

Is Food Security Targeting Possible in Sub-Saharan Africa? Evidence from North Sudan

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1. Introduction

This paper is about the feasibility of targeting food security interventions in sub-Saharan Africa (SSA) to those who really need them. The conventional wisdom is that targeting is the only way to limit the unsustainable fiscal cost of generalised food and nutrition subsidies; and that the savings brought about by limiting access to such subsidies more than compensate for the additional administrative costs that targeting entails [World Bank 1986, Pinstrup-Andersen 1988]. Our purpose is to investigate whether the conventional wisdom holds true, not just in the middle income countries of Asia and Latin America from whose experience it is largely derived, but also in the poorer and more food insecure countries of SSA. Targeting in these countries presents special difficulties: the proportion of the population in need is greater, and often more widely dispersed; administrations are much weaker; and the political constraints on redistribution are severe.

Our case study is North Sudan, and particularly its most westerly and food insecure region, Darfur. This is not an easy case. Sudan is paradigmatically food insecure, afflicted by drought, by civil war and by a food system which is both inequitable and unstable. Darfur mirrors those problems and adds the difficulties of isolation and regional deprivation. The history of targeting is not encouraging, especially of drought relief [Keen 1988; Buchanan-Smith 1989]. Hard cases make bad law. Nevertheless, we find grounds for optimism that targeting can be improved in Sudan; and we believe that these lessons apply more widely in SSA. The key is to focus not just on safeguarding current income and food consumption, but also on longer term livelihood interventions that reduce vulnerability; and to do this with programmes which are geographically specific, self-targeting in administrative terms and designed *inter alia* to support traditional community food security arrangements. Consistency in food policy at macro and micro levels is also important.

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The analysis begins with a brief overview of the causes and dimensions of food insecurity in Sudan (Section 2), in order to identify the groups most at risk of chronic and transitory food insecurity and thus of highest priority for targeted interventions. It continues with a review of current food insecurity interventions, to synthesise the strengths and weaknesses of alternative targeting mechanisms (Section 3). It ends with a discussion of alternative approaches to targeting, especially in Darfur (Section 4), and with a summary of the implications for targeting elsewhere in SSA (Section 5).

In discussing targeting, we shall make three important distinctions. The first is between food security interventions (FSI) which are 'explicitly' identified in the Government budget and 'implicit' FSI's which are not. Explicit FSI's include food subsidies, ration schemes or drought relief. Examples in Sudan are the wheat subsidy, the sugar distribution and drought relief. Implicit FSI's are the result of Government-induced distortions in foreign exchange or cereal markets. Examples in Sudan might be the over-valued Sudanese Pound and Government intervention in the market for sorghum.

The second distinction is between FSI's which are administered and those which are self-targeted. An administered FSI requires the establishment of entitlement rules and the maintenance of access registers. An example would be the sugar rationing scheme. A self-targeted FSI relies on pricing or commodity selection to exclude those not in need: an example would be a subsidy on an 'inferior' commodity consumed mostly by poor people.

Finally, we shall distinguish between targeting which is socio-economic and that which is geographical. The former aims to reach groups of people defined in terms of income or asset ownership; the latter, groups defined in terms of location. Ration schemes for poor people would be an example of socio-economic targeting; drought relief to everyone in affected regions would be an example of geographical targeting.²

² Since poor people are vulnerable to drought, geographical targeting of drought prone areas has a socio-economic dimension.

2. Food Insecurity in Sudan

2.1 What is food insecurity?

The widely accepted definition of food security is: 'access by all people at all times to enough food for an active, healthy life'. [World Bank 1986:1] Food insecurity is the lack of access to enough food: chronic food insecurity is defined as 'a continuously inadequate diet caused by the inability to acquire food'; and transitory food insecurity as 'a temporary decline in a household's access to enough food' [ibid].

We find these definitions incomplete. As Maxwell has suggested elsewhere, they lay insufficient emphasis on subjective perceptions of food insecurity [Maxwell 1989:4]. In addition, we find a unidimensional distinction between chronic and transitory food insecurity inadequate, since it deals only with the periodicity or incidence of food insecurity. Another dimension has to be introduced to describe the intensity or severity of episodes of food insecurity. A simple classification of 'none', 'mild' and 'severe' is used in Figure 1 to illustrate the point.

Figure 1 **Model of Food Insecurity**

	1 None	2 Mild	3 Severe
Chronic			
Transitory			

This perspective introduces a dynamic element into the analysis: policy makers and planners are primarily concerned with the movement of a population from one category describing the degree of food insecurity to another. In Sudan, planners usually find themselves grappling with the immediate task of preventing a mildly food insecure population from becoming severely food insecure, for both transitory and chronic groups. In reality, it is very difficult to distinguish between chronic and transitory food insecurity, especially in periods of severe food insecurity, or famine, when the distinction is anyway unnecessary. A population may face conditions of 'transitory' food insecurity with remarkable frequency — very possibly every year in the lean period before the harvest. The model therefore provides an analysis which is more appropriate for practical food security planning.

2.2 Who is food insecure in Sudan and why?

There has been much debate on whether food insecurity in Sudan is caused by exogenous factors such as declining rainfall, drought and desertification

or whether it is caused by social, political and ultimately economic factors [de Waal, 1989; Duffield 1990]. These two sets of causes have been combined by Maxwell [1989] into an analysis of underlying trends and short-term shocks.

The underlying trends include the chronic weaknesses of the macro economy; the instability and inequity of the food system; the commercialisation of agriculture; the rapid urbanisation. Together, these have combined to erode per capita income and increase income inequality, resulting in greatly increased vulnerability for the poorest sections of the population. Maxwell [ibid:9] calculated that the real incomes of the poorest groups in Sudan fell by nearly a quarter between 1965 and 1986, and estimated that 50 per cent of the total population was at risk of food insecurity. Chronic food insecurity affected at least a quarter of this number.

Interacting with the long term trends and causing severe food insecurity in recent years, have been shorter term shocks caused by war, drought and refugee movements from surrounding countries. The war has been the largest and most long lasting of these shocks, with unknown numbers killed and up to two million displaced, many to shanty towns around Greater Khartoum. The 1984/85 drought affected several million people and caused tens of thousands of deaths, at least 95,000 in Darfur alone [de Waal 1989].

Putting these factors together, Maxwell estimated that approximately nine million people in North Sudan suffered from chronic or transitory food insecurity in 1988. Resource-poor households in rural areas and the urban poor formed the largest groups, concentrated in Darfur, Khartoum and Kordofan [Maxwell 1989].

2.3 Food insecurity in Darfur

On Maxwell's analysis, nearly a quarter of all the food insecure in North Sudan are found in Darfur, some two million out of a total population in the region of 3.5 mn. Because Darfur is so remote from the main concentration of commercial agriculture, it has participated little in any processes of growth in the centre. It is also not well integrated into the national marketing network, and is therefore heavily dependent on highly variable regional grain production for its food supply. Recent outbreaks of civil disturbance in Darfur have also created food insecurity in the conflict areas.

Generally the most food insecure groups are resource poor households, households in marginal agricultural areas, and households in areas of conflict and civil insecurity.

A rough estimate of the numbers of people affected by food insecurity in Darfur is presented in Table 1. The largest number is found in the province of North Darfur, where rainfall is lowest and least reliable.³

Table 1

Estimated Food Insecure Population of Darfur 1989
('000 people)

	<i>urban</i>	<i>rural</i>	<i>nomad</i>	<i>Total</i>
North Darfur	70 (35)	900 (81)	160 (89)	1,120 (75)
South Darfur	80 (30)	620 (44)	260 (88)	960 (48)
	150 (22)	1,520 (60)	420 (89)	2,080 (60)

Note: Figures in parentheses show food insecure populations as percentage of total population in each category.

Sources: Maxwell [1989], Swift and Gray [1989].

Many farmers on 'goz' or sandy soils in North Darfur suffer seasonal periods of inadequate access to food. However, the ones who are resource poor and/or farm in the most marginal areas are more likely to be chronically food insecure. There is a smaller number of food insecure farmers in South Darfur, mostly falling into the resource poor category. They may be chronically food insecure in the same way as the resource poor goz farmers in North Darfur. However, poverty and vulnerability in the Southern province are probably not as severe as in North Darfur because of the more favourable agricultural conditions in the south. A high percentage of pastoralists suffer from food insecurity, especially those who have few livestock and are resource poor. The latter may suffer seasonal patterns of food insecurity and therefore be transitorily food insecure. All pastoralists are particularly vulnerable to periods of severe food insecurity. Within all these groups, female-headed households and households composed of old people require specific targeting as they very often face chronic food insecurity.

3. The Targeting of Food Security Interventions in North Sudan

The food system in Sudan is subject to a high degree of intervention. In this section we review the extent to which such interventions benefit the food insecure, particularly in Darfur. We begin with the national picture, before turning to longer-term interventions at the regional level and to drought relief. We end with a review of community level responses and with a summary of findings on targeting in Sudan.

3.1 The National Picture⁴

The main food security interventions as they apply to the staple crops in Sudan are summarised in Figure 2.

³ Rainfall increases from North to South. In most of North Darfur the long-term average rainfall is below 400mm p.a. In South Darfur it ranges up to 900mm p.a. The co-efficient of variation is high, up to 55 per cent in parts of North Darfur.

⁴ This account is drawn from IDS [1988], Sudan [1988] and Maxwell [1989, 1990].

Sorghum accounts for about three quarters of cereal production and for about two thirds of consumption. Ninety per cent of marketed surplus is generated by the large-scale mechanised rainfed sector, which is supported by subsidised credit, a favourable exchange rate for inputs and floor price support by the Agricultural Bank of the Sudan. In addition, the national strategic reserve and buffer stock are both held in the form of sorghum. Because of its strategic importance, sorghum is subject to controls on trade.

Wheat is a largely imported commodity, with Sudan producing only 10 per cent of consumption and relying on food aid for over 80 per cent of imports. The most important food security intervention is the large subsidy on bread, which has benefited mainly urban areas. Millet accounts only for about 10 per cent of production and, as the figure shows, receives no Government support. However, it is the major food staple in Darfur. Finally, sugar is another strategic crop, which is distributed throughout the country on a ration system.

The food security interventions summarised in Figure 2 are explicit in nature, which is to say that their costs are, in principle, specified in the budget. However, in making judgements about the total size and consequences of these interventions, account must also be taken of additional implicit taxes and subsidies, caused, for example, by the distortions in the exchange rate or controls over trade. As IDS [1988] has shown, these are particularly important in the case of sorghum and wheat price interventions. Thus, the effect of the intervention in the sorghum market by the Agricultural Bank of Sudan has been to raise the market price, in some years, above the export parity price which would otherwise prevail. This effectively means that consumers are being taxed to benefit producers. Similarly, an analysis of wheat pricing policy using shadow exchange rates shows that producers are being taxed to provide an additional implicit subsidy to consumers, over and above that explicitly accounted for [ibid].

All these interventions have been reviewed in detail elsewhere [IDS 1988; Sudan 1988; Maxwell 1989,

Figure 2

Summary of food interventions

	Crop			
	Sorghum	Wheat	Millet	Sugar
Production				
Subsidised credit	x	x		x
Favourable exchange rate for inputs	x	x		x
Fixed price		x		x
Floor price	x			
Marketing				
Official Government monopoly		x		x
Strategic reserve	x			
Buffer stock	x			
Controls on trade	x	x		x
Consumption				
Consumer subsidy		x		x
Ration system				x
Emergency relief	x			

Source: Adapted from Maxwell 1989:10

1990]. When they are considered as a complete package, four main themes become apparent. First, there are biases in the benefit derived from intervention, to rich over poor, urban over rural and core over periphery. This is evident in many ways. The IDS food security study showed that the main beneficiaries of the sorghum pricing policy were large-scale mechanised farmers, numbering no more than 8,000 in total. The total cost of intervention in 1986/87 was LS 250 mn, of which two thirds was an implicit tax on consumers, giving an average subsidy of over LS 30,000 (approx. \$US 7,000) per farm to mechanised farmers. Mechanised rainfed farming is found mostly in the core areas of the central plains of Sudan, which have benefited disproportionately from Government investment in infrastructure and agricultural research [Brighton 1988]. For example, a recent review of agricultural research findings in the Sudan showed that only two out of 1,300 publications on agronomy dealt with millet [Robinson 1987].

Similarly, the wheat subsidy is in principle available to all consumers but, in practice, is restricted to urban areas. Within urban areas, bread is normally found only in the centre of towns and not in marginal areas [Duloy 1988]. The one exception to this pattern of maldistribution of food security resources is the sugar subsidy, which does appear to reach many rural areas, albeit unevenly [Maxwell 1989].

The second important conclusion about the package of interventions is that implicit resource transfers caused by price distortions are large compared to explicit food subsidies. A good example is the case of sorghum pricing quoted above, where the implicit transfer from consumers to producers was twice as large as the explicit cost to the Agricultural Bank of the Sudan. A similar case is that of wheat, where exchange rate over-valuation turns a producer subsidy into a tax and greatly increases the level of consumer subsidies.

A third conclusion is that Sudan does not have a good track-record of targeting consumers using administrative measures. The only national food security intervention which registers recipients is the sugar distribution system, but this does not discriminate between recipients and mainly provides a method of estimating total quantities required in different districts. There is no experience either with self-targeting, for example using inferior commodities, although the proposal has been much discussed in the context of reducing the wheat subsidy by introducing wheat/sorghum mixes for bread making [IDS 1988; Duloy *ibid*].

Finally, a fourth conclusion is that the size of these national transfers is very large in relation to most rural development or even emergency programmes. Thus, in 1987/88 the explicit cost of the wheat subsidy alone

was equivalent to 4 per cent of planned total Government expenditure, or 7 per cent of ordinary revenues [IDS 1988:75]. It follows that the effect of national food security interventions may swamp those of local interventions.

3.2 Long-term Food Security Interventions at the Regional Level

The biases found at the national level are repeated at the regional level, as the experience of long-term food security interventions in Darfur demonstrates. The 1984/85 famine catalysed new programmes targeted on the most vulnerable groups in North Darfur, but these remain small-scale and reliant on external funding.

The remoteness of Darfur implies that a greater level of investment is necessary than for other regions to sustain a comparable level of food security: most particularly, investment in infrastructure. In practice, the marginalisation of Darfur in national economic policy has exacerbated food insecurity in the region and only since the 1984/85 famine have donor resources been plentifully available. Nevertheless, the region is still highly undeveloped and there is still no plan to construct a road to Khartoum, which has been identified as the single most important intervention to improve food security [Swift and Gray 1989].

When it comes to development projects, the two longest standing and largest agricultural development projects are both in the less food insecure Province of South Darfur: Western Savannah Development Corporation (WSDC) and Jebel Marra Rural Development Project (JMRDP). Between them they cover the whole Southern province. JMRDP is in one of the areas of highest agricultural potential in the region. While these projects make a valuable contribution to overall production in the region, which is indeed very important because of Darfur's isolation from national markets, they do not specifically target the most food insecure.

There is a question about whether it is worth targeting North Darfur. Some believe that the development potential is so limited, that development efforts should be abandoned in the north in favour of the more productive south. Declining rainfall and the threat of environmental degradation mean that measures should be taken to encourage the inhabitants of North Darfur to move to South Darfur. In fact, there is insufficient evidence to say that rainfall trends are on a permanent decline. And enough ecological potential does appear to exist in the north to warrant development efforts. This potential will always be highly variable and a development priority will therefore be to find ways to 'drought proof' local economies against dry years.⁵

⁵ For a discussion of this issue, see Swift and Gray [1989:36ff].

Since the famine, more aid has become available to North Darfur. For example, of the 30 new projects started in Darfur since 1986, 20 are in North Darfur. These cover many sectors, from water and primary health care, to agriculture and livestock, but in one way or another most attempt to relieve food insecurity. In 1987, a development study was carried out in the most food insecure part of the region, in the north east [MASDAR, 1987]. As a result, a livestock programme with a poverty focus is being planned in part of this area by OXFAM. In another part of North Darfur, OXFAM is funding a successful agricultural project targeting goz farmers, developing techniques to increase production at the household level, with specific programmes targeted at women. Community level interventions are also being introduced with village seed banks. UNICEF are funding a small project in North Darfur designed to increase incomes of female headed households, for example through vegetable production and goat restocking.⁶

3.3 Targeting Disaster Relief

Targeting of food aid as disaster relief has been attempted twice in Darfur in the 1980s: in 1985/86 during the famine, and again in 1988 during the Western Relief Operation. Targeting carried out by local Government institutions failed both times. The consequences on both occasions were that very inadequate amounts of grain reached the most needy. The relief was spread too thinly to be really effective [Keen 1988; Buchanan-Smith 1989]. The only time targeting has been successful in Western Sudan is when carried out by foreign NGOs: CARE in Kordofan in 1985/86 and SCF (UK) in Darfur in 1985 [Buckley 1988]. Does this mean that targeting is only possible when it is the responsibility of expatriate agencies which are detached from local social and political pressures, and have more resources for supervision and for information collection to direct targeting?

Two recent studies have examined the targeting of disaster relief in Darfur: Keen [1988] has reviewed the problems of targeting in the 1985/86 relief operations, and Buchanan-Smith [1989] has evaluated targeting in the Western Relief Operation. This section combines the findings of both studies.

(a) General planning problems

- (i) The principle of targeting was clearly stated in the relief operation plans in both 1986 and 1988, but there was a lack of guidelines as to how targeting was to be carried out in practice.
- (ii) In 1985, the allocation plan for the relief was misguided due to lack of information, reinforcing

⁶ For an account of similar programmes in Kordofan see Shepherd 1990.

an existing urban bias at the expense of needy rural populations.

(b) Targeting of Area Councils

- (iii) Political pressure and the lobbying power of southern Area Councils (AC) resulted in relief allocation plans for ACs which did not adequately reflect the greater need in North Darfur in 1985 and again in 1988.
- (iv) The most needy ACs were also often the most remote, and transport contractors delivered to them last: for example Geneina in 1985 and Kutum in 1988.

(c) Targeting within Areas Councils

- (v) In 1988, local Government officers were mostly unaware of the objective of targeting because of inadequate briefing and understanding of relief. Grain was regarded as a general welfare distribution to which everyone was entitled.
- (vi) In 1988, the regional relief committee was inadequately staffed and resourced to supervise relief distributions and targeting carried out by local Government officers within ACs.
- (vii) At village level, distributions in 1985 and 1988 tended to be made according to population rather than need. The concept of targeting external resources appeared to run counter to social customs, although it was sometimes argued that existing community redistributive mechanisms counteracted the lack of administered targeting.

Finally, a discussion of targeting disaster relief is incomplete unless it considers recent attempts to target displaced southern Sudanese who started to enter Darfur in 1988 in desperate condition, fleeing the civil war in the south. The record of regional and local institutions has been poor.⁷ The relief efforts have been initiated, funded and as far as possible run by the international community and expatriate agencies. In view of the intensely political nature of this kind of targeting, it may be inevitable that foreign relief agencies have to take responsibility.

3.4 Community-Level Interventions

As a contrast to Government sponsored food security interventions, we turn finally to safety-nets implemented by rural communities themselves. Surprisingly, and unlike external actions, community-based safety-nets appear to target some poor people effectively. However, their effectiveness is declining as market relations spread in rural areas [Duffield 1990].

The operation of community sharing mechanisms as a survival net does not presuppose a romantic view of

'merrie Africa': it can and does take place in deeply stratified communities, since the reproduction of stratified communities depends as much on the survival of those at the bottom of the hierarchy as of those at the top. In the same way that individual households go to considerable degrees of personal hardship in order to conserve their productive physical assets (as de Waal [1989] has demonstrated in the case of Darfur), richer households within communities make sacrifices to preserve their privileged social position. In support of this, ideologies of sharing in a crisis are widespread.

This is not inconsistent with the fact that the droughts of the last two decades have also been the occasion of a rapid increase in economic and political stratification. Some people have become very rich through these droughts, especially those who could buy livestock at knock-down prices from impoverished farmers or herders, and keep them alive on pastures away from the drought zone or on feed concentrates. Although hard data are lacking in Darfur, it seems that few such cases involved members of viable rural communities, but rather urban entrepreneurs or wealthy farmers standing outside the moral economy; this is certainly the case, in similar circumstances, in Sahelian west Africa and in northern Kenya for example. The existence of such a process, as a part of the increasing market integration of the traditional rural economies of Darfur, is now rapidly creating conditions of greater vulnerability and insecurity in Darfur.

When chronic food insecurity risks turning acute, individual households and local communities pursue well-defined strategies in the face of growing food scarcity. Household storage of millet in pottery urns or underground pits is almost universal in Darfur farming societies and there is a high propensity to store cereals: having two years household consumption requirements in store is still seen as desirable by most people and the technology apparently allows up to five years' stocks to be held in usable form.

Wild foods, including a variety of fruits, berries, leaves, roots and tubers, were and are still commonly eaten in periods of food shortage: the fruit of mukheit (*Boscia senegalensis*) is the most widespread of these, and provides a major nutritional input in bad years in most rural communities. The technology of its preparation is widely known among the rural poor.

These are examples of the coping strategies of individual households. But there are also collective solutions to the same problem, usually called into play when individual household solutions are no longer viable. In effect, a widening circle of social and eventually political relationships is called upon to provide help to households in trouble.

Many Darfur communities share meals when food is scarce to ensure that poor households have some food, and the Islamic alms tax 'zakat' redistributes a fixed

⁷ P. Cutler and D. Keen, personal communication.

proportion of wealth from rich to poor households. Within pastoral communities such as the Meidob [Hales n.d.] and the Zaghawa [Tubiana 1977], animals in milk are loaned by richer to poorer households for the duration of their lactation, and there are a variety of types of animal loan designed to reconstitute the herd capital of a household below a minimum viable level.

In some groups, collective *shuna* granaries, filled by levy on individual households in good years, and under the control of the traditional village sheikh or higher authority, were used to meet collective obligations of the group including the needs of households unable to feed themselves. No *shuna* stores still operate in Darfur although the physical structures can still be seen in several places.

Migrant labour out of the community has long been a response to poverty especially in North Darfur, and such labour migration much increased with the growth of mechanised farming in South Darfur and elsewhere in Sudan. The movement of whole households or larger groups away from areas threatened by food insecurity and their insertion in other livelihood systems (especially agriculture and trade), without losing contact with the community of origin, was characteristic of the Zaghawa response to the droughts of the early 1970s [de Waal 1989]; such expansion and contraction of a traditional livelihood system along a pastoral-agricultural-urban, north-south, axis has been well described further west among the Twareg of central Niger [Baier 1980], and is characteristic of risky economies like those of North Darfur. Such mechanisms extend the principle of community coping beyond the widening circles of immediate households, family, close kin, clan and ethnic/livelihood system to take in inter-community relations across different ecological zones in circumstances where long-standing reciprocal agreements exist.

The survival of a community's ability to act collectively in favour of its members' food security is closely related to the survival of the most basic community institutions and rules of conduct, which guide behaviour within households, clans, villages and larger social formations. Although such institutions and rules have clearly changed rapidly in the 20th century, and have in some cases been formally replaced by institutions of local and central government, and by other principles of organisation (the growth of market relations being especially important), the evidence of recent anthropological studies is that important elements survive and continue to provide a safety net of proven efficacy. The survival of large numbers of poor people in Darfur through the droughts and famines of the 1970s and 1980s is owed in part to the existence of such mechanisms.

3.5 Conclusion: Some propositions on targeting in Sudan

Our review of food security interventions at the national and local level in North Sudan demonstrates that the range of food security interventions is very wide, from national subsidies on wheat or sugar to small-scale rural development projects designed to help poor, female-headed households increase their incomes. This complex set of planned interventions interacts with other forces, such as the success or failure of community support networks, the growth of market relations, the stagnation of the macro-economy, drought and civil war.

From the point-of-view of the food insecure in Darfur, some food security interventions are more visible than others. The sugar ration, emergency relief distributions and longer-term agricultural development projects all have high visibility. Other interventions may be equally important to food security, through their impact on prices, trade or employment opportunities. The interactions of such targeted and untargeted measures with local community self-help mechanisms generates a complex network of food security interventions, the effectiveness of which is hard to measure.

However, when the package of food insecurity interventions is considered as a whole, seven propositions stand out:

- (i) most national food security interventions have benefited the rich, the urban and the core, rather than the poor, the rural and the periphery. This is particularly true of sorghum pricing policy and the national wheat subsidy.
- (ii) again at the national level, implicit taxes and subsidies are greater than explicit ones. Very large changes in the size and, sometimes, the direction of taxes and subsidies are introduced when a shadow foreign exchange rate is used instead of the official rate.
- (iii) in isolated regions such as Darfur, the impact of national programmes is large, probably larger than some local programmes. In Darfur, the negative effect of biases in Government investment in research, infrastructure and agricultural development, combined with the price and employment effects of sorghum market interventions, may well outweigh the positive effects of rural development projects and emergency relief programmes.
- (iv) attempts at targeting have mostly been geographical, sometimes with benefits to the poor (through rural projects in the west), but more often not (the emphasis on large-scale mechanised farming on the central plains).
- (v) the closest attempt to target socio-economically

has been with relief, but the commitment to targeting has not been strong and, combined with inadequate planning, has mostly failed.

- (vi) on the other hand, some (aid funded) project interventions have benefited the poor, particularly those developed for the drought prone areas of North Darfur since the famine of 1984/85. Because of the greater understanding of local conditions possible in such a long-term intervention, targeting the poor may be feasible in a project framework.
- (vii) finally, traditional community institutions, often based on 'zakat', but located more generally in the sphere of the 'moral economy', do appear still to play a role in assuring food security. Some social groups, for example outsiders and newcomers, are generally excluded from these institutions; and, in general their scope appears to be weakening as market relations spread in rural areas. It may be that new forms of non-governmental organisation and action, such as, for example, the active Sudanese Red Crescent, represent new forms of community institution. Project interventions and self-targeting measures which work through such institutions may have the best chance of success, although there are few precedents.

These conclusions are not encouraging, but they do suggest that there is some room to manoeuvre in Sudan. In the next section we set out guiding principles for the targeting of food security interventions in the Sudan; and illustrate their application in Darfur.

4. The Way Forward

There are three main lines of attack if targeting is to be improved, dealing respectively with national food policy, longer term regional rural development programmes and short term relief. In general, we favour eliminating implicit taxes and subsidies, which tend not to benefit the poor; avoiding administrative targeting, which presents insuperable management problems; extending the scope of geographical targeting; and extending socio-economic self-targeting within the framework of project and programme support for development in the most vulnerable areas. Our proposals tend to build on local government capability, support community level social welfare mechanisms and help poor people to develop their own production and asset-based family survival strategies.⁸

National food policy

Three reforms would improve the targeting of

⁸ Our proposals draw on our own experience of national and regional food security planning [IDS 1988; Swift and Grey 1989; Buchanan-Smith 1990]. They also draw on wider literature [Keen 1988; Shepherd 1988; de Waal 1989, 1990].

national food security interventions. The first is the most difficult and the most important: it is to reverse the bias of agricultural policy to large-scale farming in the mechanised, rainfed sector and target instead the large mass of producers in the traditional, rainfed sector. Because traditional farming is mostly located in the Western regions, this requires improved geographical targeting. The irony is that this change would be good for growth in the long term: Evans and Diab [1988] have shown with a multiplier analysis using a social accounting matrix for the Sudan, that injections based on increased output from traditional agriculture have a greater growth impact than other sectors. This is mainly because of high consumption linkages in the traditional sector. Changes to the distribution of expenditure on infrastructure, research and extension would benefit both growth and food security.

The second reform is to eliminate the implicit and explicit taxes and subsidies which affect cereal producers and consumers, particularly for sorghum but also for wheat. As the data reported earlier showed, ABS intervention in the sorghum market has tended to transfer resources from (poor) consumers to (rich) producers; the overvalued exchange rate has an opposite (though smaller) effect in the case of wheat, leading to a distortion of production incentives. For sorghum, an alternative model of intervention [Shuttleworth 1988] would lift trade restrictions and concentrate ABS resources on defending a floor price that was close to the export parity price. For wheat [IDS 1988], producers would receive a price close to the import parity price.

The third reform is to reduce the fiscal cost of the consumer subsidy on wheat, by introducing inferior wheat-sorghum flour to carry the subsidy and by charging the full market price for pure wheat flour [IDS 1988]. This would be a form of socio-economic self-targeting that would concentrate the benefits of the subsidy and reduce its total cost.

Long term food security at the regional level

The Darfur Food Security Plan [Swift and Gray 1989] proposes a set of measures aimed at increasing the long-term ability of chronically food insecure groups to withstand threats to their food security, including measures to increase production, improve marketing and make markets more secure, as well as measures to create and maintain local assets.

In the field of production, a twin track strategy is required to reduce variability and improve productivity in arable agriculture and extensive livestock production, especially in North Darfur. The key to higher agricultural output is the development of alluvial soil farming systems, in order to reduce agricultural pressure on ecologically marginal sandy soils. The

measures needed include soil and water conservation, techniques of agroforestry and a combination of new and existing plant protection and storage technologies. On the pastoral side, the emphasis needs to be on restocking poor pastoral households, so that they can re-establish viable herd sizes for independent production.

In terms of markets, the main change needed is to support liberalisation and integration of cereal markets, through the abolition of restrictions on grain movement and the construction of infrastructure, especially roads. In addition, however, the Regional Government should develop a small scale capacity to hold and manage emergency grain reserve stocks.

Finally, contingency planning to enable government to react more effectively in a crisis is also important. The crucial ingredients of this are a stronger early warning system, based on existing agricultural statistics, the designation of specified 'warning levels' based on indicators in the early warning system and a series of interventions to prevent destitution. These would include release of emergency stocks at Regional, Area and Rural council levels; livestock market interventions to encourage herders and farmers to de-stock early in a crisis and prevent a collapse in livestock market prices; and a public works programme to prevent a collapse in demand for cereals.

The main thrust of all these proposals is for greater targeting of national resources to the region. This was one of the key resolutions adopted by Regional Government and donor funded project personnel at a regional inter-projects meeting in 1988 [Darfur 1988]. As long as the civil war continues, the prospects for this look bleak: and, as long as Government finances are so scarce, aid will be the primary resource for development initiatives to improve food security.

Relief Planning

The evidence shows that the targeting of relief by local government institutions is possible but difficult, and requires much more careful and clearer treatment in the planning stage of the relief operation. The easiest form of targeting is geographical, that is, differential allocation between Area Councils according to need. However, donor pressure is probably required to counteract local political lobbying and good information is critical to guide and support recommendations for targeting. Socio-economic targeting within communities is much more difficult for government or outside relief agencies, but may be feasible using local NGOs. Borton and Shoham's review of the Sudanese Red Crescent Society's Drought Monitoring Programme in Darfur indicates the potential of using such a local NGO [Borton and Shoham 1989]. This level of targeting would be improved with better information on socio-economic

differentiation, but information is likely to remain a constraint for some time due to the logistical difficulties of information collection in Sudan. Research is also necessary to establish whether community redistributive mechanisms do actually work with relief, how local communities perceive relief, and whether they integrate it into indigenous welfare systems or not.

Relief planning must take better account of the logistical and institutional constraints to targeting. For example, there are frequent transport problems in delivering to the most needy areas (which are often the most remote). Buchanan-Smith [1989] has suggested that a separate transport contract should be specifically drawn up for delivering relief to those areas alone, to avoid them being overlooked in favour of less remote destinations. Training is required for local government officers who are to be responsible for relief distributions. Topics to be covered include needs assessments and relief planning to try and come to a common understanding between the international community and local institutions of what relief is and who it is for [Hubbard 1988; Buchanan-Smith 1989]. Regional relief institutions must be strengthened if they are to be able to carry out adequate supervision of targeting by local government officers. Otherwise the institutional constraints must be recognised if the relief plans are to be implementable.

5. Conclusion

We have seen that better targeting is possible in Sudan, despite the administrative constraints. Some of the improvements we have suggested, particularly those involving national food policy, represent significant redistribution and we do not underestimate the political difficulties [Hopkins 1988]. Others, however, may be less tendentious: we see great potential in the smaller-scale interventions based on community or local government activity.

The experience of Sudan is relevant to other countries in sub-Saharan Africa. In terms of the conventional wisdom with which we began, perhaps the most important lesson is to try and ensure that macro and micro food policy are consistent: it is difficult for specific targeted programmes, however successful, to compensate for large transfers caused by price distortions or inappropriate market interventions.

Beyond this, a preference for geographical targeting and self-targeting is likely to be of general relevance in Africa. The emphasis on local government and on developing community-based programmes is also of relevance elsewhere. If poor people can be helped to secure sustainable livelihoods, outside targeting may become unnecessary.

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