
COST-BENEFIT ANALYSIS OF THE AFRICAN RISK CAPACITY FACILITY: ETHIOPIA COUNTRY CASE STUDY

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INTRODUCTION

The biggest source of risk to household welfare in rural areas of Ethiopia is weather risk (Dercon, Hoddinott and Woldehanna 2005). Almost half of rural households in Ethiopia were affected by drought in a five year period from 1999 to 2004, and drought had a significant impact on the welfare of these households. The consumption levels of those reporting a serious drought were found to be 16 percent lower than those of the families not affected, and the impact of drought was found to have long-term welfare consequences: those who had suffered the most in the 1984- 85 famine were still experiencing lower growth rates in consumption in the 1990s compared to those who had not faced serious problems in the famine (Dercon 2004).

In recent years, drought in Ethiopia has been increasingly well managed. The drought of the mid-1980s caused many deaths with estimates ranging from half a million to over a million (Porter and Dercon 2010). In comparison the drought in 2002 did not cause many deaths and this was similarly the case for 2011. In 2002 failure of rains in August and September caused an estimated 11.3 million Ethiopians to be at risk of severe food shortages and 3 million at risk of significant shortages by December (Gilligan and Hoddinott 2007). In 2011, 4.5 million Ethiopians needed food in the second half of 2011, on account of rain failures in the first half of the year (Joint Government and Humanitarian Partners' Document 2012). The suffering was concentrated in the predominantly pastoralist South and South East of the country. Although few were affected (many more were in need in 2009, a year not associated with a large drought emergency) the degree of suffering was estimated to be quite deep.

Ethiopia is continuing efforts to improve its response to drought. It has been trying many of the ideas that form elements of ARC over the last five years, and as such is an informative case study of how ARC might work in a country where much of the ground work has been set. In particular, Ethiopia is informative for the development of ARC because it has:

1. A widespread safety-net designed to scale up in response to national shocks such as poor weather, or food price increases.
2. A well-functioning rainfall index modeled in a similar manner to Africa RiskView.
3. Previous experience with disaster risk financing and contingent funds to finance food security disbursements.

In the following sections we discuss lessons from the implementation of these three schemes.

A SCALE-ABLE SAFETY NET IN PRACTICE

Ethiopia's Productive Safety Nets Programme (PSNP) is largest social protection program in Sub-Saharan Africa outside of South Africa, providing support to 8 million beneficiaries in the 282 most food insecure woredas in Amhara, Oromia, SNNPR and Tigray regions of Ethiopia. The productive safety net scheme was put in place in 2005 to transition food insecure households from an emergency food aid system to a more stable and predictable safety net. As such the scheme tackles chronic poverty, but also aims to protect beneficiaries and non-beneficiaries against drought. The majority (about 80%) of beneficiary households participate in public works (working on community assets such as roads) in return for food or cash assistance. Some beneficiary households that are unable to work (e.g. the elderly or disabled) receive direct support. A guaranteed number of days of work (or direct support) are provided during the lean season. In addition the PSNP has a risk financing mechanism that allows the amount of support provided to increase during times of hardship caused by external events such as drought, food price increases and floods.

The aim is for beneficiaries to become more resilient both as a result of the asset-building focus of the PSNP (which increases their wealth and ability to withstand shocks in general) and as a result of a risk-financing component to the PSNP. Non-beneficiaries may also benefit from the disaster risk financings component of the PSNP and receive assistance during times of hardship during which they become food insecure.

The risk financing mechanism has been used three times to scale-up assistance to beneficiary and non-beneficiary households in PSNP woreda since it was put in place in 2007. In 2008 it was used to provide an additional 2 months of assistance (on average) to 4.3 million current PSNP beneficiaries on account of weather shocks and the inflationary food price crisis that Ethiopia was experiencing during this time. In 2009 it was used to provide an additional 2 months of assistance to 6.4 million beneficiaries that had experienced rain failure. The World Bank reports that these additional transfers "contributed to stabilization of food security during a significant shock period". In 2011 it is understood that the risk financing mechanism was used to provide 3 months of assistance to 9.6 million beneficiaries (Syroka 2011).

The PSNP has resulted in better targeting than food aid. Using data presented in Figure 1 of Jayne et al (2002) we estimate that under food aid provision the poorest 40% receive 43% of the food-aid distributed. Gilligan et al (2010) find that in the PSNP the bottom 40% receive 56% of the benefits of payouts. Targeting is improved, but not perfect. In particular, Gilligan et al (2010) note that households find it easier to target on the basis of observed assets or current poverty, rather than to target households that are vulnerable to food insecurity as a result of shocks. This was also noted in the final report of Phase II of the World Bank's support to PSNP. It was noted that: "the concept of food insecurity is one example where those at the local level who are responsible for targeting find it easier to assess depth of need or lack of assets." And is a point discussed more broadly in Alderman and Haque (2006). It suggests that in practice it may be easier to always target chronically poor households but to increase or decrease support to geographic areas on the basis of covariate indicators (as per the Mexican example discussed in Alderman and Haque).

In addition to the cost benefits resulting from improved targeting, estimates of the cost of running the PSNP compare favorably with the cost of running food aid distribution. The overhead costs of PSNP were estimated at 14% of total project costs (World Bank 2010).

Impact assessments of the PSNP indicate that it has, when well-implemented, succeeded in reducing the engagement of beneficiary households in livelihood endangering risk coping mechanisms during times of drought. Gilligan et al (2008) show that among households affected by drought in 2008, PSNP beneficiaries receiving transfers had a 30 percent higher caloric acquisition than non-beneficiaries and an increase in livestock holdings of 0.89. The occurrence of distress sales was lower for PSNP beneficiaries that reported receiving predictable transfers, than non-beneficiaries. Given the risk-financing mechanism is embedded in a long-run safety net it is not possible to say whether or not the improved resilience resulted from the provision of long-run support to vulnerable households, or from the increased assistance during times of hardship.

These findings did not hold for beneficiaries that did not receive predictable transfers, indicating both that: (i) when implemented as designed the PSNP can protect household assets, and (ii) that this success depends on timely and predictable transfers for beneficiary households. It seems to be the predictability of transfers rather than the amount that was important: when transfers were low, but predictable, households could access consumption credit as a means of avoiding distress sales. Increasing timeliness of transfers has been a performance target of the PSNP and there have been considerable improvements, but in 2009 it was reported that nearly 60% of beneficiaries state that they receive transfers but do not receive their transfers on time and are unable to plan ahead. Achieving timely transfers requires investing in capacity building (not once off, but repeated trainings), computerizing of the payroll and attendance sheets, strengthening fiduciary controls and putting resources in place resources upfront (World Bank 2010). The PSNP shows that it is possible for a government to roll-out a large, complex safety net that can be scaled in time of disaster in an environment where such a program does not have antecedents, but it requires substantial government commitment and ownership, and sustained capacity building and investment.

Finally, the experience of 2011 also highlights some additional challenges in using safety nets to scale up emergency assistance. In 2011, failure of the Belg rains in the South and South East of the country resulted in increased food insecurity among households in PSNP woredas. It was not possible to scale up the public works requirement in many cases, so in reality the additional support was provided in cash as direct support to beneficiaries.¹ In addition the failure of the Gu, Genna and Sugum rains followed the failure of the Deyr rains in the pastoralist areas of the country. Given the PSNP is only operating on a pilot scale in pastoralist regions (covering 19 pastoralist woredas), a traditional emergency response was executed in these areas, rather than scaling up the PSNP.

In summary, this section has highlighted the potential of using a safety net to scale-up aid response, and also the challenges. The PSNP is one of the most well-developed safety nets schemes in Sub-Saharan Africa, and it continues to make further investments before it can be the sole means of providing food assistance to vulnerable populations. Mechanisms to support timely and predictable payments are required, and the scheme has to be truly national. Targeting vulnerable as opposed to poor households will remain challenging.

TRIGGERING EMERGENCY ASSISTANCE

There has also been considerable investment by the Ethiopian government and donors in developing a national-level WRSI-based tool very similar to Africa RiskView but for Ethiopia. The Livelihoods Early Assessment and Protection (LEAP) project is an integrated risk management framework developed by the

¹ Some stakeholders state that provision of food would have been more preferable in PSNP areas, whilst others argue that provision of cash in PSNP areas was

Government of Ethiopia, the World Food Programme, and the World Bank. Development on LEAP started in 2006 and it is still being refined. It is a food security early warning tool that converts agro-meteorological data into crop and rangeland production estimates. It then uses these estimates to estimate the number of PSNP beneficiaries that require additional resources on the basis of historical beneficiary numbers. The meteorological data comes from satellite data and network of automated weather stations.

Developers are very happy with how it performs in predicting yields. However, because it is only focused on food availability and not food access², which for many households will depend on the value of labor and assets, developers believe the estimates of beneficiary numbers still requires considerable work. The most favorable estimates suggest it predicts 80% of target beneficiaries at the region level, but others suggest the correlation to be lower than this (the IDL group). As such it is still used as an early warning tool, rather than being used to trigger payments or to identify beneficiaries.

In addition to LEAP, the Livelihoods Integration Unit within Early Warning Response Directorate uses the Livelihood Impact Assessment Sheet (LIAS) to estimate the number of likely beneficiaries as a result of yield, price and other shocks. It uses input from LEAP for the yield shocks. This provides another source of early warning information, but it also does not trigger assistance nor is it used to identify beneficiaries.

Emergency assistance, be it through the PSNP or through traditional food aid distribution systems, is still triggered by needs assessments conducted at the local level (woredas) and aggregated through the federal government system. Beneficiaries are targeted on the basis of these needs assessments. The needs assessments are conducted at harvest, and although slower and less objective, the aggregation of demand from local levels allows for the participation of many government officials in requesting and getting ready for food aid assistance. It can be argued that this process does have a role to play in encouraging accountability from national levels.

During the 2011 crisis, there was a delay in triggering the risk financing mechanism despite available early warning estimates and needs assessments from the region (Syroka 2011). As a result of this delay there is increased interest in having an objective and transparent trigger that would automatically trigger the risk financing mechanism. A combination of LEAP and LIAS could form the basis for such a trigger (indeed this was the plan, World Bank 2010).

LEAP and LIAS could (with further refinement and integration) be used to determine the number of beneficiaries in an area, or they could also be used to automatically trigger the risk financing mechanism with the ultimate numbers and location of beneficiaries still based on the local needs assessment. Given the work still required before stakeholders are comfortable with relying entirely on LEAP and LIAS, this may be a more feasible option. This was also the proposed transfer scheme design in WFP (2006). The delay in 2011 was not because there was a delay in waiting for the needs assessment; rather it was because there was a delay caused by confusion over what qualified as triggering the use of the risk financing mechanism (Syroka 2011).

Developers of these tools emphasized the value of LEAP in helping to identify where problem areas are likely to be (thereby encouraging fast and careful conduct of needs assessments in these areas) and in identifying needs assessments that require auditing because they look particularly high or particularly low. LEAP can also play a role in encouraging good needs assessments to be prepared ex-ante: when local officials are trained on LEAP they are aware that it is easier for erroneous needs assessment to be audited,

² A market module is being developed, but is not available yet.

thereby encouraging more accurate reporting. Training of local officials on LEAP is planned with this purpose in mind.

In summary, this section has highlighted the importance of having an objective trigger available in a timely manner (i.e. based on weather data), to activate a risk financing mechanism at the national level, but it also highlights that it may not always be best for assistance to be targeted based on this trigger. Such a trigger perhaps has most value in initiating action and increasing transparency in the calculation of needs assessments at the local level.

PREVIOUS EXPERIENCE WITH DISASTER RISK FINANCING

In 2006 WFP financed a drought insurance contract between the Government of Ethiopia and Axa Re. The contract guaranteed funding to the Government of Ethiopia of US\$7.1 million to be used to fund contingency plans, made as an insurance payout if extreme drought occurred during Ethiopia's 2006 agricultural season. The payout was sufficient to serve 62,000 households in 10 to 15 most affected woredas. The national level transaction did not pay out and was not repeated. The operational report from this experience stated that:

“Low-probability, high-consequence risk such as catastrophic drought is suitable for transfer to global markets where it can be pooled and where diversified risk portfolios can be put together to reduce the cost of coverage. WFP demonstrated that index insurance can be used to transfer such risks out of developing countries. However, if insurance is to become an effective risk-management tool for Ethiopia, it must be coordinated with other financial instruments to provide more comprehensive coverage of Ethiopia's drought risks. Transiently food-insecure households remain exposed to mild or local droughts that leave them susceptible to asset depletion and other destructive coping mechanisms even when conditions are not severe enough to trigger an insurance payout. More cost-effective instruments for financing these higher-frequency, lower-impact events must be established alongside the insurance component to produce a comprehensive financial contingency plan.” (WFP 2006, page 6)

After the initial pilot insurance work by WFP, a contingency fund for more regular scaling up of the PSNP was established under the Drought Risk Financing component of the World Bank's Adaptable Program Loan for the PSNP in 2007. This fund has been in place since then and has been used three times: in 2008, 2009 and 2011. The fund puts resources in place up-front to be used in the case of the onset of drought in PSNP woredas, providing an early response when needs surpassed the ability of existing program resources to address. The financing is to be channeled using existing PSNP systems based on woreda contingency plans. It has proven effective at ensuring financing is in place to scale up the PSNP as and when needed.

However, the frequency of payout is much higher than would be anticipated from ARC. The frequency of ARC payouts will ultimately be set by the member governments, but the WFP ARC design team recommends that it does not pay out more frequently than 1 in 5 years, and Clarke and Hill (2012) suggest that the largest welfare benefits to ARC would come from even less frequent payouts than this. The frequent use of the contingent fund highlights the need for well thought through financing mechanisms for the smaller risks that will be retained within country when ARC is in place. Increased emergency assistance will be required in years when ARC does not pay out, and it is also important to have a system that ensures timely payout for these smaller emergencies. In the case of Ethiopia a donor-financed contingent fund has proven an effective model.

As discussed in the previous section the disbursement of this contingent fund is not based on objective triggers. This has had some benefits—in 2008 it allowed the funds to respond to inflationary food price pressures that were jeopardizing the food security of food-deficit households, whereas the effects of such a shock might not have been foreseen in a formal, objective trigger—but, as the previous section described it also resulted in some confusion over whether and when the risk financing mechanism should be activated in 2011. This ultimately led to delayed emergency assistance.

A detailed discussion in Syroka (2011) also indicates that it is important that this form of donor financing dovetails with emergency appeals made to the donor community. This is of relevance for ARC.

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