

SPECIAL REPORT
FAO/WFP POST HARVEST ASSESSMENT MISSION TO SUDAN
25 May 2006

Mission Highlights

- Aggregate 2005/06 cereal production in Sudan is estimated at 5.46 million tonnes, about 59 percent higher than the previous year's very poor crop and 17 percent above the average of the previous five years.
- The estimate of the post harvest assessment Mission made a slight upward adjustment of about 3 percent to the forecast made by the CFSAM late last year.
- Cereal prices are stable but remain at above average levels. Main factors include, very low levels of cereal stocks at the beginning of the current marketing year in November 2005; the relatively higher costs of production (mainly wage rates); and expectations of substantial purchases from domestic markets by the Strategic Reserve Corporation (SRC) and humanitarian agencies.

1. OVERVIEW

A post-harvest FAO/WFP CFSAM visited Sudan from 24th February to 12th March 2006 to review the final Ministry of Agriculture estimates of the coarse grains harvest, estimate this season's wheat production and provide a consultative update on the current national food supply situation with concomitant adjustments to the cereal supply/demand balance produced by the Crop and Food Supply Assessment (CFSAM) in November 2005. Some concerns were raised late last year of whether the actual harvest would in any way be different than the one forecast in the CFSAM report as it was carried out at the start of the harvesting season. Several circumstances that may result in lower outcomes were postulated, including disruptions in the normal harvesting of the remaining crops due an escalation of conflict in Darfur; labour shortages and high wage rates observed in high potential areas; and possible pests, diseases and weather anomalies that may occur during the harvesting of the bulk of the crops.

Following briefings at the Ministry of Agriculture (MoA), Khartoum and a review of the Ministry's final post-harvest estimates from the annual sample survey conducted by the MoA Statistics Department, the Mission visited the State Ministries of Agriculture in Gedaref, Gezira, White Nile, North Kordofan, North and South Darfur, Northern and River Nile States and the Gezira scheme. In each State Ministry headquarters and in the Gezira Scheme, detailed discussions were conducted by the team with all the relevant specialists viz. senior staff from planning, crop production, seed production, crop protection, extension, input supply and marketing departments. In North Darfur, these meetings were augmented by discussions with the Agricultural Planning Unit (APU) of the Ministry of Agriculture and independent talks with senior staff of German Agro-Action and WFP. During the discussions the results of the national survey were compared with the local final post-harvest estimates and the earlier CFSAM findings in the light of the closing conditions of the main agricultural season. Discussions were also held with key informants of the MoA livestock departments in each locality to obtain an update on the livestock and pasture situation.

The team also undertook market surveys and held comprehensive talks with traders, National Farmers Union (NFU) representatives and managers of the Agricultural Bank to obtain their independent analyses of the harvest and the current situation with regard to stocks and markets. In all the wheat producing locations, a detailed analysis of the winter season's farming systems and their components was completed through a series of discussions with the MoA specialists, supported by field visits with the specialists to government pump-schemes, private farmers, cooperatives and companies. The timing precluded crop cutting in most crops, which were still at the grain-filling stage. However in all areas field surveys were made and sample headcounts taken to assist in clarifying the yield forecasts.



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The Mission found that, in the event, labour has proven to be scarce and prices higher than the previous year at 400 to 800 SD per bag harvested in different locations. However, the high sorghum prices have encouraged harvesting, albeit at a slower rate in some areas. From the detailed discussions in all States visited it is apparent that there were no extreme weather events and no serious pest attacks on the main cereal crops later in the season. Furthermore, in Darfur, harvesting of crops has seen no serious disruptions and the CFSAM findings of improved level of harvests were confirmed. Overall, the post harvest mission's total cereal production estimates in 2005/06 were adjusted upwards and stands at about 5.46 million tonnes. This compares to the 5.29 million tonnes forecast by the CFSAM late last year.

Cereal prices, which rose sharply to record levels in the summer months of 2005, began to ease since September 2005. Currently prices are stable but remain at above average levels. The high price levels are attributed, among other things, to the very low levels of cereal stocks at the beginning of the current marketing year in November; the relatively higher costs of production (mainly wage rates); and expectations of substantial purchases from domestic markets by the Strategic Reserve Corporation (SRC) and humanitarian agencies.

From the above, it follows that the CFSAM results and outlook still hold and the higher revised cereal production figures would augment estimates of cereal availability at the national level. However, at the household level, the impact of more than two decades of war and chronic poverty in southern Sudan and current conflict in Darfur have left millions in a precarious food situation security and abysmal living conditions compromising their ability to access available food. Following the signing of the Comprehensive Peace Agreement (CPA) in January 2005, hundreds of thousands have started returning to southern and transitional areas with more expected to return in the coming months, further straining food and other resources in host communities.¹

2. CEREAL PRODUCTION, 2006

2.1 Post-harvest area estimates, coarse grains

CFSAM data analyses are, for the most part, based on information drawn from the State Ministries of Agriculture. Such data are collected by the crop production and planning departments throughout the season and are, necessarily, subject to change as the season unfolds. This is true in both the large-scale mechanised rainfed farming sectors of the east and the traditional rainfed farming sector of the west, where, in both cases, area harvested is often a fraction of area planted due to a variety of factors of which the most significant may be related to rainfall in the near subsistence sector, with crop market prices, fuel prices, and labour availability playing equally important roles in the commercial sector. The CFSAM findings are based on information collected in September/October which may differ from the final situation determined after harvest in December and January in most places. This year, a comprehensive crop production sample survey was undertaken by the Federal MoA in December 2005. Given this team's brief to review the November 2005 CFSAM findings in the light of the MoA's final post-harvest estimates of production, based on the returns of the sample survey, the localities identified for team visits comprised the localities where more recent information, obtained during the MoA sample survey, were at some variance with the previous information used in the CFSAM report. Winter wheat growing areas were integrated with such places to allow the same team to assess the coming wheat harvest.

As areas farmed by the traditional sector in South Sudan are theoretically calculated using a different methodology to the system outlined above, which has been comprehensively detailed in previous CFSAM Preliminary Reports, and the region is not included in the MoA sample survey, the earlier mission findings do not have a comparator and so are not included in this review. Mechanised rainfed farming in Upper Nile, however, is covered by the MoA sample survey and has been included in this estimate for desktop reappraisal and adjustment.

¹ Detailed analysis can be found in the FAO/WFP CFSAM report of February 2006.

Table 1. Sudan: Comparison of Order of Harvested Area Estimates for Sorghum and Millet between MoA² and the CFSAM in November 2005 by State

Sector	Sorghum			Millet		
	MoA>CFSAM	MoA=CFSAM	MoA<CFSAM	MoA>CFSAM	MoA=CFSAM	MoA<CFSAM
Irrigated	1	11	1	none	1	none
Mechanised	5	2	1	none	6	none
Traditional	2	6	5	1	7	1
TOTAL	8	19	7	1	14	1

From Table 1 it may be seen that the differences in harvested area this year are mostly in both mechanised and traditional rainfed sorghum sector and that general agreement in area exists in the other sectors. Table 5 provides, in juxtaposition, the actual data for each state from the CFSAM Special Report (February 2006) and the final data, agreed by all parties following incorporation of MoA sample survey data and discussions held during team visits to the eight selected states and the Gezira Scheme.

2.2 Final Yield Estimates

Cereal production is determined by multiplying yield per unit area by the area estimates. This year, the sample survey teams from the Federal MoA (Department of Statistics) carried out comprehensive yield estimations using 25 square metre crop-cutting samples in all sectors. The order of the MoA yield returns for all cereal farming systems, juxtaposed with the CFSAM estimates are shown in Table 2.

Table 2. Sudan: Comparison of yield Estimates - MoA post harvest estimates and CFSAM forecast in 2005

Sector	Sorghum			Millet		
	MoA>CFSAM	MoA=CFSAM	MoA<CFSAM	MoA>CFSAM	MoA=CFSAM	MoA<CFSAM
Irrigated	2	9	1	none	1	none
Mechanised	2	5	4	none	5	1
Traditional	2	6	5	1	8	1
Total	6	20	10	1	14	2

The data present a closer fit than the area data, reflecting conservative CFSAM estimates earlier in the season, when many crops were not ready for harvest and still vulnerable to pest attack and extreme events. The CFSAM was also concerned that migrant labour would be scarce and expensive and that large scale mechanised farmers may not harvest all their crops or may harvest with less due care and attention than normal. In the event, labour has proven to be scarce and prices higher than last year at 400 to 800 SD/bag harvested, depending on crop production. However, so far, the high sorghum prices have encouraged harvesting, albeit at a slow rate in some areas. The team noted that along the main road from Gedaref to the Fao hills, around one field in ten of rainfed sorghum remained un-harvested³ and many more were harvested but not yet threshed. Gangs of labourers and combines, acting as stationary threshers, were noted to be active in the area.

From the detailed discussions in all States visited it is apparent that there were no extreme weather events and no serious pest attacks on the main cereal crops later in the season. However, earlier than anticipated rain-stop and increased temperatures are noted to have reduced late sown sorghum and millet yield estimates in Renk (Upper Nile). It is, however, worth commenting that Renk CFSAM estimates are obtained in October at least 3-4 weeks before the main mission and are concomitantly more vulnerable to error. As the early season conditions in Renk were noted to be ideal, many farmers planted early and the crops approaching a harvestable state at the time of the CFSAM were clearly in a better condition than those sampled by MoA in mid-December. Interestingly, the final yield estimates for Blue Nile State, the closest State to Upper Nile, are much higher than the Renk CFSAM estimates in both the mechanised and traditional sectors.

In South Darfur, the MoA reported the continued relevance of the CFSAM findings. A field visit to the main farming areas south of Nyala confirmed the extent and quality of the harvest insomuch as the presence of stubble and the quality and quantity of the cut and collected sorghum stover, the standing millet straw and

² Federal MoA Statistics Dept. Crop cutting survey returns/or State MoA final data

³ First week of March, 2006

the presence of harvested groundnut fields throughout the district are indicative of assessed performance reported by MoA field officers.

In North Darfur, meetings with the specialist agriculturalists of the MoA - Agricultural Planning Unit of the Ministry of Agriculture (APU) - and, at different times with senior officers of WFP and German Agro-Action (GAA) offered the team an opportunity to discuss at length a post-harvest assessment conducted by the APU with support from NGOs. The APU report confirms a much better harvest than last year across the state due to better growing conditions, inputs and security, with the exception of identified localities where the rains withdrew earlier than normal and the millet head worm infestations were reported. Team adjustments to the APU report's area estimates during series of discussions to account for missing data and apparent inconsistencies, result in estimated harvested area 70 percent greater than last year but still way below the normal level, which means that the CFSAM millet area estimate has been slightly reduced. The sorghum area remains the same and was apparently all sown with improved seeds from supporting agencies including FAO, GAA, Action Contre la Faim (ACF), International Committee of the Red Cross (ICRC) and the Ministry of Agriculture (the stated sorghum area is much higher compared to earlier series. The mission wasn't able to verify the accuracy of the figure due to the conclusion of the harvest and security concerns). APU/MoA yield estimates are slightly above CFSAM estimates for millet but below those for sorghum. Both are lower than last year's State MoA estimates which contradicts the main finding of a better season and the increased yields of cash crops, particularly groundnut and sesame (10x and 20x production increases respectively) reported by the same body. The situation points to the need for a comprehensive training programme in crop-assessment and the equally important need for the provision of the appropriate tools to carry out the work. The current importance of Darfur has prompted the inclusion of MoA time series data showing area planted, area harvested, yield and production so that a wider data set may be used to judge the team's estimates. These are shown in Table 3 below.

**Table 3. Sudan: Coarse Grains Production in Darfur 1996-2002 (Average), 2003, 2004, 2005
(Area in 000 feddans and Production in 000 tonnes)**

	Sorghum				Millet			
	Planted Area	Harvested Area	Yield kg/feddan *	Production	Planted Area	Harvested Area	Yield kg/feddan	Production
North Darfur								
1996-2002	89	67	104	7	1 910	1 070	92	98
2003	89	50	120	6	2 230	1 050	79	83
2004	53	21	100	2	1 440	517	63	33
2005	189 ^{1/}	65	112	7	1 406	610	89	54
South Darfur								
1996-2002	647	419	255	107	1 986	1 297	118	153
2003	1 476	872	214	187	2 675	1 634	214	350
2004	730	423	180	76	1 537	922	150	138
2005	n/a	620	270	167	n/a	1 300	190	247
West Darfur								
1996-2002	89	67	104	7	548	362	287	104
2003	89	50	120	6	572	257	200	51
2004	53	21	100	2	229	172	170	29
2005	n/a	127 ^{2/}	350	44	n/a	180	300	54

* One feddan is equivalent 0.42 ha.

^{1/} Source APU El Fasher, unlikely given time series data- not corrected

^{2/} Indicates a switch from millet to sorghum due to seed provision and good early rainfall. Total harvested area was only 4 percent

2.3 Winter Season Wheat Production

The production of wheat in Sudan is conducted only in the winter months and only by the irrigated sector. Wheat planting should take place from the last week in October to the 2nd week in December. However, the best performance is usually obtained from those planted earlier in the season. Efforts to increase the domestic production of the major staple that accounts for 99 percent of annual cereal imports, have resulted in improved seed varieties, increased availability of inputs and widely proselytised extension packages, which if implemented in a timely fashion may produce average yields of up to 5t per hectare (20 quintal per feddan). The intensive nature of the systems means that production achieved is heavily dependent on the timely availability of finance at a number of levels, which, for the bulk of the farmers depending on credit, may be just as unpredictable as the rain in the summer season.

This year the team visited all the major wheat growing areas except New Halfa Scheme, holding detailed discussions with State/Scheme MoA specialists, pump-scheme managers, farmer's union officials and private farmers in Gezira Scheme, White Nile State, River Nile State and Northern State. Extensive field visits were undertaken at all localities including vehicle transects through the wheat-growing sections of the schemes, walk-through crop fields and sample head-counting analyses of square-metre quadrats. Visits to the pump-sites and heads of command areas, confirmed the state of availability of water and expected delivery patterns. Rapid case studies with farmers selected at random during the visits were used to cross-check information received from MoA staff.

2.3.1 Water availability and area planted

Water availability statistics provide a mixed picture according to location. In the Gezira Scheme sufficient water is noted to be available for around 155 000 feddans at average intervals of 14 days, although some farmers on the extremities of the scheme experience longer delays. Canal maintenance problems affecting delivery of irrigation water and drainage preclude any further extension. 95 percent of the farmers were reported to have already received 6 irrigations and a further 4 percent either 7 or 8 irrigations with 2 more expected before curtailment. Consequently, 151 000 feddans are expected to be harvested.

In the White Nile Scheme 23 450 feddans are being irrigated out of a possible 98 000 feddans reflecting a situation where only 65/137 pump schemes are actually working. In these operations planting was delayed due to water availability and only 39 percent of the farmers have received 5 irrigations. A further 10 000 feddans of wheat are being grown by private pump-set owners, whose operations, are, by-and-large, expected to be more timely.

In the Northern State, winter crops of wheat, faba beans, spices and garlic/onions area highly significant contributors to the household economy. Wheat is the main staple and is grown in balanced rotation with faba beans, vegetables and 1-2 year fallowing. The other crops offer a variety of annual cash-crop options that are well-developed and suited to the conditions. As all crops are irrigation dependent, awareness of water availability among farmers is high. The schemes offer an potential of 117 000 feddans of irrigated field crops through 159 cooperatives (15 900 farmers); 136 000 feddans through 55 farming companies involving 2 750 farmers and a further 94 000 feddans through 7647 private pump-sets. Supplementary water is also available via 15 000 shallow wells (metera-systems) to around 45 000 farmers. Presently, rehabilitation programmes are underway to refurbish the riverine pumps and improve the canal delivery systems. The team notes the presence of mobile floating pumps used to support schemes with mechanical failure (Bina Scheme). In addition to the schemes, water is also available for some 86 000 feddans of riverine date palms and for 15 000 feddans of perennial fodder much of which is berseem (alfalfa). Although irrigation for the winter crops began as usual in October, this year there has been a *de facto* decrease in the subsidised fuel used for the pumps by 3 gallons/feddan, which has increased the cost of production but is not noted to have reduced area cultivated.

To date farmers in most schemes have been receiving water regularly at 10-15 day intervals with 8 floods already completed and a further 2 expected before curtailment. The area expected to be harvested to wheat is 152 000 feddans, which is 17 percent greater than the CFSAM estimate at the very beginning of the season. In River Nile State timely irrigation water availability is noted to be less assured although 70 000 feddans are expected to be harvested, which is slightly more than the 65 000 feddans estimated by the CFSAM in November.

2.3.2 Cultivation practices

Cultivation practices vary within schemes and between localities. Minimum tillage systems on previously levelled lands in the North and White Nile States involving weed clearing, broadcasting of seeds and a single ridging pass, contrast dramatically with the 4 pass tractor systems used in Gezira involving a set sequence of disc ploughing, harrowing, ridging and levelling.⁴ This year the team noted that the full range of options had been adopted. One feature was common throughout, this year there was no need for re-seeding anywhere.

2.3.3 Inputs

Unlike the sorghum and millet systems the wheat production system is input dependent. Access and availability to improved seeds, fertilizers and, increasingly, herbicides determines performance. This year

⁴ Massey Ferguson tractors specialist, working in Gezira, identified hard-pans at 25cm as a probable wheat-performance constraint.

input availability is noted to have varied considerably between localities and despite a reduction in fertiliser prices, their use is noted to be strongly connected to the level of institutionalisation of the farmers and the availability of finance/ credit in kind. Thus, in the Gezira Scheme, with a universal option of credit-in-kind for wheat growers, this year 99 percent of the farmers used improved seeds, 93 percent used a basal fertiliser dressing of triple super phosphate (TSP) at 50 kg/feddan and all farmers top-dressed with urea in either one or two doses (at a rate of a dose of 40kg/feddan). This represents a slight increase in usage which in turn contributed to some increase in yields. Sowing rates were also noted during field visits, to be consistent at 50kg/feddan, the recommended rate. Whereas this level of scheme involvement affords access to inputs, the single supply system contains it's own drawbacks and this year, as in previous years, sowing date was delayed beyond the optimum time band from the 1st to the 15th November for some 50 percent of farmers due to input supply delays apparently connected to release of funds.

In the White Nile Scheme, slow finance release delayed the start of most operations. A late distribution of certified seeds compounded the low use at around 50 percent of the area planted. By the same token a very low use of TSP (6 percent of scheme farmers; 10 percent of private pumpset farmers) was noted. Notwithstanding the foregoing, seeding rates were generally higher than Gezira, particularly among the private farmers using their own seed and no TSP.

Input supply in the North State is noted to be less problematic. The Agricultural Bank had funds available on-time for seeds, fertilisers and fuel to the sum of SD 864 million. Inputs were available and the season appears to have progressed on-time. However, some 62 percent of farmers used their own rather than certified seeds, apparently as cost saving mechanism, at sowing rates varying from 60-80 kg per feddan. All farmers used TSP basal-dressing and urea top-dressing at the recommended or above recommended rates, impacting positively on yields.

In River Nile State, high water rates 125 000 /feddan are a strong disincentive for growing wheat, given that other costs are also high and the production is uncertain, bigger profits are gained from other crops, particularly faba bean, spices and vegetables. Regarding inputs although 45 percent of farmers used improved seed at the 50kg/feddan rate, one of the major sources was a batch of cheaper seeds from the Agricultural Bank, which had poorer than expected germination rates. At the same time the hotter winter weather reduced the length of the winter cold spell and encouraged weed growth. Few farmers used TSP and although urea was used by most farmers, application rates were lower than recommended.

2.3.4 Pest and diseases

Pest and disease profiles in the wheat growing localities are noted to be comparatively simple. No migratory pests were noted or reported to the team. The only pests of significance noted this season were aphids. Campaigns against aphids involving aerial spraying (Gezira) and up to 4 applications using knapsack sprayers (Guli, White Nile State) are noted. In other locations in White Nile State where spraying had not been conducted/effective, aphid infestations were observed during team field surveys and yields are noted to be lower.

The team notes that although the use of herbicides appears to be increasing, it is restricted to the post emergence use of 2-4D on seed multiplication plots. Most farmers would appear to rely on a mixture of the universal need of forage for the settled livestock population to encourage rogueing by family members and neighbours probably once, twice and even three times during the winter season, to keep the weeds down. Regarding plant diseases, no problems were noted or reported. Certified seeds are dressed and the general availability of *phostoxin* in the wheat growing localities appears to control other fungal diseases that might be carried over in the farmer grown seed.

2.3.5 Labour

Unlike the commercial rainfed sector, the irrigated wheat farms are small. Farm labour is drawn from the local communities when needed in the form of family labour or through *nafeer* systems of exchange. Harvesting/threshing is either conducted by fully operational combine harvesters, cutting and threshing (Gezira) or by Power Take Off (PTO)-driven stationary threshers following hand cutting and collecting. No problems in machinery availability were anticipated given that funds for the processes would be made available by the schemes and farmers themselves.

2.3.6 Wheat production estimates 2006

Wheat production this year is expected to be better than last year in North State but elsewhere the prognosis is not so good. Untimely changes in the weather pattern with associated shorter cooler periods, delays in sowing and a less than ideal use of fertilisers suggest yields similar to or lower than last year in all other localities. Consequently, in the irrigated sector, the team estimates a harvest of 414 000 tonnes from 414 000 feddans, reflecting a 4 percent increase on the 399 000 tonnes estimated by MoA to have been harvested last year. Table 4 presents the total wheat production series by region presented in the CFSAM Special Reports. The figures, therefore, suggest a better overall harvest than has been reported in the last few years due to the good performance in North State.

Table 4. Sudan: Total wheat production 2002/03 to 2005/06, (000 tonnes)

Region	2002/03	2003/04	2004/05	2005/06
North	197	185	215	263
Central	159	154	216	145
East	4	14	3	5
Darfur	4	2	1	1
TOTAL	364	356	435	416

3. Cereal production, revised estimates for 2006

Revised estimates are given in Table 5, showing area, yield and production. The estimated cereal production excluding 35 000 tonnes of rice is 5.46 million tonnes, which is 3.2 percent higher than the CFSAM estimate of about 5.29 million tonnes and very close to the federal MoA sample survey estimate of 5.5 million tonnes.

Table 5 shows that the greatest differences were evident with respect to sorghum in Gedaref and White Nile States and with regard to millet, the greatest difference is in North Kordofan State. In all others the differences are smaller and reflect both updated information on area harvested available to the State ministries and the improved accuracy of the sample survey.

In most cases, differences are further reduced when the mechanised and traditional data are merged. As the "traditional" farms of the northern states are mechanised and follow precisely the same farming system as the large-scale farmers, the distinction between the categories may become blurred as is the case in the White Nile and Blue Nile States' data. In the case of Gedaref, an independent analysis conducted by the offices of the Mechanised Farm Corporation (MFC) indicates that 3.81 million feddans of sorghum have been harvested in the mechanised sector, a figure quite close to the estimate of 3.75 million feddans made from the 500 farmer MOA sample survey returns, reinforcing the need to adjust the earlier 3.00 million CFSAM figure.

A similar situation pertains to millet area in the traditional sector in North Kordofan. Updates from the State MoA from a survey of 20 percent of the localities, confirm the Federal MoA sample survey data at 2.33 million feddans of harvested millet compared to the earlier CFSAM 2.00 million feddans estimate, which has now been revised to accommodate the latest information. In White Nile State, the specialists in the MOA confirmed the closeness of results from the sample survey with their own final area assessment, however as noted above the differences between these and the CFSAM data disappear when data from the traditional and mechanised sorghum sectors are merged. In Upper Nile State, apparent differences in area between MoA and CFSAM are due to i) Upper Nile figures for cereals including sorghum and millet together in Table 21 (CFSAM,2006) and ii) the inclusion of Wadakona with Renk in the same data set, were resolved and the more recent MoA area figure adopted.

Table 5. Sudan: Cereal Production Estimates in 2005/06 – Comparison of Post Harvest Estimates CFSAM Forecasts in November 2005

	Sorghum(+Maize)						Millet						Wheat						Cereals						
	Post Harvest team 06			Nov 05 Mission			Post Harvest team 06			Nov 05 Mission			Post Harvest team 06			Nov 05 Mission			Post Harvest team 06			Nov 05 Mission			
	Area (000f)	Yield (t/f)	Prod (000t)	Area (000f)	Yield (t/f)	Prod (000t)	Area (000f)	Yield (t/f)	Prod (000t)	Area (000f)	Yield (t/f)	Prod (000t)	Area (000f)	Yield (t/f)	Prod (000t)	Area (000f)	Yield (t/f)	Prod (000t)	Area (000f)	Yield (t/f)	Prod (000t)	Area (000f)	Yield (t/f)	Prod (000t)	
Irrigated																									
North maize	21	0.95	20	15	0.81	12	0	0.00	0	0	0.00	0	152	1.40	213	130	1.35	169	173	1.35	233	145	1.25	181	
River Nile flood	42	1.02	43	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0	0.00	0	42	1.02	43	0	0	
Sennar	28	1.25	35	140	0.83	116	0	0.00	0	0	0.00	0	70	0.72	50	65	0.87	59	98	0.87	85	205	0.85	175	
White Nile	49	0.36	18	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0	0.00	0	49	0.36	18	0	0	
Gezira	80	0.70	56	80	0.70	56	0	0.00	0	0	0.00	0	0	0.00	0	0	0	0.00	0	80	0.70	56	80	0.70	
Rahad	98	0.48	47	100	0.48	48	0	0.00	0	0	0.00	0	33	0.75	25	32	0.55	22	131	0.55	72	132	0.53	70	
Suki	452	0.85	384	445	0.95	423	0	0.00	0	0	0.00	0	151	0.80	121	160	0.84	144	603	0.84	505	605	0.94	567	
New Halfa	89	0.95	85	89	0.95	85	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	89	0.95	85	89	0.95	85	
Gash	30	0.90	27	30	0.90	27	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	30	0.90	27	30	0.90	27	
Tokar	73	0.80	58	73	0.80	58	0	0.00	0	0	0.00	0	8	0.65	5	8	0.65	5	81	0.79	63	81	0.79	63	
Kassala	70	0.76	53	70	0.76	53	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	70	0.76	53	70	0.76	53	
N. Kordofan	19	0.60	11	19	0.60	11	15	0.40	6	15	0.40	6	0	0.00	0	0	0.00	0	34	0.51	17	34	0.51	17	
Upper Nile	6	0.83	5	6	0.83	5	5	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	6	0.83	5	6	0.76	5	
sub-total	73	0.57	4	7	0.57	4	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	7	0.57	4	7	0.54	4	
Mechanised																									
Kassala	2	0.50	1	2	0.50	1	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	2	0.50	1	2	0.42	1	
sub-total	1 066		847	1 076		899	15		6	15		6	414		414	395		399	1 495		1 267		1 486		1 304
Traditional																									
Khartoum	600	0.15	90	600	0.15	90	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	600	0.15	90	600	0.15	90	
Gezira	3750	0.20	765	3050	0.19	579	110	0.09	10	110	0.09	10	0	0.00	0	0	0.00	0	3 860	0.20	775	3 160	0.19	589	
Blue Nile	607	0.40	244	510	0.28	143	29	0.18	5	29	0.18	5	0	0.00	0	0	0.00	0	636	0.39	249	539	0.27	148	
Sennar	1162	0.17	199	900	0.20	180	63	0.15	9	63	0.15	9	0	0.00	0	0	0.00	0	1 225	0.17	208	963	0.20	189	
White Nile	1005	0.16	163	720	0.18	130	45	0.15	7	42	0.15	6	0	0.00	0	0	0.00	0	1 050	0.16	170	762	0.18	136	
N. Kordofan	90	0.18	16	90	0.18	16	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	90	0.18	16	90	0.18	16	
S. Kordofan	1053	0.24	250	850	0.27	230	9	0.11	1	9	0.11	1	0	0.00	0	0	0.00	0	1 062	0.24	251	859	0.27	231	
Upper Nile	677	0.25	169	694	0.35	243	153	0.18	28	153	0.32	49	0	0.00	0	0	0.00	0	830	0.24	197	847	0.34	292	
sub-total	8 944		1 896	7 414		1 611	409		60	406		80	0		0	0		0	9 353		1 956		7 820		1 691
Traditional																									
Khartoum	55	0.11	6	55	0.11	6	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	55	0.11	6	55	0.11	6	
Gezira	885	0.21	186	885	0.21	186	7	0.14	1	7	0.14	1	0	0.00	0	0	0.00	0	892	0.21	187	892	0.21	187	
Blue Nile	79	0.34	27	165	0.32	52	9	0.20	2	9	0.20	2	0	0.00	0	0	0.00	0	88	0.33	29	174	0.31	54	
Sennar	355	0.20	71	380	0.27	103	42	0.18	8	42	0.18	8	0	0.00	0	0	0.00	0	397	0.20	79	422	0.26	111	
White Nile	107	0.13	14	400	0.20	80	170	0.18	31	170	0.17	29	0	0.00	0	0	0.00	0	277	0.16	45	570	0.19	109	
Kassala	120	0.18	22	120	0.18	22	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	120	0.18	22	120	0.18	22	
River Nile	38	0.25	10	9	0.22	2	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	38	0.25	10	9	0.22	2	
Red Sea	8	0.14	1	8	0.14	1	5	0.09	0	5	0.09	0	0	0.00	0	0	0.00	0	13	0.12	1	13	0.11	1	
N.Kordofan	638	0.14	91	600	0.11	66	2 330	0.06	140	2 000	0.06	120	0	0.00	0	0	0.00	0	2 968	0.08	231	2 600	0.07	186	
S. Kordofan	659	0.28	186	700	0.25	175	320	0.18	58	320	0.18	58	0	0.00	0	0	0.00	0	979	0.25	244	1 020	0.23	233	
N. Darfur	64	0.11	7	65	0.12	8	610	0.09	54	750	0.08	56	0	0.00	0	0	0.00	0	674	0.09	61	815	0.08	64	
S. Darfur	620	0.27	167	620	0.27	167	1 300	0.19	247	1 300	0.19	247	2	0.50	1	2	0.50	1	1 922	0.22	415	1 922	0.22	415	
W. Darfur	127	0.35	44	127	0.35	44	180	0.30	54	180	0.30	54	2	0.50	1	0	0.00	0	309	0.32	99	307	0.32	98	
South	2 132	0.38	806	2 132	0.38	806	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	2 132	0.38	806	2 132	0.38	806	
sub-total	5 887		1 638	6 266		1 718	4 973		595	4 783		575	4		2	2		1	10 864		2 235		11 051		2 294
Grand Total	15 897		4 381	14 756		4 228	5 397		660	5 204		661	418		416	397		400	21 712		5 458		20 357		5 289

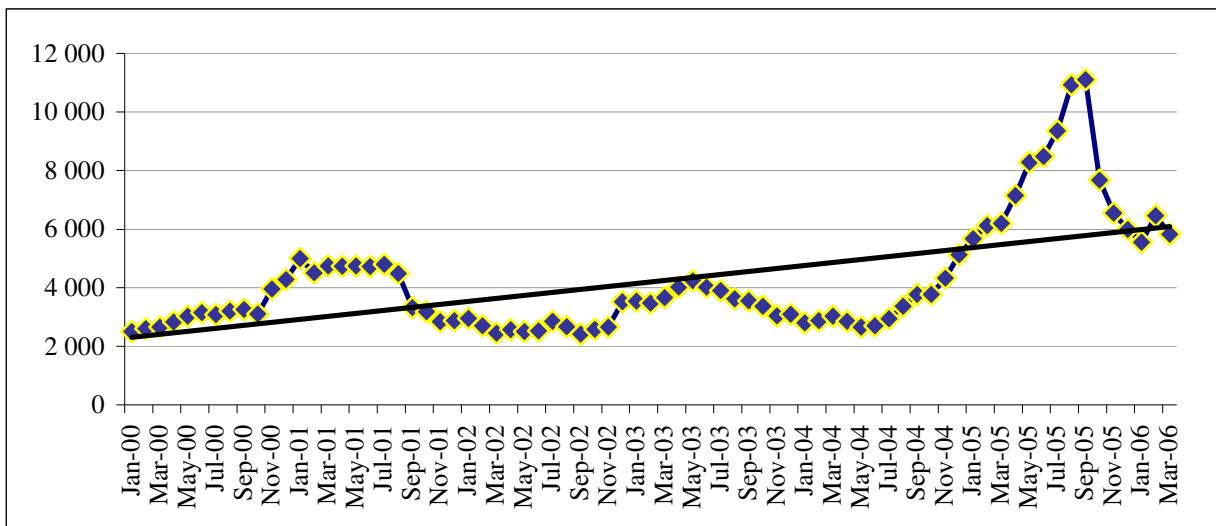
4. National cereal supply/demand situation

As part of the Post Harvest Assessment, 10 agricultural markets in 8 states were visited. These were: Gedaref, Medani, Kosti, Tendalti, Um Rawaba, El Obeid, Nyala, El Fashir, Ed Damer and Dongla markets. The main objective was to compare the current season prices and supply of major crops and livestock with those of previous season. In general, markets were supplied with relatively larger quantities of local agricultural crops compared with 2005. However, the current prices of sorghum and millet are higher than those of same time last year (by a range of about 5 to 17 percent), with few exceptions. In 2005, grain prices, particularly for sorghum rose to record levels while wage rates increased by up to 300 percent. Figures 1 and 2 indicate the trends in the average monthly prices of sorghum in Gedaref (a major cereals market in the country) and the average monthly millet and goat prices in the markets in Darfur respectively. The latter reflects the slightly improved terms of trade pastoralists face in accessing the main staple crop in Darfur.

Average monthly prices of both sorghum and millet are shown to be much higher in 2005 than in previous years, reaching record levels, in response to the poor harvest of 2004. However, price levels began to ease from September 2005 onwards. Currently, prices remain stable but at above average levels despite the good harvest at the end of 2005. This could be attributed to one or more of the following reasons:

- Very low stock levels at the beginning of the current marketing year in November 2005 in all markets due to the poor harvest of the previous season.
- Relatively higher costs of production, mainly the scarcity of agricultural labour and sharp increases in wage rates. The rise in wage rates follows the decrease in the pool of labourers due to the relative peace in southern Sudan that prompted the return of thousands of people from northern Sudan; the increased demand for labour in the construction and service sectors fuelled by the country's oil sector boom; and the indirect impact of rising inflation, particularly food inflation.
- Announcement of the Government that it would buy 500 000 tonnes of sorghum through the Strategic Reserve Corporation (SRC) from farmers. However, the SRC was unable, so far, to realize the local procurement due to the prevailing above average prices and lack of financing. It seems also unlikely that the planned purchase will actually be implemented.
- Large quantities of sorghum bought by commercial banks during the month of February 2006 in Gedaref market.
- Expectations that WFP and other food aid organizations will buy large quantities of cereals from local markets.
- This has led to farmers and/or traders keeping higher stocks than usual (hoping that prices will go up). Insecurity in Darfur is also hindering the normal flow of millet to local markets.

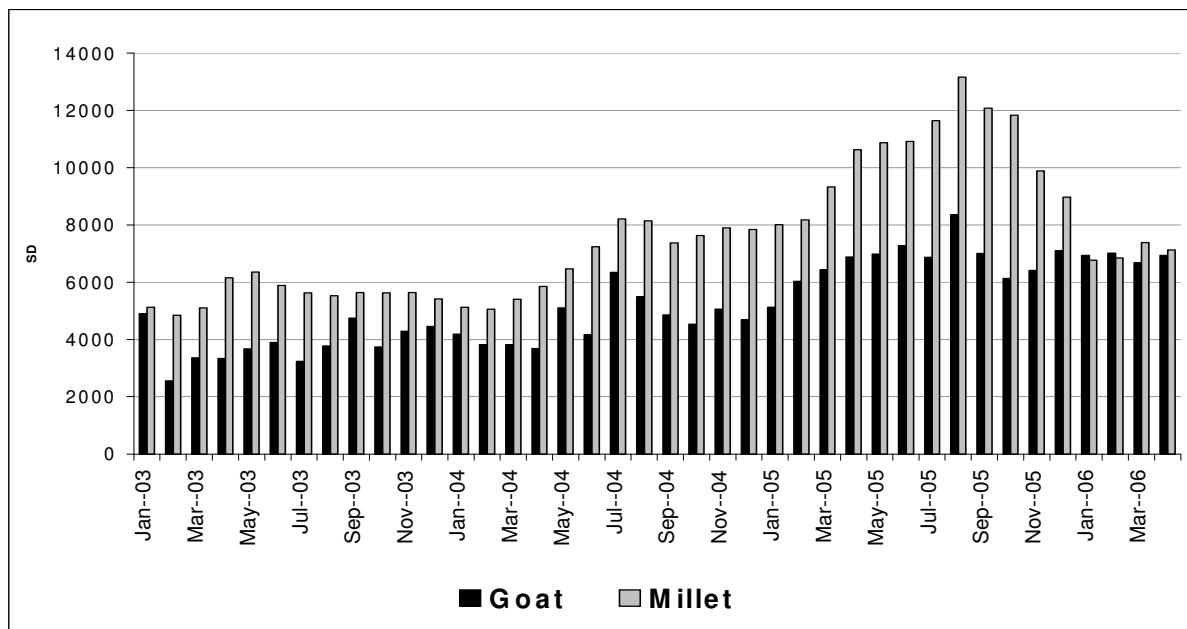
Figure 1. Sudan: Average monthly prices of sorghum in Gedaref (SD/bag) 2000-2006



Source: Sudan Strategic Reserve Corporation, WFP

It is evident from figure 2 that the terms of trade has improved for livestock owners – from a bag of millet costing about two goats in the summer of last year to an exchange of nearly one bag to one goat in the first four months of 2006. The change is not so much due to increases in livestock prices, which remained rather stable since last year, but due to the decline in millet prices since the last harvest late last year.

Figure 2. Sudan: Average monthly millet prices (SD/100kg) Vs goat prices (SD) in three Darfur markets - 2003-2006



Source: WFP

Sudan's Revised cereal supply/demand balance for the 2005/06 (November/October) marketing year is summarised in Table 6. It is based on the revised cereal production estimates of 5.49 million tonnes, including a forecast of wheat production for harvest in April/May 2006.

Table 6: Sudan: Revised Cereal balance sheet for 2005/06 (000 tonnes)

	Total cereals	Rice	Sorghum + Maize	Millet	Wheat
Availability	5 678	35	4 414	680	549
Opening stocks	185	0	33	19	133
Production	5 493	35	4 381	661	416
Utilisation	7 001	63	4 414	680	1 844
Food	5 522	60	3 346	540	1 576
Feed	500	0	437	63	0
Seed	101	1	63	13	24
Post-harvest losses	518	2	441	33	42
Export	50	0	50	0	0
Closing stocks	310	0	77	31	202
Commercial import	1 323	28	0	0	1 295

From the above, it follows that, the higher revised cereal production figures would augment estimates of cereal availability at the national level. However, at the household level, more than two decades of war and chronic poverty in southern Sudan and current conflict in Darfur have left millions in a precarious food situation and abysmal living conditions compromising their ability to access available food. Following the CPA, hundreds of thousands have started returning to southern and transitional areas with more expected to return in the coming months, further straining available food and other resources in host communities.

This report has been prepared by Shukri Ahmed and Ian Robinson, under the responsibility of the FAO Secretariat with information from official and other sources. Since conditions may change rapidly, please contact the undersigned for further information if required.

*Henri Josserand
Chief, GIEWS, FAO
Fax: 0039-06-5705-4495
E-mail: giews1@fao.org*

*Bradley Guerrant
Deputy Regional Director and Officer-in-Charge, WFP Sudan
Fax: +249 83 248003
E-mail: bradley.guerrant@wfp.org*

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