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ADVERSE SHOCKS AND SOCIAL PROTECTION IN AFRICA:
WHAT ROLE FOR FORMAL AND INFORMAL FINANCIAL
INSTITUTIONS?

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EUROPEAN UNIVERSITY INSTITUTE, FLORENCE
ROBERT SCHUMAN CENTRE FOR ADVANCED STUDIES
EUROPEAN REPORT ON DEVELOPMENT

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What Role for Formal and Informal Financial Institutions?*

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Abstract

This paper presents evidence on the wide range of adverse shocks reported by African households. The current financial and economic crisis adds another layer of risk to already vulnerable households and firms. In responding to an adverse shock, households are involved in a balancing act that is aimed at maintaining consumption and/or assets above critical levels. Households mainly use coping mechanisms that depend on family and other networks and self-insurance. There is limited recourse to public social protection and formal credit and insurance markets. The paper examines some informal financial arrangements. Some of these are not designed to smooth consumption when there is an adverse shock. These informal mechanisms have the potential to be the platform to expand access and utilisation of formal finance particularly in rural communities. There is a clear role for publicly provided interventions. This is because informal risk sharing mechanisms do not cover all shocks. The premium paid may not be adequate to cover the entire financial implications of the shock. Finally, the design of the risk-sharing institutions can result in the very poor being excluded.

Keywords

Shocks, coping strategies, financial institutions

1. Introduction*

The interplay of the structure of African economies, low infrastructure development, the weakness or absence of institutions that reduce the incidence of hazards and the impact of adverse events can partly explain the vulnerability of African economies. The concentration of export earnings on a limited number of primary products exposes the economies to risks due to fluctuations in the terms of trade. The increasing openness of these economies in the wake of the implementation of trade liberalisation exposes them to the vagaries of the world economy. The dependence of a large proportion of the African population on rain-fed agriculture as a source of livelihood exposes incomes to risks due to the vagaries of the weather. The still substantial proportions of rural and urban households that do not have access to safe water and safe sanitation suggest vulnerability to disease.

African households use a wide variety of measures to respond to adverse events. However, most coping strategies used by households are informal insurance mechanisms. Very little use is made of instruments of the formal financial sector and public social protection interventions.

This paper will begin by discussing the shocks reported by African households. It will review the different coping strategies used by households when they are hit by negative shocks. It will examine what role informal and formal financial institutions have played in the response of African households to shocks. It will assess the extent to which traditional strategies and public social protection interventions enhance the resilience of households when a shock occurs. It will conclude, by providing some recommendations on the possible role which informal and formal institutions can play in reducing the impact of shocks, for example, the current financial crisis on African households.

2. Vulnerability, Risks and Shocks in the African Context

Vulnerability may be defined as the probability of a decline in well-being or welfare in the future. Vulnerability depends on the exposure to risk and the capacity of the individual, household or firm to reduce the impact of the shock or risk event that has occurred. Sinha and Lipton (1999, p.5) define risk as “a damaging fluctuation that is not certain in any given period but is possible often with a numerical probability”. Some damaging fluctuations are perfectly predicted. For example, farmers know with certainty that there will be a dry season. Farmers, however, do not know with certainty when the rains will arrive and if the expected quantum will be realised. According to Sinha and Lipton (1999), it is the realisation of unexpected damaging events such as theft of livestock or the destruction of one’s property by fire that may be described as an adverse “shock”. However, certainty of the occurrence of a damaging event will not necessarily reduce a household, firm or individual’s vulnerability if the capacity to protect income or consumption from the impact of the damaging event is limited.

A not significant proportion of African households are vulnerable to poverty. Using data from the fourth living standards survey in 1998/99, the proportion of the population vulnerable to poverty in Ghana was estimated at almost 50 percent. Vulnerability was higher amongst rural than amongst urban households (Appiah-Kubi *et al.*, 2008). In rural Kenya, the proportion of vulnerable households was estimated at 20 percent (Christiaensen and Subbarao, 2001).

Objective indicators of risk in Africa are, for example, the variability of rainfall, the proportion of households without access to safe drinking water and safe sanitation, the seasonality in prices and the incidence of reported crime. The incidence of self-reported shocks is another indicator of the extent and nature of the risk and shocks facing African households. In a survey conducted in three districts in Ghana in 2004 using recall data over a two-year period, 70 per cent of households in two of the

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districts/municipalities (Tema and Atwima) and 90 per cent of households in the third district reported shocks (National Development Planning Commission and UNDP, 2004a, 2004b). The third district, Builsa is much poorer (estimated poverty headcount of 98 per cent) than the other two, and has a much larger proportion of the households earning a livelihood in agriculture. In Tanzania, about two-thirds of rural households surveyed in Kilimanjaro and Ruvuma reported shocks that affected their livelihoods during a five-year period (Sango *et al.*, 2007).

Households reporting shocks tend to be hit by more than one shock. In the largely urban municipality of Ghana, *i.e.*, Tema, the majority of households reported one or two shocks. This contrasts with Builsa, the largely rural district in which more than half of the households reported more than four shocks in the two-year period (National Development Planning Commission and UNDP, 2004b). The average number of reported shocks amongst the rural households in Tanzania was 2.1. There was no difference in the incidence of reported shocks between poor and non-poor households (Sango *et al.*, 2007).

Sinha and Lipton (1999) identify a set of events that they describe as damaging fluctuations that will increase the probability of consumption expenditures or income falling below the poverty line. These are:

- Disease or injury;
- Violence, *i.e.*, domestic, criminal or war related;
- Natural disasters;
- Terms of trade deterioration;
- Reduced access to productive income or work.

This list is not exhaustive but presents what they consider the most frequent occurring damaging fluctuations.

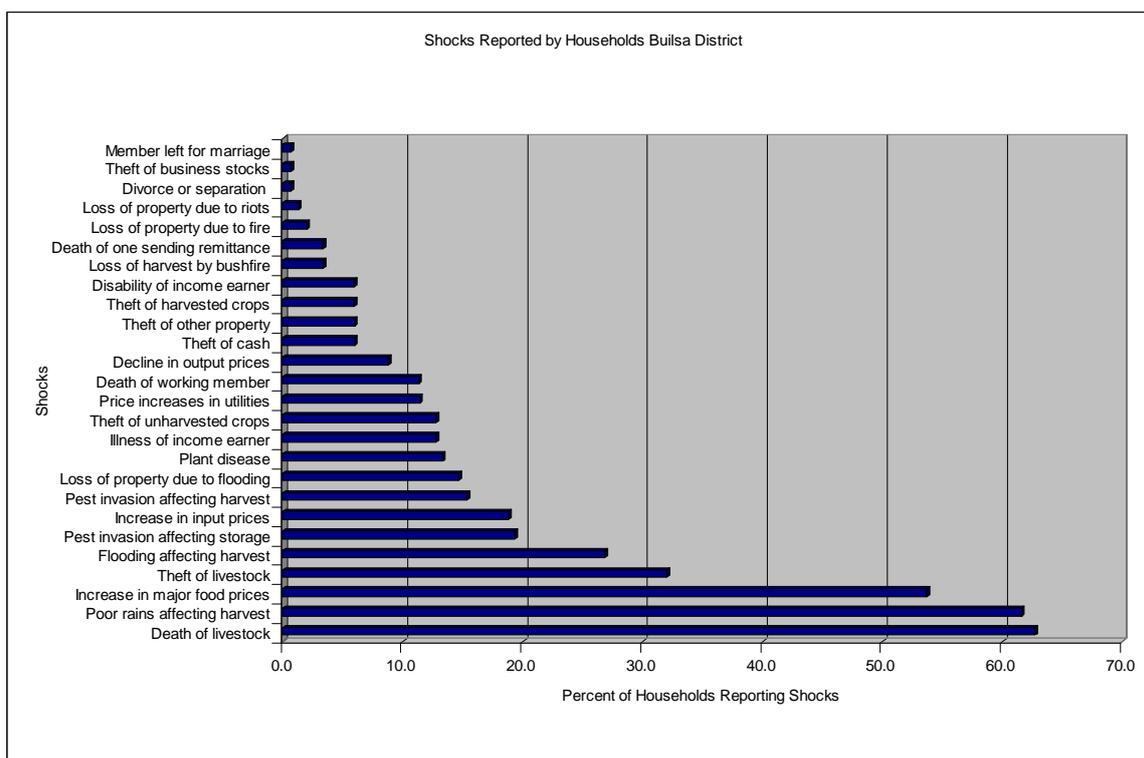
In Ethiopia, households reported harvest failure, labour problems (*i.e.*, illness, death or the divorce of a household member that resulted in a shortage of labour in the household), policy problems (for example, a ban on migration or forced labour), livestock problems, land problems (for example, loss of land due to disputes), asset losses, war and crime as events that had caused loss of income or wealth over a twenty year period (Dercon and Krishnan, 2000). Evidence from Ghana shows there is wide variation in reported shocks between rural and urban households. Rural households (Builsa district) tended to report shocks due to loss of assets, *i.e.*, death and theft of livestock. Loss of harvests through pest infestation, poor rains, disease and theft were the next most important adverse shocks reported by these households (Figure 1). Amongst urban households (Tema Municipality) changes in the prices of output, inputs, food and utilities were the most frequently reported shocks. Evidence from other African countries finds that ill-health, death and weather-related shocks are most frequently reported (Harrower and Hoddinot, 2005; Sanga *et al.*, 2007). It has been observed that “poor people’s shocks are not more severe than those of others” (de Weerd, 2009, p.14). A major difference between the two is the options available to respond to shocks.

The impact on Africa of the current global financial crisis will be felt largely through its second round effects. These possible second round effects are the slow down in demand for imports, decline in remittances sent to Africa, reduction in aid flows and reduction in contributions to international NGOs. Countries such as Ghana have recorded declines in export earnings and remittances in the third quarter of 2008. These second round effects are expected to impact the government budget and households adversely. Incomes of households producing export crops are expected to be negatively affected, as will the incomes of households that receive remittances from abroad. The decline in contributions received by international NGOs can result in cuts in their budgets, thus adversely impacting on their activities. The current global crisis and its impact on African economies adds an additional layer of risk and uncertainty to already risk-prone communities and households.

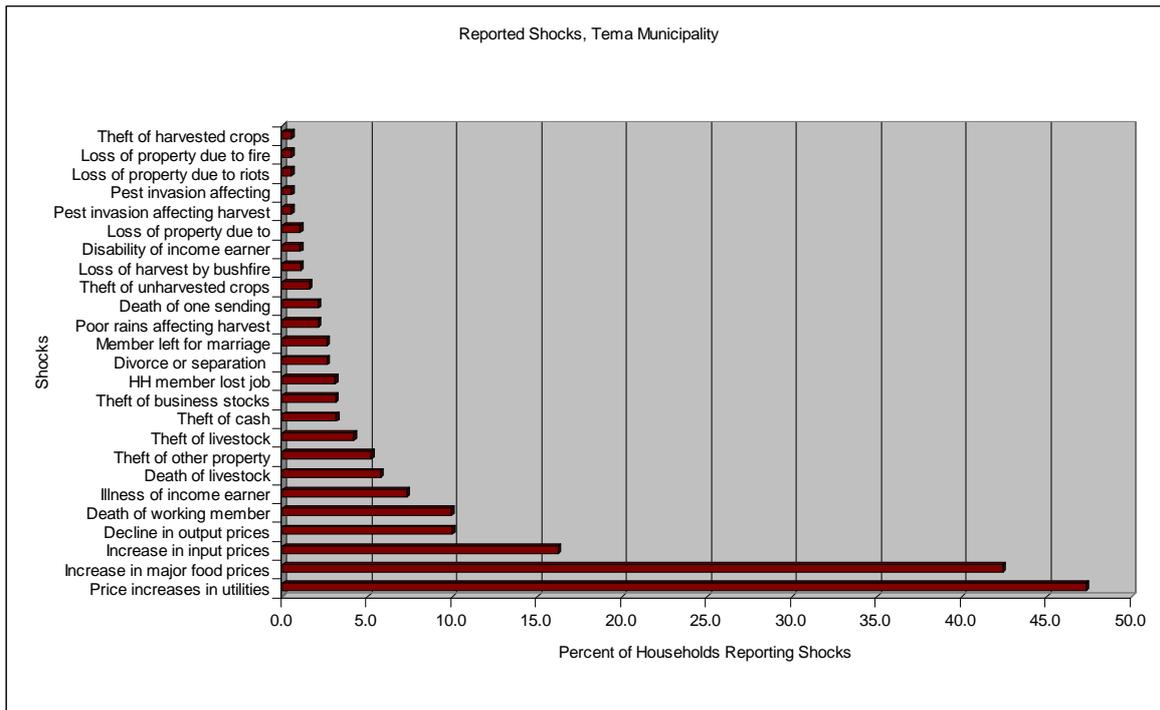
3. Impact of Shocks

Adverse shocks have short- and long-term impacts on households and individuals. Seasonality, an event with a high degree of predictability is correlated with a decline in consumption. The estimates of the chronic and transient poor in Ethiopia provided in Table 1 is, for a short sample period of eighteen months, thus capturing the effect of seasonality on poverty and therefore intra-year variability of poverty.

Figure 1: Shocks Reported by Households in a Rural and Urban District



Source: National Development Planning Commission and UNDP (2004) *District Human Development Report 2004. Builsa District, Accra.*



Source: National Development Planning Commission and UNDP (2004) *District Human Development Report 2004. Tema Municipality, Accra.*

Adverse shocks can have long-term impacts. Amongst rural Ethiopian households, droughts in the preceding four years had a negative impact on consumption *per capita* in 2004. Illness of the head or another member of the household, and decrease in output prices also negatively impacted on consumption *per capita* (Dercon 2008). Rural households in Kenya experiencing illness and rainfall shocks are likely to experience a decline in consumption in the future (Christiaensen and Subbarao, 2001). In Cote d’Ivoire the enrolment of both boys and girls in school declined after an adverse weather shock. There was also evidence of an increase in malnutrition amongst children in areas that experienced the shock (Jensen, 2000). The decline in investments in the education and health of children in the aftermath of a shock can have long-run negative impacts. Poor investments in health and education can result in lower earnings in the future. It has been estimated that, in Zimbabwe, for example, the effect of a shock that resulted in stunted growth of children could compromise educational attainment and result in a loss in lifetime earnings (Dercon 2008).

The decline in consumption in the aftermath of a shock means that some households or individuals could become poor or else, if already poor, remain in poverty. In some countries, the transient poor, *i.e.*, persons who have moved in or out of poverty can be substantial (Table 1). The negative impact of shocks on consumption that can explain some of the movements of substantial shares of the population above and below the poverty line and the evidence of incomplete insurance (see discussion below) suggests a weakness in the coping strategies of households.

4. Coping with Adverse Shocks

In responding to an adverse shock, households are involved in a balancing act that is aimed at maintaining consumption and/or assets above critical levels. Households use a wide variety of measures to manage risk and to respond to adverse shocks when they occur. These are mainly coping mechanisms that depend on family (nuclear and extended) and other networks and self-insurance (for example, the sale of assets). There is limited recourse to public social protection and to formal credit and insurance markets.

Table 1: Transient and Chronic Poverty in Selected African Countries

Author	Country	Length of Period and number of data points	% Chronic	% Transient	% Non-Poor
Grootaert and Kanbur (1995)	Cote d'Ivoire	2 years; 2 data points	14.5	20.2	65.3
		2 years; 2 data points	13.0	22.9	64.1
		2 years; 2 data points	25.0	22.0	53.0
Haddad and Ahmed (2002)	Egypt	2 years; 2 data points	19.0	20.0	61.0
Dercon and Krishnan (2000)	Ethiopia	12mths; 2 data points	24.8	30.1	45.1
		5mths; 2 data points	22.1	29.0	49.0
		6mths; 2 data points	20.0	30.4	49.6
Okidi and Mugambe (2002)	Uganda	4 years; 2 data points	23.76	20.24	56
		4 years; 4 data points	13.00	57.00	30
Carter and May (1999)	Kwazulu-Natal, South Africa	5 years; 2 data points	22.3	30.7	47.0
Hoffman, Karfakis and Christiaensen (2007)	Kilimanjaro Ruvuma	2 years; 2 data points	23.4	33.8	42.8
			47.6	31.4	21.0

Notes: chronic poor households are those households that were found to have welfare measures below the poverty line in all the years for which data is available.

What determines the coping strategies that individuals or households will use when faced with a shock? Dercon (2000) stressed the role of the type of shocks on the ability of households to cope with their consequences. The coping strategies are likely to differ between idiosyncratic and covariate shocks. Covariate shocks that have a much broader coverage in terms of incidence will be more difficult to insure by using informal risk-sharing measures. In Tanzania, it was found that households were more likely to receive assistance from others when the shocks were idiosyncratic than if they were covariate (Sango *et al.*, 2007). Predicted shocks – the onset of the hunger season, for example – would generate a different set of responses from the households compared to unpredicted shocks.

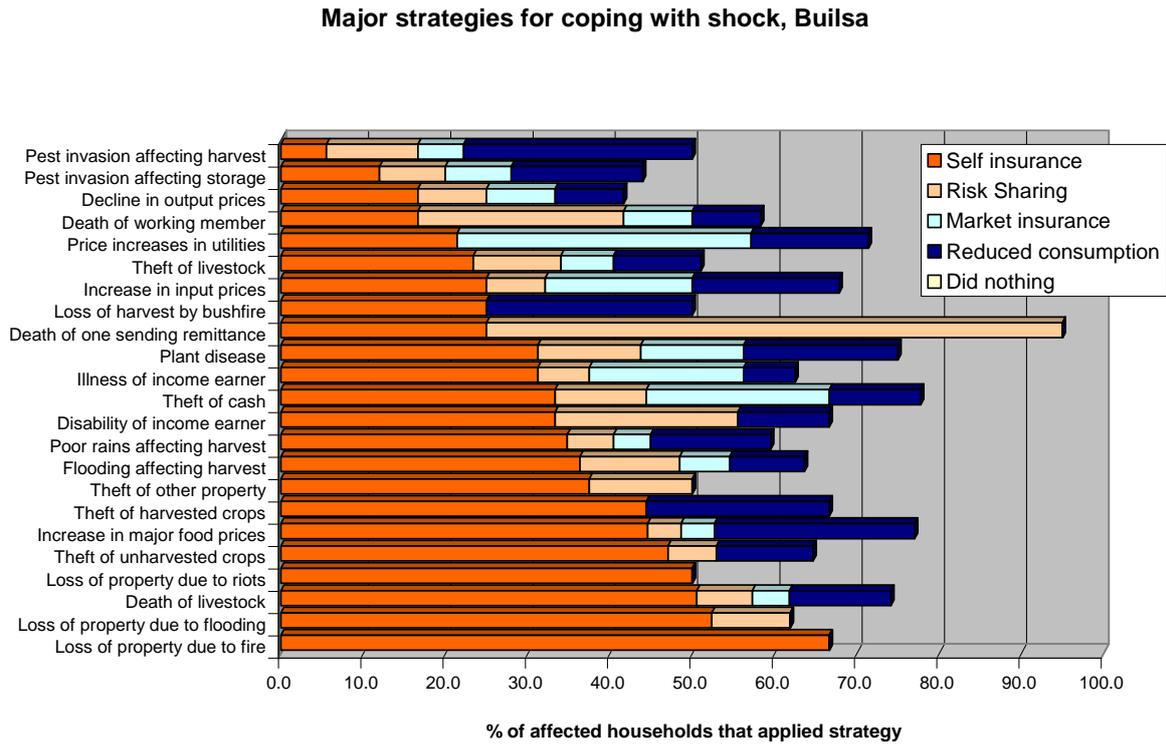
The coping strategy utilised is also determined by the existence of, and access to, functioning credit and insurance markets, the household's stock of physical and financial assets, the nature of the social networks the household or individual is connected to, *i.e.*, the relationship that the household has with better asset-endowed households, the frequency of shocks, expectations about possible future shocks and the existence of public social protection interventions.

In the Lacustre Zone in Mali, for example, a loss of crops due to insect infestation would lead to out-migration, whilst households would tend to sell livestock when there was a loss of livestock. Differences were observed between the asset-poor and non-asset poor households in the use of coping strategies in response to some shocks. For example, amongst households reporting a loss of crops due to insect infestation both asset-poor and non-asset poor households responded by out-migration. In addition, asset-poor households were more likely to receive remittances (Harrower and Hoddinot, 2005).

A comparison of the coping strategies used by households in Builsa, a poor rural and agricultural district in Ghana, and Tema, one of Ghana's two urban port cities, which is an industrial hub, reveals some interesting differences. Whereas Builsa households report using self-insurance strategies for all reported shocks, this was not the case in Tema (Figure 2). The most frequently cited response to shocks by Builsa households, which is classified as self-insurance, is the sale of livestock and other assets. The next most frequent strategy that was resorted to was reduction in consumption, particularly, food consumption. Half of the households reported reduced food consumption as a coping strategy, compared to just over a quarter of households in Tema. Builsa, is a poor district in the

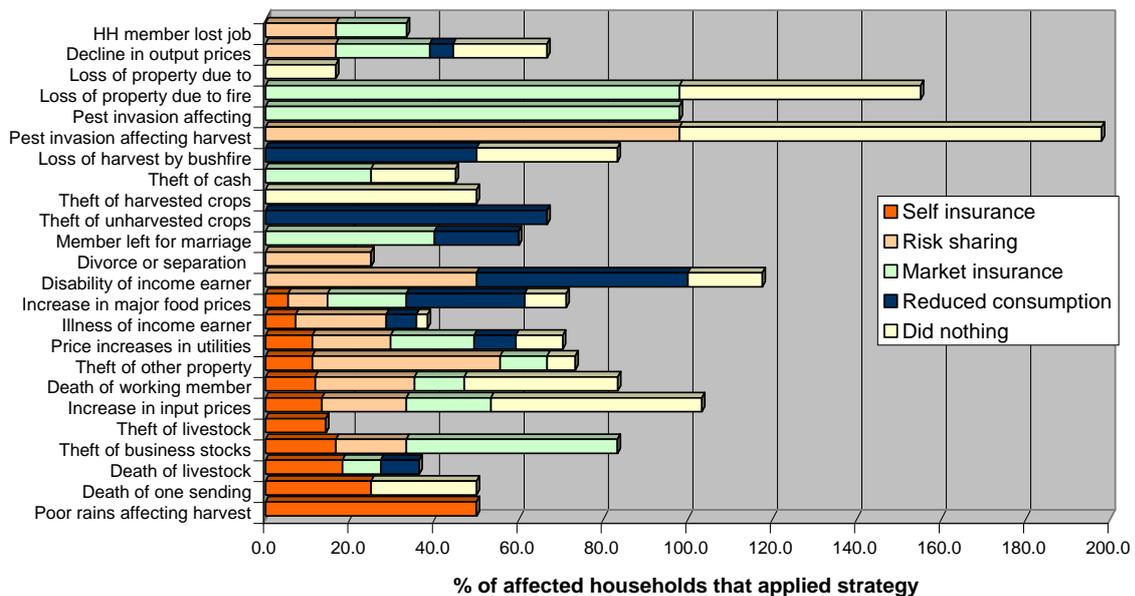
savannah zone, where poverty is endemic. The greater incidence in reduction in consumption as a coping strategy suggests either a low incidence of risk-sharing in those communities and/or or a desire to maintain assets above a critical level against future shocks. In the context of uncertainty about future shocks, households may allow consumption to decline in order to maintain their assets against future shocks. In Burkina Faso, the response of households to drought was to minimise the use of their assets (*i.e.*, livestock) for consumption smoothing. Consumption declined for both poor and non-poor households (Kazianga and Udry, 2006).

Figure 2: Coping Strategies Reported by Rural and Urban Households, Ghana



Source: National Development Planning Commission and UNDP (2004) *District Human Development Report 2004. Builsa District, Accra.*

Major strategies for coping with shock, Tema



Source: National Development Planning Commission and UNDP (2004) *District Human Development Report 2004. Tema Municipality, Accra.*

There was a much greater reported reliance on savings in Tema (20 percent) than in Builsa (5 percent). Amongst rural households in Kilimanjaro and Ruvuma in Tanzania, about three quarters of the households responded to shocks by using their cash savings. Savings are most often built up using informal mechanisms, instead of using banks and insurance companies.

Traditional coping mechanisms that provide social protection are “centuries old” (Connink and Drani (mimeo)). The family – nuclear and extended -, friends and neighbours, have traditionally been the basis of informal insurance networks. Amongst the Buganda in Uganda, the clan provides help when there is a death in the family. The extended family provides support to orphans and widows. Traditional mechanisms continue to operate but, in some instances, they have weakened over time (Connink and Drani, (mimeo)). Mutual insurance may not be able to provide complete insurance when shocks are covariate and/or frequent, and if the network is not geographically spread out. For individuals and households that have geographically spread out networks, recourse can still be made to the network for insurance, depending on the geographic coverage of the shock. When there is migration, family networks may no longer be concentrated in one community. In countries with a large emigrant network, mutual insurance networks can span continents (Muzzacato, 2009). Empirical work investigating the extent of consumption smoothing may not be able to confirm full insurance because the insurance network is not properly defined.

Mutual insurance mechanisms modelled on traditional practices tend to exclude the poor when participation in the network requires monetary contribution (Connink and Drani, (mimeo)). People provide loans and insurance to other people that they know. Poor people are less likely to be included in the social network of the wealthier groups. Thus, they will be less likely to benefit from informal transfers when they are hit by shocks (Santos and Barret, 2008).

4.1 The Role of Informal and Formal Finance

Functioning credit and insurance markets should provide opportunities to households to smooth consumption without depleting assets in the process. The use of formal loan instruments to smooth consumption is not widespread. For example, in Ghana, about 6 per cent of respondents in Tema and 11 per cent of respondents in Builsa had taken a loan from a financial institution in response to a shock. In addition to borrowing from friends and relatives, households purchased on credit and sold their harvest in advance.

Informal finance is an important insurance mechanism for households and individuals. Households borrow from friends and relatives – in cash or in kind, and purchases are made on credit.

One explanation for the existence of the large informal financial sector in developing countries was the repressive financial system that prevailed in many of these countries (McKinnon, 1973 and Shaw, 1973). Government intervention, such as interest rate ceilings, increased the demand for finance whilst discouraging supply. The formal sector was constrained whilst the informal sector expanded to satisfy the demand for credit. Another explanation for the co-existence of the formal and informal finance sectors was the challenge of imperfect information and contract enforcement. Weak legal systems made contract enforcement costly and thus restricted the activities of formal sector lenders (Steel *et al.*, 1997).

Several years after the implementation of financial sector reforms that made headway in liberalising the financial sector, the informal financial sector remains a major source of finance for consumption smoothing and the provision of working capital (Steel *et al.*, 1997). Indeed, the semi-formal (micro-finance) and formal financial sectors utilise some of the methods of the informal sector (Basu *et al.*, 2004).

The continued importance of informal finance may be explained by push and pull factors. The geographical coverage of banks and financial institutions is limited, and rural and remote communities are poorly served by these institutions. Micro-finance programmes have much broader coverage. Formal financial institutions are unlikely to expand coverage in the rural economy until they can adequately deal with the problems of adverse selection and moral hazard. Financiers from outside a local economy will require a local financial intermediary to monitor borrowers. This local financial intermediary must also put up his/her own capital. This lowers the cost of intermediation to the outside financier and acts as a commitment device to ensuring that the local monitor will not renege on monitoring responsibilities. Having a local monitor can also reduce the collateral requirements and expand access of finance to the poor (Conning and Udry, 2005). The limited penetration of formal financial intermediaries in rural areas may be because of a scarcity of local intermediaries with capital (Conning and Kevane, 2002).

In addition to constraints on physical access because of limited geographical coverage, there is also the issue of economic access to banks. A recent cross-country study on banking institutions in developing and developed countries provides further evidence to explain why a large proportion of the population may not have access to banks even when physical distance is not a problem (Beck, Demirguc-Kunt and Peria, 2008). Table 2 below extracts some of the information collected during the survey. In several African countries, the minimum amount needed to open a bank account is beyond the reach of poor households. The minimum size of consumer loans may be too large for poor households.

Table 2: Conditions to Operate a Bank Account in Selected African Countries

Country	Minimum to open checking account (% GDP per capita)	Minimum to be maintained in account (% GDP per capita)	Minimum lent out as consumer loan (% GDP per capita)
Cameroon	116.39	55.88	78.53
Egypt	0.35	0.18	5.84
Ethiopia	55.41	n.a	178.16
Ghana	22.69	0.09	111.94
Kenya	22.71	0.00	186.42
Mali	38.86	0.00	24.06
Malawi	0.00	0.00	222.36
Mozambique	29.61	14.90	30.71
Nigeria	106.42	0.00	n.a
Sierra Leone	51.61	8.81	143.55
South Africa	0.00	0.00	7.27
Uganda	51.12	1.73	205.75
Zambia	0.00	0.00	n.a
Zimbabwe	0.00	0.00	24.08

Source: Beck *et al.*, 2008

Some informal lending involves significantly higher interest rates compared to borrowing from the formal sector. The high interest costs of the private money-lender are partly due to the costs of monitoring. However, the transaction costs (pecuniary and time costs) incurred when contracting an informal sector loan may be much lower than in the formal sector. Thus, depending on the size of the loan, it may be less costly to contract the loan from the informal sector.

The costs of default to the borrower may be lower when borrowing from the informal sector compared to the formal sector. This is because informal lenders may provide state-contingent loans (Udry, 1994). Thus, if the borrower should be hit by an adverse shock that makes it difficult to keep up with loan payments, the interest cost on a loan in the formal sector can become quite large if penalty payments are imposed. An informal lender may not impose such stringent conditions if it is observed that the default is because of a real difficulty in meeting payments because of an extraneous shock. Thus, for households, firms and individuals operating in risky environments with a large element of uncertainty, there will be a high probability of default in payments. The informal sector may be the preferred choice for sourcing a loan (Guirking, 2008).

The design of informal finance institutions addresses the information asymmetries and enforcement problems that bedevil the formal financial institutions. Default risk of informal lenders is low, but not non-existent (Steel *et al.*, 1997). The information asymmetries that are the bane of formal financial institutions are overcome because of proximity between lenders and borrowers. Examples of informal institutions that have mechanisms designed to circumvent these problems are funeral associations and revolving savings and credit associations (Roscas). These arrangements are more suited to dealing with idiosyncratic shocks than with covariate shocks.

4.1.1 The Funeral Associations

Funeral associations are established to provide insurance against death-related shocks. In addition to death-related shocks, these organisations can provide insurance against other adverse shocks. For

example, funeral associations in (Cotonou) Benin provide insurance coverage for death shocks, illness, loss of job and destruction of property (LeMay-Boucher, 2007). Insurance is also provided when there are “happy” events, such as the birth of a child, marriage and anniversaries. Although the focus of this paper has been on adverse shocks, positive happy shocks can require large expense that can undermine the long-term welfare of the individual or household. Although these institutions are described as informal, some of them operate with written rules and regulations (LeMay-Boucher, 2007). Membership rules of funeral associations in Ethiopia, Benin and Tanzania, for example, require that new members must put in applications. In some groups, existing members have to approve the application of the prospective member. In most groups, membership fees are required (LeMay-Boucher, 2007 and Dercon *et al.*, 2004). These requirements are a screening mechanism to reduce the incidence of adverse selection and to ensure commitment. The activities that are insured are clearly defined in order to reduce the incidence of moral hazard. In Tanzania, for example, if insurance is paid out to cover the cost of illness evidence in the form of hospital fees has to be provided (Dercon *et al.*, 2004). Membership of these groups is not only for insurance purposes, but also for social reasons.

The membership fees and, in some cases, the requirement of payment of a regular premium can result in the poor being excluded from these groups. Even though, in the communities surveyed in Ethiopia, participation in these groups was extensive, there was larger participation amongst the wealthier households. There was a significant positive relationship between income and whether a person or household would be a member of a funeral association (Dercon *et al.*, 2004 and LeMay-Boucher, 2007). Members in default may be subject to exclusion from the group, fines, public warning or bringing the person before a local court (LeMay-Boucher, 2007). Invariably, the fear of shame is expected to play an important role in reducing the incidence of default.

4.1.2 Revolving Savings and Credit Associations

Revolving savings and credit associations (Roscas) are widespread across the continent and can be found in both rural and urban communities. The Rosca is a group of people who come together at regular intervals to make contributions into a fund that is distributed to one of its members at each meeting until each member has received money from the fund. Interest is not earned on the fund. The members of the Rosca are normally from within the neighbourhood and thus know one another. This contributes to ensuring commitment to the association and should reduce the risk of default. When each person has received money from the fund, the group could be dissolved or the cycle is started over again. The Rosca contains both the element of saving and lending. The first person to receive money from the fund is a borrower, since he or she is receiving money up front. The last person to receive money from the fund is a saver since he or she would have been making regular contributions to the fund until such time as it was his or her turn. To reduce risk and enforce commitment newer members are placed in the last positions. The placement of an individual in the cycle can be random or through bidding.

Membership of Roscas is used to finance expenditures such as school fees, the purchase of farm inputs and food (Kimuyu, 1999). The design of the Rosca does not lend it to be an effective insurance mechanism. This is because the timing of one’s turn in the cycle will not coincide with when an adverse shock occurs. However, some Rosca arrangements can be designed to include a fund that provides loans with interest (van den Brink and Chavas, 1997).

4.2 The Effectiveness of Coping Strategies

Empirical evidence suggests that households are not able to insure fully against risk. Risk-sharing activities may make it possible for the household or individual to insure against idiosyncratic risks. For example, the events that funeral associations normally provide insurance against are largely idiosyncratic risks.

Not all households are involved in risk-sharing networks. Evidence has been cited (see page 10) to show that the poor are more likely to be left out of these arrangements. Thus, some households and individuals are able to insure against idiosyncratic shocks (Harrower and Hoddinnot, 2005; Hooegeveen, 2003), whilst others cannot (de Weerd, 2009). Households are less likely to insure fully against covariate risks (Harrower and Hoddinnot, 2005 and Hooegeveen, 2003). The risk-sharing arrangements may provide partial, but not full, insurance, because contributions may not be large enough to cover the full cost of the shock. The movement of households in and out of poverty over time is suggestive of the absence or weaknesses of risk management mechanisms that can adequately protect households from falling into poverty when there are shocks.

4.3 Increasing the Use of Formal and Informal Finance as Coping Strategies

The high level of risk in African economies and the evidence that households are not able to protect consumption completely against adverse shocks suggests that there must be a large demand for insurance. A study of rural households in Tanzania finds that there is a demand for insurance against price fluctuations and rainfall shocks. The willingness to pay for insurance depends on the availability of cash to pay for the insurance (Sarris *et al.*, 2007). Ability to pay for the premium is a problem that faces other types of insurance.

The relative success both Roscas and funeral associations appear to have in terms of circumventing the problems of information asymmetry and enforcement, suggest that they should be the ideal local financial intermediary to link up with formal financial institutions. Some of these organisations have, over the years, accumulated financial capital (Dercon *et al.*, 2004). There are challenges associated with this kind of co-operation that must be addressed if these arrangements are to be successful. Informal insurance groups tend to be small in size and the loans that they provide tend not to be large. The success of the Roscas and the funeral associations is because their relatively small size allows them to screen and monitor at reasonable costs. A programme linking them to formal financial institutions should be careful not to expand the size of the associations beyond what is optimal to continue to perform these functions effectively. The experience of micro-finance organisations that expand too quickly is that staff get over-stretched and diverted from their core functions. This leads to frustration amongst loan officers and amongst members of the micro-finance groups leading to an increase in default rates (Dixon *et al.*, 2007). There are limits to the extent that group dynamics can influence the payment behaviour of members. When an increasingly large proportion of the money of the organisation does not belong to the group, the effectiveness of the group to insure against default declines and the need for an external monitor increases.

5. The Role of Public Social Protection Interventions

With the exception of the pensions that tend to be provided to retired public sector workers, publicly provided social protection is a relatively new phenomenon in Africa. Where it is available, it is provided on a pilot basis and only covers a fraction of the eligible population (Table 3).

Table 3: Social Protection in Selected African Countries

Country	Year Started	Description	Objective	Target	Coverage
Gambia	1990s	Address food security issues- access, availability and utilisation	Improving child health and nutrition, empower women to meet household food security needs	Pregnant women, Malnourished children, women farmers, poor households	
Ethiopia	2002	Cash to households in need. There is a work requirement	Reduce poverty through asset creation	Households in need	13,000 recipients
Lesotho	2004	Monthly pension to persons aged 70 years and above	Reduce poverty amongst the elderly	Population aged 70 years	
Malawi	2006	Cash transfers to households and bonuses given to households with children	To reduce poverty, hunger and starvation in household. Increase school enrolment.	Ultra poor and labour constrained households	Pilot
	2003	Public works programme. Includes savings mobilisation	Provide opportunity for vulnerable groups to attain improved livelihoods	Community based targeting.	Pilot districts
Mozambique	1997	Monthly cash transfer	To buy food	Temporarily or permanently unable to work	National-focused on urban and peri-urban communities. Approved to extend to rural households
Namibia	1990	Old age pension extended to the black population	Prevent poverty amongst the elderly	60 years and older	Universal
South Africa	1990s	Old age pension extended to the black population	Prevent poverty in old age	60 years and above for women; 65 years and above for men	Universal
Zambia	2004	Cash transfer to critically poor households	Rduce poverty, hunger and starvation. Focus is on households headed by the edlerly and those caring for orphans and vulnerable children.	10 percent of the poorest households	Pilot

Source: Barrientos, A. and R. Holmes (2007) *Social Assistance in Developing Countries Database*. Version 3.0 July 2007, DFID, UK.

This overview of coping strategies used by households provides some explanation as to why consumption smoothing may not occur. In the first place, risk-sharing mechanisms do not cover all shocks. Second, the contributions may not be adequate to cover the entire financial implications of the shock. Third, the design of the risk-sharing institutions can result in the very poor being excluded. There is, therefore, a clear role for publicly provided interventions.

One concern about the provision of public transfers is that they might crowd out private transfers. This will happen if the motive of the lender is purely altruistic. The motives for private giving can be driven by both altruism and the self-interest of the lender. If the act of giving provides satisfaction to the giver, then the provision of a social transfer to the recipient will not completely crowd out private transfers.

Private transfers can also be provided as part of the traditional social insurance system. Thus, the private transfers can be provided as an insurance against the likelihood that the giver may experience a shock in the future and will need assistance. The person receiving the transfer does not necessarily have to be the one who will provide assistance in the future when the shock hits. Thus, even if a public social assistance programme is introduced, it is not likely that private transfers will decline by the same amount (Cox and Fafchamps, 2008). Empirical evidence suggests that some crowding out does happen, but it is not complete. In Ethiopia, for example, it has been found that targeted aid reduced private transfers in the aid-receiving households (Dercon and Krishnan, 2003). On the other hand, Gilligan *et al.*, (2008) find that, depending upon how participation in the social assistance programme is defined, provision of social assistance does not crowd out private transfers.

A second challenge is the issue of financing social protection. It is estimated that the average cost of a basic social assistance package that includes a universal pension for the elderly, provision for disability and child benefit would cost about two to three per-cent of Gross Domestic Product (Berendt, 2008). This may explain why several of the recently introduced social protection packages are not universal. Indeed, several of them are pilots (Table 3). When resources for social assistance are limited, targeting may be the next best alternative, instead of not implementing a social protection at

all. Effective targeting requires that the administrative and technical capacity exists in order to avoid the errors of targeting, *i.e.*, including ineligible beneficiaries and/or excluding eligible beneficiaries. The institutions to implement an effective targeted social assistance programme in many African countries may be weak or non-existent. The pilot programmes should, therefore, provide a valuable learning curve prior to the eventual scaling up of these programmes.

A rule of thumb has emerged that aims at targeting the proportion of the population in the lowest decile. However, there will be some resistance to targeting, especially when the economic status of excluded groups is not significantly different from that of the intended beneficiaries. Frictions can increase further if, as a result of the receipt of the transfers, the targeted households attain a *per capita* consumption level that exceeds households who were initially better off than they were (Ellis 2008). Targeting may also be resisted by the higher income groups (tax-payers) who are not expected to benefit from the transfers (Pritchett, 2005).

6. Conclusion

It is not unusual for an African household to be hit by more than one shock in quick succession. Households that have difficulty recovering from these shocks tend not to have coping mechanisms that are adequate to prevent the household from experiencing a decline in welfare as a result of the shock. The consequences of some shocks can remain for an extended period after they first hit mainly because of the weaknesses of the measures available to the household. The past experience of African households suggests that the current financial and economic crisis can result in several households registering declines in consumption if commodity prices should drop and if remittances should dwindle. The informal insurance mechanisms will not be able to insure households if these shocks hit a large number of households within a local setting. Indeed, the international nature of the current crisis means that households with an insurance network that spans continents will find that it will not provide them with the necessary insurance this time around.

The reach of the formal financial institutions to rural households and the micro and small firms in the informal sectors of the economy remains limited. Novel measures have been adopted that link banks with the micro-finance organisations. For very poor and chronically poor households, however, credit or insurance, whether formal or informal, is not what is required, because they may find it difficult to repay the loans or pay the premiums.

Public social safety-nets and social insurance are of limited coverage in Africa, and, in some cases, have only just been introduced. The poor need social assistance and insurance programmes that will help them build up and protect their asset base with the minimum of debt.

In addition to social protection measures, public action is required to reduce the level of risk in African economies. The introduction of measures to reduce the incidence of risk in the lives of many households (for example, the provision of safe drinking water and sanitation will reduce the incidence of ill health and the introduction of irrigation facilities and improved water management practices can reduce vulnerability to the vagaries of the weather) will contribute to increasing the demand for formal sector finance and the supply of formal finance to the rural economy and the informal sector. It can also contribute to reducing the coverage of a social protection strategy.

References

- Appiah-Kubi, K., A.D. Oduro and B. Senadza (2008) Understanding Poverty in Ghana: Risk and Vulnerability in E. Aryeetey and R. Kanbur (eds.) *The Economy of Ghana. Analytical Perspectives on Stability, Growth and Poverty*, James Currey and Woeli Publishing Services.
- Basu, A. and R. Blavy (2004) *Microfinance in Africa: Experience and Lessons from Selected African Countries*, IMF Working Paper No. Wp/04/174, The International Monetary Fund, Washington D.C.
- Beck, T., A. Demirguic-Kunt and M.S.M. Peria (2008) "Banking Services for Everyone? Barriers to Bank Access and Use Around the World" *World Bank Economic Review*, Vol. 22, No. 3, pp. 397-430.
- Berendt, C. (2008) Can Low Income Countries in Sub-Saharan Africa Afford Basic Social Protection? In A. Barrientos and D. Hulme (eds.) *Social Protection for the Poor and Poorest: Concepts, Policies and Politics*, Palgrave, London.
- Carter, M.R. and J. May (1999) *One Kind of Freedom: Poverty Dynamics in Post-Apartheid South Africa*, Agricultural and Applied Economics Staff Paper Series, University of Wisconsin-Madison.
- Conning, J. and M. Kevane (2002) *Why isn't there more Financial Intermediation in Developing Countries?* Discussion Paper No. 2002/28, WIDER, United Nations University, Helsinki.
- Conning, J. and C. Udry (2005) "Rural Financial Markets in Developing Countries", in R.E. Evenson, P. Pingali and T.P. Schultz (eds.) *Agricultural Development: Farmers, Farm Production and Farm Markets. Handbook of Agricultural Economics, Vol. 3*.
- Christiaensen, L. and K. Subbarao (2001). *Towards and Understanding of Vulnerability in Rural Kenya*.
- De Connick, J. and E. Drani (mimeo) *Social Protection is Centuries-Old!*
- De Weerd, J. (2009) "Moving out of Poverty in Tanzania: Evidence from Kagera" *Journal of Development Studies, Vol*
- Dercon, S. (2000) *Assessing Vulnerability to Poverty* CSAE, Oxford University, mimeo. www.economics.ox.ac.uk/members/stefan.dercon/
- Dercon, S. and P. Krishnan (2000) "Vulnerability, Seasonality and Poverty in Ethiopia" *The Journal of Development Studies*, Vol. 36, No. 3, pp. 25-53.
- Dercon, S. and P. Krishnan (2003) "Risk Sharing and Public Transfers" *The Economic Journal*, Vol 113, March, pp. C86-C94.
- Dercon, S. (2008) "Fate and Fear: Risk and Its Consequences in Africa", *Journal of African Economies*, Vol. 17, No AERC Supplement 2, pp ii97-ii127.
- Dercon, S., T. Bold, J. de Weerd and A. Pankhurst (2004) *Extending Insurance? Funeral Associations in Ethiopia and Tanzania*, OECD Development Centre Working Paper No. 240, OECD, Paris.
- Dixon, R., J. Ritichie and J. Siwale (2007) "Loan Officers and Loan 'Delinquency' in Microfinance: A Zambian Case" *Accounting Forum*, Vol. 31, pp47-71.
- Ellis, F. (2008) "We are all Poor Here" *Economic Difference, Social Divisiveness and Targeting Cash Transfers in Sub-Saharan Africa*, Paper Presented a Conference on Social Protection for the Poorest in Africa: Learning from Experience, Entebbe.

- Gilligan, D.O., J. Hoddinot and A.S. Taffesse (2008) *The Impact of Ethiopia's Productive Safety Net Programme and Its Linkages*, International Food Policy Research Institute, Discussion Paper No. 00839.
- Grootaert, C., R. Kanbur and G. Oh (1997) "The Dynamics of Welfare Gains and Losses: An African Case Study" *The Journal of Development Studies*, Vol. 33, No. 5, pp. 635-657.
- Guirkinger, C. (2008) "Understanding the Coexistence of Formal and Informal Credit Markets in Piura, Peru", *World Development*, Vol. 36, No. 8, pp. 1436-1452.
- Haddad, L. and A.U. Ahmed (2002) *Avoiding Chronic and Transitory Poverty: Evidence from Egypt, 1997-99* Food Consumption and Nutrition Division Discussion Paper No. 133, IFPRI, Washington D.C.
- Harrower, S. and J. Hoddinot (2005) "Consumption Smoothing in the Zone Lacustre, Mali" *Journal of African Economies*, Vol. 14, No. 4, pp. 489-519.
- Hoffman, V., P. Karfakis and L. Christiaensen (2007) Assets, Livelihood and Poverty in L. Christiaensen and A. Sarris (eds.) *Rural Household Vulnerability and Insurance Against Commodity Risks. Evidence from the United Republic of Tanzania*, FAO Rome.
- Hoogeveen, H. (2003) "Informal Insurance in Rural Zimbabwe" *Journal of African Economies*, Vol. 11, No. 2, pp. 249-278.
- Jensen, R. (2000) "Agricultural Volatility and Investments in Children" *American Economic Review*, Vol. 90, No. 2, pp. 399-404.
- Kazianga, H. and C. Udry (2006) "Consumption Smoothing? Livestock Insurance and Drought in Rural Burkina Faso", *Journal of Development Studies*, Vol. 79, pp. 413-446.
- Kimuyu, P. K. (1999) "Rotating Saving and Credit Associations in Rural East Africa" *World Development*, Vol. 27, No. 7, pp. 1299-1308.
- Le-May Boucher, P. (2007) *Insurance for the Poor: The Case of Informal Insurance Groups in Benin* Discussion Paper No. 2007/07, Centre for Economic Reform and Transformation, School of Management and Languages, Herriot-Watt University, Edinburgh.
- National Development Planning Commission and UNDP (2004a) *District Human Development Report 2004. Atwima District*, Accra.
- National Development Planning Commission and UNDP (2004b) *District Human Development Report 2004. Builsa District*, Accra.
- National Development Planning Commission and UNDP (2004c) *District Human Development Report 2004. Tema Municipality*, Accra.
- Pritchett, L. (2005) *A Lecture on the Political Economy of Targeted Safety Nets* Social Protection Discussion Paper Series No 0501, The World Bank, Washington D.C.
- Sango, D., V.Hoffman and L. Christiaensen (2007) Risks and Coping Strategies in L. Christiaensen and A. Sarris (eds.) *Rural Household Vulnerability and Insurance Against Commodity Risks. Evidence from the United Republic of Tanzania*, FAO Rome.
- Sarris, A., P. Karfakis and L. Christiaensen (2007) The Stated Benefits from Commodity Price and Weather Insurance in L. Christiaensen and A. Sarris (eds.) *Rural Household Vulnerability and Insurance Against Commodity Risks. Evidence from the United Republic of Tanzania*, FAO Rome.
- Steel, W.F., E. Aryeetey, H. Hettige and M. Nisssanke (1997) "Informal Financial Markets under Liberalisation in Four African Countries" *World Development*, Vol. 25, No. 5, pp. 817-830.

van den Brink, R. and J-P. Chavas (1997) "The Microeconomics of an Indigenous African Institution: The Rotating Savings and Credit Association" *Economic Development and Cultural Change*, Vol. 45, No. 4, pp 745-772.

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