	27
97/98	10620	8138	181	1477	137	104	173	18
98/99	10550	9371	247	2428	163	136	213	29
99/00	6512	4910	152	746	209	191	168	33
00/01	7360	4912	180	880	196	127	185	22
01/02	9220	6672	213	1348	157	118	153	18
02/03	9624	6523	153	1000	273	163	147	24
03/04	10608	9406.4	240	2254	572.1	482.2	168	81

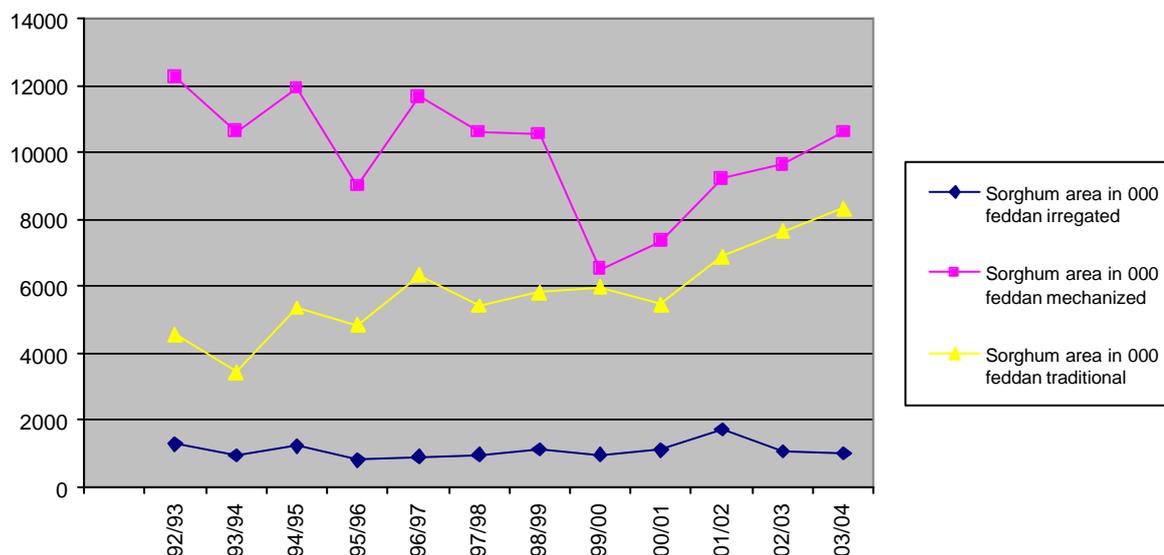
Source: Statistics Department. General Administration of Planning & Agricultural Economics

Annex 1,table 3: Planted area, harvested area, average productivity & total production of cereal crops produced under the traditional farming system during the period 1992/1993 - 2003/2004

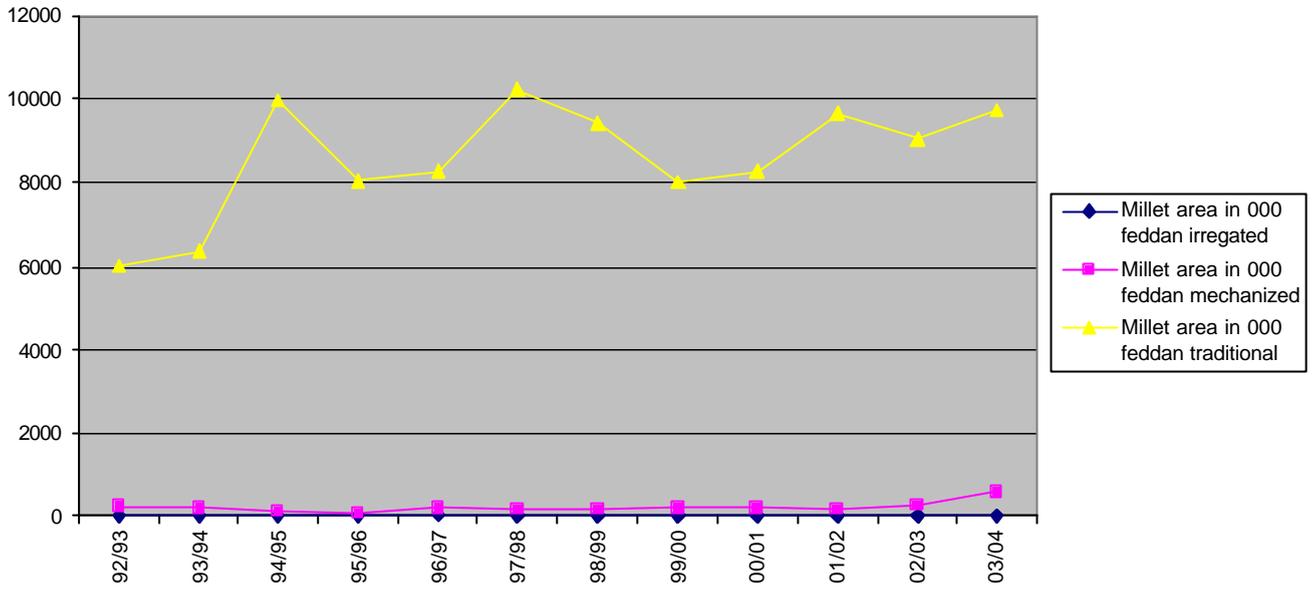
SEASON	SORGHUM				MILLET				WHEAT		
	Area Planted 000 fed	Area. Harvested 000 fed	Yield Kg/fed	Prod. 000 ton	Area Planted 000 fed	Area. Harvested 000 fed	Yield Kg/fed	Prod. 000 ton	Area. Harvested 000 fed	Yield Kg/fed	Prod. 000 ton
92/93	4565	3500	167	286	6006	3510	113	398	10	500	5
93/94	3450	2352	132	311	6366	2381	81	193	0	0	0
94/95	5358	4392	200	878	9962	7621	126	961	6	500	3
95/96	4858	3697	147	542	8047	5678	66	373	18	389	7
96/97	6334	4380	202	903	8272	3711	111	411	27	519	14
97/98	5432	3672	195	652	10219	6577	96	624	8	375	3
98/99	5823	4756	230	1179	9436	6429	99	639	8	375	3
99/00	5980	5026	203	1022	7994	5498	97	465	7	286	2
00/01	5468	4056	173	706	8289	5104	90	458	8	500	4
01/02	6901	5395	294	1587	9668	6676	84	558	8	500	4
02/03	7645	5137	226	951	9037	5643	107	554	7	857	6
03/04	8324	7119	246	1750	9734	5790	114	686	6	500	3

Source: Statistics Department. General Administration of Planning & Agricultural Economics

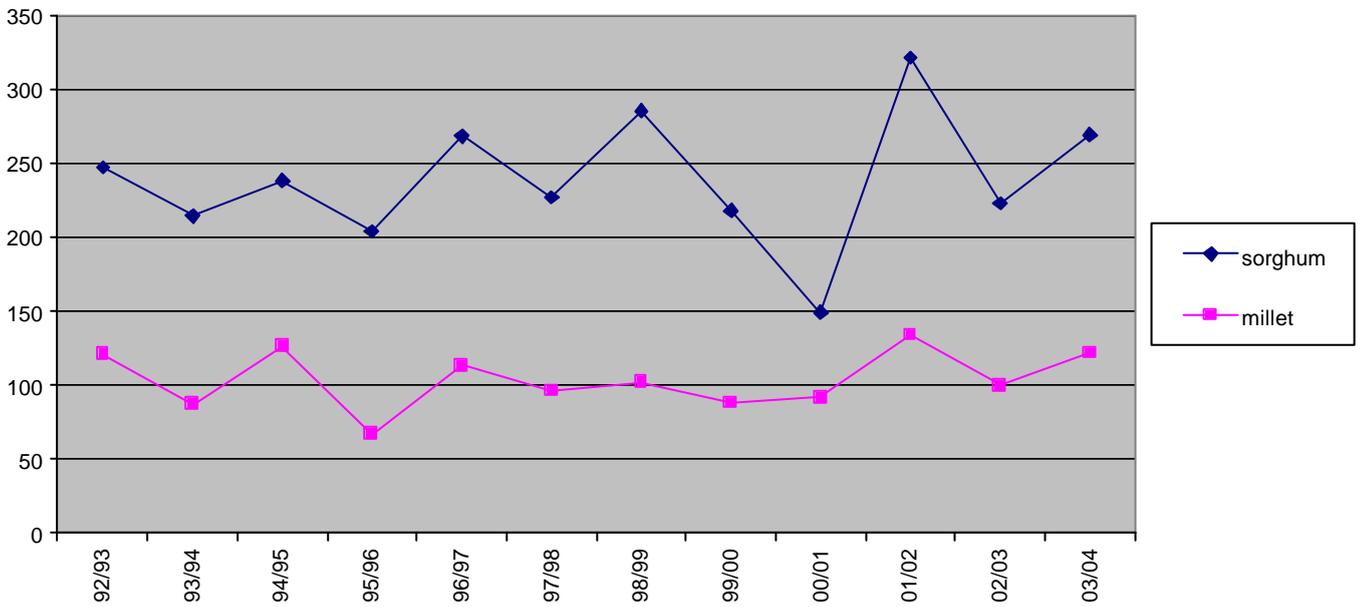
Annex 1, Figure A: Sorghum area trend in the three farming systems



Annex 1, Figure B: Millet area trend in the three farming systems



Annex 1, Figure C: productivity (kg/fed) trend of sorghum & millet of all sub-system



Annex 2: Landscape, vegetation and farming systems of Darfur

The northern sand sheets sand dunes zone: It is bordering the Sahara desert and it is a mixture of semi desert in the north and poor savannah in the southern parts with annual rainfall ranging from 150 mm to 300 mm per annum. The area is crossed by small seasonal water courses or *wadis*.. On the alluvial beds of these *wadis* the green cover becomes relatively denser formed of shady trees and relatively longer fodder grasses. The area is inhabited by sedentary communities practicing farming and livestock raising and transhumant herders raising camels and small ruminants.

Millet is the main subsistence crop grown for consumption and the surplus is sold locally in *small* amounts throughout the year. The uncertainties of the climate encourage the farmer to plant a large area, in case yields should be poor or locally variable. To obtain the maximum yield millet fields weeded at least twice. Weeding is done by family labor so the area cultivated by each household depends on the amount of available family labor.

The goz zone: This zone extends longitudinally from north to south covering the eastern parts of North and South Darfur States. The soil is mainly sand which shape into plains and low hills known as goz. The goz zone covers the entire eastern half of Darfur and often unbroken by any other feature. The rainfall ranges from 700 mm per annum in the far south to 200 – 300 mm in the far north and the vegetation varies accordingly from rich savanna to poor.

According to rainfall, vegetation and soil types two farming systems could be identified:

The southern part of the goz zone is inhabited by the Baggara, who are transhumant cattle herders and practicing farming as well. Millet and groundnuts were the main crops grown. Millet is grown for consumption and the surplus is sold. The area cultivated mainly depends on the size of the households, as cultivation is mainly dependent on family size. Thirty to forty heads of cattle is considered the lower limit for the subsistence. If the size of the herd fell below this level, the household may be obliged to seek other sources of income to meet their basic needs. The coping mechanism adopted in this case is that some households place greater emphasis on cultivation. In this case settlement for cultivation is bound to occur and the households graze their remaining cattle around the village. Most of the households also raise sheep and goats as they can readily be sold when cash is needed for consumption.

a. To the north of the baggara land, the local communities practice sedentary farming. Millet and groundnut were the main food and cash crops grown. Cattle, sheep and goats raising is limited and only practiced by the relatively better off families. To the north in areas where rainfall is ranging between 200mm – 300 mm only millet is grown.

b. Groundnut-millet goz zone: The area covers the south part of Southern Darfur State. Its land is formed of a variety of soils ranging from sandy soils in eastern and southern parts of the zone, which is represented by the huge goz formations locally named Dango, Saseilgo and dimso, to clay and alluvial lands in the western part which is crossed by several wadis. The rainfall ranges from 400 mm to 700 mm. The area is famous for millet and groundnut cultivation. Animal traction is not widely used in the area compared to Jebel Marra and the south western region which are described below.

The south western zone: It lies south to the basement zone and south west of Jebel Marra area. It receives an annual precipitation of 500 – 700 mm. The landscape consists of rolling basement hills often thickly forested, with stretches of upland goz. The area is crossed by a network of wadis with broad alluvial valleys that cuts through the hills. Along this system of wadis are the richest soils in Darfur. Each wadi is thickly settled and intensely farmed. The farming system is based on three categories of cultivable land. The best land is the heavy cracking clay close to beds of wadis, the alluvial land the second

best and the goz land which is relatively less fertile. The heavy cracking clay is cultivated with sorghum in the wet season. Irrigated onions, okra and tomatoes are cultivated in the dry season. Chewing tobacco (tombac) is also grown on clay land and in the sand of the wadis' beds. Animal drawn ploughs are widely used for land preparation and weeding. Millet and groundnuts were cultivated on the alluvial and goz land in the wet season.

In addition to the Fur, the area is inhabited by Baggara Arab. These are transhumance herding cattle, sheep and goats, they also own small farms to produce millet. Their migratory cycle is short distant as water and dry season pasture are available not far from their settlements. During the wet season they graze their animals in the nearby hills. Some of them depend mainly on farming and raise a limited number of animals. During the dry season camel pastoralists arrive from north Darfur. They have a long transhumance, moving several hundreds of miles from the valleys of south west Darfur during the dry season to the Zaghawa plateau during the wet season, where they graze their animals and cultivate millet in the goz land of north Darfur. In addition to cattle and camel both groups herd sheep and goats as well to spread the risk involved in herding and as a source of ready cash because they can easily be sold compared to camels and cattle.

Jebel Marra: Jebel Marra lies in central Darfur and it is over 3000 meters high and has a significant effect on the meteorological conditions, on soils and hence on vegetation and cropping. On the top of the jebel precipitation amounts up to 1000 mm per year and decreases to about 450 mm towards the southern and western parts of the area. The wet season is from May to October and the dry season from November to April. The eastern part of the Jebel has a piedmont characteristic with soils of volcanic origin. The western part consists of valleys with alluvial soils. A wide variety of rain-fed and irrigated crops were produced. At the lower altitudes millet, sorghum, groundnuts, and chickpeas were the main arable crops grown. Vegetables and mangoes were grown under irrigation. In the higher altitudes oranges, tobacco, cowpeas, horse beans and spices were produced under irrigation in winter. Wheat is produced at a very limited scale as a wet season crop. Animal Drawn implements were used for land preparation. The farm income is supported by sheep, goats and cattle raising.

The basement zone: The zone lies in the north western corner of Darfur along the borders with Chad west to Jebel Marra area. Rainfall ranges between 250mm to 400 mm. The area is inhabited by sedentary Fur and nomadic camel herders. The basement is either bare or covered with thin layer of sandy soils. In areas where there is a cover of trees and grasses it provides pasture and browse for the small ruminants and camels owned by the nomadic tribes from the north. The basement area is intermittent by arable lands of, goz, and rich alluvial plains along the valleys of the water courses. Millet is the main crop grown for consumption and cash. The main cash crops were onion, tomatoes and Okra. Okra and tomatoes were produced under rain and irrigation while onion is produced during the dry season under irrigation.

Annex 3: Area, production and yield for the three states of Darfur, 1994-2004

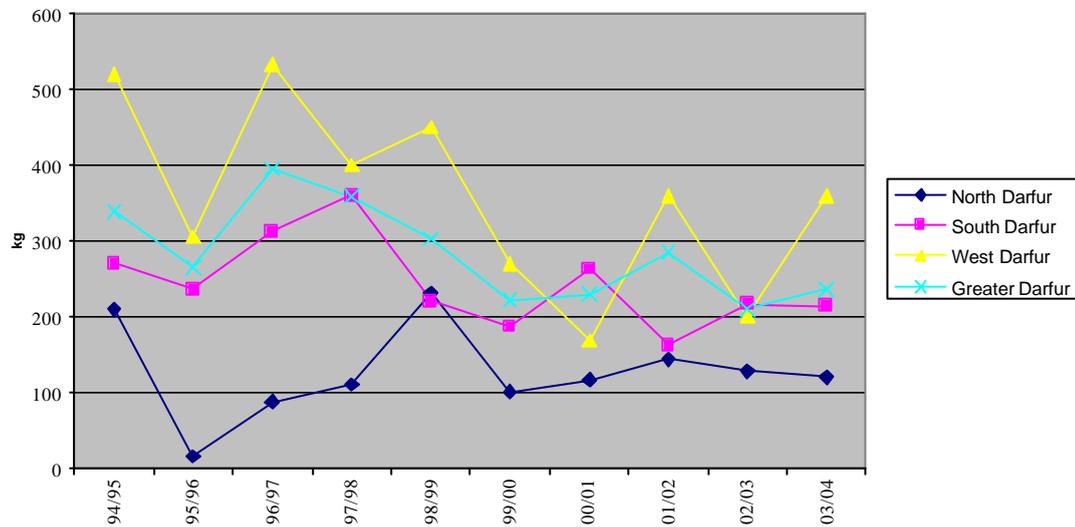
Annex 3--Table (1): Millet Areas production and yields for 1994/95-2003/2004												
Year	North Darfur			South Darfur			West Darfur			Greater Darfur		yield
	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield	Area	Production	
1994/95	1,800,000	180,000	100	1,303,000	234,000	180	401,000	123,000	300	3,504,000	537,000	153
1995/96	1,058,000	16,000	15	1,530,000	183,000	120	523,000	120,000	225	3,111,000	319,000	103
1996/97	528,000	23,000	45	960,000	180,000	261	281,000	85,000	302	1,769,000	288,000	163
1997/98	1,037,000	75,000	73	1,220,000	209,000	171	325,000	98,000	300	2,582,000	382,000	148
1998/99	874,100	251,000	135	1,445,000	79,000	55	425,000	138,000	325	2,744,100	468,000	171
1999/000	979,000	80,000	82	1,320,000	118,000	90	410,000	111,000	270	2,709,000	309,000	114
2000/2001	943,000	61,000	65	1,811,000	180,000	99	367,000	87,000	237	3,121,000	328,000	105
2001/2002	1,794,000	66,000	37	1,213,000	106,000	87	709,000	191,000	270	3,716,000	363,000	98
2002/2003	1,322,000	79,000	60	1,701,000	228,000	134	379,000	68,000	180	3,402,000	375,000	110
2003/2004	1,050,000	83,000	79	1,634,000	350,000	214	257,000	51,000	200	2,941,000	484,000	165
Average	1,035,009	83,091	80	1,285,182	169,727	132	407,700	107,200	263	2,959,910	385,300	133

Annex 3--Table (2): Performance of sorghum in the three states of Darfur.

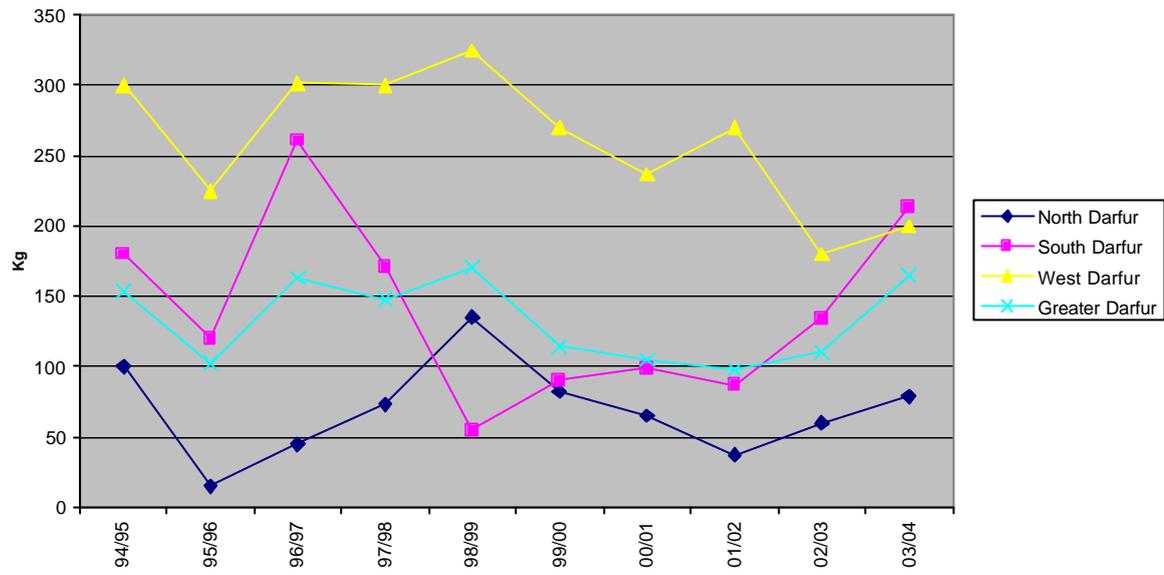
Year	North Darfur			South Darfur			West Darfur			Greater Darfur		
	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield
1994/95	70,000	15,000	210	447,000	121,000	270	220,000	114,000	520	737,000	250,000	339
1995/96	5,000	75	15	313,000	74,000	236	256,000	78,000	305	574,000	152,075	265
1996/97	23,000	2000	87	269,000	84,000	312	212,000	113,000	533	504,000	199,000	395
1997/98	52,000	6,000	110	283,000	102,000	360	300,000	120,000	400	635,000	228,000	359
1998/99	61,000	14,000	230	361,000	79,000	220	230,000	104,000	450	652,000	197,000	302
1999/000	41,000	4,000	100	547,000	102,000	186	510,000	138,000	270	1,098,000	244,000	222
2000/2001	60,000	9,000	116	633,000	166,000	263	348,000	64,000	168	1,041,000	239,000	230
2001/2002	56000	8,000	143	495,000	80,000	162	911,000	328,000	360	1,462,000	416,000	285
2002/2003	54,000	7,000	128	881,000	190,000	216	218,000	44,000	200	1,153,000	241,000	209
2003/2004	50,000	6,000	120	872,000	187,000	214	204,000	73,000	360	1,126,000	266,000	236
Average	47,200	7,108	151	510,100	118,500	232	340,900	117,600	345	898,200	243,208	271

Annex 3--Table (3):The performance of grains in Darfur.		
Year	Area	Production
1994/95	4,241,000	787,000
1995/96	3,694,000	471,000
1996/97	2,273,000	487,000
1997/98	3,217,000	610,000
1998/99	3,369,100	665,000
1999/2000	3,807,000	553,000
2000/2001	4,198,000	567,000
2001/2002	5,178,000	779,000
2002/2003	4,555,000	616,000
2003/2004	4,067,000	750,000
Average	3,859,910	628,500

Annex 3, Figure D: Sorghum Yield Trend in Darfur (94-2004)



Annex 3, Figure E: Millet Yield Trend in Darfur (94-2004)



Annex 4-a: Detailed statistics of estimated areas under cropping this season

Area of Sorghum Expected to be Cultivated and forecasted to be Harvested Under Current Situation							
States and localities	Three Years Average for areas and yields				Areas for 2004/2005		
	Average area cultivated	Average area harvested	% of area harvested	Average yield	% of area cultivated	Area cultivated	Expected area to be harvested
South Darfur State							
Nyala	569003	328,935	58%	168	35%	199,151	115,127
Shiaria	349922	107,920	31%	197	20%	69,984	21,584
Kass	147,695	23,320	16%	200	35%	51,693	8,162
El Dian	539,377	315,582	59%	153	85%	458,470	268,245
Adella	216,920	78,033	36%	143	60%	130,152	46,820
Buram	310,407	252,061	81%	152	85%	263,846	214,251
Idd Alfursan	275,313	234,316	85%	236	85%	234,016	199,169
Rihaid Al Birdi	215,913	145,158	67%	212	85%	183,526	123,384
Tulus	74,548	67,154	90%	174	85%	63,366	57,080
Subtotal	2,699,097	1,552,478		182	61%	1,654,204	1,053,822
West Darfur State							
Genena	203,106	134,280	66%	194	25%	50,777	33,570
Habilla	20,190	12,591	62%	585	20%	4,038	2,518
Kulbus	166,224	94,617	57%	175	20%	33,245	18,923
Zalenji	94,925	60,084	63%	339	20%	18,985	12,017
Wadi Salih	43,177	32,190	75%	427	25%	10,794	8,048
Mkjur	32,314	39,342	122%	386	25%	8,079	9,836
Nertiti	101477	75,507	74%	386	15%	15,222	11,326
Subtotal	661,414	448,612	68%	358	21%	141,139	96,238
North Darfur							
El Fashir	1,177,036	569,800	48%	41	65%	765,073	370,370
Mellit	304,250	145,623	48%	52	65%	197,763	94,655
Kutum	190,211	100,657	53%	55	50%	95,106	50,328
Altina	441,643	224,133	51%	277	6%	26,499	13,448
Kabkabiya	140,194	99,252	71%	289	10%	14,019	9,925
Um Kaddada	516,842	354,636	69%	71	80%	413,473	283,709
Subtotal	2,770,176	1,494,100	54%	130.9	55%	1,511,933	822,435
Total	6,130,686	3,495,190	57%		54%	3,307,276	1,972,495

Annex 4-b: Detailed statistics of estimated areas under cropping this season

Area of Sorghum Expected to be Cultivated and forecasted to be Harvested Under Current Situation							
States and localities	Three Years Average for areas and yields				Areas for 2004/2005		
	Average area cultivated	Average area harvested	% of area harvested	Average yield	% of area cultivated	Area cultivated	Expected area to be harvested
South Darfur State							
Nyala	353,639	180,387	51%	197	35%	123,774	63,135
Shiaria	130,812	71,947	55%	196	20%	26,162	14,389
Kass	163,241	19,434	12%	306	35%	57,134	6,802
El Dian	267,539	218,832	82%	163	85%	227,408	186,007
Adella	91,502	30,212	33%	139	60%	54,901	18,127
Buram	132,587	110,052	83%	173	85%	112,699	93,544
Idd Alfursan	146,918	111,735	76%	362	85%	124,880	94,975
Rihaid Al Birdi	48,048	33,223	69%	283	85%	40,841	28,239
Tulus	13,338	11,122	83%	193	85%	11,337	9,454
Subtotal	1,347,623	786,943		223	58%	779,136	514,672
West Darfur State							-
Genena	41,027	20,827	51%	516	25%	10,256.67	5,207
Habilla	68,167	37,182	55%	371	20%	13,633.33	7,436
Kulbus	20,215	7,468	37%	558	20%	4,042.93	1,494
Zalenji	72,942	45,940	63%	419	20%	14,588.47	9,188
Wadi Salih	95,717	65,400	68%	457	25%	23,929.25	16,350
Mkjur	44,144	32,972	75%	538	25%	11,036.08	8,243
Nertiti	70,917	53,960	76%	495	15%	10,637.55	8,094
Subtotal	413,129	263,749	64%	479.1412	21%	88,124.28	56,012
North Darfur							-
El Fashir	33,133	10,218	31%	245	65%	21,536	6,642
Mellit	6,460	685	11%	55	65%	4,199	445
Kutum	8,856	1,810	20%	254	50%	4,428	905
Al Tina	23,633	4,404	19%	38	6%	1,418	264
Kabkabiya	18,852	11,672	62%	1074	10%	1,885	1,167
Um Kaddada	20,889	26,125	125%	300	80%	16,711	20,900
Subtotal	111,823	54,914	49%	300	45%	50,178	30,323
Total	1,872,574	1,105,605			0%	917,438	601,007

Annex 5: Statistics on market support program

Table 1: Market Stabilization Programme For Greater Darfur											
Option (A) 1,200,000 IDPs Without Host Families											
Locations of Market Support and Quantities Needed for Each Location Under Each of the Three Production Scenarios											
Locations by States	No and % of		Scenario 1			Scenario 2			Scenario3		
	IDPs from total		Deficit	IDP	Market	Deficit	IDP	Market	Deficit	IDP	Market
and Localities	No	%	ton	Quantity	quantity	ton	Quantity	quantity	ton	Quantity	quantity
			472,000	175,200	296,800	356,000	175,200	180,800	281,000	175,200	105,800
North Darfur State	372,143	29.5%			87,556			53,336			31,211
El Fashir	129,502	35%			30,469			18,560			10,861
Kutum	128,745	35%			30,290			18,452			10,798
Kabkabiya	89,441	24%			21,043			12,819			7,501
Millit	24,455	7%			5,754			3,505			2,051
Subtotal	372,143	100%			87,556			53,336			31,211
West Darfur State	522,012	41.4%			122,816			74,815			43,780
Kulbus	54,441	10%			12,809			7,803			4,566
El Geneina	175,469	34%			41,283			25,148			14,716
Garsilla, Habil, Mujar	177,559	34%			41,775			25,448			14,892
Jebel Marra	57,835	11%			13,607			8,289			4,851
Zalengi	56,708	11%			13,342			8,127			4,756
Subtotal	522,012	100%			122,816			74,815			43,780
South Darfur State	367,349	29.1%			86,428			52,649			30,809
Nayala	249,818	68%			58,776			35,804			20,952
Shieriya	51,353	14%			12,082			7,360			4,307
Kass	66,178	18%			15,570			9,485			5,550
Subtotal	367,349	100%			86,428			52,649			30,809
Grand Total	1,261,504				296,800			180,800			105,800

NB: Market quantities for each location (State and locality) are proportional to the population of IDPs in each location

Table 2: Market Stabilization Programme For Greater Darfur											
Option (B) 1,200,000 IDPs and 300,000 Host Families											
Locations of Market Support and Quantities Needed for Each Location Under Each of the Three Production Scenarios											
Locations by States and Localities	No and % of IDPs from total		Scenario 1			Scenario 2			Scenario3		
	No	%	Deficit ton	IDP	Market quantity	Deficit ton	IDP	Market quantity	Deficit ton	IDP	Market quantity
				Quantity			Quantity			Quantity	
			472,000	219,000	253,000	356,000	219,000	137,000	281,000	219,000	62,000
North Darfur State	372,143	29.5%			74,635			40,415			18,290
El Fashir	129,502	35%			25,972			14,064			6,365
Kutum	128,745	35%			25,820			13,982			6,328
Kabkabiya	89,441	24%			17,938			9,713			4,396
Millit	24,455	7%			4,905			2,656			1,202
Subtotal	372,143	100%			74,635			40,415			18,290
West Darfur State	522,012	41.4%			104,692			56,691			25,656
Kulbus	54,441	10%			10,918			5,912			2,676
El Geneina	175,469	34%			35,191			19,056			8,624
Garsilla, Habil, Mujar	177,559	34%			35,610			19,283			8,727
Jebel Marra	57,835	11%			11,599			6,281			2,842
Zalengi	56,708	11%			11,373			6,159			2,787
Subtotal	522,012	100%			104,692			56,691			25,656
South Darfur State	367,349	29.1%			73,673			39,894			18,054
Nayala	249,818	68%			50,102			27,130			12,278
Shieriya	51,353	14%			10,299			5,577			2,524
Kass	66,178	18%			13,272			7,187			3,252
Subtotal	367,349	100%			73,673			39,894			18,054
Grand Total	1,261,504				253,000			137,000			62,000
NB: Market quantities for each location (State and locality) are proportional to the population of IDPs in each location											

Itinerary of the Mission

Date	Activity	Place
17-20/7	1-Drafted the work plan, report outline and prepared a list of the data required and sources, and the list of people to be interviewed and the issues to be raised with them.	Khartoum
21/7	Mission departed from Khartoum and arrived to Nayala the same day.	South Darfur
21/7	Met with Care office Director and discussed logistical arrangements	
21/7	Interviewed some grain traders at central Nayala grain market.	
22/7	Formulated the plan of work of the mission in South Darfur State	
22/7	Met with the HAC manager in South Kordofan State	
22/7	Interview with manager of the crop markets Administration	
22/7	Interview with some rural markets transport dealers in Nayala	
22/7	Interview with the planning staff of the state ministry of agriculture	
23/7	Departed to Zalengi and arrived the same day.	West Darfur
23/7	Interview with some traders in Bulbul market on the way to the Zalengi.	
23/7	Interviewed some farmers at their fields and some IDPs at Kass IDP camp.	
24/7	Discussions with Jabal Marra development project manager and the executive director of Zalengi province.	
24/7	Visited Tiraij rural market	
25/7	Visited Zalengi grain market and interviewed some women retailers.	
25/7	Visited Dilaij market	
25/7	Met with Wadi Salih commissioner	Wadi Salih
26/7	Discussions with Wadi Salih province staff , The Agricultural Bank manager.	
27/7	Conducted discussions with the province rural markets officer, the manager of the Agricultural Bank Zalenji.	Zalenj
27/7	Visited Crolleh market on the way back to Nayala.	
28/7	Interviewed SAR officer in Nayala.	South Darfur
28/7	Visited Mershing market.	
29/7	Visited BulBul Tambikso rural market south of Nayala	
30/7	Collection of data from various sources.	
31/7	Departed to Genaina and arrived the same day	West Darfur
1/8	Discussions with HAC representative in Ginaina.	
1/8	1-Met with the state minister of agriculture and the undersecretary.	
1/8	Interviewed the undersecretary ministry of finance and staff responsible of rural markets in the state.	
2/8	Visited DART officer in Ginaina – Visit to	
2/8	Visited Mustri rural market	
3/8	Visited Morni	
4/8	Collected of data from HAC, ministry of finance, transport agent.	
5/8	Departed to El Fashir and arrived the same day in the evening.	North Darfur
6/8	Visited mellit market.	
7/8	Discussions with HAC reprehensive, the undersecretary ministry of finance and SCF.	
8/8	Met the undersecretary ministry of Agriculture,	
9/8	Visited DART officer in NDS, Discussions with the planning officer state ministry of agriculture.	
10/8	Visited Kutum and Tawila rural markets	
11/8	Data compilation at SCF office	
12/8	Two team members departed to Khartoum and the team leader to El Obied	
14/8-6/9	Data compilation, analysis, discussions and report writing.	Khartoum
11-14/9	Reviewed the draft report, prepared the final copy and submitted it to USAID.	

List of persons met

Name	Occupation/Post
1. Vincent	Administrator – Care office -Nayala
2. Lease	Care office manager - Nayala
3. Abdallah Osman	Food monitor - Care
4. Ibrahim	HAC office manager - Nayala
5. Omer Abdu	The director of revenues administration – Ministry of Finance Nayala
6. Omer Musa	Transport dealer – Texas market - Nayala
7. Mohamed Abbakkar	Transport dealer – Texas Market - Nayala
8. Ismaiel Mohamed Elhaj	Trader – Nayala grain market
9. Adam Mohamed Ahmed	Trader – Nayala grain market
10. Omer Yousif	Trader – Nayala grain market
11. Musa Abelhai	IDP – Kass IDP camp
12. Ishag Idris	IDP – Kass IDP camp
13. Adam Abbakar	IDP – Kass IDP camp
14.	Farmer Kadowa village – Kass province
15.	Farmer Kadowa village – Kass province
16. Mohamed Yousif	Manager – Jabal Marra Rural Development Project.
17. Ibrahim Adam	The executive director – Zalengi province.
18. Halima Muhmood	Grain retailer- Zalenj
19. Adil Ali	Revenues officer – Aalenji province
20.	Customer Dilaij market.
21. A/Alazim Yagoub	Agricultural bank manager - Zalenji
22. Sharif Ibrahim	The executive director – Wadi Salih province
23. El tahir Munsour	Auditor – Wadi Salih Province
24. Mustafa Fadul	Rural markets supervisor – Wadi Salih province
25. Adam Hussien	The financial manger – Wadi Salih province
26.	Trader Mirshing Market
27.	Customer – Mershing market – South Darfur State
28.	Customer Bulbull Tambisko market –South Darfur State
29. Mohamed Jabo Ibrahim	Tribal leader, Bulbul Tambisko
30.	Grain mill operator – Bulbull Tambisko market
31. Ahmed Abdellah Tijani	Transport dealer/trader – Nayal market
32. Tijani Mohamed	HAC office manger - Ginaina
33. Abdelwahid Mohamed	Undersecretary ministry of Agriculture West Darfur State
34. Bashir Ibrahim	Minister of Agriculture West Darfur State
35. Barakat El sharif	Transport dealer/trader -Ginaina
36. Gary C. Barrett	Dart officer Ginaina
37.	Director of UN Office for coordinating humanitarian affairs.- Ginaina
38.	Care office manger West Darfur State.
39.	Women IDPs/traders Mustre
40. Merry An Marks	Dart officer – North Darfur
41.	Grain mill operator Mustri Market
42.	Barber Mustri Market
43. Ibrahim Hamid	HAC manager - North Darfur State.
44.	Trader Morni market
45.	Tailor – Morni Market
46.	IDP Morni Market
47.	IDP Morni market
48. Mutasim Hajjar	Under secretary ministry of finance – North Darfur State
49. Anwar Fadul Adam	Markets Administration officer - North Darfur State
50. Ali Munsour	Revenue officer – Ministry of finance North Darfur
51. Ahmed Eltijani	Food Security officer Goal – North Darfur State.
52. Abdelrahim Ismaiel	SCF GB- Manager of the food security program.
53.	Woman grain trader - Kutum market
54.	Woman vegetable trader – Kutum market

