Sub-regional integration in Sudan: the key to food security and recovery

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The signing of the Comprehensive Peace Agreement (CPA) in Sudan has created a new opportunity for peace. Approaches to food security must now be reoriented based on the agro-ecological diversity in Sudan. WFP is in a unique position to catalyse an approach to food security that meets immediate needs and contributes to long-term recovery, in collaboration with the Government of National Unity (GNU) and the Government of South Sudan (GOSS). Aggregate food production in Sudan has increased in the past decade. At sub-regional levels, however, many areas remain food insecure. Major research must be undertaken to identify optimum levels of food production and barriers to access to food at sub-regional levels as a first step towards linking deficit areas with areas of surplus. Initiatives must also be undertaken to facilitate increased integration between sub-regions. Increased sub-regional linkages could ensure more efficient delivery of food in the short term as well as recovery and economic growth in the long term.

Keywords: fuel, infrastructure, local deficit, local purchase, local surplus, market

Introduction

The signing of the Comprehensive Peace Agreement (CPA) on 9 January 2005 set a new framework for peace and recovery in Sudan. The concept of ‘one country, two systems’ in the CPA provides political recognition for the diversity that exists throughout Sudan. The food security situation in Sudan must be addressed specifically in relation to the sub-regional agro-ecological diversity of Sudan. This may necessitate that areas with divergent agendas and/or political systems be linked and integrated agriculturally and economically. In the new era of peace in Sudan, production, distribution and access to food must be linked, irrespective of political borders, in order to achieve maximum efficiency in meeting the needs of all Sudanese.

This paper presents some of the issues the World Food Program (WFP) should address to enable it to move towards an integrated approach to food security in the new era of peace.1 Food security is analysed in terms of food availability (production at the regional and sub-regional levels) and access to food (markets, infrastructure and household access). Food utilisation, which is a third component of food security, is not addressed in this paper.

WFP has played a vital role in meeting food aid needs during the conflict between the North and South and the conflict in Darfur, as well as meeting the needs of other vulnerable populations throughout Sudan. Because of the complexity and duration of

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the conflict between the North and South, WFP developed new and creative systems to gain access to the most vulnerable populations. The resultant approach was, at the time, an effective arrangement to fulfil the humanitarian imperative.

In the light of the CPA, however, WFP must reorganise its programming in such a way that it no longer takes its cues from the political context, to ensure access, but instead relies on policies related to poverty reduction, as well as agro-ecological and economic realities, to inform programming. WFP must promote and capitalise on sub-regional integration between areas of surplus production and areas of deficit in order to fulfil the humanitarian imperative in Sudan. WFP’s logistics and programming in Sudan must also be organised so that the entire country can be approached from a sub-regional integration approach, rather than in relation to political borders.

Furthermore—despite the resolution of the conflict between the North and the South, and the partial resolution of the conflict in Darfur—WFP must remain cognisant of the potential for conflict in the East. This is a particularly salient issue for the future of food security in Sudan because of the strategic nature of the region. Conflict in this region could affect food imports through Port Sudan as well as the domestic production of crops in the mechanised and irrigated schemes in the region, on which the urban centres are heavily reliant. Conflict in the East could also affect the import and export of fuel, which could in turn affect the economy as well as fuel-dependent humanitarian operations.

While many barriers to integration and sub-regional linkages remain, these must not deter WFP from promoting and pursuing sub-regional integration as a means to contribute to food security. As the peace agreements are implemented, Sudan must focus on a path to recovery and development. In-depth research to identify sub-regional areas of surplus production relative to deficit areas, and the obstacles to integration, is required to enable potential linkages to be explored. WFP is in the unique position of laying the groundwork for these efforts while continuing to meet emergency needs.

Integration will enable: (a) areas of current food deficit to benefit in the long term from greater linkages with surplus production areas; (b) macroeconomic restructuring to remove barriers to sub-regional integration, which will ensure a climate that promotes recovery and future food security throughout the country; and (c) the increasingly inadequate resources allocated by the international community to fund food security to be used as efficiently as possible to meet both short- and long-term objectives.

To overcome the barriers to sub-regional integration WFP must be ready to challenge the status quo defined by its work during a conflict scenario in Sudan. A new era of peace should lead to new strategies for contributing to prosperity and food security. WFP is poised to catalyse these efforts. If barriers are removed, Sudan could become almost entirely self-sufficient in food. At the same time, sub-regional integration could promote economic growth.

This paper reviews current food availability in the country, examines the issue of sub-regional linkages for food security as they relate to future food availability and presents a number of key recommendations and conclusions.
Current food availability
The diverse landscape
There are three productive agricultural sectors in Sudan: a semi-mechanised and rain-fed sector, an irrigated sector, and a traditional rain-fed sector. Additionally, Sudan has some of the most varied and diverse ecological systems in the world—from the Sudd in the South, which is approximately the size of Belgium, to the vast desert areas of the North. It is perhaps easy to forget the existence of mechanised farms in southern Kordofan when the WFP warehouse stores food for air drops in the North just next door in El Obied. Or perhaps it is simply too much of a stretch of the imagination while in the desert landscape of Darfur to remember that there is in the same region a highly productive naturally rain-fed area around Jebbel Marra. However, it is the perpetuated fragmentation of the country that inhibits efforts to link the productive areas with the areas of food deficit.

Integration will require significant resources and structural transformation. However, Sudan's long-term need for food aid (even if only for humanitarian emergencies such as Darfur) is a far more costly prospect, and the country currently produces enough food to be food secure at an aggregate level. Furthermore, these aggregate levels should increase now that peace has returned to southern Sudan—because of the region's highly productive agriculture.

Aggregate food security
Recent UN Food and Agriculture Organisation (FAO) crop and food supply assessments (FAO/WFP, 2006, p. 1) report that ‘the overall food situation in Sudan is . . . expected to be favourable. At the aggregate level, the country is able to cover all of its cereal requirements through the above average cereal production, coupled with the country’s enhanced ability to import commercially’. Domestically, it is estimated that, with 185,000 tonnes in opening stocks, Sudan as a whole will produce 5,291,000 tonnes of cereals in 2005–2006, primarily comprised of sorghum. Consumption at a national level is estimated at 6,804,000 tonnes (FAO/WFP, 2006 p. 27). Given the fluid nature of the situation in Sudan, these figures are based on significant assumptions—including the assumption that the security situation will not prohibit harvesting in Darfur in 2006.

Overall production of grain and pulses in Sudan has increased steadily (FAO, 2006). However, there are significant year-to-year fluctuations because of the recurrent natural shocks that have affected production and productivity. However, in order to better understand trends in production, the data must be analysed in per capita terms and disaggregated to allow them to be analysed in a sub-regional context.

In the framework of peace, increases in productivity can be expected if returnees move back to the hinterlands and begin to farm again, if areas under cultivation increase and if agricultural schemes receive increased investment as part of a recovery strategy. However, the assumed increase in production linked to peace is dependent on the implementation of specific components of the CPA and the Darfur Peace Agreement (DPA), which relate to land rights and land use, particularly in the Three Areas (Abyei, South Kordofan state and Blue Nile state) and Darfur. Land was central to the conflicts in the
Three Areas and Darfur, and is also a critical component of production that must be addressed if increases in production are to be realised.

Abbadi and Ahmed (2006) recognise that the 'weakness of laws governing lease and use of land' contributes to constraints in the agricultural sector. Pantuliano (2006) states that many of the agricultural lands in the East have been 'alienated from the original owner for use in agriculture schemes which are for the most part unproductive'. Regarding the Three Areas, Matus (2006) notes that the most critical 'laws that affect food security and economic growth relate to people's right to land, including natural resources'.

**Sub-regional food production**

Although Sudan appears to be relatively close to attaining food self-sufficiency at a macro-level, the picture at the sub-regional level highlights the vast disparities in production, deficits, and resultant food aid requirements.

Based on estimates before the 2006 harvest, 1.5 million residents and 1.5 million IDPs will require food aid in Darfur alone in 2006, and 6.7 million people will require emergency food assistance overall (FAO/WFP, 2006, p. 31, 35). In southern Sudan an estimated 25 per cent of the population will require food aid assistance during a two-month long hunger gap. This situation will be exacerbated by an estimated 457,000 returnees competing for scarce resources in certain areas of the South (FAO/WFP, 2006, p. 31). Northern Bahr El Ghazal will remain one of the 'most food insecure areas of southern Sudan' (Sharp, 2006, p. 2). One-third of the population in Red Sea state and 46 per cent of the population in Kassala, including refugees from neighbouring Eritrea, will face food insecurity for nearly a month and almost two months, respectively, during the hunger gap (FAO/WFP, 2006, p. 31). In the Three Areas, South Kordofan state, Blue Nile state and Abyei Area, 45–80 per cent of the population will face food insecurity during the period between crops being planted and the harvest. This situation will be exacerbated by an expected 394,000 returnees to the region (FAO/WFP, 2006, p. 32). Furthermore, an estimated 300,000 vulnerable people in North Kordofan state and White Nile state will require food assistance during the year (FAO/WFP, 2006, p. 32).

Because of the continued level of need throughout Sudan, food aid deliveries have increased since 2002 (FAO, 2006). The sharp increase from 2002 to 2003 is attributable to the conflict and the massive displacement in Darfur. The significant food aid requirements in specific regions discussed above are in stark contrast to the aggregate picture of increasing food production. This incongruence is further evidence that food security cannot be equated with increased food production alone. In Sudan, specifically, this incongruence can be attributed to three primary factors: (a) highly divergent levels of production at sub-regional levels; (b) variable levels of purchasing power and livelihood security among households; and (c) severe constraints on linking productive regions with regions of deficit. In the past, food aid requirements in some regions may have been directly linked to factors related to conflict such as displacement. In the new era of peace, however, any remaining underlying and more systemic constraints on food security must be analysed and addressed so that areas of increased production can be integrated with areas of deficit and all areas can become food secure.
Of the three primary methods of production, semi-mechanised and irrigated predominate in the North. The irrigated sector produced 27 per cent of the country’s agriculture in 2000 (Sudan Ministry of Agriculture and Forestry, 2000) and the sector contributed 21–27.6 per cent of GDP in 1981–2004 (Abbadi and Ahmed, 2006, p. 4). The semi-mechanised and irrigated sectors are large tracts of land under cultivation that receive assistance from the state annually. The semi-mechanised sector alone is reportedly comprised of 14 million feddan and contributed to 6.3 per cent of GDP in 1992–1999 (Abbadi and Ahmed, 2006, p. 5). In Northern state and the River Nile state maize, sorghum and wheat are grown on land irrigated by the Nile. A dam under construction at Merowe is expected to increase the area currently under cultivation by four million feddan (FAO/WFP, 2006, p. 47). Currently, 405 million feddan are cultivated using irrigation in Northern state, Khartoum and Gezera, (Abbadi and Ahmed, 2006, p. 4). However, production in the East, Blue Nile state, Southern Kordofan state and South Darfur state has been affected by conflict. Traditional rain-fed cultivation throughout Sudan has primarily supported the production of sorghum, millet, sesame and groundnut—and contributed 24.6 per cent of GDP in 2000–2004. Seventy per cent of the population is currently dependent on traditional rain-fed production (Abbadi and Ahmed, 2006, p. 5).

There are three irrigated schemes in the East—New Halfa, Gash and Tokar—as well as the largest rain-fed mechanised area under cultivation in the country. This region produces sorghum and wheat, the total production of which is expected to increase by almost 60 per cent in 2005–2006 over and above the estimated 74,000 tonnes produced in 2004–2005 (FAO/WFP, 2006, p. 47). Gedaref in the East has traditionally been the country’s ‘grain reserve’ (Pantuliano, 2006, p. 9).

The central region is the most productive area of the North—it includes the Gezira scheme, the Rahad scheme and the areas under cultivation in Blue Nile state. The region produces a variety of crops, mostly irrigated but some supported by traditional rain-fed techniques. Production is also expected to increase in this region from an estimated 799,000 tonnes in 2004/2005 to an estimated 1,040,000 tonnes in 2006 (FAO/WFP, 2006, p. 48).

Cultivation in North Kordofan state and South Kordofan state is supported by both traditional techniques and rain-fed semi-mechanised schemes. A small amount of production is supported by irrigation in North Kordofan state. Overall, the region is expected to increase production by approximately 60 per cent, from an estimated 412,000 tonnes in 2004–2005 to an estimated 670,000 tonnes in 2006, yielding sorghum, millet and sesame (FAO/WFP, 2006, p. 49). Matus notes that South Kordofan state is a ‘significant surplus crop producing area’ (Matus, 2006, p. 3).

In addition to the relatively more productive irrigated and mechanised areas in the North, South Sudan has varied livelihood zones with specific agro-climatic conditions. Overall production in the South is expected to increase by over 70 per cent in 2006 from the 2004–2005 level of 587,000 tonnes (FAO/WFP, 2006, p. 25). Some regions in South Sudan use traditional cultivation techniques to produce vast surpluses. Bahr el Jebel, for instance, has an estimated 52,765 tonne surplus in cereals (FAO/WFP, 2006,
p. 26). However, despite high levels of production in the North and surplus production in the South, many areas remain food insecure. Regions such as Western Bahr el Ghazal have a food deficit of over 40,000 tonnes (FAO/WFP, 2006, p. 26). Some external food aid will continue to be required to meet the needs of the region because the infrastructure does not exist to facilitate transfers from the more productive areas.

The 'Greenbelt' in western Equatoria has the potential to supply food to the surrounding areas, including to meet food deficit needs in Darfur if infrastructure is improved. Illustrative of this possibility is the fact that the region has exported 1,500 tonnes of cassava flour, 600 tonnes of sesame seeds and 750 tonnes of groundnuts in recent years. More research would be needed into the surplus production of other crops and the specific needs in deficit areas (FAO/WFP, 2006, p. 52). The highly variable agro-ecological and climatic conditions in the South correlate with highly variable conditions with regard to food security. In addition to the possibility that the Greenbelt might provide food for food insecure areas, the areas that were productive before the start of the North–South conflict, such as South Kordofan state and Blue Nile state, also have the potential to regain productivity and contribute to food needs in North Kordofan state, the East and Darfur. The potential for sub-regional integration—when infrastructure and market conditions allow—is highlighted by the fact that in areas of food insecurity during the hunger gap, such as Aweil South in Bahr el Ghazal, people sell grass and firewood in Aweil Town to purchase grain which has been imported from regions with surpluses to the urban areas (USAID/FEWSNET, 2006b).

Despite apparent areas of surplus in the North and South of Sudan, food deficit areas continue to fail to access these surpluses. The FAO/WFP Crop Assessment (2006, p. 24) recognises that transportation remains the primary constraint on such access:

... few roads have been open to truck traffic and currently most of the transport is done by bicycles or by walking. Thus for areas such as North Bahr El Ghazal and East Equatoria states ... movement from surplus areas ... will be very limited ... [furthermore], cereals from the mechanized sector could easily cover the expected deficit [but] the bulk of the surplus is normally traded northward ... 

The lack of infrastructure is one systemic constraint but there is also a lack of concerted data and research into sub-regional food production, potential production and how to overcome barriers to production and trade in the South that do not seem to exist in the semi-mechanised and irrigated schemes in the North. The FAO/FAO Crop Assessment (2006, pp. 17–18) contains thorough data by county on production and productivity as well as an analysis of the growing season by region (2006, pp. 52–53). However, more attention must now be paid by the Government of Sudan (GOS), the Government of South Sudan (GOSS) as well as state and county-level authorities, to determining and analysing the exact constraints on access to areas of surplus, as well as devising strategies to overcome these constraints. The paucity of data on attaining sub-regional food security, particularly in the South, is indicative of the lack of decentralised
management of food security that predominated during the decades of conflict, which must be overcome in the new era of peace. More data must be collected, analysed and managed at a sub-regional level to identify areas of potentially high productivity, to provide them with the direct and indirect inputs required to increase cultivation, and to link them to areas of deficit.

The signing of the CPA and increased security has already increased areas under cultivation at the household level (FAO/WFP, 2006, p. 13). During periods of relative stability in Darfur in the past year cereal production has increased by up to 47 per cent—demonstrating the potential to return to production when peace is secured (FAO/WFP, 2006, p. 13). However, efforts to understand the potential for production at the sub-regional level, and the linkages between areas with projected surpluses and deficits, must be undertaken to ensure that Sudan can realise a future of self-sufficient food security.

**Future food availability: sub-regional linkages for food security**

Despite the fact that there is relatively little information on production, productivity and potential productivity at a sub-regional level, particularly in the South and the Three Areas, it is evident that there is a need to address certain pervasive constraints on linking areas of surplus with areas of deficit. The development of such links can be split into two critical phases:

1. WFP assists with the creation and reinforcement of linkages, paving the way for a more integrated economy and food self-sufficiency in Sudan, while pursuing relatively more efficient practices for delivering food aid to areas still in need in the short term; and
2. Consequently, a longer term framework for an integrated food security system is developed whereby Sudan attains self-sufficiency and sheds its dependence on food assistance.

The first step on the way to improved linkages and increased integration in Sudan was the signing of the CPA and DPA, which provide the frameworks to unify the country, and for recovery and economic growth. However, many barriers remain, which separate sub-regions of this vast land both physically and economically. Without concerted efforts to overcome those barriers, disparities in food security will continue to shape the landscape of Sudan.

**Roads: linking agro-ecological zones**

In regions where roads and other infrastructure have been built or repaired, the immediate increase in access and consequent decrease in prices of goods is evidence of the profound effect of, and continued need for, increased and sustained investment in infrastructure.
With initial funding of USD 75 million from USAID, WFP has repaired 872 kms of road as a part of its Emergency Roads and Infrastructure Programme (FAO/WFP, 2006, p. 37). This represents a tremendous achievement given the extremely difficult operating environment for road upgrading. The purpose of the programme was to facilitate integration and linkages between sub-regions, to assist the return and reintegration of IDPs and to facilitate delivery of the peace dividend. However, the plan of the late Dr John Garang, the former faction leader in the South and the first vice president of Sudan, illustrates the optimum network of repaired roads that would link most effectively the regions of production with the areas of deficit.

Under the plan, the productive Greenbelt would have feeder roads that link to northern Bahr El Ghazal and a railway to South Darfur, where roads can distribute to deficit areas, making deliveries to those regions relatively efficient. If implemented in its entirety, the plan would also facilitate trade between productive and deficit areas in the South and North, both by barge and by road. In its policy statements the GOSS has made implementation of Dr Garang’s plan for roads and infrastructure improvements in southern Sudan a priority. According to Rebecca Garang de Mabior, GOSS Minister of Roads and Transport, ‘roads and education are the key to development in Sudan’ (USIP, 2006).

While vast areas currently remain inaccessible by road the only way to deliver food aid is by air. Reliance on flying food in remains expensive for WFP and is a major disincentive for productive zones in Sudan to increase their surpluses and to try to trade them with other regions. Road transport between Lokichoggio, Kenya, and Kapoeta, Sudan, can cost as little as USD 0.50/kg while air transport can cost up to USD 4.25/kg, depending on the aircraft (UNJLC, Transport Corridors, 2006). Furthermore, because it is not fully developed, barge transport remains expensive and time-consuming as a way to link productive regions and potential consumers. The barges currently have a capacity of 70,000 tonnes and a cost of approximately USD 0.08/tonne/KM—but major losses are incurred by shipping. It is estimated that, at the current rate of rehabilitation, it could take two to three years before the barges and requisite ports are fully developed (UNJLC, Transport Corridors, 2006).

Because WFP is in the unique position of implementing a project to rehabilitate infrastructure in the South as well as delivering food aid, the agency is already aware of the important linkages between the delivery of food aid and the need for better road infrastructure. However, it is equally important for WFP to recognize the relative efficiency of purchasing locally available food, and the need to establish specific linkages between productive regions and regions with food deficits.

**Fuel: the dual constraint**

The price and availability of fuel present specific challenges that must also be considered. Sudan is emerging as a major oil producer—currently producing 500,000 barrels per day (bpd) of crude oil and expected to produce over 750,000 bpd by the end of 2007—but the majority of the fuel produced in Sudan is exported (UNJLC, 2006, p. 10). However, poor infrastructure for transporting fuel and a reliance in the South
on fuel imported through the Kenyan port of Mombassa mean that fuel shortages continue to plague sub-regions. This restricts the use of fuel to provide food aid in Sudan as well as growth in the transport industry, which is an important input for sub-regional trade.

Local prices for diesel vary throughout the country, primarily because of high fuel transport costs. The most recent recorded prices were SD 75.23/litre (USD 0.31) in Khartoum, compared to SD 220/litre (USD 0.91) in El Geneina, SD 147/litre (USD 0.62) in Juba; SD 125/litre (USD 0.52) in Abyei; SD 167/litre (USD 0.69) in Nyala and SD 132/litre (USD 0.55) in El Fashir (UNJLC, 2006). In April 2006 prices in Juba were USD 1.20/litre (SD 288/litre) at one refuelling station. However, the number of stations has now increased in Juba. High and variable fuel costs are adding significantly to the price of the delivery of food aid. This is exacerbated partly because WFP continues to segment its operations in the North and the South, relying on imports from Mombassa in the South because of the lack of logistical links to the North. Unlike the UN Mission in Sudan (UNMIS), which imports its fuel under a centralised contract, WFP relies on locally available fuel.

WFP used 500,000 litres of Jet A1 fuel per month in 2006, a reduction from the 10.7 million litres per month it used in 2005—primarily because of a reduction in air-drops as road access improved (UNJLC, 2006, p. 8). Despite this notable reduction in its use of Jet A1 fuel, WFP continues to be reliant on diesel that is subject to unreliable delivery, high prices and questionable quality after long journeys in sub-standard drums.

In addition to the variable price by region, local fuel prices are also subject to potential major price fluctuations in the future. The Government currently subsidises fuel by an estimated USD 1billion. It is under substantial pressure from the international community to remove this subsidy but, if it gives in to this pressure, local prices could increase by 25 per cent (UNJLC, 2006, p. 26). This increase would affect the costs of transporting food aid where WFP continues to procure fuel locally. WFP must remain cognisant of fuel costs and make every effort to maximise fuel efficiency through its logistical and contractual arrangements.

The impacts of macroeconomic policy on food aid and integration

Macroeconomic policies are an important component of the overall food aid and food security situation which cannot be ignored. There are currently several macroeconomic policies in place that create a regime of barriers to and disincentives for the efficient delivery of food aid, as well as sub-regional integration to assist longer-term food security.

The appreciation of the dinar against the US dollar led to a rate of inflation of approximately 11 per cent in 2005. In the post-conflict scenario, prices are expected to rise with increased demand for goods and increases in the cost of imports. The rate of inflation is expected to be 12.5 per cent in 2006 (FAO/WFP, 2006, p. 7).

In the context of meeting food security needs through sub-regional integration, the appreciation of the dinar creates an indirect tax on domestic production, a disincentive for the local purchase of food aid and a disincentive to domestic production. If Sudan does not restructure its macroeconomic policies, this could hamper any progress towards
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self-sufficiency. A similar pattern was witnessed in Zambia recently, where the appreciation of the Kwacha made the purchase of local grain surpluses for food aid prohibitively expensive, relative to imported food aid. The reliance on imported food was a disincentive to the reinvigoration of the local agricultural sector and the economy.

Customs tariffs and uneven taxation policies and practices in Sudan are also disincentives for sub-regional trade. Barges carrying goods between Kosti and the South have been taxed anywhere between USD 200–900 for 20 containers (UNJLC, 2006). In Aweil East and West taxation rates on the trade of goods traded to purchase food are reportedly as high as 25 per cent (USAID/FEWSNet, 2006).

**Imported food aid versus local purchase**

In the first six months of 2006 the US provided 85 per cent of donor contributions to WFP in Sudan (Pierson, 2006). There has been a long debate in the US about the practice of providing food aid in kind. Notably, the former USAID Director, Andrew Natsios, specifically questioned the US Government’s current food aid policies, which—through Public Law 480—require food aid to be donated in kind, and that the majority of the ships used to transport the food are owned by US companies.

The *Wall Street Journal* notes that 100,000 tons of US-grown grain was sent to Uganda as food aid at a cost of USD 57 million while, at the same time, Ugandan farmers were producing surplus crops that the government could not afford to buy and transport to deficit areas. It was estimated that local purchases of grain would have bought twice as much grain for the same amount of money that was donated in-kind by the US (Thurow and Kilman, 2005).

While local purchases and other market-based interventions would remove the subsidy to US farmers, and could reduce the Congressional support for humanitarian food aid, humanitarian relief for Sudan has significant bipartisan support in the US. If this bipartisan support is leveraged, it may provide a window of opportunity for the removal of the US requirement for food aid donations to be in-kind, without jeopardising Congressional support for humanitarian efforts. Natsios rightly notes that ‘[h]umanitarian aid does a significant job, but they get used to doing it one way’ (Thurow and Kilman, 2005).

The context of Sudan provides an opportunity to challenge the inefficient in-kind donation requirement and to avoid a repeat of the events that unfolded in Uganda. UN organisations, and specifically WFP, are in a unique position to pressure major donors to reform this practice. As Natsios highlights ‘The primary objective is to save lives’ and, with WFP facing a funding gap in Sudan at the time of writing, it is imperative that the most efficient procurement methods are used (Thurow and Kilman, 2005).

If an exception is granted to the requirement to provide in-kind food aid to Sudan, there is strong evidence that local purchases and other market-based interventions could increase sub-regional integration and have a significant impact on increasing food security. In 2001 the USAID Office of Foreign Disaster Assistance (OFDA), which is not bound by the requirement to provide food aid in kind, provided USD 1 million to Norwegian People’s Aid (NPA) for the local purchase of 1,275 tonnes of sorghum and maize in western Equatoria to be provided to deficit areas in Bahr el Ghazal.
2005 OFDA funded NPA to procure 2,000 tonnes of sorghum and maize for USD 400,000 from western Equatoria for distribution in IDP camps—facilitated by the roads improved by WFP. These purchases and transfers demonstrate that surpluses exist and can be used in neighbouring deficit areas—and the synergy produced when surpluses are matched with essential infrastructure.

A second OFDA programme not only capitalised on local purchases as a more efficient method of food aid procurement, but also specifically created linkages between urban markets and rural producers. The previous disconnect between urban garrison towns and the hinterlands is being redressed since the signing of the CPA. To facilitate this process, OFDA contributed USD 300,000 to farmers’ cooperatives around Juba and USD 200,000 to those around Wau. These cash injections stimulated markets for agricultural products in the urban centres and provided an incentive for the farmers in surrounding areas to increase their production and capitalise on their surplus crops.

Local purchases and other market-based interventions could also have secondary effects that would contribute to general recovery. In the southern Sudan context of Bahr el Ghazal, Sharp notes that in-kind food aid can sometimes create perverse incentives for local food production. When food is imported and distributed, groups who may be farming lose the incentive to continue to produce—thereby perpetuating the dependence on food aid (Sharp, 2006, p. 6). Local purchases would have the opposite effect by encouraging production and thereby recovery and—potentially—economic growth. Matus warns, however, that local purchases in places such as the Three Areas should be targeted to ‘household producers’, allowing the ‘benefits to be distributed more widely’ than if purchased from large mechanised schemes. He notes that if large schemes are supported through local purchases, it could aggravate ‘sensitivities’ related to current land reform policies (Matus, 2006, pp. 9–10).

**Recommendations specific to WFP: meeting immediate needs and paving the way for food security in Sudan**

At a macro/aggregate level, it is evident that, in the new era of peace, Sudan can easily produce an amount of food that would meet the needs of the whole population. However, there are significant barriers to achieving food security at the sub-regional and the household levels in Sudan. Given the variable levels of production throughout the country, building linkages and eventual sub-regional integration will be key to meeting the food needs in all regions of Sudan. WFP is in a key position to catalyse the linkages that will provide a pathway to integration, both through the continued delivery of food aid and as an agency that is important to the recovery efforts in Sudan.

**A regional food security information system: working to develop a standard framework**

A common framework for food security analysis needs to be established in order to develop an understanding of the potential for complementary sub-regional production.
The food security information gathered must establish baseline data for each livelihood zone throughout the region. Through crop assessments and continuous monitoring, information on food security indicators can provide comparative analysis between the areas and vulnerable groups within the areas (including returnees). This information, if managed properly and collected consistently by a trained team, can assist WFP to plan to get the most appropriate interventions to the right areas, at the right time, targeted to the right people. Food needs must be evaluated from a single consolidated perspective in relation to the agro-ecological regions of production. For example, there is a wealth of food security information that has been developed over time and is now based at the Southern Sudan Centre for Census, Statistics and Evaluation (SSCCSE). This approach should be extended to the entire country. Such information could then be used to achieve the proper governmental policy framework for WFP and other agencies to operate in the Sudan.

**Ensure an integrated approach**

WFP must quickly reorganise food aid delivery in Sudan into a unified programme. To do this, the agency must map out clearly the areas of surplus and the areas of deficit and plan appropriate seasonal movements of grain to and from central storage areas. Programming and logistics must be integrated into a consolidated structure. Logistical routes must be considered from a common base in relation to the routes of least cost and most efficiency. Programmatic planning to attain equitable deliveries must transcend obsolete or irrelevant internal borders.

**Fulfil Garang’s vision**

There is a shortfall in funding to complete the Emergency Roads and Infrastructure Project at the time of writing. WFP should make a major appeal to the donor community to meet the target for funding and to work to fulfil the vision for infrastructure set out by the late Dr John Garang. Through simple cost-benefit analysis, it is evident that donor investment in the infrastructure programme in South Sudan will yield long-term benefits in development, economic growth and specifically in food security.

**Collaborate on fuel**

In addition to unifying logistics operations to ensure that the most efficient routing for inputs and delivery are used, WFP must anticipate the possible removal of the government fuel subsidy. Specifically, WFP should consider signing up to the Integrated Unified Fuels Contract through a Memorandum of Understanding with the UN Mission in Sudan (UNMIS). To avoid having the 12 per cent administration fee passed on from UNMIS to partners, WFP should attempt to arrange a subsidiary arrangement with Skylink, unless WFP anticipates purchasing over 6,000,000 litres per month (UNJLC, 2006, p. 23). Sheltering the agency from potential volatility, should the fuel subsidy be removed, would ensure efficiency in food aid delivery in the medium term. Importing fuels would also help to avoid any market distortions caused by any eventual reduction in WFP’s consumption of local fuel in the long term.
Purchase locally

Given the current differences in agricultural production inside Sudan, WFP must shift food aid from grain imports to procurement of locally produced foods and other market-based approaches. This will have the dual effect of, potentially, increasing the efficiency of food delivery while also forging linkages between areas of high productivity and areas of deficit to promote long-term integration and economic growth. However, given the macro-economic constraints highlighted above, as well as some of the barriers to local purchase imposed by donors, shifting to local purchase will require several related strategies to be pursued simultaneously.

First, the international financial institutions must continue their dialogue with the GOS on sound macroeconomic policies, the exchange rate and the fuel subsidy. Further analysis is necessary to understand the macroeconomic impacts on agriculture of abolishing the subsidy and/or devaluing the dinar. This analysis should be extended to include impacts at the household level—both as producers and consumers. Currently, the price for locally purchased food is higher than the price of imported food, because of the indirect tax on local—particularly semi-mechanised—production created by the appreciation of the currency and the fuel subsidy. WFP should not yield to the macroeconomic barriers presented in the Sudan context, but instead work with the government to assist it to take responsibility for feeding the population and, when that is not possible, for making every effort to assist WFP to do so efficiently.

Second, and concurrently, WFP must appeal to those of its donors that require food aid to be provided in kind to make an exception for Sudan. Removing dependence on imported food in Sudan is the key to moving beyond inefficient food delivery, and to WFP being able to contribute to food security while simultaneously contributing to the recovery process by purchasing locally and using other market-based approaches to assist in the integration of sub-regional economies.

Stimulated by increased linkages, better infrastructure and a more appropriate macro-economic regime, WFP and the GOS must recognise the broader East African regional context in which Sudan is situated. Rather than simulating the trend in southern Africa in the early 1990s—where protective policies to achieve ‘food self-sufficiency’ were imposed and economies suffered tremendously from insulation—the GNU must avoid overprotecting the agricultural sector as it develops (Mukherjee and Robinson, 1996). Trade between agro-ecological zones of production, and surplus and deficit areas, that transcends not only sub-regional boundaries inside the country, but also the borders in the East African region will prove key to long-term food security and economic growth in the country.

The efficiency and effectiveness of market-based food aid interventions will only be improved if they are targeted appropriately and matched by interventions to ensure that food is accessible to the most vulnerable and food insecure populations. Therefore, in addition to an urgent need to incorporate better analyses of sub-regional production and potential production, WFP must continue to incorporate livelihood analyses into its food security assessments.
WFP should also implement cash for work or food for work schemes in order to maintain the main road linkages and build feeder roads that can contribute to local integration at the community level.

**Conclusions: key issues for WFP**

WFP must reorganise its approach in order to contribute to a national strategy for food security in Sudan and to consolidate its analysis, programming, and logistics. Although the CPA provides for a one country, two systems political approach, food security must be approached from an agro-ecological perspective. More detailed information is needed about sub-regional areas of surplus production and deficit areas so that potential linkages can be explored, as well research into how best to link areas of surplus production with deficit areas. Because Sudan is approaching food self sufficiency at an aggregate level, WFP should work with the Government to identify strategies to link areas of surplus with areas of deficit, recognising that it is the Government’s responsibility to feed its population.

In addition to addressing physical and structural constraints to sub-regional integration, WFP should consider shifting to local purchase of food and other market-based interventions to ensure that food aid is delivered in the most efficient way, and to build the links between surplus and deficit sub-regions required for future integration.

Sub-regional integration is key to realising both food security and long-term recovery in Sudan. Local purchase of food aid and other market-based interventions can help to build links between surplus and deficit areas, and to facilitate integration while meeting immediate food needs.

At an aggregate level, Sudan is nearly food secure and WFP should focus on overcoming barriers to sub-regional integration to achieve food security, such as improving infrastructure and the efficient functioning of markets.

WFP should facilitate and support the management of the current national food security information system. It must also assist the government to take responsibility for providing the people’s food needs through monetisation and the redistribution of grain from areas of surplus to deficit areas.

A number of areas of uncertainty remain, including: (a) the current levels of production at the sub-regional level; (b) whether these levels can be augmented; (c) whether there are areas of potential production that have not been maximised because of a lack of markets; and (d) the potential levels of production increases in these areas. The prospects of and likely timetable for rectifying macroeconomic policies, such as the appreciation of the dinar, which have a negative effect on sub-regional integration, are also uncertain. Finally, the prospects for the successful implementation of the CPA and DPA, and how the envisaged land reforms will affect future food production; and the potential for future conflict in the East, and how it would affect food security, are unclear.
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Endnotes
1 This paper is intended to stimulate discussion on approaches to food aid and food security and should not be construed as a research paper.

References