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Source: *Journal of Southern African Studies*, Vol. 22, No. 3 (Sep., 1996), pp. 421-440

Published by: Taylor & Francis, Ltd.

Stable URL: <http://www.jstor.org/stable/2637312>

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Drought and Survival in Rural Namibia

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The 1992 drought in southern Africa reduced national grain harvests to less than half of 1991 levels, caused substantial livestock mortality and severely compromised rural livelihoods. This paper disaggregates the impact of the drought on three vulnerable socio-economic groups in Namibia – smallholder crop farmers, livestock rearers and commercial farmworkers. A modified entitlement framework is adopted: as well as examining entitlement-generating strategies (including credit, overlooked by Sen), the paper also considers ‘indirect’ entitlement-protecting strategies, such as dietary change, consumption rationing and demographic adjustments at the household level. Although Namibia did not experience a decline in aggregate food availability during the drought – commercial imports plus food aid offset the production shock – hunger and malnutrition did affect certain groups who suffered ‘direct entitlement declines’ (crop farmers), ‘trade entitlement declines’ (livestock rearers) or ‘derived destitution’ (farmworkers), and were unable to secure adequate food through alternative sources such as extended family support, credit or food aid. Namibia’s experience confirms the dangers of supply-side analyses of food security. When the composition of a country’s food supply changes dramatically, there are likely to be some groups whose food security is negatively affected because they cannot be guaranteed access to available food, even when supplies are sufficient in aggregate terms.

Introduction

Drought remains one of the most common triggers of subsistence crises in the Third World. In 1992/93 southern Africa suffered a drought which undermined the subsistence of a large proportion of its population. Fortunately, widespread famine and excess mortality were averted, due to a combination of relief interventions and the survival strategies deployed by drought-affected individuals and households. In Namibia, the severity of the food crisis was arguably less intense than in Zimbabwe and elsewhere, but it was sufficiently serious to provoke a massive Drought Relief Programme, towards which the government budgeted some N\$133 million (£24 million) in the 1992/93 financial year.¹ This paper reports on the impact of the drought on rural Namibians, using fieldwork data gathered during the crisis itself, as part of the monitoring activities which served to highlight especially vulnerable communities and to refine the interventions adopted by government, donors and NGOs.

Although Namibia’s food crisis did not develop into a famine, two analytical tools are borrowed from the famine literature in order to structure the argument. The ‘food availability decline’ approach offers a framework for assessing the impact of the drought on national food supplies. The ‘entitlement’ approach provides a framework for

* This article was prepared when both authors were affiliated to the Social Sciences Division of the University of Namibia. The authors would like to thank Finn Tarp, Associate Professor in Development Economics at the University of Copenhagen, Denmark; Erik Nicolaisen, formerly of UNDP-Namibia; and two anonymous referees, for their valuable comments on earlier drafts of this paper.

1 In 1992, one pound sterling was equivalent to five and a half Namibia dollars (£1 = N\$5.50).

disaggregating the drought's impact on different groups within the Namibian population. The empirical findings presented here should feed back into the continuing debate about the analysis of food crises.

The paper is divided into two main parts: a theoretical overview, followed by an empirical application of the theory to the Namibian drought of 1992/93. The theoretical section discusses supply-side 'food availability decline' theories, and contrasts these with the demand-side entitlement approach'. The empirical section begins with background information on Namibian agriculture and the impact of the 1992/93 drought on food production and supply. Next, the drought is discussed in terms of its impact on the food entitlement of three different groups within rural Namibia. Conclusions are drawn in the final section.

Theoretical Context

Amartya Sen's book *Poverty and Famines*² ignited an academic and policy debate during the 1980s about the validity of two alternative explanations of famine causation. *Poverty and Famines* marked a shift in emphasis away from the earlier supply-side (e.g. Malthusian) approaches, which Sen labelled as 'food availability decline' – people starve because supplies of food are insufficient – to the demand-side 'food entitlement decline' approach. The entitlement approach asserts that it is the ability of individuals to acquire food which is of primary importance, not the overall availability of food in a geographical area. Accordingly, people starve during famines not because there is no food (there is always food somewhere), but because their command over available food supplies falls below their subsistence needs.

Food Availability Decline

Food availability decline approaches (hereafter 'FAD') argue that anything which disrupts food production or supply can reduce food consumption, resulting in a subsistence crisis. Examples of events that can trigger subsistence crises are drought, war and rapid population growth. A drought, for instance, causes crop failure and livestock deaths, reducing the availability of food in the affected region and raising the market prices of what food remains for sale. Similarly, war disrupts food production and storage – food and livestock are appropriated, crops are burnt and granaries destroyed – while at the same time distribution systems are disrupted, so that trade and food aid are prevented from reaching consumers and vulnerable groups. A case in point is the recent civil war in Somalia, which dramatically affected food production, trade and aid flows, creating a 'political' (rather than 'natural') famine.

Another set of FAD theories is demographic. In 1798 Thomas Malthus argued that population growth led to a constantly increasing demand for food which agriculture, given strictly limited land and other natural resources, would eventually be unable to satisfy. Famine was therefore seen as an inevitable result – nature's way of restoring the balance between food demand and food supply. Although Malthus could not foresee the agricultural, industrial and transport revolutions, which rapidly removed the threat of 'overpopulation' famines from densely settled Western Europe, many neo-Malthusian arguments about rapid population growth, high dependency ratios and overgrazing are often applied to sub-Saharan Africa.

Although descriptively useful, FAD theories have several analytical limitations. In *Poverty and Famines*, Sen demonstrates that food availability decline is not a *necessary*

2 A. Sen, *Poverty and Famines: An Essay on Entitlement and Deprivation* (Oxford, Clarendon Press, 1981).

condition for a food crisis to occur, through reinterpreting the Bengal 1943 and Bangladesh 1974 famines, two famines where many people lost their lives, but where there was probably no decline in national food availability.³ Similarly, food availability decline is not a *sufficient* condition for famine because local production is only one source of food. If a region suffers from food shortage, food can invariably be imported from surplus regions elsewhere, either commercially or in the form of food aid. By ignoring this possibility, FAD theory implies – and FAD analysis requires – a closed economy. Yet for a local or national decline in food production to become a food crisis, trade and aid transfers must fail to reach the affected population too.

Another limitation is that FAD neither identifies which population groups will be affected by a decline in food availability nor explains how individual groups may be affected differently. FAD suggests that a regional food availability decline becomes a regional food crisis, without recognising the reality that in the same region during the same food crisis some people will go hungry while others will not, and that there are clearly identifiable reasons for this differential impact. In fact, this is where the entitlement approach makes its most valuable contribution.

The Entitlement Approach

Poverty and Famines opens with this famous remark: ‘Starvation is the characteristic of some people not *having* enough food to eat. It is not the characteristic of there *being* not enough food to eat. While the latter can be a cause of the former, it is but one of many *possible* causes’.⁴

In order to understand food crises, Sen argues, it is necessary to understand how people acquire food. To do this, Sen adopts the legalistic terminology of ‘entitlements’. A person’s entitlement is defined as the set of alternative commodity bundles (including food) that can be acquired through the various legal channels of acquisition. In the context of a private ownership market economy, Sen identifies four broad categories of entitlement:⁵

- (1) *Production-based entitlement*: one is entitled to own what one produces with one’s own or hired resources;
- (2) *Trade-based entitlement*: one is entitled to own what one obtains by trading;
- (3) *Own-labour entitlement*: one is entitled to all trade-based and production-based entitlements related to the ‘sale’ of one’s own labour power; and
- (4) *Inheritance and transfer entitlement*: one is entitled to own what is willingly given to one by others (e.g. remittances), as well as transfers from the state (e.g. food aid).

The above categories mean that entitlements have several aspects. In a market economy a person’s entitlements depend on what he or she owns initially (the farmer’s livestock, the worker’s labour power – this is called ‘endowment’), what he or she can acquire through exchange (‘exchange entitlement’),⁶ and what is given to him or her. Formally, the

3 In 1986 Bowbrick challenged Sen’s analysis of the 1943 Bengal famine, claiming that food availability *had* declined – a claim that Sen repudiated vigorously. See P. Bowbrick, ‘The Causes of Famine: A Refutation of Professor Sen’s Theory’, *Food Policy*, 11 (1986), pp. 105–124; and A. Sen, ‘The Causes of Famine: A Reply’, *Food Policy*, 11 (1986), pp. 125–132.

4 Sen, *Poverty and Famines*, p. 1.

5 *Ibid.*, p. 2.

6 Exchange can be seen both as trade (e.g. a labourer taking up employment and purchasing commodities with the wage, a farmer selling some of his/her animals or some cash crops to buy commodities) and as production (i.e. exchange with ‘nature’, where some or all of the production is exchanged for other commodities). Exchange entitlement is, mathematically, a ‘mapping’, specifying for each endowment bundle a set of alternative

maximum food entitlement, F_j , of a group j is given by $q_j p_j / p_f$, where q_j is the amount of commodity j that the group j can sell or consume, p_j is the price of commodity j , and p_f is the price of food per unit. The group j 's food exchange rate is given by p_j / p_f .⁷

People can go hungry for various reasons, including adverse changes in their endowment (loss of land, death of animals, loss of labour power due to illness), or because of changes in their exchange entitlement mapping, such as a drop in the price of the commodity they sell, or a rise in food prices.⁸ It follows that the conditions of production, the structure of economic classes and their interrelationships must all be taken into consideration. If a group of people belonging to a specific occupation (e.g. crop farmers, livestock rearers, landless farmworkers) fails to establish its entitlement over an adequate amount of food, this group is vulnerable to hunger and even starvation. During a drought, all these effects might come into operation simultaneously, undermining the food security of many different socio-economic groups in different ways.

Despite its widespread acceptance as a pathbreaking conceptual framework for the analysis of food crises, several reservations about the entitlement approach have been raised, of which four are pertinent to the Namibian case: (1) poorly specified entitlements (e.g. communal land); (2) incomplete entitlements (e.g. credit); (3) relative neglect of transfers (e.g. pensions); and (4) overlooking of 'indirect' entitlement strategies (nutritional or demographic adjustments).

Firstly, Sen himself observes that there can be ambiguities in the specification of entitlements, especially in societies where property rights are not clearly defined. In sub-Saharan Africa, land provides a classic example of ambiguous ownership. Sen considers ownership of land as an exchange entitlement and not as a direct entitlement, since land does not necessarily provide one with food – to command food, one has to cultivate it or exchange for it. However, where land is communally owned, or if ownership is vested in the state, individuals have usufruct rights only – they cannot sell 'their' land. In Ethiopia during the 1970s famine, for instance, 'only the state had land as an exchange entitlement'.⁹ The same restraint holds true in Namibia's communal areas.

Secondly, Sen's specification of entitlements has been criticised as incomplete. While including gifts of food or cash (inheritance and transfers), Sen ignores loans. When threatened by food crisis, people will try to secure loans if they perceive the cost of borrowing to be less than the cost of other strategies, such as their revenue loss from selling a productive asset. Even when given on unfavourable terms, access to credit allows a more even distribution of consumption and income across seasons and over good and bad years, reducing the necessity to sell off key productive assets following poor harvests.¹⁰ In Namibia in 1992/93, credit played an important role in drought-affected regions, especially the livestock rearing areas, where many people buy their food from shops on credit. By contrast, in the crop producing regions, where households are closer to achieving self-sufficiency in most years, the role of credit was less significant.

Thirdly, Sen has been accused of focusing excessively on what is owned and what can

commodity bundles, any one of which a person can choose to acquire. See J. Drèze and A. Sen, *Hunger and Public Action* (Oxford, Clarendon Press, 1989), p. 23.

7 Sen, *Poverty and Famines*, p. 50.

8 A. Sen, *Hunger and Entitlements: Research for Action* (Fossa, World Institute for Development Economics Research (WIDER), 1988), p. 8.

9 G. Woldemskel, 'Famine and the Two Faces of Entitlement: A Comment', *World Development*, 18, 3 (1990), p. 493.

10 S. Devereux, 'Goats Before Ploughs: Dilemmas of Household Response Sequencing During Food Shortages', *IDS Bulletin*, 24, 4 (1993), pp. 52–59.

be acquired by exchange,¹¹ to the neglect of transfers. As seen above, Sen does consider inheritance and transfers in theory, but in his empirical work he usually ignores them. In any economy with social security provisions, state transfers must be explicitly considered in the characterisation of entitlements. Such transfers are generally contingent on the absence of other entitlements that a person might own – for example, unemployment benefits are not paid to employed people. In Namibia state pensions (for which everyone over sixty years of age is eligible) play a vital income stabilising role. Informal transfers, such as remittances from absent relatives, are also extremely important in the Namibian context.¹²

Finally, Sen has been criticised for overlooking ‘indirect’ entitlement strategies. Sen implicitly assumes that people facing food deficits will continue to consume as much food as they can. From studies of household behaviour during food shortages – or ‘coping strategies’ – it has emerged that rationing of consumption and changes in diet are immediate and universal responses.¹³ People ration voluntarily instead of selling their productive assets (like ploughs and land), in order to protect their *future* entitlement to food. This implies that the entitlement approach – like the FAD theories which Sen set out to depose – concentrates too narrowly on food consumption during subsistence crises. There is an evident disagreement between the theoretical entitlement approach, which argues that people will protect their consumption by converting entitlements into food, and the empirical coping strategies literature, which finds that people will protect their entitlement to food by reducing food consumption.

Another indirect entitlement strategy overlooked by Sen is demographic adjustments, which include children being sent away to relatives, wives returning to their natal homes or the entire household migrating for the duration of the stress period.¹⁴ The purpose of such behaviour is to spread family members among different households, in order to reduce the pressure on those households whose entitlements to food are insufficient.

Food Availability Decline Versus Food Entitlement Decline

The main dissonance between the food availability approach and the entitlement approach is that while FAD concentrates on the total availability of food in a geographical region and operates at the macro-(national or regional) level, the entitlement approach focuses on the distribution of available food between different groups of people, and operates at the micro-(household or socio-economic group) level. Secondly, the entitlement approach does not require the closed economy assumptions which are implicit in the FAD approach. Entitlements collapse can better explain food crises which occur (as in Namibia) even in the presence of well-functioning and relatively integrated markets.

Sen’s major achievement in *Poverty and Famines* was to show that FAD theory is at best a partial explanation of food crises, for reasons discussed above. In terms of food policy, the entitlement approach de-emphasises production *self-sufficiency* and instead stresses the range of options available for achieving food *security*. This is an important lesson for a country like Namibia, whose arid climate makes structural coarse grain deficits

- 11 F. Stewart, ‘Book Review: “Poverty and Famines”’, *Disasters*, 6, 2 (1982); J. Swift, ‘Why are Rural People Vulnerable to Famine?’ *IDS Bulletin*, 20, 2 (1989).
- 12 T. Næraa, S. Devereux, B. Frayne and P. Harnett, ‘Coping with Drought in Namibia: Informal Social Security Systems in Caprivi and Erongo, 1992’, *NISER Research Report*, 12 (Windhoek, National Institute for Social and Economic Research (NISER), University of Namibia, 1993).
- 13 J. Corbett, ‘Famine and Household Coping Strategies’, *World Development*, 16, 9 (1988), pp. 1099–1112; A. de Waal, *Famine that Kills: Darfur, Sudan, 1984–1985* (Oxford, Clarendon Press, 1989).
- 14 Næraa et al., *Coping with Drought in Namibia*, p. 25.

an inescapable fact of life. It follows that the overall availability of food provides only an approximate indicator at best of the access to food of different socio-economic groups. Having said this, it is important to bear in mind that the dissonance between the food availability approach and the entitlement approach does not mean that they are unrelated. As Drèze and Sen argue:

[the links between food availability and entitlement] are worth pointing out, particularly to avoid the temptation to replace the old error of concentration *only* on food output and availability by a new error of ignoring altogether the influence of output and availability on the entitlements of different sections of the population It is also important to avoid the simplistic idea of seeing entitlement and availability as two 'sides' of the food story, with entitlement representing the demand side and availability the supply side and a 'synthesis' being worked out between the two. In fact, entitlement is influenced by both demand and supply factors, and food availability is one of the influences on it.¹⁵

Drèze and Sen¹⁶ identify four links between food availability and entitlements, three of which have relevance for the analysis of the Namibian drought of 1992/93:

- (1) For crop producing farmers, as in the communal areas of northern Namibia, the output they grow themselves constitutes their basic (or direct) entitlement to food. In this case, production availability and direct entitlement are identical.
- (2) Agriculture can also be a significant source of employment for farm workers, as on Namibia's commercial farms. When commercial food production falls, due to drought, employment and wage income are seriously affected.
- (3) When local food production falls, lost entitlement can be replaced by commercial imports or food aid. In Namibia the food marketing system is well developed, and efficient trade and aid flows help to keep food price rises – which also reduce entitlements – under control during drought years such as 1992/93.

To summarise, it is important to be aware of the deficiencies of both FAD theories and the entitlement approach. There is no paradox in the fact that a food crisis can occur without any significant decline in food availability. In most food crises, particular socio-economic groups lose their access to food because of a decline in their entitlement to food. This decline in entitlement can be linked to a decline in food availability, as shown above, but it need not be. The main limitation of the entitlement approach is the tendency in practice to restrict the analysis of food crises to entitlement-generating ('direct' entitlement) strategies, and to overlook entitlement-protecting ('indirect' entitlement) strategies.

Case Study: Namibia 1992/93

This part of the paper disaggregates the Namibian drought of 1992/93 with respect to entitlement to food for three rural population groups. The data collection methodology is described first. This is followed by an introduction to agriculture and drought in Namibia. Next comes an overview of the 1992/93 drought's impact on food production and livestock herds, and the responses taken at national level to cope with the drought.

Due to the different agro-ecological systems in Namibia, access to food differs widely from region to region. Accordingly, the impact of the drought on people's entitlement is discussed firstly for foodcrop producing farmers in the communal areas, then for livestock rearers in the communal areas, and finally for farmworkers on commercial farms. This case

¹⁵ Drèze and Sen, *Hunger and Public Action*, p. 25.

¹⁶ *Ibid.*, p. 26.

study concludes with a discussion of the FAD approach versus the entitlement approach in relation to the Namibian situation.

The data presented below, on entitlement loss for crop farmers and livestock rearers, were collected in a series of six field trips by a team of University of Namibia researchers, including the authors, to two communal regions, Caprivi and Erongo, between October 1992 and January 1993.¹⁷ Caprivi and Erongo were selected as research sites because they were identified by the National Drought Task Force (NDTF) as 'the most critically affected' crop and livestock regions respectively.¹⁸ Over 100 interviews were conducted with rural households in the two regions. Because of the research focus on sensitive topics such as remittances and gift exchanges between households, the interviews were generally qualitative in nature, though quantitative data on food aid receipts, livestock mortality and other drought-related issues were also collected in a structured questionnaire format.

Data on farmworkers derive from a survey of fifty commercial farms undertaken for a drought monitoring project from February to June 1993.¹⁹ A total of 85 farmworker households were interviewed three times each, with questions being asked about the drought's impact on employment, wages and rations, access to food aid, and support received from the commercial farmer.

Agriculture and Drought in Namibia

Namibia covers an area of 825,188 km² and the population was counted at 1.4 million in October 1991.²⁰ This gives Namibia one of the lowest population densities in Africa, averaging 1.7 persons per square kilometre. The exceptions are the northern and north-eastern regions – Omusati, Oshana, Ohangwena, Oshikoto, Okavango and Caprivi²¹ (see Figure 1) – which constitute less than 15% of total area, but hold more than 60% of the population.²² The distribution of income is also extremely unequal, with Gross Domestic Product (GDP) per capita ranging from N\$267 (£50) per annum for 55% of the population (mainly people living in rural communal areas), to N\$60,500 (£11,000) per annum for 5% of the population (mainly the white settlers).²³

Food production in Namibia divides into two distinct sectors: 'communal' small-scale farming, which produces both food crops and livestock, principally for home consumption and local sale; and 'commercial' large-scale farming, which concentrates mainly on livestock for export.

The rainy season, which is also the crop farming season in northern Namibia, runs from October through April inclusive. Namibia's highest rainfall is found in the north and north-east, with average rainfall of more than 500 mm per annum. Eastern Caprivi receives as much as 600–700 mm per annum, which produces seasonal floodplains. This makes these

17 Næraa *et al.*, *Coping with Drought in Namibia*.

18 National Drought Task Force (NDTF), *Plan of Operations for the Drought Emergency* (Windhoek, Government of the Republic of Namibia, 1992), p. 6.

19 S. Devereux, M. Rimmer, D. LeBeau and W. Pendleton, 'The 1992/3 Drought in Namibia: An Evaluation of its Socio-Economic Impact on Affected Households', *SSD Research Report*, 7 (Windhoek, Social Sciences Division, University of Namibia, 1993).

20 National Planning Commission, *1991 Population and Housing Census: Preliminary Report* (Windhoek, Central Statistics Office, Government of the Republic of Namibia, 1992).

21 Omusati, Oshana, Ohangwena and Oshikoto are newly created regions, following the Delimitation Commission of 1992. These 'four sisters' regions encompass all of former Owamboland.

22 National Planning Commission, *1991 Census*.

23 World Bank, *Namibia – Poverty Alleviation with Sustainable Growth* (Washington DC, World Bank, 1992).

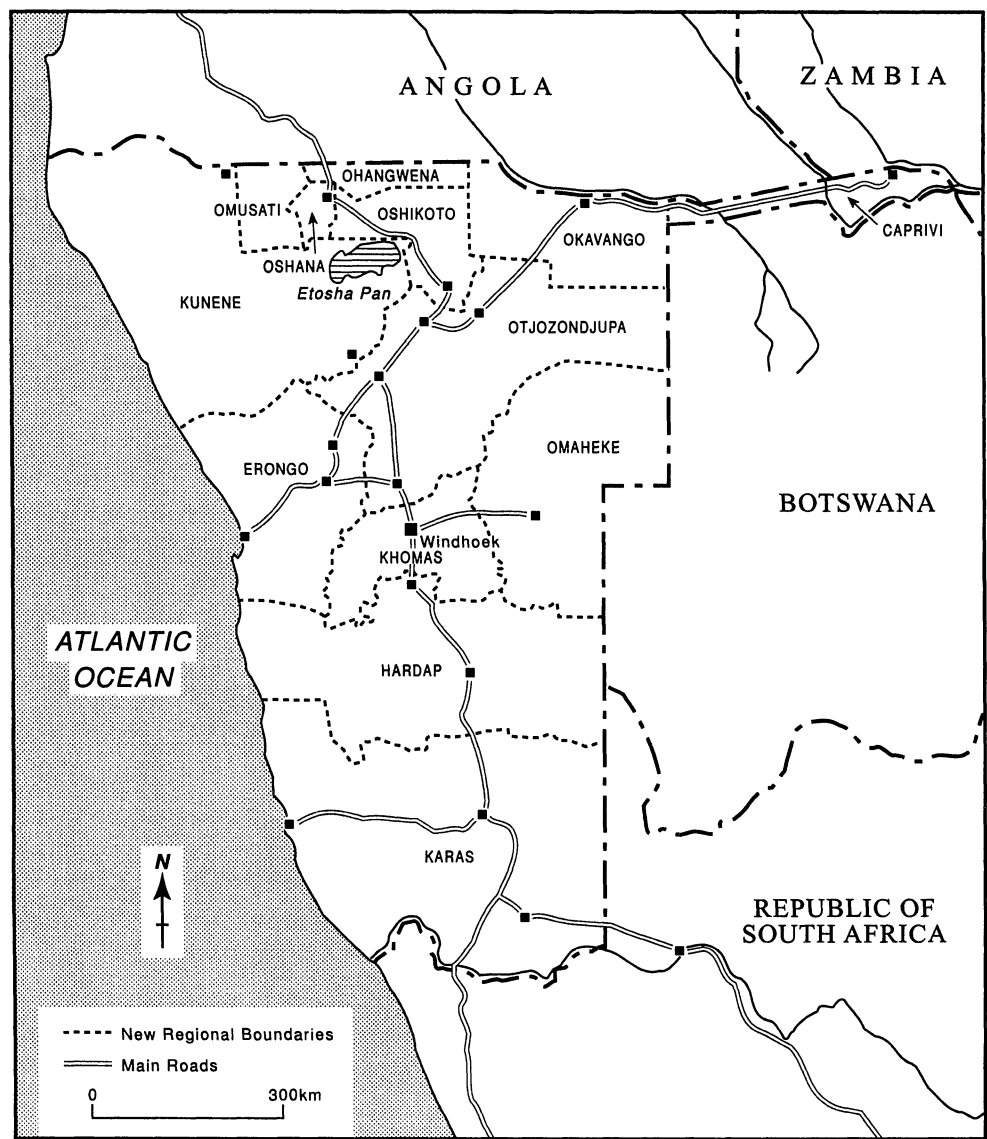


Figure 1.

regions suitable for crop farming. Most millet-growing households are located in the central northern regions of Omusati, Oshana, Ohangwena, Oshikoto and Okavango, while the maize-growing households are concentrated in the north-eastern communal region of Caprivi (maize requires higher rainfall than millet). In the rest of Namibia rainfall is very low, ranging from 300 mm in the east to less than 100 mm per annum in the western and southern regions. These areas are unsuitable for crop farming, making livestock rearing the main economic activity.

Drought is a regular and expected event in Namibia, which is already the driest country in sub-Saharan Africa. A recent analysis of available rainfall data lists no less than thirty years of unusually low rainfall since the turn of the century, meaning that there is a drought

in Namibia, on average, every third year.²⁴ Until recently, these droughts and their socio-economic impacts were not well documented, perhaps because the colonial administration regarded Namibia as a dry country where droughts are the norm, or because Namibia is so sparsely populated that comparatively few people are affected by rain failure. On the other hand, it must be noted that the South African government did at least respond to the droughts of the early 1970s and early 1980s by providing fodder subsidies and food aid.

Even in a non-drought year, Namibia is a net importer of crops and a net exporter of live animals and meat products. Namibia is never self-sufficient in food crops. Cereals production averages approximately 116,000 tonnes in a good rainfall year, of which an estimated 76,000 tonnes are produced for domestic and local consumption by farmers in the northern communal regions, and approximately 40,000 tonnes are produced on commercial farms. But this total production covers only approximately 60% of actual cereals consumption, and the remaining 40%, equivalent to 70,000–80,000 tonnes, must be imported.²⁵

The crop marketing system in Namibia is not parastatal but private and is generally considered to be relatively efficient. In addition to the formal marketing sector – large commercial importers and millers – a significant volume of maize and millet enters Namibia informally from Angola and Zambia, and is marketed unofficially in the northern regions.

During 1992 Namibia suffered a disastrous rainy season which ended with showers that were best described as ‘too little, too late’ for both crops and livestock. The erratic and below average rainfall experienced in Namibia was repeated elsewhere in southern Africa, and marked the beginning of a severe drought throughout the sub-continent. Aggregate cereals output in the Southern African Development Community (SADC) countries decreased dramatically in 1992. Crop production for SADC and South Africa as a whole in 1992 was less than 50% of the level achieved in 1991, and large numbers of livestock died. The number of people in the SADC countries affected directly by the drought was estimated at 20 million in June 1992, of whom no less than 5.6 million from Zimbabwe required drought relief. Zimbabwe, Malawi and Swaziland were the countries with the highest percentages of people affected by the drought. More than 50% of their populations were targeted as beneficiaries, with Zimbabwe reaching nearly 60%. For most of the other SADC countries the targeted beneficiaries constituted approximately 20% of each country’s population. For Namibia the figure was below average, at 18%.²⁶

Namibia 1992/93: A Case for Food Availability Decline?

The fact that the 1992/93 drought caused substantial crop failure in Namibia is confirmed by the observation that estimated cereal production in 1992/93,²⁷ at 33,100 tonnes, represented a 71% drop from the 1991/92 harvest of 114,000 tonnes.²⁸ Small farmers were affected very severely by the drought, because they depend almost entirely on their harvests for staple food. In the northern and north-eastern communal farming regions, a short break in rain during the growing season caused crop failures, but adequate grazing remained for

24 J. Olszewski, ‘The History of Drought’, in R. Moorsom and A. Pfouts (eds), *Drought Impacts and Preparedness in Namibia* (Windhoek, Namibian Economic Policy Research Unit (NEPRU) and the United Nations Environmental Programme (UNEP), 1994), p. 35.

25 UNICEF, *A Situation Analysis of Children and Women in Namibia* (Windhoek, UNICEF-Namibia and NISER, University of Namibia, 1991), pp. 59–60.

26 Drought Emergency in Southern Africa (DESA), *Consolidated UN-SADC Appeal Midterm Review* (Harare, Southern African Development Community (SADC) and United Nations, December 1992).

27 A harvest year runs from May, when the harvest takes place, to April of the following year.

28 Early Warning and Food Information Unit (EWFIU), *Quarterly Food Security Bulletin: April–June 1992* (Windhoek, Ministry of Agriculture, Water and Rural Development, 1992; and EWFIU, *Special Food Security Update* (Windhoek, Ministry of Agriculture, Water and Rural Development, 1992).

livestock in these regions (see below). The lack of rain in the rest of Namibia, especially in the west and the south, caused an alarming deterioration in the grazing situation and water availability, and thousands of livestock deaths due to the drought were reported. Estimated livestock mortality totalled 2,000 large stock units and 11,400 small stock units during December 1992 alone.²⁹

Nationwide surveys conducted by the Ministry of Health and Social Services recorded an average of 28% stunting and 9% wasting among children under five years old who attended clinics during 1992.³⁰ Wasting is a better indicator of recent food intake deficits than stunting, which measures chronic or long-term food deficits. Unfortunately, no baseline data on rural nutrition status exists to compare drought with non-drought periods, but it can be assumed that some of the 9% who showed signs of wasting in late 1992 (7% moderate, 2% severe) were suffering from drought-induced malnutrition. In total, 75 deaths of children at Namibian clinics and hospitals from January to April 1993 were attributed to 'severe malnutrition' (by month: 14, 5, 25 and 31), peaking just before the harvest of May 1993 effectively ended the drought.³¹ On the other hand, malnutrition is the second most common cause of death recorded for children under five in Namibia, even in non-drought years, so not too much should be inferred from these figures.

Responses were initiated to help people affected by the drought, in order to prevent a major disaster. There were two sets of institutional responses: the state and voluntary sectors (food aid and other transfers distributed to the Namibian population); and the commercial sector (food imports). The Government of Namibia received pledges of 34,200 tonnes of cereal food aid from the international community, of which 31,300 tonnes was actually delivered.³² The stated objectives of the food aid were (1) to protect food consumption of 'vulnerable groups' of the population by providing free food;³³ and (2) to restore entitlements to those who had lost entitlement, through food-for-work projects involving farmers who had lost their crops and/or livestock income because of the drought. 'Vulnerable groups' were defined as persons with no direct source of entitlement to food: pregnant or lactating women and their infants; children from one to five years of age; school age children from six to fifteen years; and the elderly, sick and disabled, who were unable to work.³⁴ Questions were raised as to why pensioners were considered a vulnerable group when Namibia, unusually in Africa, has a universal state-run pension scheme, whereby every person aged 60 or more is paid the equivalent of £50 (N\$270) every second month. Within the SADC countries, only South Africa shares this feature. In other countries, elderly relatives are regarded as an economic burden to the family, but in Namibia and South Africa, pensioners are actually a financial benefit. On the other hand, the high dependence on government pensions poses a major risk to household food security. When a pensioner dies, this source of income is terminated, and many poor families find themselves unable to buy even basic necessities. During field work in Erongo and south Kunene, it was discovered that the Red Cross, which distributed food aid in this region, had decided not to include the elderly as a vulnerable category, arguing that their pensions enabled them to buy food, and therefore they had no need for free food handouts.

29 EWFIU, *Quarterly Food Security Bulletin: October–December 1992* (Windhoek, Ministry of Agriculture, Water and Rural Development, 1993).

30 N. Shivute, 'Drought: Its Relationship to Health and Nutrition', in Moorsom and Pfouts (eds), *Drought Impacts and Preparedness*, p. 181.

31 *Ibid.*, p. 188.

32 EWFIU, *Crop and Food Security Bulletin* (Windhoek, Ministry of Agriculture, Water and Rural Development, 1993).

33 Food aid given to vulnerable groups consisted of maize meal, maize blend, beans, fish and oil.

34 NDTF, *Monthly Report of the National Drought Task Force, September–October, 1992* (Windhoek, Government of the Republic of Namibia, 1992).

Unfortunately, the distribution of food aid was not without problems. Many drought-affected households received free food only once, if at all. Paradoxically, households in badly-hit crop producing regions such as Caprivi received far less free food than households in non-crop producing regions in southern Namibia.³⁵ In addition, very few food-for-work projects were implemented under the drought relief programme, so that the unemployment problem created or exacerbated by the drought was not effectively addressed.

The second 'food supply' response to the drought was commercial food imports. As noted above, Namibia imports about 70,000–80,000 tonnes of cereals commercially in years of good rainfall and food production. In 1992/93, however, estimated net commercial grain imports rose to 139,600 tonnes,³⁶ an increase of 75–99% over non-drought years. This meant that domestic production (at 33,100 tonnes), official commercial imports (139,600 tonnes) plus food aid (31,300 tonnes) more than covered the entire national food consumption requirement, which was estimated at 192,300 tonnes for 1992/93.³⁷ It follows that Namibia did not experience a national food shortage during the 1992/93 drought.

Namibia 1992/93: A Case for Entitlement Decline?

In this section, the drought's impact on the entitlement to food of three distinct population groups in Namibia will be discussed. These population groups are: crop farmers in the northern and north-eastern communal areas; livestock rearers in the southern, central and north-western communal areas; and farmworkers on the commercial farms. The differences between each group's access to food are caused primarily by the different agro-ecological and agricultural production systems across Namibia.

The Communal Food Crop Producing Regions

For food crop farmers and their families the crops they grow are also their basic entitlement to food. During a drought many will go hungry because less food is produced for domestic consumption. This is a 'direct entitlement failure'. Food producers are, ironically, among the groups most vulnerable to food crisis, because of their exposure to this direct entitlement failure. As an example Sen mentions peasants in the Ethiopian famine of 1972–1974,³⁸ and in the Namibian case it will be seen that crop farmers in communal areas did suffer – though on a milder scale – from direct entitlement failure in 1992.

Entitlement in a Normal Year As mentioned, the northern communal regions are the most densely populated in Namibia, and are mainly maize and millet producing regions. Livestock are kept primarily as savings but also for milk, consumption, and as draught animals. In non-drought years people derive entitlement to food mainly from direct production, but also from income generated from sale of 'cash crops' (ground nuts, beans, cotton) on the market, and from own-labour entitlement (formal employment and informal income-generating activities). Formal sector jobs are more readily obtainable in these regions than in other, less densely populated rural areas of Namibia. One person in the household often has a job in the formal economy, e.g. working as a civil servant in government administration, as a teacher or as a nurse. Another type of own-labour entitlement is income earned in the informal economy, which is sizeable and diversified in

35 Devereux *et al.*, 'The 1992/3 Drought in Namibia'.

36 EWFU, *Crop and Food Security Bulletin*.

37 *Ibid.*

38 Sen, *Poverty and Famines*, Chapter 7.

these regions.³⁹ However, income earned in the informal sector is often low, variable and uncertain.

Looking next at transfer entitlement, it is useful to divide transfers into two categories: formal (pensions, food aid); and informal (remittances, gifts). Pensions play a vital role in the survival of poor families. In many households the pension of N\$135 (£25) per month constitutes the only cash income. Informal transfers like those from pensioners to other family members (redistribution of pensions) and remittances are important too. Especially in these regions, where the rate of formal employment is relatively high, remittances are widespread. Informal transfers consist mainly of food (e.g. a bag of maize meal) as well as cash.

Entitlement in a Drought Year In the northern and north-eastern communal areas the drought was purely agricultural and the impact was most severe on crop farming. In many cases the destruction of crops (cereals and cash crops) was total – households harvested nothing at all. The loss of crops reduced household incomes and raised cash needs for grain purchases – a ‘drought = double income shock’. Farmers suffered primarily from direct entitlement failure, but they also experienced trade entitlement failure, since in a normal year some of the crops they produce would be directly consumed, while other crops would be exchanged for some other food. The reduction in direct entitlement shifted the focus for acquisition of food from production to the market, transfers and credit.

Looking firstly at the market, people had to buy more food from the shops than in other years, and to do this they had to sell some assets. Apart from livestock, many farming households also sold some of their domestic possessions, including bicycles, radios, and cooking pots – even, in a few cases, key productive assets such as ploughs.⁴⁰ There is no evidence that food prices rose significantly because of the excess demand for food. Average food prices in the northern communal areas are the lowest in rural Namibia.⁴¹ One explanation has to do with the efficiency and rapid responsiveness of commercial maize marketing systems, and with the fact that substantial, unofficial imports of cereals and other food commodities occurred from Angola and Zambia. Against this favourable picture, many farmers had to travel long distances to buy maize in towns, thereby effectively pushing up staple food prices due to the ‘hidden cost’ of transport to and from the market.

Secondly, turning to transfers, evidence collected during fieldwork in Caprivi suggests that transfer entitlement increased in this drought year, partly because of the distribution of food aid, and partly due to a rise in informal transfers between relatives and neighbours. Where the food aid system failed to reach households, the informal social security system was called upon to bridge the gap between production and need. It was found as a general tendency that informal transfers increased within immediate and extended families (cousins and distant relatives as well as close kin). But in some cases people claimed that informal transfers declined, because family members who were also suffering from the drought could no longer support them.

Thirdly, it appears that credit entitlement plays an insignificant role, both in non-drought and drought years. It is not common to borrow money – either people support others (without expectation of repayment) or they do not. Since crop farmers do not normally

39 Informal sector activities include: collecting and selling firewood; working on other people's farms (clearing land and ploughing fields); making and selling mats, baskets and other handicraft; brewing and selling local beer.

40 Devereux *et al.*, ‘The 1992/3 Drought in Namibia’.

41 The lowest maize price in rural Namibia was found in Oshana region (N\$1.40/kg in August 1992), which was only 17% higher than the average retail price (at N\$1.20) in Windhoek stores at the same time. (See NISER, *Namibia Household Food Security Report, September 1992* (Windhoek, NISER, University of Namibia, 1992)).

depend on the market for their staple food, most have not developed strong relationships with shopkeepers which would include buying food on credit. So in drought years they are less likely to receive credit from shopkeepers than households living in habitually market-dependent livestock regions (see below). As for formal borrowing – from one of the few banks in these areas – smallholder farmers have restricted access because they lack collateral. Since all land is communally owned, for instance, it is not possible for these farmers to mortgage land for credit.

Indirect Entitlement Strategies Even though entitlements to food derived from the market and from transfers generally rose during 1992, this did not outweigh the near total collapse in production (direct entitlement), and consequently many people modified their food consumption patterns and/or went hungry. As mentioned – and criticised – in the earlier theoretical discussion, Sen's belief is that the main concern of people affected by drought is to restore food consumption to its pre-drought level. However, field work evidence shows that people in these regions (especially Caprivi, which is well endowed with wild foods) changed their diet towards alternative foods, like berries and water lilies. This finding supports the assertion made earlier, that people will choose inferior or restricted diets in order to preserve their assets in case of further drought and economic stress the following year.

There was also evidence of demographic adjustments in response to the drought. A common pattern was that some children would be sent away to relatives until the drought was over – e.g. to the child's grandparents, who receive a pension every second month, or to a grown-up brother or sister, employed and living in towns such as Windhoek. The purpose of these adjustments was to redistribute the burden of feeding dependents from households which could not cope to relatives who were in a better position economically to do so.

The Communal Livestock Rearing Regions

For livestock rearers and others who exchange commodities for food, the main source of vulnerability to food insecurity is 'trade entitlement failure'. During a drought these groups go hungry because they obtain less food through trading their commodities. As food production falls, the demand for food rises and pushes food prices up (p_f rises). Distress sales of livestock and other assets occur, causing the market value of these assets to decline (p_j falls). At the same time, the quality of livestock is falling as a result of the drought. The combination of excess demand for food and excess supply of deteriorating assets leads to a rapidly decreasing asset-to-food exchange rate (p_j/p_f falls). Sen mentions pastoralists during the Sahelian famine of 1968–1973 as an example of people who suffered from trade entitlement failures.⁴² Again, on a much milder scale, the people who suffered most from trade entitlement failures in Namibia in 1992 were livestock rearers in the non-crop producing areas.

Entitlement in a Normal Year Unlike in the northern communal crop farming regions, land in the southern, central and western regions of Namibia is unsuitable for crop production because rainfall is very low and soil fertility is poor. In these regions, the dominant economic activity is livestock rearing. In a normal year people derive their entitlement from the market – trade with cattle, goats and sheep constitutes the basis of their income. Because no staple crops are grown locally, all maize meal, millet and bread are

42 Sen, *Poverty and Famines*, ch. 8.

Table 1. Numbers and prices of animals and maize in Erongo, 1992

Month	Cattle		Goats and Sheep		Maize
	Number per household	Price per animal (N\$)	Number per household	Price per animal (N\$)	Price per kg (N\$)
Pre-drought (January)	35	550	232	90	1.80 ^a
Drought (October)	10	450	110	75	1.86

Note: ^aAugust 1992 (no data available for January–July 1992).
Sources: Livestock numbers collected during field work 1992; livestock prices from National Drought Task Force, *Plan of Operations for the Drought Emergency* (1992); maize prices from NISER, *Namibia Household Food Security Report, October 1992*.

bought from shops. This food comes from commercial farming regions or is imported. Food prices in these isolated communities are always higher than in any crop producing region in Namibia. This is because the extremely low population density in these regions can only financially support a few shops, which in turn can charge monopoly prices for essential commodities such as maize meal. Fewer people than in the crop producing regions derive their entitlement from own-labour entitlement through having a job in the formal sector. The reason is that economic activity is generally retarded because of low population density, limited natural resources and widespread poverty. The few people having salaried employment mostly work in the mines, as teachers, as nurses or as government employees. In normal years access to food derives mainly from the market, and only a small proportion comes from transfers such as pensions and remittances. In a drought year, however, formal and informal transfers play an important role in the survival of many households, as seen below.

Entitlement in a Drought Year The economic impact of the drought on livestock rearing households was recessionary. Animals died in sizeable numbers. As trade with livestock constitutes a significant, and often the only, source of income for livestock rearing households, a substantial income shock was felt. This was a single-sided income effect, since cash needs for grain remained essentially the same in these market-dependent communities, and prices did not rise by much because the demand for food from shops remained more or less unchanged. If anything, the market demand for food might even have fallen, as people responded to an income shock by rationing their consumption, or received food aid instead.

During field work in Erongo a small survey was done of eight livestock rearers in five villages. The number of livestock owned by the individual rearers in January 1992 and in October 1992 was recorded, plus the numbers of livestock that died and were sold during the period. In Table 1 the average number of animals owned by the eight livestock rearers is shown. The prices per animal sold and retail maize prices per kilogram are also recorded.

The decline in the rearers' output (animals dying) resulted in a sharp reduction in the ability of the affected people to command food through exchange, because they had fewer assets (animals) to sell. On top of this their exchange entitlement was further undermined because of falling prices for animals, i.e. less income from selling assets. There are two explanations as to why livestock prices fell. The first is the excess supply of animals, as 'distress sales' were made to finance food crop purchases and/or to minimise herd losses, because the rearers feared that their animals would die. During the first nine months of

Table 2. Grain entitlement loss due to animal death and exchange rate decline in eight Erongo households, January–October 1992^a

	Cattle	Goats and sheep	Average stock
Value weights in pre-drought holdings ^b	0.456	0.544	1.000
Percentage animal loss owing to death (q)	71%	53%	61%
Percentage grain entitlement loss owing to exchange rate change (p) ^c	21%	19%	20%
Percentage total grain entitlement loss $p(100 - q)/100 + q$	77%	62%	69%

Notes: ^a Methodology derived from Sen, *Poverty and Famines*, pp. 104–111.

^bCalculated as the relative shares in the 'normal' pre-drought market value of the estimated 'average' stock of animals owned by a livestock rearer in the survey.

^cMaize per livestock in January 1992 is indexed to 100. Because no data for maize prices exist for January 1992, the retail price for August 1992 is used.

Source: Data collected during field work in Erongo 1992.

1992, sales of cattle in Erongo were almost 50% higher than in 1991, while sales of small stock (goats and sheep) in the south (Hardap and Karas Regions) were 27% higher than in 1991.⁴³ The second explanation for the decrease in prices relates to the deteriorating quality of animals, which lost weight rapidly and were often sold only when they were in a very poor condition. Given Namibia's high rate of inflation (approximately 18% in 1992) price declines represented significant real income losses for those selling animals. Some evidence also exists of limited rises in crop prices, so that the exchange entitlement decline was caused both by the severe decline in livestock income and by a small rise in maize prices.

Grain entitlement losses, due to animal death and exchange rate decline, for the eight livestock rearers surveyed in Erongo, are shown in Table 2. This table illustrates the multiple impact of the drought. The entitlement loss caused by death of animals ranges from 53% for goats and sheep to 71% for cattle. These entitlement losses caused by livestock mortality dominate the entitlement losses due to a fall in the exchange rate, which was approximately 20%, both for cattle and for goats and sheep.⁴⁴ The total crop entitlement loss was calculated at 69% – i.e. these people lost more than two-thirds of their entitlement to staple food.⁴⁵

Due to the exchange entitlement decline people had to look for transfer entitlements. It seems that transfers rose during this drought year. The increase had two components, first through a small rise in formal transfers like food aid, and secondly because of informal transfers. An important set of non-food formal transfers in these regions was livestock fodder and lick subsidies, which were introduced under the drought relief programme with the intention of reducing drought-related livestock mortality and maintaining herds at viable levels. Fully 60% of the value of all drought relief transfers during 1992/93 was in the form of fodder subsidies.⁴⁶ This policy has been criticised by some environmentalists for contributing to overgrazing and desertification of already marginal land. Nonetheless,

43 NDTF, *Monthly Report of the National Drought Task Force, September–October, 1992*, p. 10.

44 For cattle, the entitlement loss caused by decline in the exchange rate is calculated as follows: maize per cattle (pre-drought) = 550/1.8 = 305.6 = index 100; maize per cattle (drought) = 450/1.86 = 241.9 = index 79; loss = 100 – 79 = 21.

45 This loss is probably underestimated because the January 1992 retail maize price was certainly lower than the August 1992 price, which was used due to the unavailability of data on maize prices prior to August 1992.

46 Devereux *et al.*, 'The 1992/3 Drought in Namibia'.

household incomes were also supported by a livestock marketing subsidy, which encouraged de-stocking and contributed to protecting household exchange entitlement to grain. As far as informal transfers are concerned, the situation in these regions was generally worse than in the crop producing areas, because inequality is less pronounced – so the ‘rich’ people, who could help their ‘poor’ relatives or neighbours with informal transfers, are very few. Remittances from relatives living in urban areas (e.g. Windhoek, the capital) are also very limited, because many people have lost their jobs due to a decline in the formal urban economy.

In addition to entitlement derived from transfers, entitlement derived from credit played a significant role. Because people in these semi-arid areas buy most of their staple grain from local stores at all times, they have established relationships with shopkeepers which might be described as mutual dependence. Shopkeepers often extend credit to customers who have a regular source of income, such as teachers and pensioners, because their creditworthiness is thought to be high. However, it must be emphasised that this credit entitlement to food differs from transfer entitlement in two important respects: firstly, it is not a costless gift, but must be repaid, sometimes with interest added; and secondly, it occurs more often between non-relatives than relatives. During the drought, the demand for credit from these and other regular customers increased as incomes declined. The shopkeeper’s decision to extend credit is based on a judgement about each client’s ability to repay, and about the value of that client to the business in non-drought years. Recognising the value of keeping their customers after the drought, many shopkeepers met this increased demand favourably, even accepting higher default rates during the period of economic stress. One shopkeeper interviewed in southern Erongo in January 1993 claimed to have 348 clients indebted to him, with a total debt worth N\$18,000 (almost £3,300).

Indirect Entitlement Strategies Even though there was a measurable increase in transfer and credit entitlements, this increase did not outweigh the fall in market exchange entitlement for food, and as a result some people went hungry. For these regions, evidence was found of rationing of food consumption. People were going hungry despite having animals that they could sell for grain. This was done in the hope that some animals would survive the drought, so that the household would retain an endowment once the drought was over. As a result many animals either died or were sold in such poor condition that their selling prices dropped to very low levels.

Evidence of demographic adjustments was also found, such as whole households migrating, hoping to find better grazing for their livestock, or cheaper maize meal; or partial migration whereby one household member migrated with the animals, plus sending children (those not at boarding school) to relatives. Many households had no pensioners and no relatives working in towns. For these households, migration was the last and only option left.

Farmworkers on Commercial Farms

People who depend indirectly on agricultural incomes suffer ‘derived destitution’ during a drought, either through loss of employment (e.g. farmworkers) or through loss of markets for their goods and services (e.g. agricultural traders, rural barbers). This was the situation for landless labourers during the Bengal famine of 1943 and the Bangladesh famine of 1974.⁴⁷ In Namibia in 1992 farmworkers suffered similarly from a less severe form of ‘derived destitution’.

47 Sen, *Poverty and Famines*, chaps 6 and 9 respectively.

Entitlement in a Normal Year Most of Namibia's 6,300 privately owned commercial farms are located in the semi-arid central and southern regions, where livestock rearing (beef cattle, karakul sheep), mostly for export, dominates. In addition, some commercial maize farms are concentrated in the 'maize triangle' around Grootfontein, Otavi and Tsumeb. Commercial farms tend to be very large (averaging over 8,500 ha), but they employ comparatively few people.⁴⁸ An estimated 200,000–250,000 people (14–18% of the total national population) live on these farms, of whom only about 30,000 (12–15%) are registered as formally employed.⁴⁹ Most farmworker households are small and nuclear, and are dominated by economically active adults. Extended families are uncommon, in contrast to the situation in the communal areas. Children are sent away to school or to relatives at an early age, and pensioners do not generally stay on the farm.

In a normal year the most important source of entitlement to food for farmworkers is the one based on their labour power. Sen refers to this category of entitlement as 'own-labour entitlement'.⁵⁰ Farmworkers are paid in cash (wages) and in kind (food rations). They depend almost entirely on these wages and rations for their sustenance, which in turn depends on production and incomes in the commercial farming sector. Wages are extremely low, averaging less than N\$200 (£36) per month – half of the mandatory minimum wage of N\$400 (£73) per month, though accommodation is usually provided at zero cost. Only a few households grow crops or keep any animals, and these activities rarely generate any additional income. Because of the isolated nature of life on commercial farms, there are very few alternative sources of employment and incomes for farmworkers – the informal sector can be described as virtually non-existent. Food is derived from rations received from the farmer and purchases, mainly from farm stores, at prices equivalent to local retail prices.

Unlike in the foodcrop producing and livestock rearing regions, entitlements derived from transfers play a minor role in the survival of farmworker families. Very few households have elderly members living with them who could receive pensions (formal transfers), and remittances from relatives elsewhere (informal transfers) are also uncommon. However, if relatives off the farm are caring for children, or if children are placed in hostels which maintain and feed them, this constitutes support of some kind.

Entitlement in a Drought Year The 1992/93 drought in Namibia had a severe recessionary impact on the commercial agriculture sector. Most commercial farmers suffered livestock and crop losses, and many went bankrupt and left their farms altogether. Hundreds of farmworkers – who depend indirectly on commercial agricultural incomes – suffered 'derived destitution' through lay-offs. Workers had been laid off on nineteen of forty-eight farms (40%) surveyed in early 1993, a year after the drought began. In most cases of lay-offs the labourers and their families were told to leave the farm. Thus they lost not only their jobs and income (including food rations), but also their homes – the whole family had to find a new place to settle down.

Although farm wages do not appear to have been reduced in cash terms for those who retained their jobs, farmworkers suffered falling exchange entitlement to food in other ways. A slow but steady rise in the price of maize meal was recorded in much of Namibia during 1992,⁵¹ causing a fall in real incomes for all market-dependent households. This was the

48 A survey of 85 farmworker households living on 48 commercial farms in early 1993 found that an average of eight people were employed on each farm, though in one case the total number of employees was 46. See Devereux *et al.*, 'The 1992/3 Drought in Namibia'.

49 UNICEF, *Situation Analysis*.

50 Sen, *Poverty and Famines*.

51 NISER, *Namibia Household Food Security Report, September 1992*.

case despite the fact that staple food is bought in these regions even in non-drought years. As such, the drought did not put additional strain on the crop marketing system, which in any case is well-established and well-functioning. Rather, the increase in prices was more likely to have been caused by the higher proportion of commercially imported cereals being marketed, which compensated for the higher than average shortfall in domestic production. The net result was a severe decline in the exchange entitlement of those farmworkers who lost their jobs, which of course also affected their dependants. Their purchasing power or effective demand was drastically reduced, largely because of the sudden loss of income, and to a lesser extent because of rising food prices. Lacking alternative sources of income, and with very few animals or crops to sell, some farmworkers were reduced to selling domestic assets such as their radios, while others borrowed cash to buy food.

In terms of the drought relief programme, farmworkers were not classified as a 'vulnerable group' because they had access to a regular income. Most were therefore excluded from access to entitlement derived from formal transfers in the form of food aid. Free food was distributed mostly in the communal areas, and only a few farmworkers received free food under the drought relief programme. Frequently the commercial farmer collected this food aid from a central distribution point (the nearest large town) and distributed it to the farmworkers. In many cases the farmer used the food aid to substitute for the ration he would normally give to the workers, so that no incremental food was in fact received by the workers themselves – in effect, the commercial farmer absorbed this transfer himself.

As for informal transfers, there is little evidence of an increase in remittances being received by farmworkers. Remittances typically flow from waged workers to non-waged relatives, so farmworkers would not normally be receiving support from off-farm sources.

Indirect Entitlement Strategies There was only a limited increase in transfer entitlement for farmworker households. This increase did not outweigh the fall in exchange entitlements for those farmworkers who lost their jobs, and as a result this group must be regarded as one of the most vulnerable drought-affected groups in Namibia during 1992/93. Moreover, the absence of alternative sources of income and of wild foods left the farmworkers with few options – their almost total dependence on a single source of income for their entitlement to food left them acutely vulnerable to hunger when that source of entitlement was threatened by drought. In cases where farmworkers lost their jobs, they often returned to their home villages or towns, and received support from extended family networks there. This can be described as a demographic adjustment, since it was induced by the drought.

Summary: FAD Versus Entitlement Decline in Namibia

Although the Namibian situation was not a famine – probably no-one in Namibia starved or died because of the 1992/93 drought – it provides a useful case study for examining the debate about food availability decline versus entitlement decline. As mentioned in the earlier theoretical discussion, the main dissonance between the FAD and the entitlement approaches is that the food availability approach concentrates on national level food supplies, while the entitlement approach focuses on access to food by distinct socio-economic groups. It has been observed that the drought in Namibia caused crop failure and an unusually large shortfall in domestic cereals production. But at the same time, it has also been demonstrated that commercial and non-commercial food imports (trade plus aid) covered the import requirement adequately. There was no decline in food availability at the national level in Namibia in 1992. Nonetheless, some people certainly suffered hunger. Official estimates indicate that approximately 250,000 Namibians were targeted as

Table 3. Summary of findings

	Food crop farmers	Livestock rearers	Farmworkers
Primary source of entitlement	Direct (production-based)	Exchange (trade-based)	Exchange (own-labour)
Primary economic impact of drought	Food crop production declined	Animals died	Lost employment plus wage and food income
Direct (entitlement generating) strategies	Asset sales	Livestock sales	Asset sales
	Formal transfers (limited)	Formal transfers (significant)	Formal transfers (insignificant)
	Informal transfers (significant)	Informal transfers (limited)	Informal transfers (limited)
	Credit (limited)	Credit (significant)	Credit (limited)
Indirect (entitlement protecting) strategies	Nutritional: – change in diet	Nutritional: – rationing	Nutritional: – rationing
	Demographic: – children sent to relatives	Demographic: – children sent to relatives – migration	Demographic: – returned to home village or town

beneficiaries under the drought relief programme⁵² – but not all of these actually received food aid, and some who needed food were not targeted at all. This mismatch between food availability and access to food cannot be explained by FAD, but it can be explained by the entitlement approach. The point is that national food security does not guarantee household food security. Using the entitlement approach (but bearing in mind the links between food availability and entitlement discussed earlier), it has been argued that Namibian crop farmers experienced direct entitlement failure in 1992, whereas livestock rearers and farmworkers experienced trade entitlement failure. Not all of these reductions in household entitlements were compensated by formal or informal transfers.

Table 3 consolidates the findings of this paper with respect to the drought's primary economic impact on the three selected socio-economic groups, and the direct (entitlement-generating) and indirect (entitlement-protecting) strategies each group adopted in response to the drought. To summarise, the drought caused no decline in food availability, but many poor Namibians went hungry because they lacked access to available food stocks. Because of their loss in entitlement they could not afford to buy enough commercial food, and at the same time food aid was not always accurately targeted and delivered.

Conclusion

This paper discussed two different approaches to the analysis of food crises. Conventional FAD theories, with their concentration on aggregate food supplies, were criticised as neither necessary nor sufficient for a food crisis to occur. Sen's entitlement approach, which dissects food crises in terms of the access to available food supplies enjoyed by different

52 DESA, *Consolidated UN-SADC Appeal Midterm Review*.

socio-economic groups, was preferred as a more comprehensive and accurate analytical framework than FAD. However, several limitations to the entitlement approach were also discussed, notably the omission of credit entitlement and of indirect entitlement strategies, such as demographic adjustments.

This paper has applied an approach derived from the entitlement approach to the analysis of the 1992/93 drought in Namibia. Although not a famine situation, the usefulness of applying entitlement has been shown, since the drought caused severe entitlement declines for the majority of Namibia's rural population. However, because of the extreme agro-ecological and socio-economic diversity of the country, it was demonstrated that entitlement decline affected different regions and different population groups in different ways. It is evident that there was no overall shortage of food in the country. But crop farmers, livestock rearers and commercial farmworkers did suffer reduced access to food, because their entitlement losses were not fully compensated by entitlements derived from other sources.

The empirical evidence also highlighted several limitations of entitlement theory in practice, such as the importance of credit and the adoption of indirect entitlement strategies, like demographic adjustments (sending children away to relatives, migration) and dietary change (rationing, consumption of wild foods). While the entitlement approach provides a better explanation of the 1992/93 drought in Namibia than FAD approaches, it provides an incomplete description because of its failure to consider these demographic and nutritional aspects of drought-related food shocks.