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For Whom is the Rural Economy Resilient?:
Initial Effects of Drought in Western Sudan

Abstract

Two recent debates concerning famines are addressed: (1) entitlement theory and (2) the resilience of rural systems. We find that in western Sudan entitlement theory provides a specific and useful framework for understanding the nature of the crisis confronting the society. Arguments about the resilience of rural systems, however, need to be more closely examined and will depend on site-specific factors. The rural economy and society of western Sudan was not resilient.

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1. Introduction

A drought caused a total crop failure in most of northern Kordofan, Sudan in the fall of 1990. During this initial period of crisis the military rulers of Sudan denied the necessity of a large-scale international relief effort. Several Sudanese government officials, including the President, were quoted as saying there was no hunger in the country. The military portrayed international publicity on the drought as propaganda created by the West to discredit the government.ⁱ

The conflict that emerged between the military rulers and international donors reflected ongoing academic debates about the nature and naming of famines. The government insisted on viewing the crisis as a 'food-gap' in aggregate food balances, adhering to a food availability decline view of drought that Sen (1981) has criticised with entitlement theory. The donors insisted on naming the crisis a 'famine', arguing that without food relief there would be mass starvation. The donors, by narrowly defining famine as the event of mass starvation enabled the military government to take the stance that if there were no evidence of mass starvation there could be no famine.

In a prescient discussion, de Waal (1989) argued for broadening the famine lexicon, especially to include locally defined categories of famines.ⁱⁱ Defining famines as events of mass starvation risks the danger of raising red flags for intervention only when the process is well underway, and is in some sense already 'resolved against the victims' (Rangasami 1985:1750). But expanding the vocabulary used to describe events leaves unresolved the problem of how to understand famines as processes. This problem is at the root of a recent exchange in this Journal between de Waal (1990, 1991) and Osmani (1991) over entitlement theory. Osmani argues that entitlement theory is an understanding of a causal process leading to an event. De Waal echoes Rangasami (1985) in arguing that the famine

event cannot be separated from the process. In particular, he argues that entitlement theory leaves little room for understanding the vitality of the responses of the people affected by crisis.

De Waal has actually taken the focus on coping strategies a step further. He argues that rural populations are resilient. As evidence, he adduces (1989:110), 'dramatic adaptations to ecological stress, such as the case of the Zaghawa' and argues that the economy, 'created economic niches in wage-labour and low-status trades that poor people were able to exploit during the famine'.ⁱⁱⁱ Mortimore (1991) also contends that semi-arid farming systems are resilient. Farmers diversify their cropping systems, their income sources, and their social relations in attempts to minimize the effects of drought.

The thrust of the argument about resilience is that entitlement theory, by focusing on events that are happening to people, in practice implies expensive interventionist, top-down programs. These programs sometimes undermine the autonomous activity of those who must confront and survive the crisis. They also draw resources away from lower-profile interventions that might facilitate, rather than replace, autonomous survival strategies.

In this paper we explore the confluence of these academic debates and real-world polemics in the context of the drought in northern Kordofan. Villagers were experiencing a failure of food entitlements. Falling wages and livestock prices, decreased opportunities for employment combined with record grain prices to reduce purchasing power. Civil war, economic decay, and widespread drought limited employment opportunities in towns, cities, and agricultural schemes. Many families were hungry. People called the crisis maja'a, 'famine'. Although we left before an event of massive starvation unfolded, we expected (and the villagers agreed) that unless there was an intervention of food aid, this would be a 'famine that kills'.

In direct contrast to de Waal and Mortimore, the rural economy of this area of Kordofan was not resilient. Specifically, it was not resilient for those most vulnerable. While it is true that social

structures as a whole are resilient, individuals in vulnerable groups are not resilient. The crisis of 1990 occurred when vulnerable groups had not recovered from their destitution of 1984-5. Coping strategies are short-term solutions. The reality of the long-term has been a depletion of assets that has made survival, economic and absolute, more tenuous in each subsequent crisis. In essence then, entitlements are more important than coping strategies; de Waal's assertion that the theory is trite (1991:606) underestimates the extent to which entitlements insure resilience.

This observation reinforces Watts (1991:17) suggestion that 'understanding famine demands, but rarely makes use of, a comprehensive theory of power and politics.' This paper neglects the broader historical developments and transformations of power and ideologies; we do so in order to focus on refuting the idea that those transformations (that determine the totality of entitlements) are irrelevant.

After a brief introduction to the study area we: (a) present a chronicle of the changes that occurred in one village; (b) discuss how women managed their initial responses; (c) report on the employment patterns and opportunities that were available to male household heads working as labourers using the results of surveys conducted in the area during the drought; (d) present data on animal wealth and sales, borrowing, and migration; and (e) return to a discussion of the issues raised in the introduction.

2. The Study Area^{iv}

According to the 1983 census, the population of Sheikan Rural Council in El-Obeid District in Kordofan was about 26,000 settled persons and 17,000 nomads.^v The farming system is typical of the Sahel. In fact, many of the farmers are not native to the area; populations of Hausa, Bornu and Fulani from Nigeria, Burgo and Masalit from Chad, and Dajo and Berti from Darfur. About half of the farmed land is devoted to the primary grain crops, sorghum and millet, while the other half is devoted to groundnuts, sesame, hibiscus and cowpea. Rainfall averages about 400 mm a year, but is

extremely variable both within and between years. Most of the rainfall occurs in the months June-September. In 1990 total rainfall was between 100-150 mm.

Upland goz sandy soils are relatively evenly distributed; there are few households that do not own land, and land rental is common at very low rents of ten percent share. Land along seasonal water-courses is closely controlled, and wealthier villagers have developed pump and hand-irrigated fruit gardens (mango, lemon and guava) and vegetable plots. In 1984-5 a few poorer villagers sold land along the water-courses, but there is no regular market for land, and no cases of upland fields being sold.

Assets such as livestock holdings and trading capital, and occupational categories such as participation in the agricultural labour market, are the keys to household stratification. Approximately one-third of households have male or female members who work as agricultural labourers. The households that employ labourers either have large amounts of capital from livestock or trading enterprises, or receive remittances from relatives abroad, most often in Libya. Very wealthy traders (by rural standards) live in the larger market villages of Kazgeil, El Tumeid, Jaibat and Alloba; smaller traders sell in periodic markets and the market centers. The large traders control the trade in groundnuts, sesame and hibiscus which are marketed through government organized auctions. The market for grain is usually competitive. The bulk of grain supplied after the drought, though, came from only a few merchants who bought grain from both traders in El Obeid and from poorer villagers who sold grain to meet expenses.

3. Calendar of a Drought Year: A Village Perspective

In this section, we present a chronology of the drought and its effects from a village perspective. We lived in the village of Bireka^{vi} for fifteen months (October 1989 to December 1990) conducting economic and agronomic research. We knew every family, worked with them and watched the progression of their agriculture during the season. When the crops failed we observed

and talked to families about their responses to the drought. We start our account in January 1990 and end it in December 1990, when we left the country. Thus the chronology focuses on the initial responses to the drought, and not on the outcomes of the following year, 1991, about which we have little information.

January: The harvest of 1989 in Bireka was below average. Only a few villagers had enough production to dig matmura, the traditional method of long-term grain storage. The harvest apparently was poor throughout the country; the price of grain did not fall after harvest, as it normally would, but instead remained at about LS 250 per sack.

May: Many of the poorer villagers had run out of stored grain. About half of the households were purchasing grain from the market to eat and to use as seed. The price for a sack of grain had tripled, to LS 750. There was considerable anxiety about the coming year.

July: Planting proceeded despite spotty early rains. Millet established well in the beginning of July, but a dry spell of two weeks in mid-July severely stressed much of it. The labour market for the first weeding was good; labourers received about LS 40 per day.

August: There were rains in the beginning of the month, raising people's hopes for a good season. Then a seventeen day dry spell killed much of the sesame, sorghum, and millet and severely stunted the remaining crops. For much of the month a common phrase was Allah bijib al matar or, 'God will bring the rain'. A group of Hausa women, who are normally secluded, walked through the village and the fields singing: 'God bring the water/the millet is thirsty/God bring the water to drink'.

Most villagers thought the late rains were a localized event, and conversations were filled with reports of how good the rains were in other villages. The price of grain continued to rise and reached LS 1500 a sack, a 500% increase over the post-harvest price. The wage rate, meanwhile, dropped by half, to LS 20/day, and there was very little work in weeding.

The first delivery of subsidized government grain was made available in El Obeid. The villagers were supposed to pay the government in advance for the grain and arrange to have it delivered to the village. The richer villagers fronted the money. The grain was sold for LS 13 a mid (a volume measure of about three kg., with thirty mid per sack), or LS 390 per sack, with allocation according to family size, irrespective of need. Each family member was to receive three mid. Many poorer villagers immediately sold half or more of their grain and used the money to pay for their allocation. Merchants from the neighboring market village gave money to a few local villagers in order to buy up the available supply. Afterwards there was considerable controversy between the villagers over the compensation paid to the richer villagers; the ones who fronted the money claimed 10% profit on their funds advanced, and the People's Committee^{vii} member who organized the transaction and spent a number of days in El Obeid claimed two sacks of grain in addition to his family allocation.

September: The farmers interpreted government confiscations of grain stocks in the east and official calls for rain prayers (salat al-istisqa') as confirmation of a drought situation throughout the country. Conversations were filled with reports of how bad the rains were in other villages. People now said Allah fi or Allah karim, or 'God is with us' and 'God is generous'. One Hausa farmer was the first to abandon his fields; he left for Dilling (in the Nuba mountains) to work in the market making sandals.

In Bireka, light rains kept the crops alive and people still had some hope. Some went out and planted; some realized the futility of further agricultural activity. Many noted that the rainy season was over; the haraz tree brought new leaves; the kursan bush turned green; and the kiljo bird flew south. The village held a large communal rain prayer. The young men were told not to play dominoes in the village; it was disrespectful in a time of need.

A small amount of grain (forty 90 kg. sacks) was made available to Sheikan as part of the government-distributed alms tax (zakah). In Bireka there was easy agreement on the criterion for

distribution; widows, regardless of whether or not they were attached to prosperous households, were eligible, as were households headed by old men with no active male sons.

October: Most families had by this time reduced their consumption to two meals per day; some stopped using oil for cooking. Many collected the leaves of the baobab tree (tebeldi, or *Adansonia digitata*) and wild greens (khudra), for stews. The berries of the kursan bush (*Boscia senegalensis*), which are soaked for five days to leach out toxins and then ground and eaten as a grain substitute, had appeared spottily. Informants feared many bushes would not produce berries at all.

People started to sell goats. Two migrant labourers who had been living with wealthy households left because there was no work. The son of the sheikh, one of the poorest men in the village, went to the brush and made four sacks of charcoal, but could not sell them at the Friday market; there was no demand. Many young men, and some of the older heads of households, left the village during this time to look for work in the cities. Many returned with reports of limited employment possibilities and low wages. There were also rumors of forced conscription, and forced labouring on government projects.

A delegation of seventy-two People's Committee members and local officials went to El Obeid to the head administrative officer and presented a letter requesting aid. The Bireka delegate said the officer told them that Sheikan did not need aid, that he had delegations from other areas outside of his office twenty-four hours a day, and that this was the first time he had seen people from Sheikan. After several hours of heated arguments he agreed to tour the region and consider it for aid.

November: During the months of October and November the price of grain fluctuated between LS 1300 and LS 1800. When villages in the area received government subsidized grain, the price offered by merchants in the market would fall as poor villagers sold part of their ration in order to get cash to pay for the ration. For example, another grain allocation did arrive, but for the women's cooperative grain storage project sponsored by UNICEF and the Sudanese Ministry of Cooperatives.

The ration was one-fourth sack per person (about twenty-four kg.) and the grain was sold at LS 540 a sack. No other village in the area received a UNICEF allocation. Again the richer villagers fronted the money, and gave the poorer villagers three days to pay for the grain. One family received twenty-eight mid and immediately sold eighteen to a merchant at LS 45 per mid in order to pay for their ration. People started to borrow or receive help from kin. One well-off villager wrote a letter to his brother who had migrated to Khartoum over twenty years before. Within two months he received LS 1000, and a promise of more help. Another poor villager had five wealthy relatives on his father's side who lived only an hour's walk away, yet he would not ask them for help, nor had they offered any. His profits from trading second-hand clothing dwindled, both because he earned lower profits and because his family had to use the capital for consumption.

December: On Mondays and Fridays the poorest man in the village, whose family frequently went for a day or two without eating, would go to the market in Kazgeil and ask people for money. Four young unmarried men left to join the army in El Obeid. Government officials met with village leaders to discuss public works programs to dig water reservoirs. Those who attended the meeting said there was no plan, no timetable, no organization. With the Gulf War looming and the government's anti-western position, the villagers felt that relief aid would not be forthcoming.

Despite the tremendous adversity, people retained their sense of humor; a joke that circulated the village was that if the government's slogan was, 'Eat what we grow, wear what we make', then villagers would have to, 'Eat watermelon seeds and walk about naked.'

4. Women and Drought

The following paragraphs present some stories about the responses of women to the drought. They are illustrative of the varied but limited options open to village women.

Amna, Um Mona, Fatima, Khadija and Miriam brewed sorghum beer, merissa. Before the drought they rotated days, each making beer once or twice a week. When grain became expensive,

they increased their prices. Their customers could no longer afford to drink as frequently. The women's income fell and they had to use their capital for consumption. Some women could no longer finance the making of merissa. Others produced it less often, and with lower returns.

Hawa, a young women of twenty-five, owned a tea and food stand near Bireka, on the main road going south from El Obeid. Like other younger unmarried tea women from Bireka, she was from a poor family of the Burgo ethnic group (the only group that would permit young unmarried women to work in the tea shops). She lived with her parents, who had virtually no income. Because she had extensive working capital she supported the entire family. Hawa participated in a revolving saving fund with the other tea women; every two months she took home LS 4800 in savings. Prices of tea and other supplies increased during the drought, but she was able to maintain her capital as she had a high volume of sales and could pass the price increases on to her customers.

Halima, a married woman, was also a tea women but had very little working capital. She was unable to keep up with the rising prices of supplies and was often unable to keep her tea shop open. Her husband, Abdel Rahman, had migrated to the Nile to look for work. She had no expectations that he would send her money, but said that it was better that he left because there was no opportunity for employment in the area and he would just be another mouth to feed. Halima had three children, and said they often went hungry.

Batoulla farmed with her husband. While she sold some of her goats during the drought, she was not worried about survival; her daughter was married to a well-off man in El-Obeid. She noted that an important effect of drought was the loss of her stocks of millet and sorghum seed. During the 1984 drought, she lost her seed. Every year since then she had carefully selected seed, improving the quality. Because of the drought in 1990 she again lost her seed and would have to start the seed selection process over again.^{viii}

Bakhita and her children left for Wad Medani to look for help from relatives. She was six months pregnant and she said her pregnancy was difficult because she was not eating well. Her husband's second wife, Ragia, had stopped making falafel (ta'miya) for the nearby lorry stop because the increase in the price of cowpeas had reduced her income, forcing her to use her working capital for consumption.

5. Employment, Assets and Migration

In November, we conducted a survey of labourers. We had intended to sample 120 labourers, but were unable to finish due to the hostile political environment. We surveyed sixty-three labourers in six villages.^{ix} We were interested in how poor vulnerable families dependent on male wage employment fared during a period of crisis. A quota sample was used. In each village we asked for ten men who regularly worked as agricultural labourers or as labourers during the off season; we commonly used the phrase 'people who live from daily work', or 'people who live from day to day'. The survey was designed to elicit information on the availability and diversity of employment, animal sales and assets, help from family and non-family members, and borrowing.

5.1 Employment in the Kazgeil Area

We asked the labourers to report their working patterns for a week. In Figure 1 we classify the labourers according to their predominant activity for the week. Most worked four days or more on one activity, and only eight varied their activities so much as to not have clear classifications (these are the 'mixed' category).

Cutting and collecting crop residues and grasses was the most important activity. The collection of residues would be extremely profitable to those who could afford to hold them until later in the year. The previous May and June the price of a bundle of sorghum stalks (a coleg) had soared from LS 2 to LS 5-10 as animal-owners sought supplies in the weeks before the rains. Poorer farmers and labourers in Bireka, however, were already selling in November. One sold seventy-five coleg

for LS 200; another sold an entire horse cart for LS 200; a poor man who lived alone sold all of his millet and sorghum stalks for LS 195. The wealthier households of Bireka were not selling, and some were buying. One wealthy household had collected eight sacks of groundnut residues and 238 coleg of sorghum stalks. A wealthy neighbor had collected 1000 coleg of sorghum.

The second most common activity of the labourers was daily wage labouring. This included brick making, well digging, and building. Wages varied by place and occupation. Men working at the brick-making yards (qamin) in El Obeid, Kazgeil and El Tumeid were paid by the piece, earning around LS 50 per day. Builders employed in El Obeid or in Kazgeil on an FAO grain storehouse project were paid LS 30-50 per day. Two men who worked for ADUCO, a Dutch company surfacing the main road, received LS 40-50 per day. Digging wells for watering animals, however, paid only LS 15-25 per day. Cutting crop residues for other farmers paid about LS 20 per day. Real wages were extremely low because of the high price of grain; LS 50 could buy about three kilograms of sorghum, and the more common LS 25 wage could buy only one and a half kilograms.

Many men reported being unable to find work, either on their own farms or for wages, at least some of the time. The majority of inactive days, however, were reported by thirteen men who accounted for 64 out of 106 inactive days. Not all of these thirteen were chronically unemployed; three worked in El Obeid making bricks or in construction; two had spent the previous week chopping firewood; two were ill; one made ropes out of tree bark; and one worked as a tailor.

The fourth most frequent activity was collecting firewood and making charcoal. This was done by a only few men, who worked intensively. Five men accounted for almost half of the fifty-seven days reported. The returns were low; most collected about two bundles (rubta, or khisna) of firewood each day, and these sold for LS 15. Several men reported earning only LS 20 per day. Charcoal makers earned slightly more, but had the disadvantage of delayed payment. Sacks of charcoal sold for LS 25-35, and people reported making at most five sacks per week.

The low frequency of work in the brush (the khala, or 'open country') may not accurately reflect the importance or extent of reliance on the brush areas. In a separate question we asked whether the labourers had collected firewood, building poles or made charcoal in the previous month. More than one-third of the men indicated they had, and most earned between LS 100-300 from this activity. We also asked the labourers how they earned income during the previous off-season (January to May 1990). More than one-third said that firewood and charcoal-making were their regular activity during the off-season. In late 1990 these men were working in the brush areas as early as September, four months before they normally would.

The fifth occupation was making handicrafts, such as carving wooden beds, knife handles or cooking implements, or making rope. Just a few men undertook these activities. The returns varied considerably, but did not exceed LS 150 per week.

5.2 Animal Wealth and Sales

When villagers cannot subsist on income earned from employment or agriculture, they must tap into other resources. Poor households with small holdings of livestock often sell their few remaining animals. Ibrahim (1991) reports that in Darfur the terms of trade between livestock and grain fell by more than half during 1990. The same dramatic decline occurred in Sheikan, and was the cause of the failure of animal wealth to cushion the effects of the drought. In Bireka, for instance, a medium-sized goat sold for only nine kilograms of grain in December 1990; small goats fetched only three kilograms. Interestingly, there was not a dramatic collapse in the price of livestock, one of the hallmarks of the 1984-85 famine. Instead, livestock prices declined slowly, and meat prices in Kazgeil and El Obeid did not change at all. The decline in the terms of trade was due, rather, to the dramatic increase in the price of grain. But many villagers noted that the terms of trade had

altered so much, and the likelihood of finding buyers at the village markets had fallen so low, as to make them prefer to hold onto livestock rather than selling.

In the sample of labourers many households had no livestock to sell, never having built up stocks that were lost during the 1984-5 drought. The value of livestock owned average LS 2000, enough to purchase about one and a half sacks of grain, equivalent to one and a half month's consumption for an average size family. The distribution of livestock holding was very skewed. Twenty labourers owned no livestock; almost three-fourths of the labourers owned less than LS 1,000. Fifty owned no sheep and fifty-four owned no cattle. None owned camels. Goats were the most prevalent form of livestock holding. The distribution is further skewed because seven of the eleven large holders were residents of Um Ud, a village known for its large holdings of cattle.

5.3 Borrowing and Help from Relatives

In Sheikan there is no organized credit market for consumption loans, in the sense of well-recognized moneylenders and terms of borrowing. Receiving help from kin and neighbors is often not distinguished from borrowing. Those helped invariably state that they will repay the amount received without interest. Twenty-four labourers borrowed during the period after the rainy season failed. The amounts ranged from LS 100 to LS 3,500. Twenty loans were LS 1,000 or less. There was only one case of an interest-bearing loan. Borrowing appeared to be associated with animal wealth. Households with more assets tended to borrow more (though the relationship is not statistically significant because the number of borrowers is small).

We also examined the extent to which households received help from children living in other villages.^x Most of these children were in their thirties and married. Nineteen of the labourers had married children living in other villages, but only three received assistance from them (ranging between LS 150-500). Thirteen of the labourers had unmarried sons away from the village, and most of them received between LS 200-300 every month. These young men were mostly in their late

teens, and worked in the main towns of Khartoum, Wad Medani and Gedaref. They had left their villages before the drought and were established in secure jobs. Their brothers who had stayed in the villages sought to migrate after the drought and fared less well, as we see in the next section.

5.4 Migration

We were unable to obtain accurate information about the extent of migration by labourers, but almost half of the labourers interviewed had left their villages in the 1990 dry season. They worked in Khartoum, Gedaref, Gezira and southern Kordofan at low-paying jobs. Despite limited work opportunities in other parts of Sudan at the end of 1990, many of the poorer men and young unmarried men were planning to migrate, or had migrated. Some had returned with news of limited employment opportunities. We present some anecdotal material illustrating the uncertainty of this coping strategy.^{xi}

In October an older man, head of a large household, left the village to work in the El Obeid crop market loading sacks of produce. The work was low-paying manual labour, paid by the piece. After three weeks he came back to the village because he was not earning enough to support his family in the village and cover his expenses in town. He said that the volume of crops brought to the market was sharply reduced, and consequently so were the daily earnings.

Another young man went to El Obeid to work in the brickyards. He said the work was plentiful; anyone could get a job. The pay was by the piece, and the most someone could earn was LS 50 per day. He had his wife and three children to support in the village; grain alone cost about LS 35 per day. Then the owner of the brickyard ran out of inputs (i.e. he could not afford the cost of water) and closed the operation down; the young man returned to the village, intending to return later to El Obeid and try again. A group of younger men went to Habila, the large mechanized agricultural scheme in the Nuba mountains, but came back saying there were no employment

opportunities because of drought and war. Another young man who had left Bireka in September for Port Sudan returned in October from El Obeid, saying he had been unable to accumulate any money to pay for the expenses to Port Sudan.

6. Discussion

There are two important themes arising from this discussion of the drought in Sheikan. First of all, entitlement theory provides an appropriate framework for understanding how the drought effected the lives of rural people. Rising food prices and crop failure were the two basic elements of a classic crisis of entitlements. Limited local employment opportunities necessitated the selling of assets, borrowing, and migration for employment. The position of labourers was extremely tenuous. Their livestock holdings were very low, and were rendered almost ineffective because of the changes in the terms of trade.

Secondly, coping strategies can be effective in minimizing the short-term effects of drought. However, reliance on the internal and external resource base for mitigating short-term suffering may have negative consequences for the long-term. Coping strategies, such as selling livestock at low prices, losing adapted seed stock, making charcoal and firewood, and clearing cultivated land of crop residues hinder the long-term ability of households to recover from destitution.

Many of the families were losing one of their most important productive assets, their adapted seed stock. Most farmers of Bireka reported having no seeds left; all had either been planted during the rainy season as initial plantings failed several times, or eaten. The probable deterioration in the quality of seed stock has received little attention in the literature on droughts. While farmers may find seed from some source (recent reports in are that CARE imported seed from Nigeria), the quality and suitability are often poor.

The sources of income for poorer women and female household heads were also threatened. Female food processing and selling suffered from the price increases in inputs; every jump in prices

reduced their real working capital, making their enterprises less viable. At the same time there was increased pressure to divert capital to household consumption. The extensive clearing of fields has several implications for the local environment. Wind erosion would increase, both because the soil was so dry from the lack of rainfall, and because the fields were cleared much earlier and much more thoroughly. Clearing would also affect soil fertility, as livestock belonging to pastoralists generally recycle the residues in the form of manure and urine. In this system, where fallow periods are very short, continuous cropping is very much the norm. As there is no fertilization of the soil, manure is an important source of soil nutrients. Finally, clearing early may adversely affect the water holding capacity of the soil, by reducing organic matter and by increasing soil crusting.

Cutting firewood and making charcoal are likely to have severe degrading effects on the environment (Whitney, 1987, and Ibrahim, 1987). Mortimore (1989), however, has argued that researchers should not automatically conclude that 'normal' patterns of land-use lead to deforestation; in his view regeneration is overlooked and important.^{xii} While there are no studies for this area, villagers in Sheikan say that the landscape has become degraded during the past three decades, and that with present land-use trends there is little opportunity for regeneration.

The local economy for the villagers of Bireka was not resilient. From the point of view of households dependant upon wage-labour or self-employment with limited capital, and in terms of their reduction in consumption, an already disastrous situation was only going to worsen.^{xiii}

7. Conclusion

In the introduction we emphasized the argument of de Waal (1989) and Mortimore (1991) that rural societies and economies are resilient. While we agree with the general thrust of the argument, the conclusion that top-down interventionist programs can have negative side effects does not invalidate previous analyses of famines. While analyses emphasizing the failure of entitlements often portrayed people as passive victims, they did draw attention to the importance of understanding

that a crisis situation could be occurring in the absence of a food availability decline; or, more relevantly in the case of Sudan, in the presence of a 'food gap'.

However, the authors seem to be suggesting that systems are resilient because people use coping strategies to minimize the effects of drought. But the use of coping strategies does not guarantee resilience either at an individual or social level. If we use the ecological definition of resilience- the ability of a system to return to its previous state after a period of crisis- then contrary to Mortimore and de Waal's interpretation of resilience the systems are not resilient, but highly unstable. Poor people are becoming poorer.

In this paper we have tried to show how little resilience there was in the local economy of Sheikan. The options of people who normally worked as day labourers were sharply limited. Opportunities in the towns and other parts of the country were also limited. Because of the lack of food aid, villagers had to exploit resources such as crop residues and woodlands and sell livestock, strategies that in the long term undermine their abilities to withstand future droughts. Food aid and public works alone might not have altered the pattern of activities and the incidence of suffering, but most certainly would have mitigated them. Interventionist policies, whether conducted by national governments or foreign relief agencies, are relevant in promoting resilience.^{xiv} In times when policy makers are looking for reasons to transfer aid away from Africa and some African governments are looking for reasons to ignore famine, arguments contending that indigenous strategies and coping mechanisms are sufficient and Western aid only makes things worse may be used in quite the wrong way.

Notes

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i. The government's slogan, *Nakul min ma nazra wa nalbis min ma nasna*, or "Eat from what we grow; wear what we make", illustrates the government's perception of over-dependence on Western government assistance and influence; in July 1991 the Sudanese information minister reportedly stated that, "We want to dismiss all these relief activities... because we realize that these people (aid agencies) interfere in our internal affairs... We don't want our people to depend on relief. Our experience shows that the people who depend upon relief become lazy. We want them back to work." (Arab News, July 13, 1991, p.3)

ii. His suggestions in the context of Darfur are: dearth, severe dearth, 'famine that kills', and mass starvation.

iii. One should not optimistically conclude that his evidence confirms a general proposition that economies will, in general, provide subsistence incomes; several rigorous examinations in economic theory show how even a 'neoclassical' economy can fail to create employment while simultaneously creating malnutrition (Dasgupta and Ray, 1986).

iv. For recent studies on the long term historical processes affecting western Sudan see Tully (1988), Ewald (1990) and Baumann (1988). For a general discussion of Sudan see Woodward (1990).

v. In this paper, we deal exclusively with settled populations.

vi. The names of the village and of villagers have been changed.

vii. At this time the military government was in the process of working out the allocation of power between "traditional"

authorities held over from the Native Administration period (*omda* and *nazir*) and the People's Committees which were created (by appointment and election) after the coup in June 1989.

viii. This was not a unique situation. Many of the villagers lost their seed stock. One man who was known to select seed and preserve varieties well-adapted to the local environment had no millet, groundnut or sesame seed left. He had only two mid of *kamazoki*, a local sorghum variety much favored by the farmers who obtained it from him; his children had already 'accidentally' eaten one mid which he had been saving.

ix. Due to constrained time and funds, we limited the survey to male laborers. While women's income and production is important for consumption, we would have had to sample many more households in order to obtain a large number where women's market income was significant.

x. Rosenzweig and Stark (1989) have suggested that a primary motive of marriages is to mitigate the effects of risk through diversification, that is, by decreasing the covariance of risks.

xi. A number of women in Kalda claimed that when their husbands migrated they did not usually send any remittances, they just returned with small amounts of capital for the rainy season. Also, many of the middle-aged laborers do not have the same wages or employment opportunities as younger men.

xii. Mortimore (1990) further argues that the rural poor are able to manage and conserve their woodland resources; in this area of Kordofan, however, the brush is not privately owned, so there is a problem of "the commons", coordinated with difficulty between far-away villages and pastoralists. Also, it is the wealthy lorry owners who organize the charcoal trade; as their revenues from transporting crops fall, charcoal becomes one of the few sources of freight revenue. The increased competition might be expected to be beneficial to the laborers, but the lowered market prices for charcoal and firewood have a perverse effect; instead of reducing the supply they increase it, as households with no other sources of income must sell even more in order to secure subsistence.

xiii. Riely (1990) reaches similar conclusions in his analysis of settled nomads in northern Kordofan.

xiv. See Dreze and Sen (1989) for an extensive discussion of public intervention in famine situations.

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Table 1: Land Holdings, Animal Holdings, Capital and Wage Laboring

	1	2	3	4	5	6
	Owned	Planted	Prcap Owned	Prcap Planted	Animal Assets	Capital
<u>Employers</u>						
Male (n=32)	10.8	15.8	2.9	4.2	6525	2111
Female (n= 5)	6.4	6.4	4.6	4.6	9680	0
<u>Laborers</u>						
Male (n=33)	5.6	9.7	2.2	3.4	614	0
Female (n= 5)	2.1	3.2	1.5	2.0	40	0
<u>Non-participants</u>						
Male (n=30)	5.9	9.4	1.9	2.7	5643	10
Female (n=11)	3.0	3.5	3.2	2.3	909	0

*Source: Cropping system survey undertaken by authors in October, 1990

1. Mean area (in *mukhammas*) owned.
2. Mean area planted.
3. Mean of area owned divided by number of household members who work in agriculture.
4. Mean of area planted divided by number of household members who work in agriculture.
5. Mean value of livestock holdings in Sudanese pounds using typical prices prevailing at beginning of rainy season for "standard" animals.
6. Mean value of trading capital in Sudanese pounds.

Table 2: Rainfall in Kalda

<u>Date</u>	<u>Rainfall (in mm.)</u>
July 4	5
July 8	7
July 13	15
July 16	2
July 30	25
July 31	3
August 6	23
August 23	22
September 10	5

Total	107