The Journal of Development Studies

ISSN: 0022-0388 (Print) 1743-9140 (Online) Journal homepage: http://www.tandfonline.com/loi/fjds20

'Moving in place': Drought and poverty dynamics in South Wollo, Ethiopia

Peter D. Little , M. Priscilla Stone , Tewodaj Mogues , A. Peter Castro & Workneh Negatu

To cite this article: Peter D. Little , M. Priscilla Stone , Tewodaj Mogues , A. Peter Castro & Workneh Negatu (2006) 'Moving in place': Drought and poverty dynamics in South Wollo, Ethiopia, The Journal of Development Studies, 42:2, 200-225, DOI: 10.1080/00220380500405287

To link to this article: http://dx.doi.org/10.1080/00220380500405287

Published online: 19 Aug 2006.

Journal of Development Studies,
Vol. 42, No. 2, 200–225, February 2006

Routledge
Taylor & Francis Group

'Moving in Place': Drought and Poverty Dynamics in South Wollo, Ethiopia

PETER D. LITTLE*, M. PRISCILLA STONE**, TEWODAJ MOGUES†, A. PETER CASTRO‡, & WORKNEH NEGATU§

*University of Kentucky, Lexington, KY, USA, **Washington University, St. Louis, MO, USA, †International Food Policy Research Institute, Washington, DC, USA, ‡Syracuse University, Syracuse, NY, USA, §Institute for Development Research, Addis Ababa University, Addis Ababa, Ethiopia

ABSTRACT *This article discusses the impact of drought on poverty dynamics in the South Wollo area of northeastern Ethiopia. Using both survey and anthropological/qualitative data covering a six-year period, the paper assesses which households were able to hold on to assets and recover from the 1999–2000 drought and which were not. It suggests that while the incidence of poverty changed very little during 1997 to 2003 despite the occurrence of a major drought, the fortunes of the poorest improved, but not enough to keep them from poverty. The study concludes by asking how current policies affect patterns of poverty and inequality and what might be done to improve welfare in South Wollo.*

> Every year is drought time for me (woman farmer, South Wollo, based on P. Stone's field notes, 2003).

I. Introduction

In conversations with farmers of South Wollo, Ethiopia, it is common to hear horrific stories of poverty and heart-wrenching tales of death and massive asset losses during droughts. People's ability to make a living in this impoverished and risky part of the world is clearly challenging, even when compared to other low-income areas of rural Africa. Ethiopia is a nation that ranks among the poorest in the world (171 of 174) with an annual per capita income of only $104 or US$ 0.28/day (see United Nations Development Programme, 2001; World Bank, 2002). Most studies indicate incidences of rural poverty above 50 per cent and as high as 78 per cent when food aid transfers are discounted (see Bevan and Joioreman, 1997; Dercon and Krishnan, 1998; and Dercon, 2002). In one recent study the prevalence of destitution (extreme poverty) in North and South Wollo was noted to be 14.6 per cent, a situation that is said to have worsened over time through frequent droughts (see Sharp et al., 2003: xiii).

Correspondence Address: Peter D. Little, Department of Anthropology, University of Kentucky, Lexington, KY 40506-0024, USA. Fax: 859-323-1959; Email: pdlitt1@uky.edu

ISSN 0022-0388 Print/1743-9140 Online/06/020200-26© 2006 Taylor & Francis
DOI: 10.1080/00220380500405287

Notwithstanding the prevalence of poverty in Ethiopia, the extent to which it has declined or increased in recent years is widely debated, as is the role that frequent droughts figure in these dynamics (see Dercon, 2002; Dercon and Krishnan, 2000; Devereux and Sharp, 2003). Drawing on a recent study by the authors in the South Wollo and Oromiya Zones of northeastern Ethiopia, this paper addresses: (1) the extent to which poverty and vulnerability to poverty has changed in rural Ethiopia in recent times; and (2) the degree to which the 1999–2000 drought affected poverty and wealth dynamics. The paper uses drought, a common occurrence in Ethiopia, as an entry point for discussing the more challenging issue, poverty. Our discussion will show that drought does not have a uniformly impoverishing impact on agricultural households. Some very poor households actually came out of the recent drought better than when the event began, while some of the wealthier households benefited both from a favourable livestock market and increased opportunities to share herd out animals in the post-drought period. During droughts poor households also generally held on to their limited assets more effectively than others and also recovered quicker from disasters.[1] It will be shown that while the incidence of poverty changed very little during 1997 to 2003, the fortunes of the poorest improved, but not enough to keep them from poverty. For the majority it is a kind of 'moving in place' without sustained material improvement, but enough resilience that households and families survive and stay together despite significant hardships. Finally, the paper underscores how households rely on local social relations for access to material resources, especially for post-drought recovery.

The article utilises several different concepts that require explanation. First, vulnerability, a common term in the poverty and food security literature (Davies, 1996; Moser, 1998; Watts, 1983), refers to households on the economic margins that have a relatively high likelihood of moving into poverty during some pre-determined length of time. In the words of Hoddinott and Quisumbing, 'vulnerability is the likelihood that at a given time in the future, an individual will have a level of welfare below some norm or benchmark (2003:9).' In this paper, we consider 'vulnerability to poverty' to mean that a household has at least a 50 per cent chance of being poor within a six-year period. Resilience, on the other hand, is the ability of a household (poor or other) to withstand and recover from hardships (for example, drought or illness), and to return to its pre-existing asset and welfare levels within a three- to five-year period. In short, they are able to resist further deterioration in wealth and welfare even in drought-prone environments. As used in the article, poor households in South Wollo can be relatively resilient if they are able to survive and recover to pre-existing asset and welfare levels, even though their benchmarks are low.

In this study a household is considered to be persistently or chronically poor if they have been continuously poor for at least six years. This time span is consistent with other measures for distinguishing persistent cases from other types of poverty (see Chronic Poverty Research Centre 2004). The time duration (six years) is adequate to capture most of the normal effects of life course/developmental factors on household welfare. As individuals and households progress through life, they often temporarily move in/out of asset-poverty. While developmental factors play some role in explaining poverty dynamics in South Wollo, we find poverty among all ages of household heads and at different stages in the developmental cycle. Finally, a

threshold refers to an asset or wealth level – in this case defined by livestock ownership – that marks a qualitative difference for households in terms of income strategies, consumption, and vulnerability to poverty. By their very nature, thresholds are arbitrary divisions, but necessary for analytical purposes.

The article itself is organised into six parts, including the introduction. The next section provides a general background to the area's ecology and history and an overview of social and economic conditions, while Section III discusses the drought of 1999–2000 and its general impacts in the region. Sections IV and V use both quantitative data and ethnographic case studies to explore the different household and individual trajectories that have been pursued during 1997–2003, with an emphasis on the post-drought period (2000–2003). They assess which households were able to hold on to assets and recover from the drought and which were not. These two parts of the article rely on an asset indicator (ownership of livestock) to establish poverty and vulnerability thresholds, in part because: (1) virtually all local measures of wealth and poverty emphasise livestock ('the poor have no animals') (also see Devereux and Sharp, 2003: 18); and (2) more than 90 per cent of total asset values are held in the form of livestock in rural Ethiopia (see Dercon 2004: 316). Furthermore, the quantitative household survey includes seven years of data on herd ownership and, thus, we are able to trace welfare changes using livestock as an asset indicator over a reasonable span. As the paper will show, ownership of livestock also is correlated with other key indicators of welfare, such as income, expenditures and food availability, and serves as a universal store of value and source of traction for agriculture.

Along these lines, we suggest that asset ownership is a better predictor of long-term welfare and household viability, than is consumption, income, or other 'flow' variables that are subject to massive measurement problems and dramatic, short-term changes.[2] Asset endowments (social and economic) largely determine a household's or individual's future capacity to earn income and withstand shocks. By utilising asset-based wealth groups, households are shown to move in/out of different categories of poverty and vulnerability over time, often with only negligible improvements in welfare. The final part of the article addresses policy implications and asks how current policies affect patterns of poverty and inequality and what might be done to improve welfare in South Wollo.

The study relies on an unusually rich mix of quantitative and qualitative data from a multiple round (seven) study of 416 randomly-selected households during 2000 to 2003, case studies of 62 of these households, and a series of detailed interviews with separate groups of males and females and mixed groups. The original sample was 448 households, but attrition over three years reduced it to 416. The smaller sample of 62 households was selected to represent poor, middle, and better off households and male versus female-headed households. However, it is generally representative of the large sample in most respects. In addition to household heads, key economic agents (particularly spouses and adult children) within households were interviewed in five of the seven rounds. We used the criterion that a household member had to have a separate income-earning activity or activities – farming, trading, waged employment, or other – for the person to qualify as a 'key economic agent.' Less than 25 per cent of spouses and older children (18 years or older) indicated that they had 'separate' income earning streams, and many of those who did were

concentrated in Bati *wereda* (district) where there are good opportunities for trading activities. Petty trading, beer brewing, and other non-farm activities were the main 'separate' income streams that were identified.

Recall data on household assets and drought-induced losses also were collected for the period 1997–99. Analyses in the article will move between the larger sample, the group interviews, and the smaller, more familiar group of case study households. In doing so, the article hopefully will demonstrate that analyses of individual 'stories' are as necessary and convincing for understanding the causes of poverty as large statistical datasets (also see Hulme, 2003).

II. The Study Region

The research area is located in South Wollo and neighbouring Oromiya Zones,[3] the heart (or buckle) of what often is called the Ethiopian 'famine belt' (see Mariam, 1984; Rahmato, 1986). This region was the most severely affected part of Ethiopia in the well-known famines of 1971–74 and 1983–84, both of which were greatly aggravated by political factors. To this day, some households in the area have not fully recovered from the debilitating effects of the 1983–84 crisis. The research location covers four *wereda* – Legambo, Desie Zurie, and Jamma of South Wollo and Bati of Oromiya Zone – and in each *wereda* data were collected in two *kebele* (an administrative unit made up of approximately four to five villages) for a total of eight different research *kebele* (see Figure 1). Compared to most other parts of highland Ethiopia, the area has slightly smaller average land holdings (about 15 per cent smaller), lower incomes, and is less food secure because it depends more on the short (*belg*) rains than other areas (see Abegaz, 2004). South Wollo is relatively unique in the Ethiopian highlands because of the region's reliance on the *Belg* rains. The area also lies in a rainfall 'shadow' that makes the *meher* (long rains) season undependable in certain locations (personal communication, James McCann).

Culture and History

Ethnically the area is a mix of Oromo and Amhara populations with a large mixture of Oromo migrating into the area during the sixteenth and seventeenth centuries. The two lowland *kebele*, Kamme and Chachato, are inhabited by the Oromo, while the other *kebele* are predominantly Amharic speakers. The population of the study area is predominantly Muslim (>85 per cent) and Orthodox (Coptic) Christian. There are important differences in local social structure. The Oromo trace descent through male kinship lines (patrilineal) while the Amhara are generally bilateral (trace relations through male and female relations), which has important implications for settlement and inheritance patterns – especially for women. While polygyny was once noted to be widespread in the Oromo areas, we found no cases in our sample. Respondents indicate that poverty and land shortages are the main reasons for the institution's decline.

The notion of persistent poverty in South Wollo has an important historical dimension. Politics and history both have played key roles in shaping patterns of wealth accumulation and poverty in South Wollo, specifically, and rural Ethiopia, generally. Prior to the overthrow of the late Emperor Halle Selassie in 1974, only

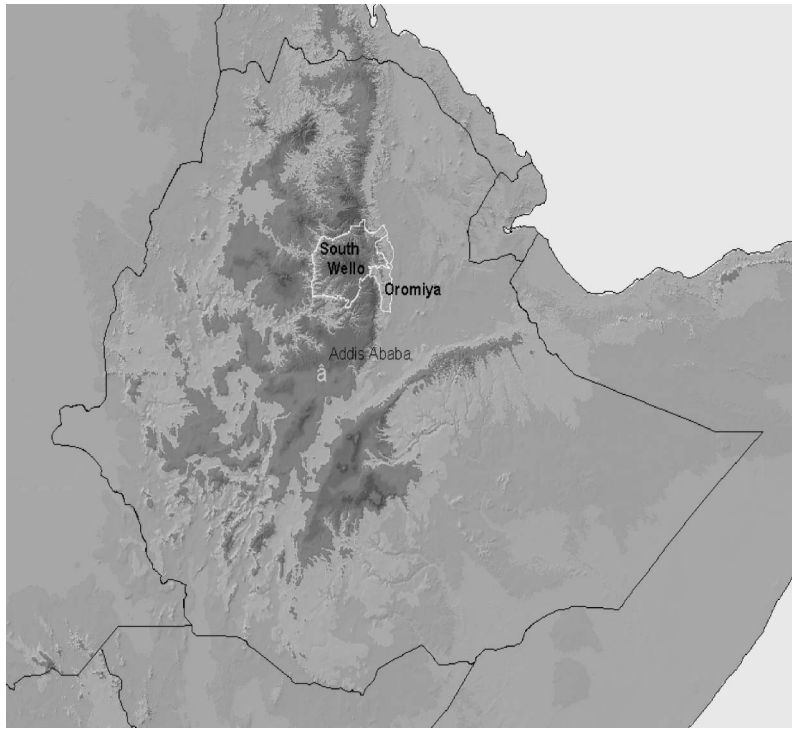

Figure 1. Location of study region in Ethiopia. *Note*: Map was composed and drawn by Michael Shin

slightly over 50 per cent of households in the study region possessed their own farms. Instead, many were rent-paying tenants or sharecroppers on lands owned by the previous imperial government and its representatives (Kiros and Assefa, 1977:5). Under the imperial system peasants also were heavily indebted because of the need to borrow cash to buy food and pay taxes (Mariam, 1984: 88–92). As recently as 1992 and 1997, additional land redistributions were held in the study region under the new Ethiopia People's Revolutionary Democratic Front (EPRDF) government that was formed in 1991 after the violent downfall of the previous regime. Approximately 49 per cent of current households received the bulk of their land from recent land reform acts.

The Marxist-leaning Derg[4] government headed by Major Mengistu Haile Mariam prohibited private markets and inter-regional labour movements and land could not be sold or bought. After the 1991 coup that replaced the Derg state with the current EPRDF party, agricultural and labour markets were relaxed, but restrictions on land use and transactions were kept in place (for details of the recent political history, see Zewde and Pausewang (2002)). The latter constraint weighs heavily on an individual's decision to migrate for employment outside his/her home area. As in the Derg period, farmers have an upper limit on land ownership (2.5 hectares in South Wollo) and can have their farm(s) reallocated by the local administration if

they are absent for more than two seasons. In fact, more than one-third of household heads (male and female) fear that further land redistributions will take place and, consequently, are concerned that unless they remain on the farm, their land will be reallocated. Many people recall at least one case where a household head pursued an outside opportunity and lost access to his/her land.[5]

Land policies also contribute to a peculiar national demographic picture that has a trickle down effect for regions like South Wollo. For a country of 70+ million people Ethiopia has one of Africa's largest percentages of population still residing in rural areas (approximately 85 per cent) and only one city (Addis Ababa) with a population over 500,000 people. Thus, while political ideologies and regimes have drastically changed since the 1960s, the underlying policy principle of 'tying the peasant to the land' persists and it results in a relatively undiversified and undifferentiated rural sector.

Geography and Agro-Ecology

The study region is anchored by two key market towns, Dessie and Kolmobolcha, and comprises four major agro-ecological zones: *wurch* (highlands above 2,800 metres above sea level [a.s.l.]), *dega* (highlands approximately 2000–2800 metres a.s.l.), *woina dega* (midlands approximately 1500–2000 metres a.s.l.), and *kolla* (lowlands below 1,500 metres a.s.l.). It is approximately 120 kilometres from north-to-south and at its widest point is about 160 kilometres east-to-west (approximately 19,200 square km). There is little infrastructure and only one tarmac road that connects the cities of Dessie and Kombolcha with the capital of Addis Ababa. Although South Wollo has few important towns, proximity to them affects rural livelihood strategies as farmers can pursue petty trading and informal employment in these locations.

Despite the fact that the area is generally famine prone, it is difficult to generalise across the different *wereda* and *kebele* in the study area. One of the study *wereda*, Jamma, is a surplus farming area that was only moderately affected by the 1999–2000 drought. Another study *wereda* (Legambo), in turn, experienced devastating loses from the 1999–2000 drought and has only partially recovered from this event. Unlike other areas of East Africa where highlands generally are the most food secure parts of a country (see Little, 1992), the opposite often is the case in Ethiopia. In fact, the crowded, steep-sloped highlands above 2,000 metres a.s.l., including large parts of South Wollo, are among the country's most famine-prone.

South Wollo is a particularly rugged terrain and has very steep slopes, with drops of 1,000 metres over a few kilometres not uncommon. Most of the area has thick vertisol soils that require animal or mechanised traction to effectively utilise. No farmers in our sample used mechanised traction. However, all who farmed used oxen traction, with the exception of a few farmers who utilised horses. In terms of soil classification, farmers in the area classified 40 per cent of their farms as fertile (*lem*), 42 per cent as semi-fertile (*lem-tef*), and 18 per cent as unfertile (*tef*).

An Overview of Poverty

As indicated earlier, by almost any statistical indicator of poverty, large numbers of rural households of South Wollo are very poor. Per capita incomes in the area are

less than $50 per year for more than 80 per cent of households and even the 'wealthiest' 10 per cent of households have average livestock assets of less than 10 TLUs,[6] or the equivalent of seven cattle, two donkeys and 20 small stock (goats and sheep). Non-income measures of welfare – for example, housing, consumer durables, and savings – also are shockingly low. For example, less than 1 per cent of households have a bank account and the average value of housing is only 1,100 birr (or US $127). Moreover, fewer than 5 per cent of household heads (male and female) own a radio. These measures are considerably below even the poorest areas of neighbouring Kenya (see Little et al., 2001).

A quick 'snapshot' of local livestock and land ownership further confirms the relative poverty and lack of differentiation in the area. Using ownership of at least one oxen, a level at which at least some sharecropping arrangements can be avoided through social mechanisms, such as *maganjo*,[7] 38 per cent of households in South Wollo owned no oxen in August 2003 more than three years after the end of the 1999–2000 drought. With at least one ox, a family is said to be making some progress and can pursue *maganjo* rather than 'beg oxen from others' (Tebasit farmer, June 2003; Stone and Kassahun, 2003: 32). Moreover, average land holdings (excluding rented and sharecropped in) is only 0.82 hectare in South Wollo, and even the largest land owning quartile has an average farm size only of 6.86 *timad* (1.72 hectare), or about four times larger than the average of the poorest land-owning quartile. More than 25 per cent of households had average farms of less than 0.5 ha, a miniscule farm size that Rahmato (1986) refers to as a 'starvation plot'. Interestingly, open-ended interviews of male and female respondents provided very similar breakdowns in land distribution and average farm sizes as the household survey.

Female-headed households, which make up about 24 per cent of households in the area, reveal a much greater tendency toward poverty than male-headed households.[8] In other studies in the area female-headed units are noted to be 'four times more likely to be destitute than male-headed households (Sharp et al., 2003: xv).' In our study, female-headed households in South Wollo control on average less than 50 and 70 per cent of the total livestock and land, respectively, that males do. They also have fewer adult labourers in the household and only about 60 per cent of the annual food stocks that male-headed households control.[9] However, there are important exceptions since a small number of female-headed households are in the wealthiest livestock and landholding quartiles (see the case of Amina discussed later).

Importantly, the poorest households do control land, often having received it from government redistribution programmes. In the words of one respondent, 'Land ownership is not a good indicator of wealth because everybody was given land at redistribution – even the poor' (P. Little, unpublished notes, January 2004). Consequently, the poorest families with land are able to lease or sharecrop it out (normally on a 50/50 basis) and receive some income. During the drought recovery period, 2000–2003, sharecropping arrangements began to favour the landowner as agricultural conditions improved and the demand for land increased. Cash payments and in-kind compensation of fertiliser and seeds to poorer households became more common and many of the 'better off' farmers complained bitterly about the increased costs of sharecropping.

Poverty and Wealth Thresholds

The depth of material poverty, in terms of assets and incomes, is such that different categories of the poor and non-poor need to be distinguished. Based on asset/herd ownership, we establish thresholds to distinguish the poor from the non-poor, the poor from the very poor, and the 'vulnerable to poverty' group from other non-poor households. As Table 1 shows, annual incomes, food and labour availability, returns from assets, and income from farm/non-farm activities correlate with these different livestock asset categories. Most importantly, at the point where a household controls about 4.5 TLUs (or about 1.0 TLU per capita), or the equivalent of two oxen, one cow and 15 small stock, it has sufficient oxen and labour to avoid sharecropping and oxen rental arrangements; generate sufficient non-agricultural income to reduce dependence on risky rainfed agriculture to about 40 per cent or less; have sufficient food stocks to sustain the family for several months during the year; and have at least a 50 per cent chance of staying above this threshold for at least six years, even with the occurrence of drought. These households, which we crudely label the 'non-poor,' also are likely to have strong social networks and relationships that they can draw on in times of need. Below this level households, which can be considered materially 'poor', tend to rely more on rainfed agriculture; earn relatively small amounts from their livestock assets; face critical labour shortages; have less extensive social networks, and sometimes sharecrop out their land. While only about 35 per cent of households were at or above the 4.5 TLU level in 2001–2002, for the above reasons we have chosen it as the approximate divide between non-poor and poor.

As noted earlier, the depth of poverty is such that within the asset poor category there are those who can be treated as very or extremely poor (TLUs of 1.0 or less). Many of them were poor or very poor for at least six years and own the equivalent of six sheep, four goats, and one chicken, or less than this. Another group, those who are highly 'vulnerable to poverty,' are distinguished from other non-poor households. Above an asset threshold of 6.0 TLU, which defines the 'better off' households, there is a considerably smaller probability of moving into poverty for any duration of time (2+ years) and the chances greatly decrease as herd assets rise.

During 1997–2003 there was some stability (what economists like to call 'equilibrium') in the number of households at a low-level of poverty, although there was a lot of 'churning' within this broad category and considerable inter-annual changes. Beyond a relatively high asset level (in this case, 10+ TLU), households were on a trajectory of accumulation and production that kept them virtually free from poverty during the six-year study period, despite the occurrence of drought (see discussion later in the article). Unfortunately, this asset group, where the risk of poverty is virtually nil, is very small (less than 10 per cent of the study population in 2001–2002).

Table 1 shows the extent to which our herd asset categories correlate with other poverty/welfare indicators, and generally confirms the importance of livestock as a wealth/poverty indicator. For example, among 'better off' households in the table income from livestock-based assets account for more than 40 per cent of total household income, while among the 'very poor' it is only 8 per cent. In addition, household food availability (stocks) exceeds seven months on average for the 'better off' asset group, while it is only 2.28 and 4.05 months for the very poor and poor, respectively. Additionally, per capita income among the 'better off' is twice that of

Table 1. Annual incomes (cash/in-kind): March 2001–March 2002 (birr)[1]

		Poor (66%)		Non-poor (34%)	
	All (100%)	V. Poor (20%)	Poor (46%)	Vulnerable (13%)	Better off (21%)
Income source	All HH (n = 416)	HH ⩽1.0 TLU	HH 1–4.45 TLU	HH 4.5–5.9 TLU	HH ⩾ 6.0 TLU
Subsist crop[2]	734 (42%)	439 (62%)	680 (43%)	799 (41%)	1119 (40%)
Waged	21 (1%)	24 (3%)	17 (1%)	11 (1%)	32 (1%)
Remittance	89 (5%)	39 (6%)	44 (3%)	164 (8%)	192 (7%)
Business	118 (7%)	53 (7%)	51 (3%)	45 (2%)	88 (3%)
Crop sales	225 (13%)	92 (13%)	271 (17%)	278 (14%)	218 (8%)
Animal product	85 (5%)	9 (1%)	45 (3%)	113 (6%)	230 (8%)
Livestock sales	489 (28%)	51 (7%)	480 (30%)	555 (28%)	906 (33%)
All: Eth Birr (US $)	1,761 ($193)	707 ($83)	1588 ($187)	1965 ($231)	2785 ($328)
Annual per capita Inc. ($)	$36	$23	$35	$41	$48
Other indicators					
HH size	5.38	3.68	5.38	5.70	6.84
Adult units (AU)	3.52	2.54	3.50	3.71	4.4
Farm size (ha)	0.82 (0–2.5)	0.60 (0–1.75)	0.79 (0–2.0)	0.93 (0–2.5)	1.03 (.25–2.13)
AVG TLU (March 2002)	3.95 (0–28)	0.2 (0–1.0)	2.70 (1.05–4.45)	5.18 (4.50–5.95)	9.7 (6–28)
Annual household expenditure (birr)	660	532	606	793	914
Food stocks (March 2002) (kg)	305	103	254	325	606
Food stocks per AU (kg)[3]	87	41	73	88	138
Estimated no. months of food[4]	4.83	2.28	4.05	4.89	7.67

Notes: [1]Data collection covered a nine-month period, 1 July, 2001–1 March, 2002. The figures were annualised by multiplying sums by 1.33 per cent, except for subsistence crop income which represented the full agricultural year. The exchange rate at the time was approximately 8.5 birr = $1.
[2]This is the estimated value of crop produced.
[3]More than 90 per cent of this was in grain (mainly wheat).
[4]This was in March 2002 and right after the main harvest season (*meher*). It is assumed that 0.6 kg of grain is required per day along with some vegetables and other foods, to meet minimum energy requirements (2,100 Kcal) of an adult. One adult unit is equivalent to male/female 15–59 years; 0.5 AU is used for a person (<15 years or >59 years).

the very poor, while differences in farm size between the three groups is less, due in part to the country's equity-oriented land polices and reforms.

Non-farm/livestock income sources show an interesting pattern in Table 1. Because waged employment in the region is limited mainly to non-lucrative casual and unskilled work, which is compensated at 0.45 to $0.55 per day, it is pursued by the poor as a survival strategy. In a similar fashion, business opportunities in the region are predominantly limited to petty trading and other low-revenue enterprises (Gebre-Egziabher and Demeke, 2004) and are also mainly important for the poor. Among the very poor business (especially petty trading) activities account for about 7 per cent of their annual income, while it accounts for only 1 per cent of total income among the non-poor. In terms of other non-farm/livestock activities, some of the 'better off' households have family members who work outside the region – mainly in neighbouring Djibouti – and remit income. This pattern accounts for the relatively high percentage of remittance income among the non-poor, especially when compared to their waged income, and it is a very important factor in explaining their improved welfare.

Because land sales are illegal and there is a cap on land holdings, it is not surprising that dependence on cultivation declines at higher asset levels. Among the very poor dependence on rainfed farming is very high (75 per cent of total income), while dependence on livestock-based income is low. By contrast, among the 'better off' livestock-based income (excluding returns from natural herd reproduction) is almost as important as crop-based income. At higher levels of assets the reliance on cultivation declines even more and the dependence on livestock-based income is even greater.

III. The 1999–2000 Drought and its Effects

In the past 20 years there were major food security disasters in 1983–84, 1991–92, 1999–2000, and, again, in 2002, and minor ones in almost one out of three years. In the 1999–2000 drought, about 75 per cent of the population in our study area received food aid. A much smaller proportion received food assistance during the 2002 disaster, an event that received considerable international attention although our data show its impact was minimal in most of the area (Little, 2005).

The drought of the late 1990s was a prolonged event with uneven consequences, but its onset was gradual. Indeed, the first signs of disaster can be traced to the poor short rains (January–April) (called the *Belg* season) of 1998 (DPPC, 1998; Hammond and Maxwell, 2002). In our study region approximately one-half of our households reside mainly in *Belg* growing areas and the others in predominantly *Meher* zones where there is a June-to-September growing season. Because the *Meher* rains of 1998 were uneventful for some locations, drought and relief agencies in Ethiopia failed to see the looming disaster until the *Belg* season of 1999 emerged as a massive failure (approximately 90 per cent loss of crops) and that year's *Meher* season was poor (see Castro et al., 1999). Thus, the drought of the late 1990s was keyed by the failure or near failure of three successive agricultural seasons that resulted in a massive humanitarian crisis (DPPC, 2000; Hammond and Maxwell, 2002). While food aid distribution started in the region in June 1999, it was not widespread until 2000.

In looking at what happened to livestock herds in the area, a similar pattern of gradual decline is revealed (see Figure 2). Aggregate numbers of animals began to decline as early as late 1997 and interviews conducted during the drought indicate that some of these died, but a larger number were sold at 'throwaway' prices of 30 per cent or less of normal rates. Not surprisingly, our group interviews at the time (1999) showed 'livestock sales' as the main drought coping mechanism for 90 per cent of male and 71 per cent of female herd owners (see Amare et al., 2000). Aggregate declines in oxen and total herds were almost 40 per cent from 1998 to mid-2000.

If one looks at Figure 2, it is apparent that the local impact of the drought was unevenly distributed. The poorest quartile of households (based on 1997 asset categories) did their best to hold on to their very meagre assets, although they started at very low levels. Their miniscule herd assets actually grew during the pre-drought period until right before the last part of the drought when they experienced a decline. In many cases, these households reduced consumption to two meals per day, ate smaller portions and wild foods, and sold their labour, and/or engaged in petty trade (especially firewood and charcoal sales), in order to avoid selling their few animals. The wealthiest quartile, in turn, experienced the steepest decline during the drought as they sold off their rapidly-devaluing herds. The cost of purchasing fodder to keep animals alive and the need to purchase food also motivated drought-induced sales among the top quartile of herd owners. The better off group (quartile I) lost much at this time, but most stayed above the poverty threshold or experienced only transitory poverty (one to two years).

Post-drought rates of herd growth were relatively high for the poorest two quartiles.[10] During 2000 to 2003, the average livestock assets of the poorest quartile of households grew from 0.17 to 1.85 TLUs, although most in the poorest quartile were starting from near zero. This equates to starting off with holdings of one sheep and one chicken, and increasing these to one oxen, seven sheep, and three chickens after three years – a small but impressive gain. A slightly different, but equally encouraging picture emerges when the near asset-less or destitute in this group (that is, those with 0.1 TLU or less) are considered. These households represent the poorest of the 'very poor' category in Table 1. While the drought clearly created a large number of destitute households (27 per cent of total households), the number had declined to 10 per cent in 2003, which is an 80 per cent improvement over the

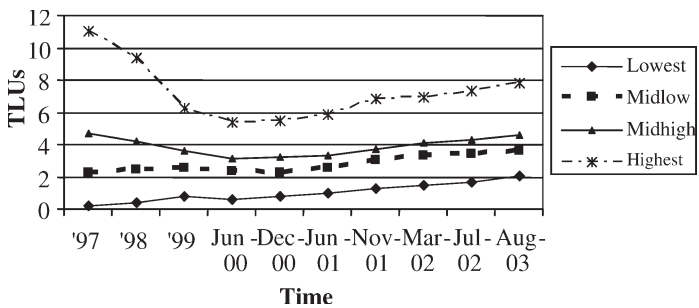

Figure 2. Herd asset changes, 1997–2003. *Source*: BASIS/IDR Household study co-directed by Peter D. Little and Workneh Negatu

1997 figure (see Figure 3). The reduction is a positive sign, but the study region still remains with a large number of virtually asset-less households. In the words of one respondent, 'because the poor [without oxen] sharecrop out their land, they depend on credit to purchase food and this becomes a problem because they must borrow to buy food' (P. Little, unpublished notes, January 2004). With only land and sometimes labour as their main assets, the poorest households share-crop out their farms and borrow to buy food.

The occurrence of periodic droughts tends to wipe out asset gains that poor households attain. At a very optimistic post-drought annual growth rate of about 0.3 TLU/year, very poor households would still take about eight to ten years to reach an asset threshold of around 1.0 TLU per capita (an average of 4.5 TLU per household). In this scenario it is very likely that a drought or other shock (for example, family illness) would occur in the intervening years and obliterate asset gains. The main difference between the poor and non-poor is not that the former have higher post-drought recovery rates, but that they rarely reach a level where they can sustain themselves out of poverty before the next drought strikes. Figure 4 shows that the drought increased the percentage of asset poor from 60 to 78 per cent of total households. With the recovery period, the rate of poverty dropped to 59 per cent in 2003, which was about the same as in 1997.

IV. Poverty Dynamics and Social Mobility

So which households were able to improve or even move out of asset poverty during 1997 to 2003 despite the setback of a drought? Table 2 shows the percentage of households that were able to transition out of poverty during 1997–2003 based on their initial asset holdings. As the data show, 46.5 per cent of the very poor stayed very poor, while about 30.9 per cent improved, but were still below the poverty level in 2003. Another 8 per cent had moved above the poverty threshold but were still considered to be vulnerable, while 6 per cent had moved into the highest wealth category ('better off'). Those in the poor asset category had slightly better outcomes, with 16 per cent moving into the 'better off' group by 2003. Overall, of the 251 households (out of 416) that were in poverty in 1997, 76 per cent were still in this state six years later while 24 per cent had moved out of poverty.

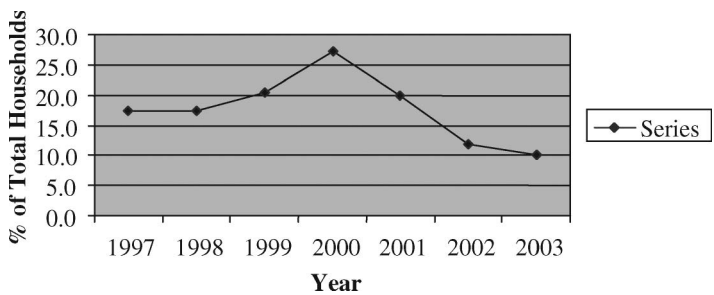

Figure 3. Percentage of asset destitute (0.1 TLU or less), 1997–2003. *Source*: BASIS/IDR Household study co-directed by Peter D. Little and Workneh Negatu

Households in the 'vulnerable' category (Table 2) experienced considerable instability during the period. Of the households who could be classified as 'vulnerable to poverty' in 1997, 50 per cent of them had become poor or very poor by 2003. Only 21 per cent had improved their status while the remaining 29 per cent stayed the same. In short, over a six year period, households who started with asset holdings between 4.5 and 5.95 TLU were 2.5 times more likely to become poor than to improve their status. Clearly, the drought was an important external factor that pushed asset vulnerable households into poverty, which many had not recovered from by 2003.

By contrast, among 'better off' households only 20 and 1 per cent, respectively, became either poor or very poor during 1997 to 2003. However, while most of the 'better off' stayed out of poverty, their average asset/TLU holdings declined about 30 per cent during the period from 10.92 to 7.69 TLU. It should be noted that unlike the poor, better off households are able to time sales more efficiently, selling off large

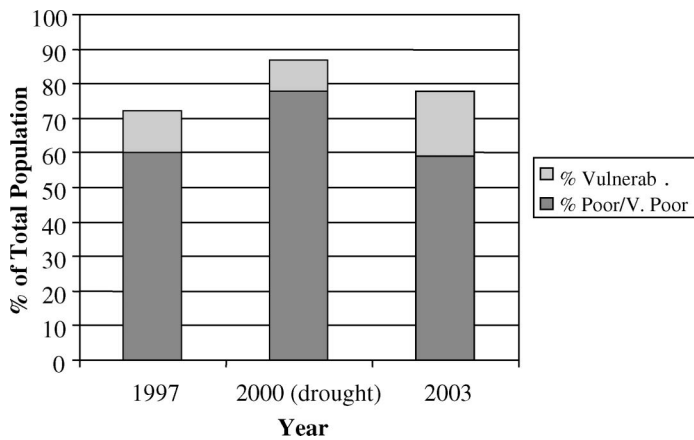

Figure 4. Impact of drought on poverty, 1997–2003. *Source*: BASIS/IDR Household study co-directed by Peter D. Little and Workneh Negatu

Table 2. Asset transitions among different categories of households, South Wollo, 1997–2003

		2003 (% of households)			
		Very poor	Poor	Vulnerable	Better off
1997 asset categories[1]	Very poor (n = 101)	(47) 46.5%	(40) 39.5%	(8) 8%	(6) 6%
	Poor (n = 150)	(17) 11%	(87) 58%	(24) 16%	(22) 15%
	Vulnerable (n = 58)	(6) 10%	(23) 40%	(17) 29%	(12) 21%
	Better off (n = 107)	(1) 1%	(23) 21.5%	(28) 26%	(55) 51.5%
	All (n = 416)	(71) 17%	(173) 42%	(76) 18%	(95) 23%

Note: [1]Very Poor < = 1.0 TLU; Poor: 1.05 to 4.45 TLU; Vulnerable: 4.5 to 5.95 TLU; Better off: 6.0+ TLU.

numbers of animals during drought when prices drop and continue selling in the post-drought era when prices rise (see the discussion later in the article).

Figure 5 shows the relationship between initial asset holdings and wealth status during the six-year period. As the data depict, 95 per cent of those households with one or fewer TLU remained poor or vulnerable after six years. With initial asset holdings beyond eight TLUs, on the other hand, most households were able to stay out of poverty even with an intervening drought. As was argued earlier, these households depend less on risky rainfed agriculture than poor and vulnerable households. In the next section, it will be shown that the larger the herd, the greater the reliance on natural reproduction – rather than purchases – to recover after a drought.

V. Case Studies

Individual cases show the kinds of strategies used to recover assets following a drought. They also highlight the difficult circumstances that impoverished households confront and why some of them are unable to improve their status. When we look at how the poor managed their meagre livestock assets during 2000–2003, wide differences are revealed. When questioned about which households were most vulnerable to drought and unable to recover from it, local respondents provided their own categories of poor and vulnerable households:

- households headed by the elderly;
- landless and land-poor households ('many do casual labour');
- female-headed households, especially those with many children but no older children;
- households without oxen or other livestock and without labour;
- households who must share-crop out their farms and 'can produce only enough food for three months of household needs.'

Some of the poorest households manifest several of the above characteristics and may cope with drought by 'lending' out members to better off relatives or neighbours. The most desperate of these may send out an adolescent child to another

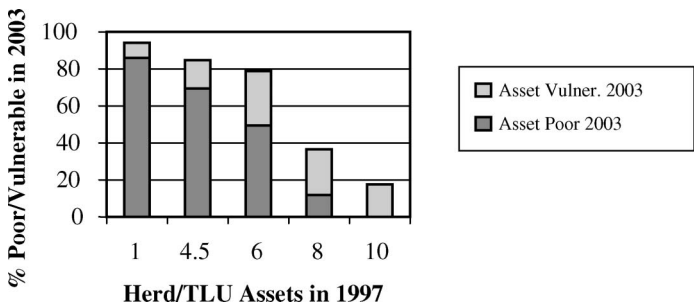

Figure 5. Relationship between initial herd assets and poverty/vulnerability, 1997–2003.
Source: BASIS/IDR Household Study co-directed by Peter D. Little and Workneh Negatu

household where the child becomes a type of 'indentured' servant, earning less than $10 and food rations per month for herding and farm work. During the 1999–2000 drought, some children were away from their families for more than two years. As a result of this and the practice of sending out migrant labourers when times are tough, household sizes of the poor can be 20 to 25 per cent smaller during a drought than at other times (Little, 2005).

The cases discussed below highlight some of the difficulties that the poor confront, but also their incredible resourcefulness against daunting odds. In some cases, they are contrasted with examples of 'better off' households to show different trajectories and opportunities. The cases are organised according to certain coping/recovery activities and their impacts on poverty dynamics and welfare.

Engaging Livestock Markets

Those families with few livestock assets confront special problems recovering from droughts because their breeding herds are so limited. In contrast to better off households, they are forced to borrow or purchase animals during the post-drought period when livestock prices are especially high, and also are constrained in pursuing cultivation just as conditions are improving (see Table 3). For example, the 'very poor' category relied heavily on purchases and borrowing (often on a share-herd basis) to re-stock their herds during 2000–2003. They accumulated a much smaller percentage (42 per cent) through natural reproduction than wealthier households (68 per cent) and, surprisingly, in relative terms they actually engaged more in the

Table 3. Sources of herd accumulation and de-accumulation among the poorest and best off households, 2000 to 2002[1]

	Poorest (bottom 20 per cent)	Best off (top 10 per cent)
Source of annual accumulation		
Births (TLU/%)	0.30 (42%)	2.38 (68%)
Purchases (TLU/%)	0.30 (42%)	0.94 (27%)
Borrowed[2] (TLU/%)	0.12 (16%)	0.18 (5%)
Source of annual de-accumulation		
Deaths (TLU/%)	0.13 (37%)	1.04 (31%)
Sales (TLU/%)	0.19 (56%)	1.67 (50%)
Lend	0.015 (5%)	0.37 (11%)
Eat/slaughter	0.005 (2%)	0.26 (8%)
Total annual gain per HH (TLU) (%)	0.72 (100%)	3.5 (100%)
Total annual loss per HH (TLU) (%)	0.34 (100%)	3.34 (100%)
Net TLU gain per year	0.38	0.16
Ratio of births/purchases	1	2.53
Ratio of sales/purchases	0.63	1.78
Ratio of births/deaths	2.31	2.28
Ratio of total gains/losses	2.12	1.05

Notes: [1]Data on herd changes were based on three- and six-month recall periods, and the data were collected at five different times: November/December 2000, June 2001, November/December 2001, March 2002, and June 2002. The data were analysed on a 12-month basis.
[2]Includes animals borrowed on a share herd basis.

market as buyers during this time than did better-off households. As Table 3 shows, the ratio of animal births-to-purchases was 2.5 times higher among the best off (top decile) of herders than among the very poor. Because the poorest households do not have good access to larger traders, they also receive lower prices (as much as 25 per cent below the average) for their animals and pay more per animal for purchases than better-off households.[11]

By contrast, the best off households in Table 3 were selling off their excess stock – much of it gained through natural reproduction – during 2000–2002 when prices increased about 50 and 40 per cent, respectively, for cattle and small stock. This pattern partially explains why they accumulated fewer TLUs after the drought than poorer households. In Table 3 the ratio of sales-to-purchases is more than three times higher for the best off households than the very poor, a strong indication that the former were able to benefit disproportionately from the post-drought boom in livestock prices. At a time when the very poor were desperate to recover their few animal assets they also took on animals from wealthier households on a share-herd basis (that is, a contract where in exchange for herding the poor share in herd offspring usually on a 50/50 basis), permitting the best off households to avoid labour and feed costs while reaping gains in herd growth. In this case, the drought has opened up an opportunity for the wealthiest households to benefit both from a favourable livestock market and from share-herd contracts to desperately poor households. While some poor households may benefit from share herd arrangements, others paint a different portrait: 'If you are given a sheep by a rich man, you are like a ''servant'' to the person. He can call on you anytime, make you prepare *injera* [a type of Ethiopian bread] and work on his farm – he can take the sheep back if you do not help him. He can organise what they call *debo* [a work party] in which people come or they can lose share herd animals. The rich prepare food and sit while others/poor are working' (Little, unpublished notes, January 2004).

The case of Mengistu is illustrative of the problem of insufficient herd capital among the poor and very poor.

> *Case of persistent poverty*: Mengistu[12] occasionally works as a casual labourer in Dessie town or on neighbours' farms. He is 27 years old and resides in Tebasit *kebele* with his wife. His family is in the 'very poor' category of households. He relies heavily on his father, who resides nearby, to help plough his 0.75 hectare farm. His father's household also is poor and the father's ability to help Mengistu's family is limited. In June 2000, Mengistu had no animal assets, but bought one heifer in 2003. He and his wife hope eventually to use it as a milk cow. The price he paid for the animal was equivalent to more than three months of wages, but he had no other option to increase the family's herd.

The following example of what we term 'sustained well-being' provides an informative contrast to Mengistu's case:

> *Case of sustained well-being*: Belay is 45 years old, married with six children, and resides in Yedo *kebele*. He does no wage or non-farms activities but, instead, concentrates solely on his 1.5 hectare farm and herd of five cattle and 18 sheep (June 2002). During 2000 to 2002 his herd increased by 12 sheep and three

calves through breeding. He also managed to sell two oxen during this time at very good prices and purchased one small bull. By August 2003, Belay had recovered 65 and 95 per cent, respectively, of the cattle and sheep he owned prior to the drought. He was in the wealthiest quartile of herd owners in 1997 and was still in this group in 2003.

The contrasting cases of Belay and Mengistu show the advantages of having sufficient herd capital for breeding rather than relying on purchases. Belay's assets allow him to maintain his current favourable status, while the poor like Mengistu are disadvantaged because they either must borrow, share-herd, and/or purchase livestock to recover drought-induced losses.

Relying on Social Relations

Social relations based on kinship and other principles are extremely important for many households, especially the poor and very poor. They can sustain them even at very low levels of welfare, or provide just enough to move them near or above the poverty threshold. In our study sample loans between kinsmen (both through husbands' and wives' families) account for almost 50 per cent of informal money borrowing and much of the sharecropping also takes place among relatives (40+ per cent). Table 4 shows the social basis of assistance and the fact that about 63 per cent of all assistance is between kin or marriage relations. Most of the assistance had to do with provision of money, labour, oxen/livestock, and food.

Contrary to what might be expected, levels of material assistance between households actually decline during droughts. Like the poor, 'better off' households are also hit during these times and often cannot help relatives as much as during recovery years. This difference may partially explain why poor households are hit so hard during a drought, but are able to recover relatively quickly after the event when assistance from relatives re-emerges.

Table 4. Social basis of assistance, 2002–2003[1]

Relationship	Number	% of total	Cumulative %
Brother	17	5.8	5.8
Sister	15	5.1	10.9
Son	23	7.8	18.8
Daughter	29	9.9	28.7
Father	12	4.1	32.8
Mother	7	2.4	35.2
Other relative (including in-laws)	81	27.6	62.8
Friend	8	2.7	65.5
Neighbour (non-relative)	93	31.7	97.3
Iddir (funeral club) members	1	.3	97.6
Other non-relative	7	2.4	100.0
Total	293	100.0	

Note: [1]Data were collected from 416 households under the BASIS/IDR Household Study co-directed by Peter Little and Workneh Negatu.

Examples from our in-depth interviews show the importance that kin-based relations can assume in the lives of the persistently poor.

> *Case of persistent poverty*: Abazen is a widow who lives in Yedo *kebele* with her two sons (ages 17 and 14). Her assets place her in the very poor category of households. After her husband died in 1997, she has relied heavily on her relatives. She was born in this *got* (village) and married a person from there. There are six houses in the village from her side of the family and she can drop in on them at anytime and 'they give me food and other things'. Her husband had brothers in the village but they all died – she gets no support from the deceased husband's family. She share-herds two sheep from her aunt's son. She owns one of her own sheep and the older boy herds the animals. Abazen is glad that he has now reached an age (17 years) where he can manage the farm's activities. She share crops out part of her farm to her cousin who provides fertiliser, seed, and gifts of grain prior to harvest. Abazen does other economic activities, like making and selling local liquor (*tella*) once a week on market day. Last year she also did cash-for-work on a government road project in the area.

A poor household like Abazen's heavily relies on loans and gifts from better off households, especially from relatives. Her economic condition is not good, but she and her children are kept alive and away from severe hunger through assistance by relatives.

Relying on Remittances

As noted earlier, opportunities for decent waged employment are very scarce in South Wollo. Individuals who pursue non-farm waged employment usually leave the area, either migrating to Addis Ababa, the Awash Valley where some large-scale irrigation schemes exist, or neighbouring Djibouti. The latter has been the most lucrative option in the past ten years and has allowed certain households and individuals to avoid poverty, as the following example attests:

> *Case of sustained well-being*: Amina is 60 years of age and owns two oxen, nine other cattle, and 15 shoats (case based on Stone, 2002). She heads a relatively wealthy household and resides in Chachato *kebele*, Bati *wereda*. She and her husband (who died around 1996) lost most of their cattle in the 1983–84 drought but were able to rebuild by the late 1980s. During the 1983–84 drought she sent two children (sons) to neighbouring Djibouti to work and one of them still sends cash remittances. Amina depends heavily on this source of cash, to buy food and livestock. She also relies on the son (20 years of age) who lives at home to plough her 1.0 hectare farm. In the post-drought period of 2000 to 2003 she was able to increase herds from 13 to 15 cattle and three to 23 sheep, and actually was better off in 2003 than in 1997.

Amina's case of sustained welfare contrasts sharply with the realities of many female-headed households like Abazen's, which do not receive remittances and remain very poor in 2003. Amina and her late husband were fortunate to have three adult children

and were wise enough to send two of them to Djibouti rather than, in her words, 'letting them all die here' (Stone, 2002: 23). This strategy has paid off well.

Utilising Food Aid Transfers

There is little doubt that the massive amount of food aid available in the area assisted in asset recovery for some of the poor, although for the general population it does not show up as a statistically significant variable in recovery (Carter et al., 2004). The latter may stem from the fact that food aid was broadly distributed among most households and not well targeted at the poor. However, what is clear is that food assistance in the recent drought did little to save assets since more than 95 per cent of animal assets were depleted before it showed up in the region (Little, 2005). This finding suggests that the timing of food aid deliveries is more important than the duration of its distribution and other related factors.

The case of Mohamed highlights the complex role that food aid plays in household recovery strategies:

> *Case of persistent poverty*: Mohamed is a 60 year old household head who lives with his wife and six children in Chachato. His family had only one head of cattle and one camel in 2000. During June 2000 to December 2000 he received about 200 kg of food aid (wheat), which made up 35 per cent of his household's consumption needs. The remainder of his food needs came from purchases (first), farm production, and gifts from local relatives. Mohamed acknowledges that food aid helped him to hold on to his few animals after the drought, but that he could not depend on it. He notes that 'food aid is useless because they do not give it to all of us – just sprinkle it among some.'

As the case of Mohamed suggests, food aid is an important resource in the area, but other sources of food (for example, market purchases) often are more important (see Little, 2005).

Disposing of Assets

As indicated above, the asset profile of some better off households worsened during 1997 to 2003, but very few of them fell into the poorest asset group (see Table 2). However, several vulnerable households did become poor or very poor.

> *Case of entry into poverty*: Menonen and Zinesh have been married since the 1980s and reside with their eight children in Temu *kebele*, Legambo *wereda*. They are 50 and 45 years of age, respectively. Their assets declined considerably as a result of the recent drought and they have not been able to recover them. During 1997 to 2000 they lost five cattle (including two oxen) and eight sheep through sale and death and by August 2003 they had only recovered one ox and two sheep. During the drought, Menonen left the area to work outside and he was away for a considerable period of time. Animals had to be sold to finance food purchases and without Menonen there was nobody to assist with herding.

> What has been particularly devastating for the family is that Menonen hurt his leg in 2001 and this has hampered his farming work since he returned. The household now takes in animals on a share-herd basis and with Menonen's injury Zinesh does waged casual farm work to help meet income needs. They are barely making it and are unlikely to reach their pre-drought wealth status before the next drought strikes.

The above example shows a dramatic, perhaps permanent impact on poverty as a result of the recent drought and health problems. For most other households, however, the drought may have worsened their status, but it did not have as dramatic an effect on their welfare as the above case.

Surviving through Casual Labour

As noted earlier, there are households (about 8 per cent of the total) that were virtually stockless (0 to 0.1 TLUs) during the entire seven-year period (1997–2003) (see Figure 3). The drought had virtually no impact on their wealth holdings since they had little or nothing to lose. The persistence of these asset-less households raises several interesting questions about how they are able to persist; why they have been unable to accumulate assets; and what kinds of informal/community safety nets are in place to protect them.

> *Case of Persistent Poverty*: Zeila of Gerado, South Wollo is a divorced woman, 37 years of age, who heads a household with three children. She has a farm of about 2.0 *timad* (0.5 ha), but sharecrops out part of it because she does not have oxen or adequate labour. During the recent drought her 15-year old son worked outside the area as a hired herder and received a wage of about 50 birr ($6.00) plus food every two months (this is an example of the kinds of unfair labour contracts that individuals pursue as a result of poverty). In 2001 he returned home and now works in the area as a daily casual labourer at the rate of about 4 birr (US$ 0.45)/day and when the opportunity arises he works on food-for-work schemes. Stone and Kebede describe how Zeila's recent illness has made it especially difficult: 'Since her illness three to four years ago, she has been unable to do strenuous agricultural and trading work – she says the sun bothers her skin – so her sources of off-farm income are limited. She used to trade, but now that her health has not been good she needs to limit herself to activities that do not require a lot of energy' (2003:1).

Zeila's household is chronically poor. Like the households of Menonen and Zinnesh, her poor health has been a critical constraint on the welfare of her family. Yet, as bad as her situation is, she is actually better off than others who head asset-less households, because she has children (labour) who can help.

Access to waged and self-employed income activities are important drought-coping strategies for people like Zeila, but with extraordinarily low education levels (79 per cent of household heads are illiterate) the work tends to be for very low wages. In South Wollo self-employed petty trading can be an important short-term response to drought as it was for Zeila before she became sick, but rarely is it a source of long-term wealth accumulation.

VI. Conclusions and Policy Implications

The preceding discussion has demonstrated the importance of examining both drought coping and recovery periods to understand poverty dynamics in areas like South Wollo. It also shows the significance of initial asset holdings (in this case, livestock) as a predictor of whether a household will be poor six or more years later. What may seem to be a downward trend in poverty from a two- to three-year optic can look very different from a medium- to long-term perspective with an intervening drought. The 1999–2000 drought had a devastating short-term impact on households, particularly among the poorest, but did not increase overall rates of poverty in the area in the medium term. Generally, the rate of poverty (and destitution) actually declined slightly during a six-year period despite a disastrous drought. As the article argues, a large percentage of poor households actively pursue a range of different economic activities that allowed most to attain their pre-drought wealth status, but not to escape poverty. The findings show that the greater the dependence on rainfed agriculture-based incomes and the less diversification there is, the greater the risk of poverty.

As our study has shown, the 'poor' are not static, mired in despair and paralysed into inaction. Indeed, to the contrary, the poor are extraordinarily resourceful and show a great capacity to re-build assets and livelihoods. The ability of the poor and very poor, however, to move beyond a certain threshold of asset viability before the next drought strikes is limited, and this has been the case for many households since at least the 1984 famine. Indeed, many poor households have reached a low-level poverty equilibrium, where they move between very meagre quantities of asset ownership and despite intermittent shocks (droughts) return to their pre-existing asset levels or even slightly improve them. Because droughts occur frequently, the poor face a situation where once they begin to re-build their assets, the next drought wipes out the gains and recovery ensues again.

The article has shown that local social mechanisms assume considerably more importance for the poor in the recovery period than during droughts. Wealthier community members are loaning considerable numbers of livestock, cash, and food to the poor during recoveries, but this drops off steeply when conditions begin to deteriorate. Consequently, there should be a concern that the wealth of the 'better off' actually is declining faster than that of others, and wealth differences between households are narrowing in some locations. As one male household head of Kamme noted, 'There used to be rich people in the village, helping those who faced problems. But now they are impoverished. The people must look to government for help' (Castro and Kebede, 2003:26). In short, current social mechanisms are not sufficient to halt massive asset depletion and suffering among the poor during a drought and this makes the timing of disaster assistance (especially food aid) so vitally important.

That the 'better off' households seem to be moving toward reduced welfare levels speaks loudly of the structural constraints to rural economic diversification and growth under current policy conditions in Ethiopia. Limits on land ownership and property transactions, a lack of physical and social infrastructure (schools and health clinics) and investment opportunities, and serious natural constraints (pasture shortages) on herd accumulation retard long-term wealth accumulation. In contrast

to other African countries, there is little investment in non-farm businesses, rental properties, and human capital among the top strata of South Wollo households (cf. Bryceson, 2000). Like the poorest households, the 'better off' in South Wollo amazingly earn more than 90 per cent of their income from farm/livestock activities. Unfortunately, the 'better off' households are caught in a situation where they hold most of their wealth in an asset (livestock) that clearly experiences diminishing returns after a certain level and that is also very susceptible to drought. In a land-constrained economy like South Wollo's, there are real costs (in terms of management, availability of fodder, and animal deaths) to maintaining herds – especially oxen – beyond a certain number.

With such a large number of households coping below or just above the asset-poverty line, what possible policy prescriptions are there? Some researchers are calling for nothing short of a complete transformation of the South Wollo economy: 'At this point in time, anything less than a structural transformation of the Wollo economy seems inadequate to the task of reversing the poverty ratchets in which the people of Wollo seem trapped, but the source of such a transformation is by no means clear' (Sharp et al., 2003: 174). We do not feel the situation is desperate enough to justify radical, costly measures, which the government has pursued with its current programme to resettle thousands of families from famine-prone zones to better watered, lowland areas (see Mulugeta, 2004). In our opinion, there are incremental and less radical actions for alleviating poverty, but most require a long-term commitment on the part of government and funding agencies.

If the immediate effects of a drought could be ameliorated through guaranteed transfers (income or food) or safety nets, the poor might not have to deplete their limited assets 'to eat'. They might also be able to build up sufficient assets to withstand the next drought. Because of the erratic timing and nature of food aid distribution, these programmes do not achieve this at present. Nor do effective primary health programmes exist to help people, like Zeila and Menonen. Under current conditions, drought – and misfortunes like illness – are recurrent shocks that keep the poor from ever getting ahead enough to sustain themselves out of persistent poverty.

Current Ethiopian government and donor efforts to insure a safety net in chronically poor/food insecure areas, such as South Wollo, is a step in the right direction (see Raisin, 2003). As our data show, once the food crisis of a drought ends, poor households – including many headed by females – show considerable resourcefulness in rebuilding assets and livelihoods, and there is no reason to assume that they would not do the same if food risks were diminished through safety nets.

As we argued earlier, access to non-farm income can be an important aspect of asset protection and accumulation among both the poor and 'better off', but to date it is: (1) limited to a few areas with relatively good market access; and (2) restricted to low-wage 'survival' jobs. Two options are possible to improve the non-farm employment situation in the region, so that some diversification out of high-risk rainfed agriculture and livestock activities can take place. The first is the development of viable market towns, with reliable infrastructure and tax and credit incentives to bring in small-scale industries. The desperate demographic and land holding situation means that the future of South Wollo requires vibrant non-farm

and urban sectors, to generate jobs and reduce over dependence on risky agriculture and external assistance.

A second aspect to improving non-farm incomes relates to land tenure insecurity in the area. This problem, however, does not call for an expensive land titling programme as a means of insuring tenure, but rather a halt to the mini-land redistributions that have occurred since the government changed in 1991. As we have argued, current land tenure polices keep people 'tied to the land' even when it is limiting their future prospects.

Despite its problems, rainfed agriculture remains the livelihood that drives most economic activities in the region, and is pursued by households from all socio-economic strata. Local demand and markets are strongly determined by how agriculture is doing, and this in turn affects the employment generated by trading and other small business activities. In the area there are possibilities for improved fodder management, water harvesting techniques in dryland areas, and the extension of drought adaptive packages that could decrease the risk of agricultural losses. In the post-drought period local grant and loan programmes for the poor to assist them to recover at least one ox for agriculture also will diminish loses from sharecropping and rentals by the poor.

Finally, the above suggestions are not dramatic development experiments like resettlement, but they would go a long ways toward improving asset levels and resiliency without the massive human suffering usually associated with resettlement (see Rahmato, 2003). South Wollo will continue to be challenged to feed itself even in good rainfall years, but with increased investments to generate meaningful employment, urban markets, and agricultural diversification, the incidence of persistent poverty in the region could decline in this decade.

Acknowledgements

This paper stems from an interdisciplinary research project, entitled 'Assets, Livelihoods, and Cycles: Addressing Poverty and Food Insecurity in the Horn of Africa and Central America', funded by the Broadening Access and Strengthening Input Market Systems-Collaborative Research Support Program (BASIS-CRSP) (USAID Grant No. LAG-A-00-96-90016-00). The project and this paper are products of strong collaboration among several US and Ethiopian researchers associated with the BASIS-CRSP. In particular, the authors would like to acknowledge the assistance of Yigremew Adal, Mesfin, Degefa Tolossa, Mengistu Dessalegn Debela, Kassahun Kebede, Yared Amare, Michael Carter, Michael Roth, and Ragan Petrie. The authors and not the above agency or individuals are solely responsible for the contents of this paper.

Notes

1. Drought is the main agricultural risk that farmers face, but pests, crop diseases and frost also can be major problems in certain areas of South Wollo.
2. We accept the fact that asset/livestock ownership is not the only way to measure something as complex as poverty in Ethiopia, but given the lack of economic and asset diversity in our study area, it remains the best wealth indicator. In the different studies of rural poverty in Ethiopia various

measurements of poverty have been used, including food consumption, income, livestock ownership, labour units, and so on (Webb and von Braun 1992; Dercon and Krishnan 1998, 2000).

3. When plans for the study began in 1998, part of Oromiya zone was actually included in South Wollo zone, but a subsequent re-demarcation of boundaries changed this. Both zones, however, remain part of the Amhara Regional State. In the paper when we talk of the South Wollo area or region, we are including the Oromiya zone in it.
4. The Derg, which approximately translates as 'committee' in Amharic, was the term that was used to refer to the Mengistu regime (1977–91).
5. Another factor that keeps 'the poor on the land' in South Wollo has to do with the distribution of malaria in the country. Despite the hardships and risks in the area, locations above 2,100 metres a.s.l. are virtually malaria free, whereas many other areas where land and employment can be found are malaria-ridden.
6. As used here, a TLU (Tropical Livestock Unit) is: TLU = 1 head of cattle (oxen, bull, cow, calf, heifer); 0.5 TLU = 1 Horse/Donkey/Mule; 1.4 TLU = 1 camel; TLU = 10 sheep/goat; 0.05 TLU = 1 chicken. The TLU ratios approximate weight, subsistence (food), and market value of different animals.
7. *Maganjo* is when the owners of one ox combine their animals so they can plough their fields with the required number (2). It is a widespread institution in South Wollo and Oromiya zones.
8. The paper mainly addresses gender differences based on the sex of the household head, and does not explore intra-household relations. While we believe the latter issue could provide important perspectives on poverty dynamics, we have yet to explore our data on this topic.
9. Strong cultural norms constrain women from ploughing fields. Thus, for a female-headed household without an adolescent or adult son(s) the head frequently must share-crop out her farm to have it plowed.
10. A common post-drought recovery strategy by farmers is to focus initially on fast-breeding sheep and goats, and then invest later on in oxen and cattle.
11. We have not explored in detail the reasons for the price discrepancies. Part of it might be explained by the fact that the poor may be selling lower-quality animals than 'better off' households, but this would not account for why they also are paying higher animal prices than others. We feel that there are other factors involved, including the poor people's lack of access to more lucrative markets, good market information, and large traders.
12. Pseudonyms are used throughout the paper to protect the identity of individuals.

References

Abegaz, B. (2004) Escaping Ethiopia's poverty trap: the case for a second agrarian reform, *Journal of Modern African Studies*, 42, pp. 313–42.

Amare, Y., Adal, Y., Tolossa, D., Castro, A. P. and Little, P. D. (2000) Food security and resource access: a final report on the community assessments in South Wello and Oromiya zones of Amhara Region, Ethiopia, BASIS CRSP, Department of Applied and Agricultural Economics, University of Wisconsin.

Bevan, P. and Joireman, S. (1997) The perils of measuring poverty: identifying the 'poor' in rural Ethiopia, *Oxford Development Studies*, 25, pp. 315–43.

Bryceson, Deborah (2000) 'African peasantries' centrality and marginality: rural labour transformation, in C. Kay and J. Mooji (Eds) *Disappearing Peasantries? Rural Labour in Africa, Asia and Latin America*, (London: Intermediate Technology Publications) pp. 37–63.

Carter, Michael, Little, P. D., Mogues, T and Negatu, W. (2004) Tracking the long run economic impacts of disasters: environmental shocks and recovery in Ethiopia and Honduras, BASIS CRSP, Department of Applied and Agricultural Economics, University of Wisconsin.

Castro, A. P., Amare, Y., Adal, Y. and Tolossa, D. (1999) BASIS/IDR Community Assessments: Kebele Profiles, Parts I, II, III and IV. BASIS CRSP, Department of Applied and Agricultural Economics, University of Wisconsin.

Castro, A. P. and Kebede, K. (2003) Detailed field notes from interviews in Oromiya and South Wello Zones, Amhara Region, Ethiopia, 17–23 July, 2003 (unpublished).

Chronic Poverty Research Centre (2004) *The Chronic Poverty Report, 2004–05*, Manchester: Institute for Development Policy and Management, University of Manchester.

Davies, S. (1996) *Adaptable livelihoods: Coping with Food Insecurity in the Malian Sahel* (New York: St. Martin's Press).

Dercon, S. and Krishnan, P. (1998) Changes in rural poverty in rural Ethiopia 1989–1995: measurement, robustness tests and decomposition, CSAE Working Paper Series WPS 98.7, Centre for the Study of African Economies, Oxford University.

Dercon, S. and Krishnan, P. (2000) Vulnerability, seasonality, and poverty in Ethiopia, *Journal of Development Studies*, 36, pp. 25–53.

Dercon, S. (2002) Growth and shocks: evidence from rural Ethiopia, Paper prepared for the IMF Conference on Macroeconomic Policies and the Poor, Washington, DC.

Dercon, S. (2004) Growth and shocks: evidence from rural Ethiopia, *Journal of Development Economics*, 74, pp. 309–29.

Devereux, S. and Sharp, K. (2003) Is poverty really falling in rural Ethiopia? Paper presented at the conference on 'Staying Poor: Chronic Poverty and Development Policy,' University of Manchester, Manchester, England. 7–9 April, 2004.

DPPC (Disaster Prevention and Preparedness Commission) (1998) Food Supply Prospect in 1998, DPPC, Addis Ababa, Ethiopia.

DPPC (Disaster Prevention and Preparedness Commission) (2000) Assistance Requirements in 2000 for Victims of Natural Disasters, DPPC, Addis Ababa, Ethiopia.

Gebre-Egziabher, T. and Demeke, M. (2004) Small businesses in small towns of the eastern Amhara Region: nature and economic performance, BASIS CRSP Research Report, Department of Agricultural and Applied Economics, University of Wisconsin.

Hammond, L. and Maxwell, D. (2002) The Ethiopian crisis of 1999–2000: lessons learned, questions unanswered, *Disasters*, 26, pp. 262–79.

Hoddinott, J. and Quisumbing, A. R. (2003) Methods for microeconometric risk and vulnerability assessments: a review with empirical examples, Social Protection Discussion Paper No.0324, The World Bank, Washington, DC.

Hulme, D. (2003) Thinking 'small' and the understanding of poverty: Maymana and Mofizul's Story. Working paper No. 22, Chronic Poverty Research Centre, University of Manchester.

Kiros, F. G. and Mehretu, A. (1977) Survey of socio-economic characteristics of rural Ethiopia. Research Bulletin 15: Comparative review and analysis, Institute for Development Research, Addis Ababa University.

Little, P. D., Smith, K., Cellarius, B., Coppock, D. L. and Barrett, C. B. (2001) Avoiding disaster: diversification and risk management among East African herders, *Development and Change*, 32, pp. 401–33.

Little, P. D. (1992) *The Elusive Granary: Herder, Farmer, and State in Northern Kenya* (Cambridge: Cambridge University Press).

Little, P. D. (2005) Food aid dependency in rural Ethiopia: myth or reality? Paper presented at the workshop on 'What Have We Learned About Poverty and Food Insecurity in Eastern Amhara Region, 1998–2004: Research and Policy Implications of the BASIS CRSP/IDR Project,' Addis Ababa, Ethiopia, 7–8 March, 2005.

Mariam, M. W. (1984) *Rural Vulnerability to Famine in Ethiopia, 1958–1977* (New Delhi: Vikas Publishing House).

Moser, C. (1998) The asset vulnerability framework: Reassessing urban poverty reduction, *World Development*, 26, pp. 1–19.

Mulugeta, S. (2004) Ethiopia's plan to rapidly move millions to avoid starvation could harm more than it will help, *Newsday*, 15 Dec., p. A22.

Raisin, J. (2003) Transitional asset protection systems (TAPS): Integrating a transitional asset protection system (TAPS) into the federal food security strategy and regional programs, United States Agency for International Development, Addis Ababa, Ethiopia.

Rahmato, D. (1986) Hunger and destitution in rural Ethiopia, IDR Discussion Paper, Institute for Development Research, Addis Ababa University.

Rahmato, D. (2003) *Resettlement in Ethiopia: The Tragedy of Population Relocation in the 1980s* (Addis Ababa: Forum for Social Studies).

Sharp, K., Devereux, S. and Amare, Y. (2003) Destitution in Ethiopia's northeastern highlands (Amhara Regional State), Institute for Development Studies, University of Sussex.

Stone, M. P. (2002) Retrospective accounts of responses to drought by female and male headed households of Bati and Dessie Zuria Woredas, South Wello and Oromiya Zones: General observations from qualitative interviews. BASIS CRSP, Department of Applied and Agricultural Economics, University of Wisconsin.

Stone, M. P. and Kebede, K. (2003) Interview notes, South Wollo and Oromiya zones, June 2003 (unpublished).

Stone, M. P. (2003) 'Every year is a drought year for me': are female-headed households in Ethiopia a case of sustained unsustainability? Paper presented at the panel on Poverty and Food Security in Amhara Region, Ethiopia, Annual Meetings of the African Studies Association, Boston, MA, 30 Oct.–2 Nov.

United Nations Development Programme (UNDP) (2001) *Human development report: Ethiopia*. (New York: UNDP).

Watts, Michael (1983) *Silent violence: food, famine, and peasantry in northern Nigeria* (Berkeley: University of California Press).

Webb, P. and Von Braun, J. (1992) *Famine and food security in Ethiopia* (Chichester: John Wiley).

World Bank (2002) *World development indicators* (Washington: The World Bank).

Zewde, B. and Pausewang, S. (Eds) (2002) Ethiopia: the challenge of democracy from below (Uppsala: Nordiska Afrikainstitutet; Addis Ababa: Forum for Social Studies).