DECEMBER 2009

Feinstein International Center

Strengthening the humanity and dignity of people in crisis through knowledge and practice

Baseline Report:

Africa Community Resilience Project

Tsaeda Amba Woreda, Eastern Tigray, Ethiopia

Research Program on Livelihood Change Over Time

Prepared by:
Daniel Maxwell, Girum Tadesse, Mary Mukwavi, Shimelis Hailu, Wolde Gebreal Zewold, Abraha Gebrekiros

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Cover Photo: A farmer in the Atsbi-Wonberta highlands livelihood zone along the escarpment leading to the Dalul Depression plows a field in late July 2009. Plowing would normally be completed in May or June, but late rains delayed land preparation in 2009. *Photo by Girum Tadesse.*

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The Research Team
October 2009

Acronyms

ACRP . . . . . Africa Community Resilience Project
ADP . . . . . Area Development Program (World Vision)
CFW . . . . . Cash for work
CDPC . . . . . Community Disaster Preparedness Committee
CMAM . . . . Community management of acute malnutrition
DPPA . . . . . Disaster Preparedness and Prevention Agency (Government of Ethiopia)
DRM . . . . . Disaster risk management
DRR . . . . . Disaster risk reduction
EW . . . . . Early warning
FFW . . . . . Food for work
GOE . . . . . Government of Ethiopia
HARITA . . . Horn of Africa Risk Transfer for Adaptation
HIV/AIDS . Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
KDPC . . . . . *Kebele* Disaster Preparedness Committee
LEAP. . . . . Livelihoods Early Assistance Program
LCOT . . . . . Livelihoods Change over Time (research program)
LIU . . . . . Livelihoods Integration Unit (DPPA)
NGO . . . . . Non-governmental organization
PRA. . . . . Participatory rural appraisal or participatory rapid Appraisal
PSNP. . . . . Productive Safety Net Program
SMART . . . . Specific, measurable, attainable, relevant and time-bound
REST . . . . . Relief Society of Tigray
WFP . . . . . World Food Programme
UN. . . . . United Nations

Terminology

Several terms related to local administration are used throughout this report. *These include:*

Kebele. . . . . The smallest administrative unit in Ethiopia, equivalent to a ward or township
Woreda . . . . . The next larger administrative unit, equivalent to a district

Executive Summary

Disaster Risk Reduction (DRR) programs encompass many different kinds of activities, but share the fundamental objective of enhancing the capacity of vulnerable communities to identify, reduce and manage risk, whether it be at the local, regional or national level. Generally outlined in the International Strategy for Disaster Reduction and in the Hyogo Framework of Action (UNISDR 2005), DRR includes improving governance and early warning, building a culture of resilience, reducing underlying risk factors and strengthening disaster preparedness.

Ethiopia is one of the most food-insecure countries in the world, but only recently has the food security problem begun to be understood in terms of a complete analysis of livelihoods, rather than simply a food supply problem. Food insecurity has long been dealt with as an issue of humanitarian response, but it clearly is an underlying developmental issue. Beginning in 2005, the Productive Safety Net Program has been implemented to address the issue of chronic food insecurity on a programmatic basis (i.e. not on the basis of annual assessments, humanitarian appeals, and emergency response). Concurrently, the issue of evolving away from a disaster response approach towards a disaster management approach has been the policy of the government of Ethiopia.

The Africa Community Resilience Project (ACRP) was designed by World Vision International in line with the Hyogo Framework for Action as a blueprint to creating resilient communities. The project is research-based and will build capacity for improving resilience through disaster risk management programming and mainstreaming. The project will also define key indicators of resilience, and seek to influence policies and programming aimed at supporting disaster risk reduction. Tsaeda Amba *woreda* in Eastern Tigray was selected as the site for ACRP, and Tufts University was engaged to conduct the research side of the program. This study sought to understand baseline conditions related to both the implementation of the ACRP program, and to the broader question of livelihood change in response to repeated hazards or protracted crises. This study was based on participatory approaches to research. A household survey within the ACRP project area was conducted earlier in 2009, and its statistical results offer some triangulation of the findings of this study.

This report has three main objectives. The first was to assess the baseline capacity of the Kebele Disaster Preparedness Committees (KDPCs) – the primary unit through which the ACRP is to be implemented. Given the nature of the project, it is expected that during its short duration, the major impact would be on these institutions. The second was to assess the understanding and prioritization of hazards and how communities perceive vulnerability. The third was to assess baseline livelihood conditions in the *kebeles* served by ACRP. This report summarized findings in all three areas.

The KDPC's roles include risk assessment, early warning and reporting to the *woreda* on conditions, preparedness planning, managing projects and the integration of program planning and implementation, and disaster response. In general, KDPC capacity was found to be fairly good in analysis, although so used to reporting needs rather than analyzing risk that much of this exercise came off sounding like a needs assessment. Planning capacity was found to be limited, and plans themselves little used or even known. The link between planning and program implementation seemed to be unimportant to some KDPCs, and the list of implementable programs so familiar that plans were hardly needed. Yet past experience with many of these programs is such that future impact will only be seen if they are planned and implemented in a much more integrated and strategic way. This is clearly an area in which ACRP should focus and could have significant impact. The implementation capacity of most KDPCs seemed to be fairly good – again, most of the programs being implemented have been around for a long time. Monitoring and evaluation capacity is very low.

There is a strong consensus on the major hazards facing Tsaeda Amba communities, although this list would vary over time. Drought is the perennial constant; high food price inflation is a current concern that would not have been mentioned a few years ago. There is some congruence between the assessment of risk and haz-

ards and the kinds of interventions being implemented, but in some cases, some rather large gaps as well. This highlights the findings noted above about the need to integrate planning with implementation, but also implies that some of the choice about programs lies well outside the prerogative of local KDPCs. This is an area for greater exploration by ACRP staff, but clearly an area in which improved capacity of KDPCs could make a difference.

Communications between the local (*kebele*) and district (*woreda*) levels are reasonably good, given the conditions and the limited communications infrastructure. Both *woreda* staff and *kebele* leaders note that communication and coordination have already improved as a result of ACRP activities.

The livelihoods baseline painted a picture of a very difficult year (back to back years, in fact, although 2008 was not assessed *per se*). A much larger proportion of the population fell into the lowest wealth groups than in an earlier DPPA assessment (field work conducted in 2007), implying a worsening of conditions across the board. (Though see notes under "limitations" – some of this may have been a bias in the way participants were selected. However, the household survey showed similar findings, where the sample was selected in a completely random manner.) The Productive Safety Net Program was the biggest source of income for households in the livelihoods baseline, and also a significant source of food (second only to purchase). The two-year long drought has severely impacted both agricultural and livestock production, and limited the possibilities for off-farm labor. Food is by far the largest expense of even the wealthiest groups, although the proportion of expenditure devoted to food was lower than the earlier DPPA report – perhaps reflecting the contribution of the PSNP in difficult times, when other needs remain a constant demand as well. Baseline asset portfolios reflect the low earning potential, but also offer the opportunity to measure change in livelihood status, even in the short term. Several measures of food security and livelihood diversification were also noted, to measure the change over the course of the ACRP. However, it will be difficult to determine the impact of ACRP on livelihoods. Given that the project started during a very difficult time, assuming that the drought ends and food prices don't spike again, there will likely be some improvement in livelihood status over the coming years, but it cannot be attributed simply to program inputs. Further investigation of livelihood constraints and enablers will follow in January 2010.

The report concludes with some recommendations to ACRP managers. ■

Section 1: Introduction

DRR programs in chronically risk-prone areas—a review of literature

Disaster Risk Reduction (DRR) programs encompass many different kinds of activities, but share the fundamental objective of enhancing the capacity of vulnerable communities to identify, reduce and manage risk, whether it be at the local, regional or national level. Generally outlined in the International Strategy for Disaster Reduction and in the Hyogo Framework of Action (UNISDR 2005), DRR includes improving governance and early warning, building a culture of resilience, reducing underlying risk factors and strengthening disaster preparedness.

The emphasis on DRR work is underpinned by a number of trends. First, the risk of disasters is increasing—particularly but not exclusively in the context of global climate change (DFID 2006, UNISDR 2005 and 2009). Second, although hazards and disasters affect everyone, the impacts of disasters disproportionately affect poor countries – and poor and marginalized people (Twigg 2007, UNISDR 2005 and 2009). Third, the risk of disasters are thus not only a humanitarian challenge, they are a major challenge to achieving the Millennium Development Goals. And fourth, cost-effective strategies for disaster risk reduction exist, even for poor countries; but policies are not effectively linked to evidence and not effectively articulated with intervention strategies. Until they are, donors are likely to be reluctant to commit adequate funding to disaster risk reduction.

Challenges to DRR programs highlighted in the literature

The recently published Global Assessment Report on Disaster Risk Reduction concludes, "The policy and strategy frameworks for disaster reduction…are not effectively integrated, are not focused on addressing the underlying risk drivers, and are insufficiently articulated to and supportive of effective local and sectoral actions. This is the missing link holding back progress."[1] A review of the literature reveals a number of other issues or questions that remain unanswered regarding DRR.

First, there is little doubt that the risk of disasters is increasing. CRED data from the past 20 years make trends clear, although improved reporting may represent some of the increase (CRED 2009). There is a strong connection between poverty and the risk of disaster: Evidence demonstrates that poorer countries, the poorest communities, and the poorest people within communities are the most at risk. But there are also some areas of risk that are independent of poverty status, underlining the need both for interventions that reduce or mitigate the risk of disasters, and a comprehensive strategy for managing risk that includes both the prevention, mitigation, and transfer of disaster risks.

Second, there is a general framework for DRR but there is no operational framework for DRR that clearly lends itself to determining programming priorities within the broader humanitarian and development programs. As a result, the full range of DRR programming is not entirely clear. Many interventions that used to be labeled something else (for instance, food for work projects for soil and water conservation) are now labeled DRR – but it isn't clear what is different or new about such approaches. This is not just a matter of labeling – the real issue of concern is the lack of (or, in some cases, lack of articulation of) a coherent strategy of addressing livelihood security and the role of DRR programming in such a strategy. Relabeling existing interventions is insufficient to address this issue.

Third, DRR is one area that is critical to bridging the gaps or building links between standard approaches to humanitarian and development work. But DRR is often treated programmatically as a stand-alone activity, and this critical linking role is often missed in program strategies. Given the role and responsibility of local government, DRR is clearly an area for greater collaboration between governments, external donors and agencies, but much of DRR programming is stuck in a "project model" – not well integrated into either

1 UN International Strategy for Disaster Reduction. 2009. Risk and Poverty in a Changing Climate. Global Assessment Report on Disaster Risk Reduction. Geneva: United Nations, p. 15.

national planning, or into longer-term community or local planning (Maxwell et al. 2008).

Fourth, DRR is heavily focused on preventing, mitigating or transferring the risk of natural disasters – particularly emphasizing climatic, environmental and tectonic hazards. DRR programs have also generated some specialized information on technological disasters, but to date there is relatively little evidence about DRR for economic shocks, and an almost total dearth of evidence on complex emergency risks or conflict. In reality, most vulnerable populations are at risk from more than one hazard. Likewise, DRR programs tend to focus heavily on covariate risk (hazards that affect nearly everyone in an affected geographic location – such as drought, floods, earthquakes, etc.) but demonstrate a relative lack of clarity about the importance of reducing or mitigating idiosyncratic risk (hazards that may affect one individual, household or community but not necessarily a neighboring one).

And lastly, there is, at best, only limited evidence on the impact of DRR. The dominant justification for DRR is that such interventions reduce vulnerability to major shocks, prevent asset losses, reduce food insecurity and malnutrition in the event of a shock, and reduce the cost of humanitarian response. But a review of the existing academic and program literature turns up very little empirical evidence one way or the other on these claims, and even less evidence that would guide the strategic development of DRR interventions. Hence there is a strong need for empirical impact assessment of DRR programs. But there is an inherent constraint to measuring the impact of DRR programs. In standard humanitarian or development programs, objectives can be specified and indicators adopted and these indicators can be measured over the course of a project. Of course, real "impact" might not be expected to be fully measurable in a short-term project, but most programs can lay out short term expectations and measure them. With DRR, the real impact is not known until such a time as an actual shock takes place – which may or may not occur within the standard time horizon of a program or intervention – and if the intervention successfully prevents a disaster, impact measurement attribution is even more difficult. Hence, a different kind of assessment is required to measure the impact of DRR programs.

Review of disaster risk reduction in Ethiopia

Ethiopia is one of the most food-insecure countries in the world, but only recently has the food security problem begun to be understood in terms of a complete analysis of livelihoods, rather than simply a food supply problem (Lautze et al. 2003). Repeated drought and low-grade conflict in some of the pastoral areas of the eastern and southern parts of Ethiopia have made for chronic livelihood insecurity for much of the past two decades, with acute crises in 1999/2000, 2002/2003, and again from 2005 to the present in Somali and southern Oromiya regions. The chronically vulnerable highlands – particularly Wollo and Tigray – have recently been joined by other parts of Oromiya region and Southern Nations and Nationalities People's Region (SNNPR) as areas affected by an enduring livelihoods crisis that is largely characterized by drought and climatic factors, environmental degradation, small land-holding size, a shrinking household asset base, limited non-farm income, and limited opportunity for expansion in this area.

A brief review of the DRR literature on Ethiopia reveals several key themes. The first is the linkage between the Productive Safety Net Program (PSNP) and DRR. While often, in the Ethiopia context, the latter is written about as a part of the former, a recent formulation has noted that these two approaches play complementary roles, and one is not necessarily a subset of the other (Maxwell et al. 2008). The PSNP, introduced in 2005, addresses the predictable needs of chronically vulnerable groups who require assistance during the hunger gap season even in good years. It provides support to vulnerable households through an employment guarantee (food and/or cash—either through food/cash for work or by direct transfer, depending on circumstances). Labor-deficit households qualify for free transfers. Early evaluations of the PSNP focus on targeting and linkages to other programs (such as the "household package program") that promote the development of sustainable livelihoods (Devereux et al. 2006). Linkages with these other food security programs have yet to be fully realized (Gilligan et al. 2008).

Since 2004 the Government of Ethiopia and a set of donors and UN, led by WFP, have been designing a drought risk transfer scheme as one component of the PSNP. Officials are hoping to raise US$230 million in insurance and contingency funds to cover 6.7 million people if there is a drought comparable to the one in 2002/2003. In 2006, WFP partnered with the French firm Axa Re to pilot a program to provide cash payouts to farmers in the event of a severe drought. Now, they are working with the Ethiopian government to expand the program for three years from 2009. For the next phase, the partners are creating a more thorough approach to risk management by including clearer contingency planning, capacity building and more robust early warning systems. The objective is to create a guaranteed, reliable and predictable shock response for up to 6.7 million people triggered by regional drought indicators. This is the first ever attempt of the humanitarian community to approach risk in this fashion, determining in advance of a crisis which segments of a population are at risk from what sources, and interven-

ing with mechanisms that are able to avert or mitigate a crisis before it occurs. This might indeed imply a redirection of funding away from mechanisms that are typically engaged to deal with emergency response, and in some cases, a different role for humanitarian assistance altogether.

"Weather index insurance" is linked to the underlying systemic risk, in this case low rainfall. Rainfall levels are indexed and recorded at a regional level such as a local weather station. When rainfall is received below a certain level within a certain region, the insurance plan provides payment to individuals living within that area. The key innovation of this approach is that insurance payments are not linked to the extent of the loss or damage to livelihoods resulting from poor rainfall, but are tied instead to amount of rainfall received. Once the existence of a sufficient degree of correlation between rainfall and yield is established, contracts can be developed under which payments would be made if rainfall levels fall below the selected levels. Advantages of such a program include that it is inexpensive to administer since it allows for standardization and avoids the need to draw up individual insurance policies.

This approach is being tried at the national level in Ethiopia (the LEAP project) and at a much more localized (*kebele*) level (the HARITA project). The HARITA project is piloted by REST and Oxfam America, partnering with a local insurance company to provide similar insurance coverage, to individuals who sign up at the beginning of each season (Oxfam America 2009).

Boudreau (2009) highlights the new approach to integrating disaster risk assessment into the management of and response to humanitarian crises in Ethiopia. For most of the past thirty years, crises in Ethiopia have been responded to after the fact, with significant time lost to the predictable cycle of post-crisis assessment, appeals, and response. While the Productive Safety Net Program has been critical in responding to predictable need (i.e. the so called "chronically vulnerable" groups who require assistance to make it through the hungry season even in good years), the same approach to proactive management of risk will now be incorporated into not only predictable (chronic) food insecurity, but also as part of an overall national disaster preparedness and management strategy.

The Livelihoods Integration Unit (LIU) of the Disaster Preparedness and Prevention Agency (DPPA) has addressed this problem and has developed the means of predicting the outcomes of certain combinations of scenarios, which highlight affected populations and livelihood systems before the crisis becomes acute. Building on the Hyogo Framework of Action, the LIU operational components include livelihoods baselines and an analysis of hazards, which combine to give an "outcome" (predictive) analysis or risk assessment. This builds on detailed knowledge of people's ability to cope with different situations and the extent to which this changes the outcome. This should enable the prediction of hazards and their impact; improve the capacity to prevent or mitigate the impact on human populations; and enhance community-based preparedness. Improved knowledge in these three areas should enhance the ability of agencies to reduce risk on a broader scale than in the past.

Ethiopia national policies on DRR

Progress has been made in recent years towards addressing the risk of repeated crisis in Ethiopia, including an economic growth rate of six to seven percent per year over recent years, improved smallholder agricultural productivity, and reduced levels of poverty generally (World Bank 2007). But a combination of economic, climatic and environmental factors has meant that ever-increasing numbers of people are unable to meet basic consumption requirements regardless of rainfall or aggregate production. The year 2008 saw the highest number of people in the country's history needing immediate assistance (FEWSNET 2008), severely straining the capacity of Ethiopia's emergency response capacity and the Productive Safety Nets Program (PSNP).

Macro-economic progress has been achieved under the Plan for Accelerated and Sustained Development to End Poverty (Government of Ethiopia 2006). But enabling communities in Northern Ethiopia to become more resilient requires addressing the causes and symptoms of exposure to the risk of repeated shocks. Ethiopia has long had standing capacity in emergency response, which has protected vulnerable populations against the most severe symptoms of crises in the short term. Since 2005, the Productive Safety Net Program (PSNP) has protected the consumption needs of groups that had tended to show up on food aid rolls every year, and prevented the loss of household assets of those groups over the medium term (Sharp et al. 2006, Devereux and Sabates-Wheeler 2006).

Numerous other interventions support sustainable improvements in livelihoods and assets through microfinance, technology transfer, rural infrastructure and market development. Results of recent research and strategy development suggest that a further component of DRR interventions to reduce the risks of specific hazards is still needed to ensure livelihood security and resilience (Maxwell et al. 2008, ISDR 2005, DFID 2004).

Since 2007, the Government of Ethiopia has shifted away from disaster response towards a more proactive disaster management policy. The former way of doing business meant post-disaster assessments and appeals, and a very delayed response. The new policy, not fully

worked out and implemented in whole, is oriented towards assessing and mitigating crises before they occur, or before their effect is fully felt (Boudreau 2009; Sue Lautze, personal communication). The former Disaster Preparedness and Prevention Agency (DPPA) has been incorporated into the Disaster Management and Food Security Sector of the Ministry of Agriculture and Rural Development. This new approach has disaster risk reduction and the protection of livelihoods at is core. The bill which formally introduces the new system was still in Parliament at the time of writing, but the intent of the new approach is clear.

A framework for DRR analysis and programming

The generally agreed policy framework for DRR is the Hyogo Framework for Action. This encompasses five main points: ensuring that DRR is a national and a local priority with appropriate institutional linkages; identifying risks and enhancing early warning; promoting education and the use of scientific knowledge to reduce vulnerability; addressing underlying risk factors; and strengthening preparedness (UNISDR 2005). This framework has also been adopted by World Vision as its over-arching framework for DRR as well. In recent work on risk analysis (UN 2006, Dilly and Boudreau 2001), the conceptual framework proposed considers risk as the likelihood of a negative outcome in terms of human lives and livelihoods, and defines it as some function of the hazards that exist in the that environment and people's vulnerability – or the combination of their exposure to those risks and their ability to cope with their consequences:

R = *f* (H, V). Different hazards require different means of reducing risk. Some frameworks refer to risk reduction (the *ex ante* prevention of adverse events); risk mitigation (reducing the impact during an adverse event) and risk coping (the *ex post* limitation of the negative impact of an event that has already occurred). This leads to a classification of different risk-addressing or reducing activities which follows this schema, but breaks out risk according to whether it affects entire communities, or only some households in communities.

1. Reducing ***the occurrence*** of adverse events. This includes measures to prevent or reduce the risk of a particular shock occurring. This would include, for example, reducing the risk of flooding through soil and water conservation – an area in which substantial investment has already been made. Not all hazards can be prevented, however.

2. Reducing ***risk of negative outcome*** through reducing exposure to adverse events that occur. For shocks that cannot be prevented, reducing the impact of shocks is critical. This would include, for example, reducing the impact of drought on through livelihoods diversification to include activities that are not dependent on rainfall; promoting drought resistant technology, such as short-season seeds or other drought resistant crops; or protecting assets such as livestock through commercial off-take at the outset of a drought.

3. ***Transferring risk within communities***. Where shocks occur, the first imperative is to improve the capacity of communities to deal with idiosyncratic risk (affecting only individuals or households with specific characteristics), through support for mechanisms that effectively share overall risk at the local level. This includes, for example, the introduction of savings groups or promotion of indigenous social networks, such as *Idhirs* or traditional funeral societies that help to spread the risks and the costs of adverse events.

4. ***Transferring risk*** or shifting some of the burden of a shock that affects most people in a community ***out of the local system***. A second imperative is improving community capacity to deal with covariate risk (affecting nearly everyone without respect to specific characteristics). This requires assistance from outside the local community. But this also includes community-based early warning and emergency preparedness. In the case of major hazards like drought, it might also include weather-indexed insurance at the national or regional level that is triggered by a rainfall index or some other combination of factors (Hess et al. 2006, World Bank 2008).

5. Prudent ***risk taking.*** Lastly, recent work has shown that while reducing risk is imperative, in order to overcome some forms of chronic vulnerability, households and communities have to take certain kinds of risk – most prominently investment in different kinds of productive livelihood strategies. For example, in the Tsaeda Amba context, indebtedness is a serious risk factor that households do their best to avoid, but at the same time, credit is one of the few ways to improve livelihood options, and credit is an integral part of "household package" approaches to graduation from the Productive Safety Net Program (PSNP). Determining what is acceptable, prudent risk-taking to improve livelihoods possibilities, and reducing other kinds of risks to make this necessary risk taking possible, presents both analytical and programmatic challenges that have yet to be comprehensively addressed (Oxfam, 2009).

Description of Africa Community Resilience Project

The Africa Community Resilience Project (ACRP) was designed by World Vision International in line with the Hyogo Framework for Action as a blueprint to creating resilient communities. The project is research-based and will build capacity for improving resilience through disaster risk management programming and mainstreaming. The project will also define key indicators of resilience, and seek to influence policies and programming aimed at supporting disaster risk reduction.

Approach

In pursuing some of the identified objectives World Vision will collaborate with Tufts University in the area of operational research and longitudinal case studies on livelihoods change over time. The six-step Implementation Process is laid out below.

Step 1. Community selection and profiling will ensure that an appropriate entry is made to the community, and essential general background information is collected.

Step 2. Hazard assessment will determine the different hazards that affect the community, the likelihood of experiencing a hazard, the principal characteristics of the hazard, and which groups of people are most likely to be affected.

Step 3. Vulnerability assessment will identify the conditions that are causing the vulnerability, including institutional and policy factors. The assessment will rely on various vulnerability frameworks (the Pelling Vulnerability Framework, the Pressure-Release model, and the livelihoods approach) to disaggregate the vulnerabilities and assets of communities and households.

Step 4. A capacity assessment will identify people's coping strategies and the resources and technologies that can be mobilised in the face of a particular hazard. Capacity assessment stresses the positive and seeks to identify how people usually deal with adverse circumstances.

Step 5. Prioritisation of risks and risk reduction strategies begins to highlight key areas for potential action. The livelihoods strategy priorities should be guided by need to diversify income and food production strategies, advocate for creation of a supportive environment for better options while activities are guided by a balance in provision of community services.

Step 6. Planning and implementation of activities prioritized by the vulnerability and capacity assessment will be incorporated into ADP plans through a number of processes. These include mainstreaming Disaster Risk Reduction through strategies like the promotion of conservation farming, the inclusion of a Risk Reduction and Emergency Management sector in the provisional plan, and drafting a provisional project to develop policy and processes to incorporate risk management as a transversal consideration in future infrastructure development.

Activities

The activities of the ACRP include working through the *Kebele* Disaster Preparedness Committees (KDPCs – sometimes also referred to as a Community Disaster Preparedness Committee, CDPC). The main intent of the project is to strengthen the capacity of this community level institution, and to strengthen its linkages with the *woreda* level committee. Specific DRR interventions are being promoted by the project, but for the most part, the emphasis is on capacity building, not on running specific interventions (such as soil and water conservation, less risky agricultural practices, or livelihoods diversification – all of which would be outcomes that the project would support). Overall, the approach is one of mainstreaming DRR into ongoing Area Development Program (ADP) work, on the hypothesis that the latter will have much greater impact if the capacity to manage it on the ground at the local level has been enhanced.

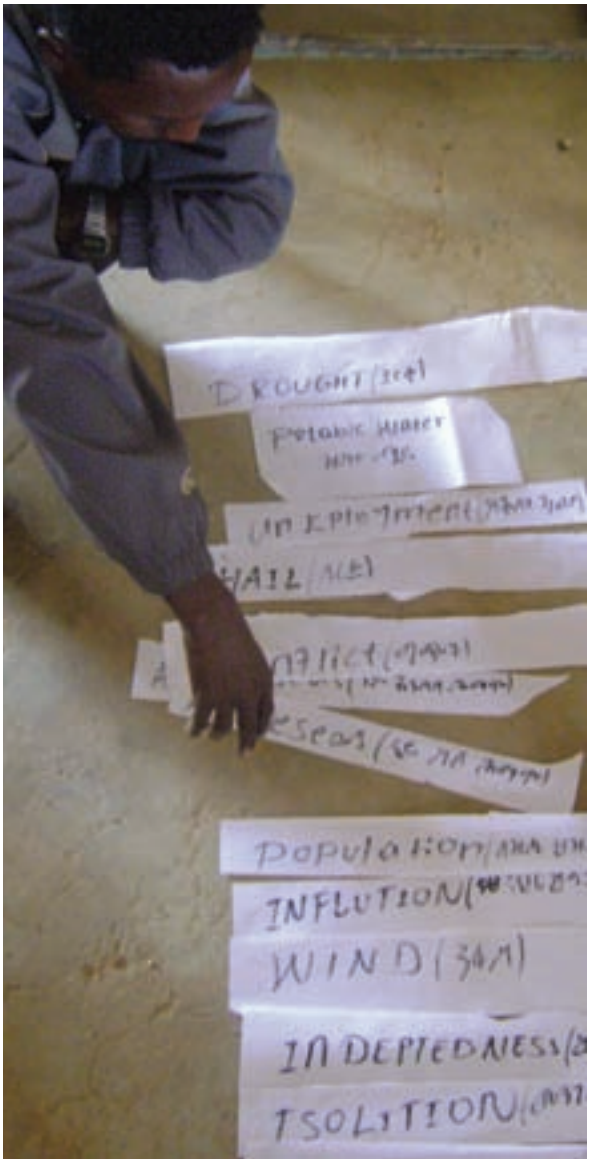
Description of Tsaeda Amba woreda, Eastern Tigray Zone, Ethiopia

Tsaeda Amba *woreda* is a chronically vulnerable district, located between the Irob Mountains on the border with Eritrea, the escarpment dividing Tigray and Afar regions, and other chronically drought-prone highland areas of Eastern Tigray. It consists of three different livelihood zones, each with a different agro-ecology and topography but similar kinds of livelihoods. It is one of the chronically food insecure *woredas* identified by the Government of Ethiopia, and over 73,000 of the roughly150,000 residents are included in the Productive Safety Net Program. In addition to the chronically vulnerable caseload, an additional 25,000 people were identified as urgently requiring food assistance in 2008 – meaning nearly two thirds of the people living in the *woreda* need food assistance to survive the current year without serious asset depletion.

Livelihoods and major livelihoods hazards in Tsaeda Amba woreda

Basic livelihoods are built around the farming of highland crops (wheat, barley and some maize) and livestock keeping (particularly small ruminants and poultry, although some household have cattle for milk and meat as well as animal traction). Labor migration is also an important part of livelihood strategies, as there are only limited possibilities for off-farm diversification of livelihoods within Tsaeda Amba. Even well-off households are only able to produce about 60% of their food needs from farming, so have to rely on food purchase for the remainder; poor households rely on the market for up to 60% of their food needs, with 20% coming from food aid (mostly through the Productive Safety Net Program). While better off households get much of the income they need for purchases from the sale of livestock products, poorer households must rely on labor-based strategies. More detailed information can be found in LIU (2008).

Figure 1. A Community Risk Ranking Exercise



The major livelihoods hazards in Tsaeda Amba *woreda* identified prior to the study are briefly noted below. A more comprehensive description and ranking of these hazards is in Section 3.

Weather-related hazards. Drought is by far the most common weather-related hazard in Tsaeda Amba. The *kebeles* prioritized by ACRP are those characterized as chronically drought prone. Other weather-related hazards include flooding, hail and frost.

Natural resource-related hazards. Environmental degradation is widespread in the *woreda*, including, in particular, soil erosion, deforestation and loss of ground cover. This has resulted in increased loss of soil and ground water, making access to water a significant problem for both humans and livestock. While the Productive Safety Net Program (PSNP) has addressed to a significant degree the chronic food insecurity problem, no program has addressed the water issue.

Economic hazards. The rapid inflation in price of basic food commodities hit Tsaeda Amba – as well as the rest of Ethiopia – very hard in 2008. Inflation had perhaps not previously been as significant a problem, but it confounds previously existing high levels of indebtedness. This is sometimes related to attempts to adopt more productive but riskier technology (i.e. production credit that has gone awry); sometimes it is related to consumption credit, or borrowing simply to survive. Other economic hazards include a low level of base-line asset holdings – especially land but also livestock (these two categories, in addition to labor, make up the bulk of household productive assets). A high level of unemployment, particularly of landless youth, is the other frequently mentioned economic hazard.

Disease-related hazards. Three main categories of disease hazards are found in Tsaeda Amba: human diseases (including especially HIV/AIDS); livestock disease; and crop pests.

Population-related hazards. The Tsaeda Amba population has continued to grow, putting pressure on existing natural resources. This includes some reverse migration back to Tsaeda Amba of groups that had previously left to seek their fortunes elsewhere. It also includes some people displaced into the *woreda* in the aftermath of the border conflict with Eritrea.

Conflict related hazards. The least mentioned category of hazards was localized resource conflicts. There is also the memory of the conflict with Eritrea and the displacement of people from border area, or people from Tsaeda Amba who were expelled from Eritrea. ■

Section 2. The Study

The LCOT Program

The Livelihoods Change over Time (LCOT) program was proposed to capture major livelihood adaptations in situations of protracted or repeated humanitarian emergencies, taking into consideration both the interventions of humanitarian agencies and the institutional, environmental and policy constraints that define livelihoods. Much of the information currently known about livelihoods in humanitarian emergencies comes from one-off assessments, often well after a shock or crisis. The purpose of LCOT is to capture livelihood dynamics longitudinally over time, including the impact of shocks or crises in real time when they occur.

The Tsaeda Amba study is one of three planned studies under LCOT, capturing the elements of protracted vulnerability to slow onset crises, with major causal factors being drought and other climatic factors, chronic poverty, resource degradation, and increasing inflation and other economic hazards. In reality, of course, Tsaeda Amba residents face multiple hazards (see above) but the case study was intended to capture these as the main hazards. A second study planned for Bangladesh highlights repeated exposure to rapid onset natural disasters. A third study will focus more on conflict as the main hazard.

Objectives of the Ethiopia study

Undertaken in collaboration with World Vision, the Tsaeda Amba study is intended to capture the dynamics of livelihood change over time in a given location, but also to capture the impact of the DRR interventions that World Vision is implementing through ACRP. Further, ACRP is a pilot program intended to develop a risk management strategy that can be scaled up to apply to other areas of Ethiopian and Africa more broadly. Thus strategy development is also part of the objective. Specific objectives include:

- Assess the impact of a specific, community-driven Disaster Risk Reduction program in Northern Ethiopia.
- Assess change in livelihoods over time, including an understanding of the dynamics of changes in livelihood assets, strategies and outcomes in response to repeated shocks.
- Understand the major factors driving these changes – all causal factors including but not limited to interventions of ACRP.
- Understand community perceptions of hazards and risk.
- Develop the means to measure the impact of DRR intervention in chronically risk prone areas.
- Provide feedback to project management in the development of a risk management strategy.
- Assess whether DRR interventions reduce the risk of shocks, mitigate the impact of shocks in terms of reducing asset loss or deteriorated humanitarian status, and reduce the cost of emergency response.

Research Questions. Two main sets of research questions guide this study:

1. In northern Ethiopia, what is the evidence that a set of community-driven interventions to reduce or mitigate the risk of specific hazards will enable people to anticipate, prepare for, mitigate, cope with, and recover from the impact of a shock and become more resilient to future shocks? Are people less at risk after the program? Are their assets better maintained? Do livelihood outcomes (food security, nutrition, health) deteriorate less in the face of shocks?
2. How do communities perceive risk and what do they perceive is necessary to overcome the risk of repeated humanitarian emergencies? What do communities consider to be the appropriate mix and threshold of assets necessary for overcoming the risk of repeated crisis at the household level? What are the main institutional constraints to risk reduction irrespective of household strategies and assets?

Objectives of this assessment

This assessment, combined with the household survey conducted by World Vision in May 2009 (see

Annex 1) constitutes the baseline for both the ACRP pilot in Tsaeda Amba and the LCOT study. The specific objectives of this assessment were to:

- Assess hazards and risk factors, community perceptions and leadership capacity.
- Assess baseline livelihood conditions in Tsaeda Amba.
- Ascertain indicators for measuring change (in preparation for next year's assessment).
- Outline other (non-project related) factors influencing livelihood changes (in preparation for field work in January 2010).

Field methods

This study was conducted on the basis of a participatory assessment, based on recent methodologies for assessing the impact of interventions (Catley et al. 2008). Key informant interviews were conducted with leaders and the KDPCs in each of seven sub-*kebeles*. The purpose of these interviews was to understand the prioritization of hazards and the ways in which communities deal with risk, and also to assess the capacity of the KDPCs soon after the launching of the ACRP program. Focus groups were conducted on baseline livelihood conditions at the time of the field work (July 2009).

TABLE 6.
The Study Area

Kebele	Population	ACRP	Study	Livelihood Zone	% in PSNP
Geblen	2,920	X	X	Eastern Plateau	66.2%
Marwa	3,130	X	X	Irob Mountains	63.1%
Taltay Ziban	3,261	X	X	Eastern Plateau	51.6%
Saesie	8,299	X		Eastern Plateau	58.9%
Korma Sebha	5,723	X		Eastern Plateau	71.0%
Mesihul	1,186	X		Irob Mountains	65.3%
Sewene	3,059	X		Eastern Plateau	62.3%
Wolwalo	4,205	X		Eastern Plateau	67.3%
Emba Simena	5,795			Eastern Plateau	66.1%
Hadish Hiwot	8,879			Eastern Plateau	48.9%
Edaga Hamus	9,675			Eastern Plateau	23.0%
Beleso	3,059			Eastern Plateau	62.3%
Hadish Adi	5,482			Eastern Plateau	61.5%
Raele	4,581	X	X	Atsbi-Wonberta Highlands	77.5%
Hawile	6,064	X	X	Atsbi-Wonberta Highlands	73.1%
Mai-Megelt	8,291			Eastern Plateau	42.6%
Hangoda	3,790			Eastern Plateau	51.0%
Agazi	8,574			Eastern Plateau	39.2%
Sinkata	5,173			Eastern Plateau	38.3%
Freweni	11,392			Eastern Plateau	19.5%
Guila Abena	7,673			Eastern Plateau	35.9%
Gemse Agamet	8,353			Eastern Plateau	42.6%
Sendada	9,358	X		Eastern Plateau	48.1%
Saze	7,979			Eastern Plateau	42.4%
Tsenkanet	4,497			Eastern Plateau	52.1%
	150,398				**48.8%**

** See Section X for description of livelihood zones*

Although formally not a part of this study, a Tufts University team supported a household survey of the ACRP program area in May 2009, and some of the results of that survey are in Annex 1, and are compared with the more participatory assessment results of the current study. Sampling areas and households in the household survey were randomly selected. The intent was to interview either the household head or the person responsible for making decisions about food consumption.

Areas included in the participatory assessment

The study was limited to the kebeles included in the ACRP program, which is not all the kebeles in the *woreda*. Figure 6 is a map of the *woreda*, depicting the different livelihood zones. Table 1 shows the *kebeles* included in the ACRP program, and the purposive sample selected for the study, and gives an indication of the levels of chronic vulnerability by showing the proportion of the population included in the PSNP. The purposive selection was based on maximizing the diversity of livelihoods, livelihood systems, hazards, and management practices from *kebeles* within the ACRP area.

Limitations/biases of the study

There are several limitations or biases that constrain this study. First, it is virtually impossible, and against agency policy to work independently of local government in Ethiopia. This means however that the selection of informants and some of the actual interviewing was done collaboratively with the *kebele* administrator. Inevitably, this makes for a certain amount of "administrator bias" in both the selection of participants and in some of the information provided. The team did its best to ensure the independence of the research by assuring all informants of complete confidentiality of their answers. Nevertheless it is not possible to conduct research completely independently of local administration. For this reason, there is some comparison of results found from the (purposively sampled) participatory results with the (randomly sampled) household survey (See Annex 1).

Second, a strong tendency was noted among some respondents to answer questions as if the study was a needs assessment. Hence, for example, when trying to rank hazards, "needs" would often be the answers to questions (for example, "potable water" would routinely be listed as one of the top priorities in exercises attempting to rank community perceptions of hazards, but of course potable water isn't a hazard – it is a need, and obviously a very serious one). But this tendency introduced a second form of bias to answers. This is easy to recognize, and questions were reformulated to work around this tendency, but the tendency itself pervaded the field work.

Third, the impact of a program like ACRP may take a long period of time to be fully manifested in the livelihoods of people in the communities served, even though the project (and the study that goes alongside the project) has a relatively short life-span. Thus not all the impacts are likely to be captured by a study of this duration. In addition, there are many other factors influencing people's livelihoods beyond this particular project. Those factors will be the focus for further field work in January 2010.

Although numeric or semi-quantitative results are presented from the current study and particularly from the proportional piling responses to the livelihoods baseline, there is no attempt to extrapolate any of the findings on the basis of statistics. Rather, the results of the participatory assessment have logical inference – that is the logic of the findings can be used more broadly than presented here, but there is no attempt at statistical inference. Some statistical results from the household survey are presented in Annex 1, from which statistical inference can be drawn. ■

Section 3. Results

The Kebele Disaster Preparedness Committees (KDPCs)

The *Kebele* Disaster Preparedness Committee (KDPC) is the body at the local administrative unit with which the ACRP works. (Several different names were used in the field: World Vision staff often used the more generic Community Disaster Preparedness Committee or CPDC; some *kebele* officials used the full name of *Kebele* Disaster Preparedness and Prevention Committee, etc. This report will standardize the naming of this institution as the KDPC). The committee is made up of a mix of locally elected officials (the *kebele* chairperson and sub-*kebele* chairs, and the elected heads of the local farmer's association, women's association, and youth association) and appointed local government officials (the Development Agents from the Ministries of Agriculture, Health, and Water as well as the government appointed *kebele* manager). Other individuals may be members as well.

There are similar bodies at the sub-*kebele* level – indeed this structure mirrors the administrative hierarchy of the country. However, the ACRP has decided to focus mostly at the *kebele* level, with an additional emphasis on strengthening capacity at the *woreda* level and strengthening *woreda*/*kebele* linkages.

KDPC roles and responsibilities

The responsibilities of KDPCs are split – each has its own sectoral or associational responsibility, but the KDPC has joint responsibility for early warning, informing *woreda* government of localized shocks and their impact, and for solving the problems that they can. Often this requires outside help to solve problems that arise from hazards and disasters.

However, the committee (despite the name) is not just responsible for disaster prevention and preparedness; it is responsible for all development activities. In one way, this is good (integrating disaster preparedness, prevention and development); in another way, it means that there is no dedicated DRR body at the *kebele* level (as there is at the *woreda* level, for example). In the view of the committee, these responsibilities are overlapping.

With regard to DRR, most of the KDPCs list their responsibilities as:

1. **Risk assessment.** Assessing the risks to the community was always mentioned. However, in many cases, the committee had a hard time articulating exactly what was meant by this – (they have obviously heard the term, but have difficulty explaining the difference between assessment and response).

2. **Early warning.** The only things that were explicitly mentioned were rainfall monitoring and market price monitoring. It isn't clear exactly how much of this is actually carried out, how formally it is recorded, and how it is reported. It may well be more impressionistically based rather than data based.

3. **Preparedness.** Risk assessment and early warning are components of disaster preparedness, but other things are included as well: pre-arranged mitigation planning, the identification of vulnerable groups (those most likely to be adversely affected first by a shock), and the pre-identification of internal (community) and external (government or NGO) resources to assist.

4. **Reporting.** If there is an impending shock or disaster, the pro forma activity is to report it to the *woreda*. There is an overwhelming impression that the flow of information is set up to be from the local level to the *woreda* level, not the other way around.

5. **Response.** To the extent that a shock or disaster can be managed locally, it is the committee's responsibility to do so. Very minor flooding, etc. can be handled locally. Most often however, the committee plays a role in managing assistance from outside. This includes at least the following:

    a. **Targeting.** The committee determines PSNP recipients, and also emergency response recipients when needed.

b. **Management of labor-based safety nets.** In general the PSNP is to address chronic poverty, not the impact of disasters, but in some cases (2008, for example when there was both a poor agricultural year and high food price inflation) it is hard to tell the difference between the two. This management function includes oversight of FFW projects. But this is an example of where it is hard to differentiate development from DRM activities. (The committee started to tell us about community inputs – land and natural resources – as the kind of things they are responsible for, but this is clearly for development objectives). Activities classically include soil and water conservation, and other environmental conservation activities or construction of water harvesting infrastructure which could be considered both a "DRR" and a "development" input.

c. **Community-based management of acute malnutrition (CMAM).** This is under the supervision of the community health worker, but he is overseen by the committee, as well as a line ministry supervisor.

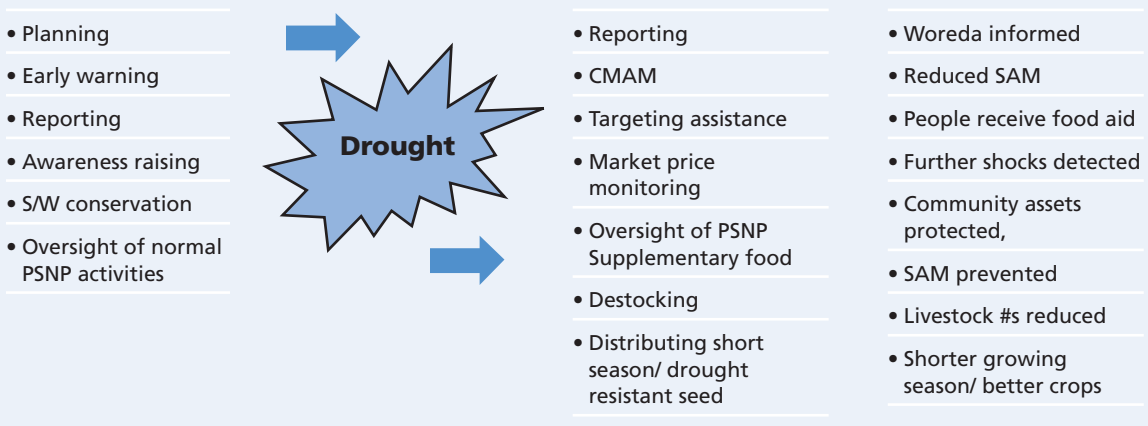
d. **Destocking.** The sale of livestock early on in a drought is considered an important intervention by nearly all KDPCs. However, the actual capacity to do so varies significantly. Poor access to markets, oversupply of animals and poor livestock condition preclude very much organized destocking in many cases.

e. **Oversight of other sectoral emergency responses.** This includes agriculture (short season crops), health (vaccination campaigns), water, and other sectors, in addition to managing the food/cash response, this might be either the PSNP or an additional emergency response (these are indistinguishable at the *kebele* level – depending mainly on the time of the year in which they are offered).

6. **Integration of DRR and longer-term objectives.** The committee is also responsible for planning and overseeing other activities that address some hazards or risk factors, but these would not necessarily be considered DRR activities per se. This includes family planning (note that population pressure was perceived as a significant hazard in many kebeles), road construction, community mobilization, etc. Additionally, there is a major campaign being promoted at the *kebele* level against "harmful traditional practices" – in particular the celebrations of marriage, birth, or other traditional feasts during the post-harvest period at which it widely believed that large amounts of food are wasted, leaving people more vulnerable to food shortages at the household level later on.

In 2009, there is considered to be a serious drought – the committee insisted that the combination of drought this year and last, and the impact of the food price inflation last year make up a shock that is as great in overall magnitude as the 1984 drought – the famine that peaked in 1985. However this year there is much greater response capacity, particularly by the PSNP, so the impact of the shock is blunted and though many people are affected the depth of the humanitarian crisis is not nearly as serious. But looking only at the magnitude of the shock, several KDPCs rated the situation this year as

Figure 2. Reported activities of KDPCs related to drought in 2009
(consolidated from various KDPCs)



being as serious as 1984.

Figure 2 depicts the activities reported by KDPCs in responding to drought in 2009.

Other activities mentioned included public awareness raising to decrease traditional ceremonies and their apparently wasteful usage of scarce food resources, and attempting to minimize out-migration. This was a difficult issue to understand. First, seasonal labor migration is a usual part of many people's livelihoods (the committee said it did not oppose this kind of migration). Second, resettlement is an option being actively promoted by the GOE. This appears to be what the KDPCs are opposed to. They equate being on their home territory with human dignity and raised the fear that people would die if they went to another place. There were also references to this being their ancestral homeland. To some committees, preventing migration (or at least preventing permanent migration), is an important element of DRR.

KDPC capacity

Improving the capacity of the KDPCs to manage DRR programs is a key component of the ACRP. In the judgment of the research team, this is likely to be the area in which the greatest impact can be had in the short term (it is unlikely that major changes in livelihoods will be noted during the relatively short duration of the program and the study). Thus this assessment was an attempt to understand the baseline capacities of KDPCs. Several areas of concern were noted. These included analysis, planning, implementation, and monitoring and evaluation.

Analysis. There are some constraints noted across all the KDPCs the team met in terms of analytical capacity. Committees particularly had a difficult time distinguishing between hazards and poor outcomes, and between plans and interventions. ACRP plans a number of training exercises with KDPC members in the affected *kebeles*, and this is no doubt an important need. It does, however, call for some training needs assessment and capacity assessment of individual members prior to and after the training. One training needs assessment has already been conducted by ACRP.

Nevertheless, the KDPCs clearly have a good capacity for analyzing their situation – it is more a matter of providing some training or assistance on which areas constitute causes, which areas constitute interventions, and which areas constitute outcomes. When the discussion was restricted to the issue of causal factors, one KDPC came up with the problem analysis depicted in Figure 3. To be sure, this required some facilitation on the part of the research team – in particular keeping the focus on causes, and separating that from needs or from poor outcomes. In terms of recommendations going forward, this implies the need for some focused

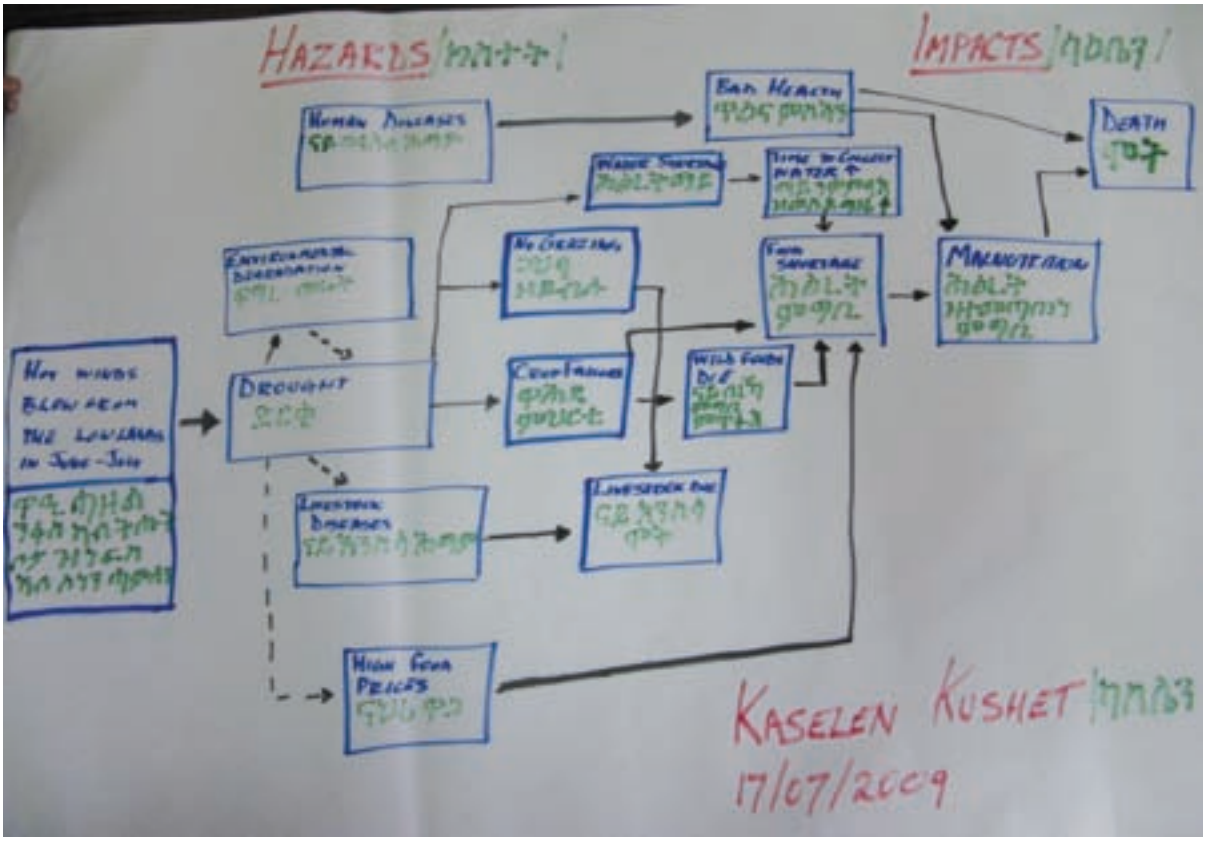


Figure 3: Causal Analysis – Hazards and Impacts. Kaselen Elders Group

training on problem analysis and the ability to distinguish between causal factors, activities or interventions, and outcomes.

Figure 3 shows that with minimal facilitation, the community leaders have a very clear sense of which hazards or causes lead to what outcomes. Of particular interest were several points.

1. **Indicators of drought.** The first is the observation of "hot winds blowing from the lowlands" that are an early indicator of poor rainfall. This was subsequently confirmed as a reliable local early warning indicator. The lowland in this case is the Dalul depression, in Afar Region just to the east of Tsaeda Amba.

2. **Causal linkages between drought and environmental degradation.** While some respondents tended to explain drought as the result of environmental degradation – particularly deforestation as the cause of decreased rainfall, this group saw the relationship the other way around - drought causes the loss of vegetation, trees, and shrubs which leaves the land more exposed to erosion from wind and rain when it returns.

3. **Ability to distinguish hazards and outcomes.** While simple ranking exercises often ended up in confused lists of hazards, needs, and negative outcomes, this kind of exercise clearly distinguished among these different elements of analysis.

Preparedness and planning. While developing and implementing an annual plan is described as the major activity that KDPCs have to do, the plans were rarely available for review by the research team, and the members of the committees often had a difficult time describing the contents of the plans. There is a long list of projects often must be implemented (and under some circumstances, certain projects are mandated – for instance in 2009, the zonal and regional administrations are putting great emphasis on soil and water conservation, so most KDPCs were under obligation to promote these activities above others). Hence it was sometimes difficult to differentiate between actual plans, and simply long lists of projects that might be prioritized in different ways at different times. It was clear in many cases however that analysis and risk prioritization were not directly linked to plans and activities. For example, in many *kebeles*, the prioritized ranking of hazards barely mentioned human diseases and did not include HIV/AIDS, despite a question prompting the committee for its view on HIV. When the contents of the plan were reviewed, however, there was an obvious emphasis on AIDS orphans and vulnerable children (OVCs). The committee wasn't able to fully reconcile this apparent gulf between their analysis of prioritized hazards and their program planning.

TABLE 2.
Example of a KDPC Annual Plan

Introduction
- Description of the kebele
- Topography
- # of households
- Demographic info
- Money collected to support orphans

List of major hazards
- Drought
- Gully formation (environmental degradation)
- Animal diseases
- Human diseases
- Water shortage
- No road access (isolation)
- HIV

Targeting criteria
- HIV orphans
- Elderly

Table
Information on births, marriages, deaths (only three recorded deaths in 2008), and number of local conflicts resolved

List of OVCs
Preparedness and Mitigation plans
- Soil/water conservation activities planned
- Collection of resources to support orphans

Source: Copied from the actual plan in Marwa *kebele (the only plan actually seen by the team).*

In only one instance was the KDPC able to show us their plan (the plan was often in the keep of one member of the committee, who wasn't present that particular day). The plan that the team was able to review was from Marwa *kebele* (the most isolated *kebele* visited during the field work). It is outlined in Table 2.

It is instructive to note what is in the plan, and what isn't. There is a good description of the *kebele* and apparently, good statistics about the current population – the team was obviously not in a position to cross check the accuracy of these numbers. The description of major hazards seemed fairly comprehensive, although again, in some cases needs were confused with hazards (access to water being the most obvious example). It should be noted that this was the example cited above where the hazard ranking discussion with the KDPC did not include any mention of HIV/AIDS, in spite of a prompting question. HIV is included in the list in the plan, and many of the actual activities described in the plan are oriented around orphans and vulnerable children.

This highlights two observations. The first is the apparent difference between a ranking exercise conducted with the team and the ranking in the formal plans. And the second is the nature of the activities in the plan (i.e. more focused on the impact of hazards, rather than preparedness and prevention). When asked about this, the KDPC members were not particularly able to explain either of these observations, but it was clear that at least some activities were either mandated by government, or else followed the availability of resources. The role of analysis and planning at the local level were clearly a third level priority in the selection of DRR interventions.

In other cases, KDPCs were not able to say what the contents of their plans were. They could list activities, but as already noted, the list of activities is so generic that it really requires no plan. This is not entirely the blame of the KDPC. This year the entire PSNP budget, for example, is devoted to soil and water conservation, which means that even if analysis or plans included other priorities, the budget from the *woreda* is for soil and water conservation. Hence local analysis was sometimes not particularly included in the local (*kebele*) plan, because much of the content of plans was centrally mandated. The ACRP is working to improve the local/district (i.e. *kebele/woreda*) links, but this clearly needs to be the periphery (*kebele*) informing the center (*woreda*) as much as the center directing the periphery.

Implementation. Most of the KDPCs had been implementing the same or similar programs aimed at for many years, and while it was not possible to visit any on-going programs due to the time of the year, the descriptions of program implementation and the reporting made it seem as though there is reasonably good capacity in the area of project implementation – particularly when activities were long-standing practices.

In newer programmatic areas, capacity was less clear. Managing destocking is one such example. While this was mentioned in nearly every KDPC interview, when asked for specifics, it was clear that not only did KDPCs not have the capacity to manage or facilitate destocking, in many cases they didn't agree among themselves as to what constitutes "destocking" and did not agree that it should be done. One committee member noted that selling animals "is not in our interest, so we usually don't do it unless we have to." But in this case, when they "have to" because of drought, it is often too late. This underlines two observations. The first has already been made: the actual interventions come from outside the community. The second is that there is a good deal of learned behavior reflected in the discussions held with KDPCs, and answers to particular questions reflect these "learned answers" more than they do real local analysis and local priorities. Hopefully, ACRP staff are in position to develop the kinds of relationships with KDPCs that these "expected answers" will eventually be replaced by more genuine dialogue.

In general, the list of possible interventions is so long that training to support the technical capacity of KDPCs to manage all of them is probably not feasible or a good investment. Prioritizing certain interventions, and offering technical training in the implementation and management of those areas is probably a better investment.

Monitoring and evaluation. Monitoring and evaluation of interventions is clearly the other area in which KDPC capacity is low. At the moment, the team found little monitoring beyond keeping track of how many people were engaged in which activities, and whether or not activities were implemented. In terms of impact assessment, there is little capacity and little activity among any of the KDPCs interviewed. While an important area of follow up, it is probably lower priority – that is, analysis, planning and management capacity are probably higher priorities than monitoring, although monitoring and learning should not be left out.

Linkages

As noted, there are sub-*kebele* committees that are similar in structure, but which serve mainly only an information gathering and implementation function. The planning function at the local level is focused at the *Kebele* committee. At the *woreda* level, there are several linkages. A *woreda* Early Warning committee receives and reviews reports from KDPCs twice a month. It is chaired by the DPPA (now Food Security Unit, but still referred to as "DPPC") representative, and made up of members of staff from various line offices. According to the chairman, this has led to better planning, better division of labor and better management. However, this committee was not aware of any new national policy, and was not aware of the LEAP program or other areas of national policy discussed above. There is clearly a need for some improved linkages between the *woreda* and higher levels of government, but ACRP has chosen to work primarily at the level of strengthening the capacity of the KDPCs and the link with the *woreda*. This is probably the correct decision in the circumstance. As noted below, there is also a major potential for cross learning among woredas and their different partners. Some interesting ideas are being piloted elsewhere.

Observations and discussion

Several suggestions grow out of these observations. The first is that ACRP staff should request and compare all the plans of the KDPCs in the ACRP area. ACRP staff would then keep a copy of the 2009 plan and compare it to the 2011 plan at the end of the project to note what is different and where there an improved problem analysis or an improved linkages between analysis and intervention. Other suggestions be include noting

whether committee members know their own plans and whether the goals of the plan fit SMART criteria.

Interventions are discussed further below, but warrant a comment here: it is striking that with the exception of the integrated approach and the emphasis on capacity building of ACRP itself, the list of interventions includes nothing particularly new. Most of the activities being implemented as "DRR" now have been implemented for years, but called something else before. Newer programmatic areas are unfamiliar to most informants. For example, few were aware of the LEAP program or other, newer ideas for disaster risk reduction or transfer (which may be more of a comment on LEAP than it is on the knowledge or capacity of individuals in Tsaeda Amba). Nevertheless, there are interesting and innovative programs going on nearby from which ACRP and its partners at the *woreda* and *kebele* level could learn a lot. LEAP is one such effort but is a national program. Another, which is based on the same idea (risk transfer, through commercial insurance), but is completely implemented at the local level, in being carried out by REST and Oxfam America in Adi'ha *kebele* in Central Tigray (Oxfam 2009).

Identification of main hazards and risks

A major component of ACRP is to identify the major hazards and risks facing the affected communities in Tsaeda Amba. A workshop was conducted in December 2008 to identify hazards, which helped to prioritize some of the focus areas of ACRP, but that was done in a workshop setting, with limited participation. So the baseline represented an attempt to get a wider view of the hazards facing communities in Tsaeda Amba, and to understand the relative severity of these hazards. This section outlines the risk ranking results, and discusses these in relation to the hazard assessment format and the interventions going on under ACRP, including recommendations on capacity building by ACRP.

Risk ranking results

Tables 3 and 4 are two examples of the results of the hazard ranking exercises, and also show the relative severity (as measured by proportional piling) of these hazards in 2008 and 2009.

Similar exercises were conducted in each of the Kebeles visited by the field team. The cumulative results (in terms of hazard ranking) are shown in Table 5. Table 5 was constructed by allocating "points" according the rank given each hazard in each exercise – and then totaling up these points. Some hazards were mentioned in all five kebeles, others less frequently. If a hazard was not mentioned in a given exercise, it was accorded zero "points."

Several things are notable about these tables. First, drought is without exception the highest priority hazard, to no one's surprise. Population pressure and envi-

Figure 4: A Community Hazard-Ranking and Severity Comparison Exercise

TABLE 3.
Hazard Ranking Perceptions
Taltay Ziban *Kebele*: Lalay Ziban Sub-*Kebele*

Hazard	Rank	Severity 2009	Severity 2008
Drought	1	10	5
Population pressure	2	8	6
Isolation / inaccessibility	3	5	4
Potable water*	4	8	8
Environmental degradation	5	6	5
Livestock disease	6	3	0
Human disease	7	2	10
Crop pest	8	0	2
Food price inflation	9	5	10
Flooding	10	0	3
Frost	11	3	0
Unemployment	12		

** Note potable water is not a hazard, it is a need*

TABLE 4.
Hazard Ranking Perceptions
Hawile *Kebele*: Hawile Sub-*Kebele*

Hazard	Rank	Severity 2009	Severity 2008
Drought	1	10	9
Population pressure	2	8	7
Livestock disease	3	7	5
Isolation / inaccessibility	4	6	5
Human disease	5	5	5
Environmental degradation	6	4	6
Food price inflation	7	4	7
Crop pests	8	0	6
Conflict	9	3	1
Flooding	10	0	0
Frost	11	0	2
Hail	12	0	2

ronmental degradation – two clearly linked issues – are close behind.

Second, in the cumulative ranking, "potable water" is ranked as the third highest priority hazard, although this is not a hazard per se. This points out the difficulty in distinguishing between a hazard, and a bad outcome. The lack of potable drinking is a serious problem, and in fact access to water is increasingly the biggest single problem in a drought year, given that the impact of the food security problem is suppressed by the on-going Productive Safety Net Program. However, the actual hazards related to the lack of water most likely are already included in the list: drought (climate change) and environmental degradation.

Third, food price inflation probably would not have been on anyone's list prior to 2007. In 2008, it no doubt would have been at the top of the list. This underlines that new hazards do arise, and that focusing on old, well-known hazards for planning purposes may actually leave communities more exposed than anyone knows.

Fourth, human disease, livestock disease and crop pests often show up, but are somewhat lower in priority. Each group that did the ranking exercise was queried about human diseases – whether that implicitly meant HIV/AIDS or not. Most insisted that it was a general category, and only a few groups listed HIV/AIDS as a significant hazard. The reasons for this are not clear – it could be that HIV/AIDS is more of an urban problem whereas this assessment (and ACRP) was in the rural areas. It could also be related to the issue of stigma, or it could be a lack of awareness of HIV/AIDS (though the latter seems unlikely, because respondents were able to talk about HIV/AIDS if prompted). For whatever reason, however, this low prioritization of HIV/AIDS as a hazard is at odds with the results of the initial hazard assessment. And it is at odds with the only *kebele* plan the team was able to review. While no obvious resolution of these differences was found, this is an issue that the ACRP management needs to recognize and deal with. It is possible that greater awareness raising is needed and it thus is an appropriate area in which to focus ACRP activities.

Observations and discussion

Woreda priorities were given from an exercise conducted in 2007. These are depicted in Table 6. Though not a hazard ranking exercise per se, it does give some clues regarding Government priorities in DRR, and also highlights how priorities shift over time, depending on current circumstances. Drought was listed as the fifth highest priority in 2007 – which was not a drought year, and in fact it had been several years since there had been a drought of significant consequences in Tsaeda Amba. This was also prior to the food price crisis of 2008.

Note that "potable water" appears here as a priority, which it certainly is. Many of the rest of these are priority interventions, not hazards, but the hazard behind them is all too evident. (HIV/AIDS is also not on this list, although human health is). Harmful traditional

practices refers to the wasteful usage of too much food in celebrations and festivals in the immediate post-harvest period, which is widely believed to contribute to shortfalls later on in the year.

Several KDPCs were asked to depict hazards and the magnitude of hazards over time. The result of these exercises is depicted in Figure 5 which highlights several things. First, it highlights the predominance of drought as the major hazard, not only in the current era, but also over time, going back as far as the memory of anyone in the KDPC. Most would have been small children during the drought of 1959 (note that the years depicted in Figure 5 are from the Ethiopian calendar, and hence are eight years different from the western calendar). The major drought and famine of 1977/78 (1984/85 western calendar) are clearly depicted. Other "natural hazards" are the second most important causes of risk.

Second, Figure 5 captures the impact of the conflict with the Derg—the previous government—much of which was fought in Tigray and Eritrea. However, with the exception of the war against the Derg, "man-made" hazards don't really appear on this time line until the food price crisis of 2000 (2008 western calendar), and in this case, the impact of the food price crisis is combined with a current drought.

TABLE 5.
Cumulative Hazard Ranking
Hawile *Kebele*: Hawile Sub-*Kebele*

Hazard	Cumulative Score ("points")	Overall Rank	# of times Mentioned
Drought	58	1	5
Environmental degradation	40	2	5
Potable water	39	3	5
Unemployment	35	4	5
Food price inflation	32	5	5
Population pressure	31	6	3
Isolation / inaccessibility	30	7	5
Livestock disease	29	8	4
Human disease	28	9	5
Flooding	22	10	4
Crop pest	11	11	5
Local conflict	7	12	3
Indebtedness	5	13=	2
"Cold wind"/frost	5	13=	2
Hail	3	15=	1
HIV/AIDS	3	15=	1

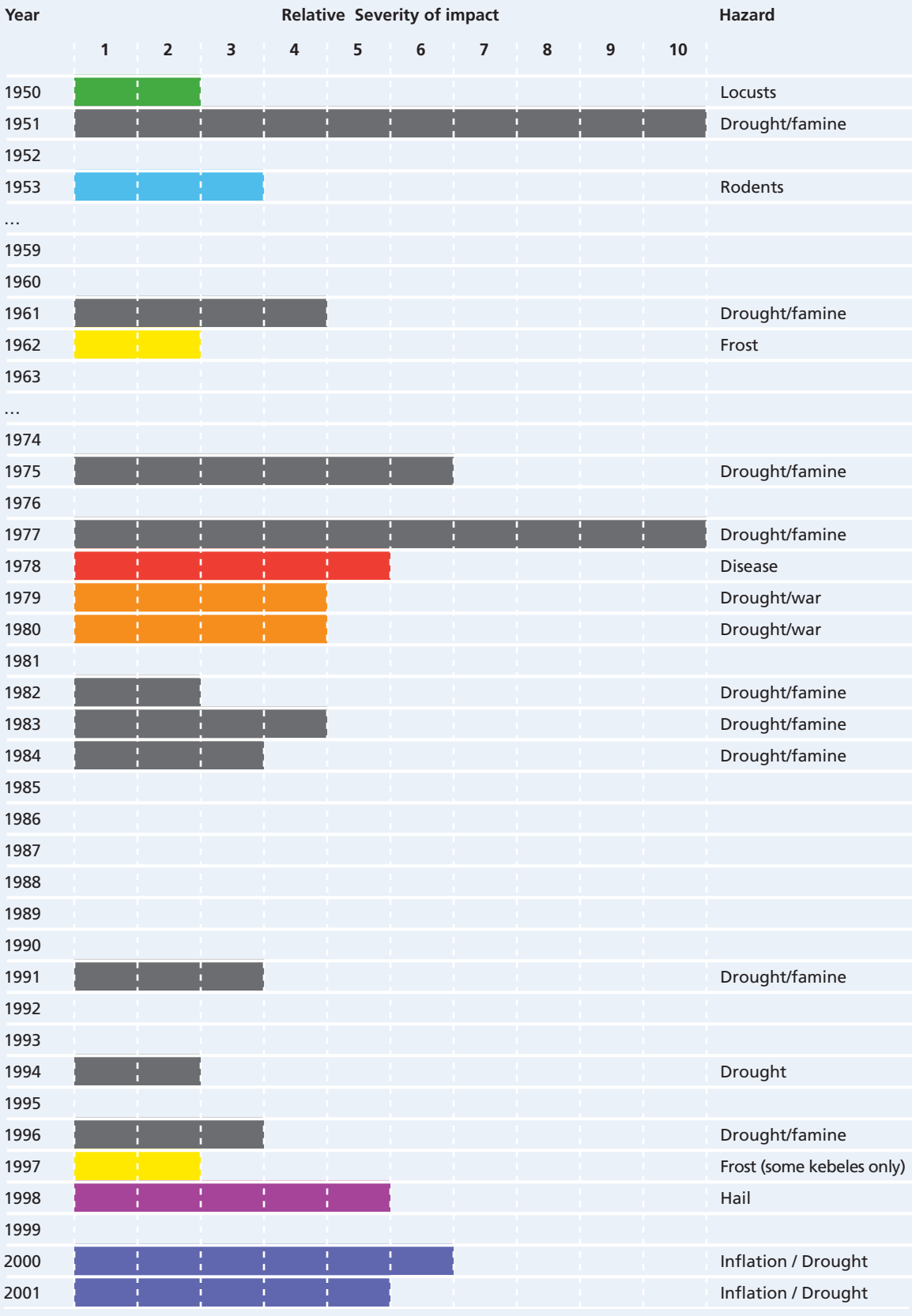
TABLE 6.
***Woreda* Priorities (2007)**

Issue	Rank
Land degradation	1
Potable water	2
Health	3
Access roads	4
Drought	5
Schools (especially a secondary school)	6
Irrigation infrastructure	7
Deforestation	8
Petty trading	9
Livestock/veterinary services	10
"Harmful traditional practices"	11

Third, there was a period of recovery in the 1980s (early 1990s western calendar) following the defeat of the Derg and the rise of the current government, that is somewhat unique in recent history. A series of droughts has characterized the period since 1991 (1999 western calendar).

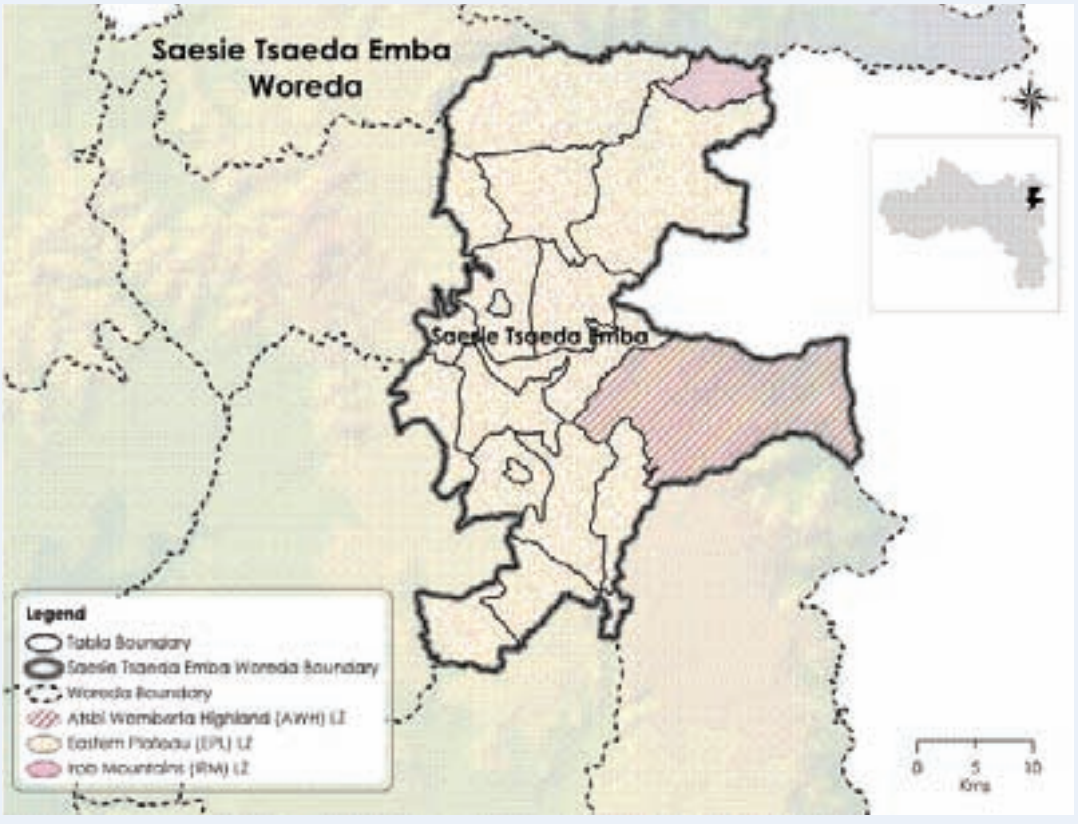
Fourth, and perhaps most significantly, there is a tendency to conflate the seriousness of the shock (i.e. how bad a drought was in terms of rainfall deficit and the impact on the harvest) with the subsequent humanitarian impact. In the absence of a response mechanism, these two were fairly clearly linked, as local capacity for coping with a drought on the magnitude of the 1951 or 1977 drought was quickly overwhelmed. But many respondents ranked the magnitude of the current drought as being similar to the magnitude of the 1977 drought, and the current drought is combined with the impact of the food price crisis. Yet overall the relative severity of the impact on humanitarian conditions is less. The difference in impact is almost entirely due to improved response mechanisms, particularly the PSNP. It should be reiterated that this is all based on perceptions – there is little hard data to make this point – but the perceptions of local leaders and community members is important. It should also be noted, however, that the role of the PSNP in this case is primarily that of protecting minimal levels of consumption of the chronically food-insecure (and of course the PSNP is supplemented by emergency response in a crisis—and in fact this supplementation is almost indistinguishable in the perceptions of recipients – it is all now referred to as "safety net"). The mitigation of the impact of the shock itself is not the factor driving this perception, it is the impact of the PSNP mitigating the humanitarian consequences of that shock. Stated differently, livelihood systems are

FIGURE 5.
Time line of the impact of major hazards 1959 to the present*



** Compiled from several kebeles Note: Years are in the Ethiopian calendar: 2001 = 2009, etc.*

FIGURE 6.
Map depicting livelihood zones in Tsaeda Amba woreda



Source: DPPA (2008)

as vulnerable to drought as they ever were, even though human beings are now better protected from the consequences of drought.

Assessment of baseline livelihood conditions

Livelihood zones and characteristics

The 2009 Livelihoods Information Unit report on Tsaeda Amba (DPPA 2008) describes three different livelihood zones in Tsaeda Amba *woreda*, and all of them are represented in the ACRP program area. By far the largest, in terms of both land area and population is the Eastern Plateau livelihood zone with a population of almost 107,000. The Atsbi-Wonberta Highlands livelihood zone has a population of about 6,500—with most of the rest of the zone falling into a neighboring *woreda*). And the Irob Mountains livelihood zone has a population of about 19,500—again most of this livelihood zone falls into a different *woreda* (Figure 6). See the previous section for further information on the kebeles selected.

Although the physical characteristics of these livelihood zones is different and the size of land holdings is very different, the primary crops grown are the same. Barley and wheat predominate, with chick peas and fava beans being grown in the Atsbi-Wonberta Highlands, maize and hanfets in the Eastern Plateau, and maize and lentils in the Irob Mountains. Gathering of cactus is a supplementary food source in July and August across the entire *woreda*. Rainfall is unimodal, falling mainly in July and August, but with some rainfall in the months leading up to July/August (DPPA 2008). Labor migration plays a significant part of livelihoods in Tsaeda Amba, and particularly at certain times of the year.

Table 7 summarizes the main characteristics of these three livelihood zones.

Livelihoods baseline results

Livelihood baseline results were compiled from eleven focus groups in seven sub-*kebeles* in five *kebeles* with an average of six participants each. The groups were purposively selected, and the attempt was to have a representative cross section of the community. However, results show that the sample was skewed towards the lower end of the wealth spectrum in all but one or two cases. This

TABLE 7.
Characteristics of Livelihood Zones

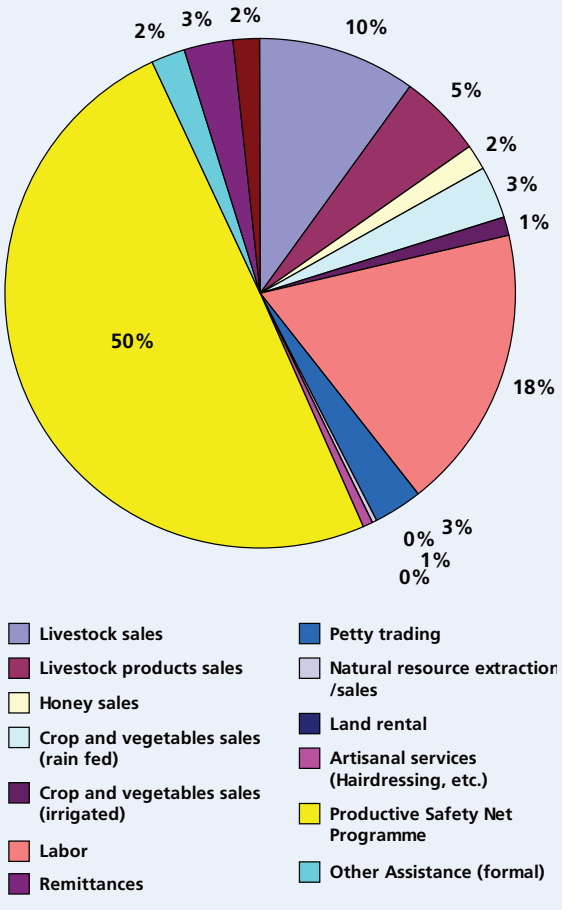
Wealth Group	HH Size	Land Area (Timads)	Average Livestock Holding	Proportion of Population
Atsbi-Wonberta Livelihood Zone				
Very Poor	6-7	0-2	2-3 shoats 3-5 chickens	25%
Poor	5-7	1.5-2	0-1 cows, 4-6 shoats, 0-1 donkey, 3-5 chickens	35%
Middle	5-7	2.5-3	1 cow, 1 ox, 8-10 shoats, 0-2 donkeys, 3-5 chickens	30%
Better off	4-6	4-6	1-3 cows, 1-3 oxen, 12 shoats, 1-2 donkeys, 7 chickens	10%
Eastern Plateau Zone				
Very Poor	5-7	0-1	0-3 shoats	20%
Poor	5-7	0-2	1-3 cattle, 0-1 oxen, 3-5 shoats	35%
Middle	6-8	2-4	2-4 cattle, 1 ox, 6-12 shoats, 2 beehives	30%
Better off	7-8	3-5	3-7 cattle, 2 oxen, 10-15 shoats, 1-3 beehives	15%
Irob Mountain Livelihood Zone				
Very Poor	5	0-0.4	4 chickens	20%
Poor	7	0.4-0.8	4 chickens, 0-1 oxen, 1-2 cows, 0-8 shoats	35%
Middle	7	0.4-0.8	5 chickens, 0-2 oxen, 2-4 cows, 15 shoats, 2 beehives	35%
Better off	7	0.6-1.0	5 chickens, 1-2 oxen, 4-8 cows, 30 shoats, 3-4 beehives	10%

From: DPPA (2008)

FIGURE 7.
Nigdaw Women's Livelihoods Baseline FGD

Sources of Income	HH1	HH2	HH3	HH4	HH5	HH6
	Counters					
Livestock sales	•••••					
Livestock products sales	••••	••		•••••	•••••	•••••
Honey sales						
Crop sales		••••	••• •••			
Labor	••			••••		
Petty trading	•					
Natural resource extraction /sales					••••	
Artisanal services						
Productive Safety Net Program	•••• ••••	•••• ••••	•••• ••••	••• ••• •••••	••• ••• •••••	•••• •••
Other Assistance (formal)						
Remittances			••• •••			•••• ••••
Credit		••• •••				

FIGURE 8.
Sources of Income – Tsaeda Amba 2009



is appropriate for the ACRP assessment, however, since it is the more vulnerable groups within the community to which the project addresses most of its interventions.

The groups were stratified by men and women, but tried to identify a household key informant to participate, whether male or female. Groups were asked to identify, through proportional piling, their main sources of food and income, and their major expenditure categories. They were also asked to list (using counters, but in actual numbers, not proportions) some household demographic characteristics and their major assets (land and livestock). Lastly, households were categorized by wealth groups according to the assets they listed in the focus groups. Figures 7, 9 and 11 are example of the output from a livelihoods baseline focus group. This particular group was selected only as a typical example, and to depict the proportional piling exercises. Figures 8, 10 and 12 depict in pie-chart format the results for the whole sample of 65 households.

Sources of income. Figures 7 and 8 depict income sources. In ordinary times, most cash income in Tsaeda Amba would come from two sources—livestock sales and labor. The latter is more important to lower income groups, and the former to wealthier groups. Some income would come from the PSNP, but it would be only about 20 percent for lower income groups, and less than 10 percent for the better off. In 2009, the cumulative average shows nearly half of income coming from

FIGURE 10.
Sources of Food – Tsaeda Amba 2009

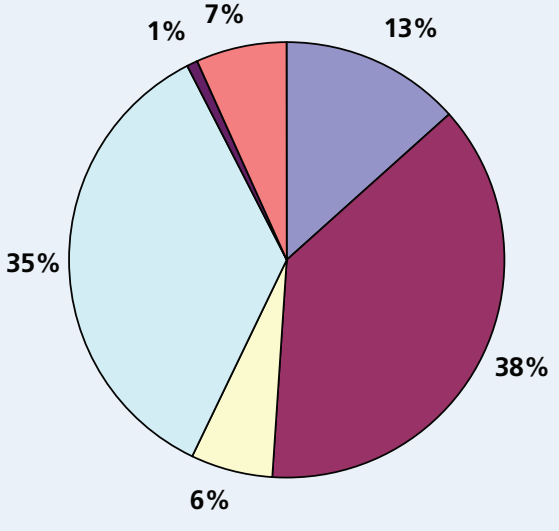


FIGURE 9.
Nigdaw Women's Livelihoods Baseline FGD

Sources of Food						
Own Production		•••	••••		•••••	
Purchase	•••• ••••	•••••	•••••	•••• •••	•••••	•••• •••
Borrowing	•••	•••	••	•••	•	••••
Safety Net/Food Aid	••••• ••••	••••• ••••	•••• •••	••••• •••••	•••• •••	••••• ••••
Wild foods			••		••	

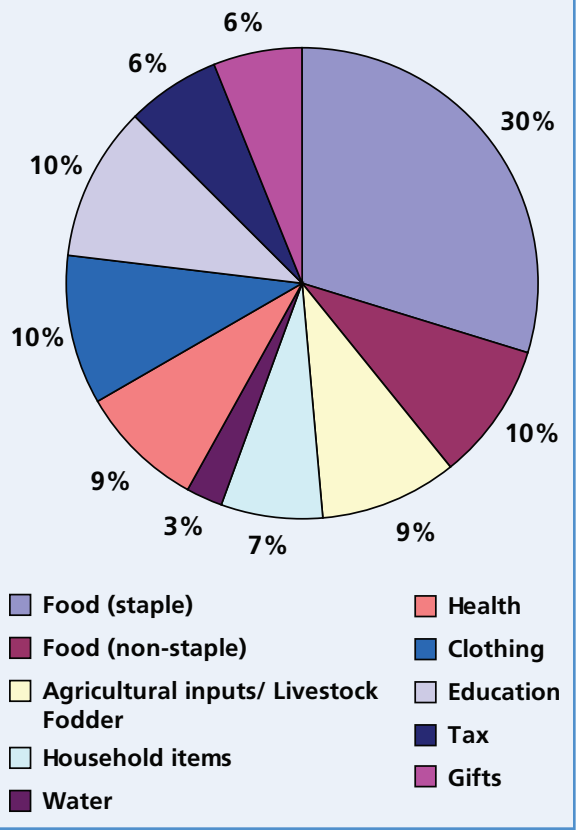
FIGURE 11.
Nigdaw Women's Livelihoods Baseline FGD

Sources of Income	HH1	HH2	HH3	HH4	HH5	HH6
Food (staple)	••• •••	••••	•••••	•••••	••••	•••••
Food (non-staple)	•					
Ag. inputs/ fodder		••	•••		••	
Household items	•	•	••			
Water	•••	••	•	••••	•••	••
Health	•••••	••••	•	••• •••	•••	•••••
Clothing	•	•	••	•	••	••
Education	•••	••••	••••	•••	••	•••••
Tax		•	•	•	•••	••
Gifts		••	•••		••	

the PSNP. Labor is second and livestock sales in third. It should be recalled that the sample was skewed towards lower income groups.

Nevertheless, this shows the extent of the difficulties in Tsaeda Amba in 2008/2009, and the way in which drought and food price inflation impact not only crop production and sales, but also livestock production and labor opportunities. Other practices that are promoted specifically to diversify income sources and provide employment for landless youth, such as beekeeping and honey or petty trading, are at very low levels.

FIGURE 12.
Expenditure – Tsaeda Amba 2009



Sources of food. Figure 9 and 10 show the different sources of food. Purchase of food in the market is the biggest single source of food, but the PSNP is a close second. This is an indication that not only is the PSNP a source of cash, it is also a significant source of food in a bad year. Reflecting the poor production in 2008, foods consumed from own production is low. Given that the participatory assessment data were collected in July, there is a significant amount of wild food consumption reported. This is almost entirely cactus pear or *beles*, and in fact much of it is semi-cultivated (i.e. wild plants are deliberately kept in or near homesteads) so it is perhaps erroneous to categorize it as a wild food, strictly speaking.

This compares to a normal year when own-production would account of over half of food consumption by well off groups, and nearly one third by the least well off groups. Purchased foods make up 30-40 percent of consumption across groups in a typical year, and food aid plays an important role among less well off groups, and provides for some of the consumption of even well off households (DPPA 2008).

Expenditure. Figures 11 and 12 depict expenditure. Not surprisingly, given the above, food is the biggest single expense listed by household informants, accounting for 40 percent of the total. Education is the second biggest expense, though clothing, health and the purchase of agricultural inputs are all about the same. In comparison, the Livelihoods Information Unit report on Tsaeda Amba (DPPA 2008) reports somewhat higher levels of expenditure on food, and lower expenditure on other areas.

Given the proportion of food being accessed through the PSNP, perhaps it stands to reason that the propor-

FIGURE 13.
Nigdaw Women's Livelihoods Baseline FGD

Assets	HH1	HH2	HH3	HH4	HH5	HH6
Working Adults	1	1	2	1	1	2
Children/dependents	4	3	5	2	2	4
Timads of cultivable land	0	1	1.5	0	0.5	0
Oxen		0	0	0	0	0
Cows	0	0	1	0	0	0
Shoats	3	0	0	0	0	1
Donkeys	0	0	0	0	0	0
Chickens	10	1	0	2	2	3
Beehives	0	0	0	0	0	0
Wealth Category						
Category*	3	4	3	4	4	4

* 1 = Better off, 2 = Middle, 3 = Poor, 4 = Very poor

Note that all the households in this focus group fall into the two lowest wealth groups.

tional expenditure of cash on food would be relatively lower in a year like 2009, since presumably other needs would be relatively similar, but little if any assistance is provided in these areas.

Household demographics and assets. Figures 13 and Table 8 depict the average household size and number of working adults, as well as the major assets held (land and livestock). Figure 13 is again for the selected focus group, and Figure 14 is for the entire baseline.

While it would be too space-consuming to depict all results in terms of pie charts, the percentage totals for sources of food and income, expenditures and assets are broken down by livelihood zone, by gender, and by wealth group in Table 9. Several things stand out in Table 9, although they are not particularly unexpected. There are larger land holdings in The Eastern Plateau than in the other livelihood zones. Livestock holdings and beekeeping were more important in Atsbi-Wonberta and the Irob Mountains than in the Eastern Plateau. Male informants reported larger households and more working adults than women. Male informants reported larger land holdings, and greater numbers of livestock than female informants. Livestock assets and land holdings followed the expected patterns across wealth groups.

Figure 14: A Baseline Livelihood Assessment Focus Group Discussion

TABLE 8.
Demographics and Assets (Entire Sample)

Category	Mean Response
Working Adults	1.65
Children and dependents	4.12
Timads of cultivable land	1.08
Oxen	0.58
Cows	0.72
Shoats	2.57
Donkeys	0.42
Chickens	1.82
Beehives	0.46

TABLE 9.
Comparative Analysis of Livelihoods Baseline by Category

		By LH Zone			By Gender		By Wealth Group		
	Total	EP	AWH	IM	M	W	VP	P	M/BO
N	65	29	30	6	29	36	24	32	9
Proportion	100%	45%	46%	9%	45%	55%	37%	49%	14%
Sources of Income									
Livestock sales	10%	6%	12%	18%	12%	8%	3%	12%	21%
Livestock products sales	5%	4%	7%	3%	4%	6%	4%	4%	13%
Honey sales	2%	1%	0%	13%	4%	0%	0%	3%	3%
Crop sales (rain fed)	3%	2%	5%	0%	4%	3%	2%	5%	3%
Crop sales (irrigated)	1%	2%	0%	2%	3%	0%	1%	2%	0%
Labor	18%	14%	15%	53%	27%	11%	14%	22%	16%
Petty trading	3%	1%	5%	0%	0%	5%	3%	2%	6%
Natural resource extraction	0%	0%	1%	0%	0%	1%	1%	0%	0%
Land rental	0%	0%	0%	0%	0%	0%	0%	0%	0%
Artisanal services	1%	0%	1%	0%	0%	1%	1%	0%	1%
PSNP	50%	59%	48%	12%	42%	56%	66%	43%	30%
Other assistance (formal)	2%	5%	0%	0%	0%	4%	3%	2%	0%
Remittances	3%	4%	3%	0%	1%	5%	2%	5%	3%
Credit	2%	0%	3%	0%	2%	1%	1%	1%	6%
Sources of Food									
Own Production	13%	11%	17%	7%	16%	11%	9%	13%	23%
Purchase	38%	35%	36%	64%	45%	32%	29%	43%	38%
Borrowing	6%	5%	7%	7%	3%	8%	8%	5%	3%
Safety Net/Food Aid	35%	42%	31%	29%	31%	39%	47%	28%	28%
Assistance - informal	1%	1%	1%	0%	0%	1%	1%	0%	1%
Wild foods	7%	7%	8%	0%	5%	8%	6%	7%	8%
Expenditures									
Food (staple)	30%	31%	28%	31%	34%	27%	33%	27%	31%
Food (non-staple)	10%	10%	9%	13%	7%	11%	9%	10%	8%
Ag. inputs/ fodder	9%	10%	9%	9%	10%	9%	5%	12%	10%
Household items	7%	7%	7%	9%	4%	9%	7%	7%	7%
Water	3%	1%	5%	0%	1%	4%	4%	2%	3%
Health	9%	7%	11%	6%	7%	10%	11%	7%	6%
Clothing	10%	11%	10%	9%	11%	10%	10%	11%	10%
Education	10%	11%	10%	13%	11%	10%	9%	11%	12%
Tax	6%	7%	6%	5%	8%	5%	6%	6%	8%
Gifts	6%	7%	6%	6%	7%	5%	7%	6%	5%
Assets									
Working Adults	1.65	1.52	1.67	2.17	1.87	1.42	1.42	1.72	2.00
Children and dependents	4.12	4.03	4.07	4.83	4.87	3.39	3.46	4.28	5.33
Timads of cultivable land	1.08	1.24	0.98	0.75	1.53	0.67	0.60	1.22	1.83
Oxen	0.58	0.69	0.50	0.50	0.80	0.39	0.13	0.75	1.22
Cows	0.72	0.52	0.70	1.83	1.07	0.42	0.17	0.94	1.44
Shoats	2.57	1.83	3.23	2.83	3.40	1.81	1.04	2.91	5.44
Donkeys	0.42	0.17	0.52	1.17	0.68	0.19	0.13	0.52	0.89
Chickens	1.82	1.62	1.73	3.17	1.90	1.69	1.08	2.13	2.67
Beehives	0.46	0.21	0.47	1.67	0.87	0.11	0.08	0.28	2.11

Overall, 37% of the respondents in the livelihoods baseline fell into the "very poor" wealth group, and 49% fell into the "poor" wealth group. The two upper wealth groups comprised only 14% of respondents. This distribution is more skewed toward the lower wealth groups than the results of DPPA baseline (DPPA 2008) which showed an average of 30-35% in the highest two categories.

Livestock sales and labor are substantially more important in the Irob Mountain zone than in the other livelihood zones, and there is substantially less dependence on the PSNP. The Irob mountain *kebele* (Marwa) was very remote and very distant from the distribution point for the PSNP, but the sample interviewed there was also much smaller than the sample in the other livelihood zones, so these results must be viewed with some caution.

Female informants reported lower levels of income from labor, and more from petty trading, and somewhat more from the safety net. Female informants noted less food consumption from their own production and from purchase, and higher levels of both food and income from the PSNP. Women also appeared more ready to borrow food in a pinch than men were.

When comparing across wealth groups, while the trends are more or less as expected, the extent to which even better-off groups rely on the PSNP in a bad year is notable. For the better off groups (middle and upper groups combined, since numbers of both were low) nearly one third of income this year and over one fourth of food came from the PSNP. Better-off groups reported substantially higher proportions of income from livestock and crop sales (and it should be reiterated that these are proportional figures, so this no doubt represents even greater differences if actual *Birr* amounts could be recorded).

Comparison with results of household survey

Annex 1 contains some of the results of the household survey in May 2009 in the ACRP-served *kebeles* of Tsaeda Amba. Figures include a comparison between the household survey and the participatory baseline on household income and assets. The tables include results of the household survey on:

- Basic descriptive statistics of household demographics
- Comparisons with participatory baseline (sources of food and income)
- Water sources and distance
- Savings and indebtedness
- Current food security status: DD, CSI and HFIAS
- Disaster management results
- Impact of disasters

Some 37.5% of households are headed by women in the sample. Over 85% are able-bodied and able to work. About 65% are literate, though nearly 70% of the sample received no formal schooling.

Like the participatory assessment, the household survey shows a heavy reliance on the Productive Safety Net Program for income in the current year, with nearly 90% of households reporting that they received some income from this source (a significantly higher number than formal PSNP rolls would suggest, implying at least some sharing of this resource among households). Sales of livestock was the second most important source of income, mentioned by over half the households interviewed. Sales of agricultural products was much mentioned by a much lower proportion of households, but still the third most common source of income. Surprisingly, labor income or remittance income is mentioned by a very low number of respondents, but the survey was not undertaken at a time of year when labor migration would be at its peak.

There are several significant differences in the results of the household survey and the participatory baseline. Figure A1 compares findings on the proportions of household (cash) income reported in the participatory baseline (which used proportional piling) and the household survey (which inquired about different sources of incomes and amounts). The household survey noted a much greater reliance on livestock sales, and less reliance on labor and the PSNP. Part of the difference here might have been seasonal, even though the two different field data collection exercises were fairly close together – the household survey in May and the participatory baseline in July. By July there would have been a higher demand for labor, which possibly explains why so much more was reported in the participatory baseline. But the proportion of reported income from the PSNP was higher in July as well and there is no obvious reason why livestock sales would have suddenly declined.

The assets reported by households in the two different approaches are fairly similar, except that in the participatory baseline, there tends to be fewer working adults, and more dependents, whereas in the household survey, there is roughly an equal number of each. Breaking out these results by Livelihood Zone, gender and wealth group didn't provide many more clues.

Livelihoods appear to be more diversified in the Atsbi-Wonberta and Eastern Plateau livelihood zones, and land holdings were larger. Livestock holdings were the highest in the Eastern Plateau, followed by the Atsbi-Wonberta highlands. Hand dug wells are the most common source of water for the sampled population. Over 37% have access only to unprotected sources of water,

however, and few people report boiling or in any other way sterilizing water before consumption. On average, the nearest source of water is more than a half-hour's walk from the respondent's household, and this figure is highly variable.

Few households report any financial savings, but over half (55%) report having debts. The debts range from a few Birr to a high of 6000 Birr, with the average debt being about 2000 Birr. Most of the debt was incurred to purchase livestock, although nearly a quarter was incurred to buy food. The formal microfinance institution in the *woreda,* the Dedebit Savings and Credit Institution (DECSI) was the source of most of the loans, though some also came from informal money lenders, friends and family, and from cooperatives.

Several measure of food security depict a similar trend: the number of food secure households is low. According to a WFP measure of food security (the Food Consumption Score or dietary diversity) two-thirds of the households are food-insecure, with about one quarter being in a borderline status and therefore less than 10% food secure. The Coping Strategies Index (CSI – an aggregate behavioral measure) notes about 12.5% food security, about 40% in borderline food insecurity, 26% moderately food-insecure and over 20% extremely food-insecure. The Household Food Insecurity Access Scales (HFIAS – a combination of behavioral and psychological factors) shows even worse conditions: a mere 2.2% food-secure or borderline, 28% moderately food-insecure and almost 70% severely food-insecure. Note however, that the three different measures do not have a common definition for these categories, especially for the "severely food-insecure" category. Nevertheless, however, the three indicators paint a picture of widespread food insecurity, and this data was collected in May, which is well before the height of the "hungry season."

Questions on knowledge of disaster management show a reasonable degree of awareness about risks, hazards, and knowledge of community institutions for dealing with hazards and disasters. People were less knowledgeable about disaster preparedness plans or local early warning, and few had received any formal training in risk assessment or response. Nearly all households report having been affected by a shock in the previous12 months, and the shock negatively affected the household's ability to access adequate food. Apart from consumption coping strategies itemized by the CSI above, other common coping mechanisms included seeking assistance from the government or an NGO, sales of productive assets or farm produce, and seeking additional labor. The most serious impact on household status was reportedly due to the rapid increase in the price of food in the previous year, followed closely by drought. Other hazards included (in decreasing order of severity of impact) livestock disease, frost, hail, agricultural pests, human illness, flooding and HIV.

Non-project related causal factors

Most informants attributed little of their current circumstances—good or bad—to the ACRP interventions to date. The major areas of livelihoods constraints that fall within the purview of the ACRP are outlined among the hazards described above, and are the main factors mentioned to describe the current situation in Tsaeda Amba. These include, primarily, drought and environmental degradation. Other hazards such as crop pests, livestock and human diseases, and other weather-related hazards such as flooding, hail and frost, are addressed by the program or by other interventions being undertaken under the rubric of DRR by other agencies or the *woreda* authorities—at least in terms of good preparedness.

Observation of factors for further inquiry

However, there are a number of issues that arose in the course of the interviews that enhance or constrain livelihoods and livelihood resilience in Tsaeda Amba that are outside either the purview of the ACRP program or do not fall into the general category of disaster risk reduction. These factors will be important to consider in the overall impact of the program, and in understanding overall livelihood changes. These are mostly institutional factors, and will be the subject of further field work in January/February 2010, and are briefly outlined below.

Natural resource management. Systems of local resource management – both customary and statutory – are of critical importance to livelihood change. These were reviewed in the context of public works during the baseline, but only in terms of introducing new technologies or making investments in resource protection. Broader management and systems issues remain to be explored in greater depth.

Gender. Although focus groups were stratified by male and female respondents, the influence of gender dynamics in livelihoods in Tsaeda Amba was not well captured by the baseline. In part, this was because we were not necessarily interviewing heads of households (i.e. some of the women were married and some were not—that was not the variable on which the focus groups were stratified; it was only the gender of the informant).

Land access and land holdings. Although land policy is not up for discussion at this point, access to land, and the means by which certain kinds of rights to land are accessed, was a topic that is clearly important to livelihoods in Tsaeda Amba, but little information was

gathered during the baseline on this. Landlessness, and the alternatives open to landless youth, was also not a topic of exploration in the baseline. Not having land may well insulate an individual from certain kinds of hazards, but it is also a significant constraint to livelihoods.

Market access and market exposure. These may be two sides of the same coin, or it may be that some populations can be disadvantaged by both. That is, there may be limited access to markets in terms of selling, but nevertheless a high degree of market dependence for accessing food, and thus exposure to the risk of food price inflation, etc. How people cope with this twin threat was not very well explained by the information from the baseline.

Credit access and fear of credit. Access to credit and, through credit, access to "household packages" (combinations of interventions bundled together for technical overlap and feasibility) are one of the major strategies employed alongside the PSNP to enable individual households to improve their levels of assets and income, and graduate from the safety net. This is, therefore, a significant part of overall vulnerability reduction strategies across Ethiopia, Tsaeda Amba included. Anecdotally, however, the team encountered time and time again stories about individuals who took a loan to get a household package, but then a bad season or some other factor intervened to prevent the "package" from having its intended impact. The individual was left with a debt to pay back on the loan, but no improvement in assets or income. There is thus a recurrent story going around that credit is a liability to be avoided, even if it means that the only recognized "pathway" out of chronic food insecurity and poverty becomes inaccessible. It is not clear how widespread this perception is, but it is clearly a form of risk that ACRP is not able to address in its current form. So a question must be: what is the record of "household package" programs in Tsaeda Amba, and what is the risk of default or indebtedness resulting from participation? Information on this may be difficult to get, but with the cooperation of the DECSI general manager in Mekelle, it may be possible to interview people.

Another intervention, localized risk transfer (or more commonly known as drought insurance), could possibly address this kind of issue. REST and Oxfam America are piloting one such approach elsewhere in Tigray. Briefly, it is a form of insurance that pays out in the event of drought or other shock. In the REST/Oxfam pilot, individuals can opt in by purchasing a policy at the beginning of an agricultural season, and if they do not have the money to purchase the policy, there is a cash for work option in which the cash generated is used to purchase the policy (hence an "insurance for work" scheme). This approach has its critics, but it probably would be a favorable addition to loans made under a household package scheme.

Access to the PSNP. In theory, households are selected into the PSNP on the basis of certain poverty criteria and, on paper, an average of one half to three quarters of the households in the selected *kebeles* are formally included in the PSNP. Yet virtually everyone reported receiving PSNP benefits – both in the household survey and in the participatory baseline assessment. This also turns up in the DPPA assessment, in which the highest wealth groups receive some of both their food and cash income from PSNP sources. What are the local dynamics that lead to this? It will also be important to visit some of the on-going activities that are described as DRR interventions – particularly soil and water conservation interventions.

Isolation. Isolation came up repeatedly as a significant constraint to livelihoods during the course of the field work. It is not a factor that is immediately changeable, and even things like road construction hold out modest hope. One community in a particularly mountainous area is trying to build a road, but the conditions are almost impossible and even if built—a task that could take years if not decades—it is unlikely that vehicles could pass on the road. And there would be little incentive for commercial traders to use it.

Migration and remittances. The importance of labor migration and remittances was not as pronounced in the livelihoods baseline as it was in pre-existing literature. There was not enough time to go into the reasons for this – perhaps some of the labor migration was missed due to the timing of the baseline, or the selection of participants. Note that only 5% of households in the household survey mentioned any income from the remittances of members who had migrated elsewhere in search of work (see Annex 1).

The importance of local institutions. The importance of local institutions was apparent in the baseline, but not explored to the full extent possible. The role of the *idhir* (funeral societies), *equb* (savings groups), labor groups and other local institutions was occasionally mentioned, but their role in both risk mitigation and livelihoods change more broadly was not fully explained or understood. The impact of these institutions would be more related to coping with the human impact of a crisis than they would be preventing or mitigating a shock, but their role, particularly in localized risk transfer, needs to be better understood. Currently, they are mostly unrecognized in terms of risk reduction planning.

The impact of traditional practices. One recurrent theme in the risk reduction plans at the *kebele* level,

and which are supported by the annual plans of the ACRP, is public awareness raising about the impact of "harmful traditional practices," which generally means celebrations during the post-harvest season that result in over-consumption and wastage of food, which then leaves households more vulnerable to food deficits later on. This issue is not discussed very much in the existing literature, and wasn't particularly identified as an important area by the initial hazard assessment. While this was mentioned several times in interviews of KDPCs (and ACRP staff), there was no time to discuss this with community members to understand their perceptions of these practices, or their impact.

The impact of key national policies. There are several national policies that need to be understood better. These include in particular the National Disaster Management policy, and linkage to the zonal and *woreda/kebele* levels. It will also be of importance to understand the

LIU and what has happened since end of the USAID-supported LIU project. The LEAP project and its linkages to the local level are critical to understand, and it is hoped that the team can visit the HARITA project, as well as on-going public works programs.

Impact indicators for DRR interventions

One of the major objectives of the baseline was to determine possible indicators of impact for the ACRP program, and for livelihoods change in general, to use in the second round of the assessment in July/August 2010. Indicators fall into two rather separate categories. The first is indicators for the impact of the ACRP program on the capacity of the KDPCs, since this is where the bulk of the effort of ACRP is aimed. The second is the impact of DRR interventions generally (whether specifically part of ACRP, or part of the many efforts being conducted by KDPCs independently of ACRP or with the assistance of other programs – either NGO or government-led).

Impact of ACRP on *Kebele* Disaster Preparedness Committees

Assessing the effect of the ACRP on KDRP capacity will be the best impact measure for the project itself, because so much effort is focused on the KDPCs, and the time frame is probably too short to either capture household level effects, or the effects of reducing the impact of a shock. Several possible indicators for the impact on KDPC capacity include:

- Individual impact assessment of ACRP trainings and intervention (from project monitoring and evaluation reports). Note: this is only about achieving project outputs, not impact, but the assumption is that impact cannot happen in the absence of outputs.
- KDPC perceptions of ACRP and perception of attribution to project of changes noted.
- Improvements/changes in KDPC analysis and planning: Plans in 2008/2009 compared to plans for 2010 or 2011. Measures might include:
  - KDPC ability to differentiate between "needs," "hazards" and "outcomes"
  - KDPC ability to articulate an analysis of hazards and risk
  - Organization of KDPC plans and ability of KDPC to link analysis to activities in the plan
  - KDPC ability to implement plans, based on activities actually happening or already happened and demonstrated
  - *New* activities undertaken in 2010 as a result of new capacities or improved planning
  - Extent to which KDPC plans meet SMART criteria
- Increased identification and tracking of early warning indicators at KDPC level.
  - Do they have a list? Do they have any record of reporting? Is there any analysis of trends?
- Improved knowledge of national policies, plans and priorities, and ability to articulate how they influence local plans.
- Improved reporting and two-way communication between *kebele* and *woreda*.

Impact of DRR on livelihoods and household food security

Capturing the impact of DRR programming at the household level is a complex task, because the real impact is not something that may not be observable until the community is affected by a shock sometime in the future. At that point, actual impact can be measured in terms of comparatively fewer assets lost; lower levels of malnutrition, mortality or poor health outcomes; and reduced cost of responding to the humanitarian emergency. However, such measurement requires a control group, which can be difficult to identify if shocks are widespread, and similar DRR activities are going on in non-project areas. The point is that a comparison of impact is not just a matter of indicators, but also the design of impact assessments and the reality of interventions on the ground. Short of these measures, the impact of DRR programming can really only be assessed in terms of whether or not people perceive themselves to be at risk, and behave accordingly. The following indicators are proposed to capture both kinds of impact.

A number of impact indicators were suggested by the results of the baseline. These are listed below in two categories. Recommended measures are starred, and the reasons for selecting those measures are discussed below.

Food security impact indicators.[1] A number of food security impact measures were suggested by the baseline:

- Number of months of consumption from own production**
- Number of months of adequate household food access (including PSNP and other support) in perception of household decision-maker**
- Number meals eaten per day during hungry season in perception of household decision-maker**
- Frequency of other rationing of available food among household members
- Proportion of consumption coming from PSNP**
- Eating less preferable food or wild food
- Distress sale of assets for the purpose of purchasing food**
- Changed practices with regard to traditional ceremonies (although the impact of this activity needs to be measured in its own right – it should not be assumed that just reducing ceremonies automatically has an impact on food security)
- Reduced prevalence of malnutrition and reduced mortality (*kebeles* have figures on the latter, but usually not the former – some *kebeles* keep track of CMAM figures?)**

Broader livelihood indicators. A number of livelihoods impact measures were suggested by the baseline:

- Proportion of cash income coming from PSNP**
- Livelihood diversification (but care needs to be taken to separate out the sustainability of the diversified livelihood strategies – just having a greater number of strategies may or may not be an indicator of more sustainable livelihoods)**
- Changes in dependence on natural resource extraction for income (firewood sales, etc.)
- Use of drought-resistant crop varieties**
- Introduction of water conservation or soil conservation practices (on private holdings, since outset of project – these activities have been going on for a long time on communal land)
- Selective destocking, in the event of another bad year**
- Changes in school attendance or in students being forced to drop out of school
- Changes in indebtedness at household level**
- Changes in the usage of credit/household package program due to decreased fear of the debt burden (see notes on January work)
- Changes in livelihood practices actually being undertaken (e.g. "cut and carry" livestock production, new irrigation or water harvesting practices) as a result of ACRP or other DRR programming in pasts year
- Changes in labor migration and the reasons for it**
- Changes in health and hygiene practices

Other indicators to track

In addition to the indicators mentioned above, several others would add to the understanding of the impact of ACRP, and contribute to overall learning about ACRP:

- *Woreda* level figures of people on PSNP and people requiring emergency assistance at *kebele* level**
- *Woreda* level staff perceptions on changes in capacity at *kebele* level, and any attribution of change to ACRP activities**
- Changes in *woreda* reports based on improved information from field**
- Perceptions of ACRP staff of project impact
- Lessons learned by ACRP staff regarding capacity building, implementation and reporting**

1 Measures developed for the baseline household survey will be repeated in Round Two in 2010. These include a measure of dietary diversity (the WFP food consumption score), the coping strategies index (CSI), and the household food insecurity and access scale (HFIAS).

Section 4. Conclusions and Recommendations to ACRP

Assessing the impact of DRR interventions is difficult when a serious humanitarian disaster is already ongoing at the time of the baseline. Livelihood conditions are likely to improve if the current crisis abates (both the food price crisis and the drought). However, changes resulting from an abating crisis are different from changes resulting from a programmatic intervention. As noted above, it is difficult to assess the impact of a program like ACRP at the household level in the short term – the project is only three years long, and year one (2008) saw little activity. Year two included the baseline assessments – both the participatory assessment described here and the household survey undertaken in April/May. But in terms of timing, the baseline assessment took place almost half way through the life cycle off the program. To see real changes at the household level resulting from a program that attempts to build capacity at the community level would take some time under the best of circumstances.

Thus, there are many challenges to tracking the impact of a program like the ACRP in the current context in Tsaeda Amba. Measuring change at the community level (particularly the capacity of the KDPC) is therefore the most important way to understand the impact of the program. But continuing to monitor livelihood changes is important to improve the nature of DRR analysis and programming. In the event that the impact of the current drought and food price shocks continues to worsen, the final assessment in 2010 should consider a comparison of the impact of those combined shocks on ACRP and non-ACRP *kebeles,* or sub-*kebeles*, as one means of assessing impact. Nevertheless, two major areas of impact assessment have been outlined on the basis of this: one of these is changes in the capacity of the KDPCs; the other is changes in livelihoods.

KDPC plans and capacity

The major area that ACRP aims impact significantly is the capacity of the most local-level actors – the *Kebele* Disaster Preparedness Committees – in disaster risk management, and strengthening their linkages to *woreda* government. Much of the activity of the project is focused at this level, and much of the concern with impact assessment is at this level.

Most of the recommended indicators of impact for ACRP thus revolve around understanding changes in the capacity of the KDPC. These include improved analysis and, particularly, improved ability to articulate their analysis of the problem (in many cases, the KDPC analysis of their own situation was sophisticated and quite comprehensive). But more importantly, the link between analysis, planning and actual interventions needs to be improved, and impact needs to be captured along this trajectory. The relatively limited analysis in plans, the extent to which plans are mandated by external requirements from agencies and government, and the extent to which the "menu" of interventions is already set by years if not decades of pre-existing "off-the-shelf" practices, all limit the linkage between analysis and planning, and between planning and implementation. As a result, much of the programming labeled "DRR" includes interventions that might have been labeled something else five or ten years ago, but which were already happening then. If they had little impact on reducing the risk of disasters then, it is unlikely that they will have a different result now—unless the issue really is that local communities don't have the capacity to implement them, or unless (as hypothesized by the ACRP planning document) they have to be implemented as part of a coordinated strategy, rather than piece-meal.

An important element of this capacity building—already discussed with ACRP staff in Tsaeda Amba—will be to obtain a copy of as many of the *Kebele*'s plans for 2009 as possible, and compare them to the 2011 plan at the end of the ACRP pilot. An important element of impact will be to assess what is different in the 2010 or 2011 plans. Is there improved problem analysis? Is there an improved linkage of analysis to intervention? Do committee members know their own plans? And in particular, do the goals fit SMART criteria of (specific, measurable, attainable, relevant and time-bound)? An additional recommendation—not previously discussed with ACRP staff, would be to share local community disaster preparedness plans from other ACRP sites. This could include some cross learning not only between

TABLE 10
DRR Strategies and Hazard Categories in Tsaeda Amba

DRR Strategies	Categories of Hazard					
	Climatic	Natural-Resource	Economic	Disease	Population	Social
1. Reducing the occurrence of adverse events	?	Y	?	Y	Y	Y
2. Reducing risk of negative human outcome	Y	Y	?	Y	Y	Y
3. Transferring risk within communities	Small-scale	N	?	N	N	Y
4. Transferring risk outside communities	Y	?	Y	N	Y	?
5. Enabling prudent risk taking	Y	Y	Y	Y	Y	?

Y = Interventions exist
N = Interventions probably do not exist
? = Not clear whether existing interventions address or not

the Tsaeda Amba and the Addis Ababa sites, but also the Ghana and Lesotho sites. ACRP is working to improve the local/district (i.e. *kebele/woreda*) links, and is in position to facilitate this exchange in terms of the periphery (*kebeles*) informing the center (*woreda* and higher levels of government) as much as the other way around.

Livelihoods and livelihood change

To assess the impact that ACRP has on livelihoods, it will be necessary to understand the full range of factors affecting livelihood change in Tsaeda Amba. Much of this work remains to be done, and will be the focus of the planned field work in January 2010. Definitively measuring livelihood change and, particularly isolating the impact on livelihood change of a single factor or set of interventions such as ACRP, is a task that requires a longer time frame and more extensive research tools than the current study has. This is the main reason for selecting a participatory approach to the research—so that the perceptions of the affected communities can be explored and documented, even if quantitative changes over time are not fully captured because of time and resource limitations, and particularly if quantitative attribution to specific program activities can't be demonstrated. It is still possible that additional resources can be secured to enable this research program to continue monitoring changes in Tsaeda Amba, but this baseline assessment is predicated on the assumption that two rounds of participatory information gathering and analysis will be the extent of the monitoring. This will be supplemented to the extent possible with household survey data.

Lessons learned and conclusions

For ACRP, it will be critical to come to some operating procedure that determines the difference between DRR activities and other development activities or, alternatively, a means of measuring the impact of "DRR mainstreaming" on changes in development planning. As noted, virtually all activities that were mentioned to the research team during the course of the baseline have been happening in one guise or another for a long time. This is not necessarily bad, but it does make a definition of DRR—and more critically, a strategy for DRR—difficult to pin down.

More important is to continue to make use of the ACRP as a learning laboratory, and to think critically about "what is missing" in the current panoply of activities happening under the rubric of DRR. One critical missing piece is that of locally viable insurance to reduce the risk of default, indebtedness, and asset loss resulting from failed attempts with "household packages," other credit-based livelihood promotion interventions, or drought. Both the national LEAP program and the much more localized HARITA program are experimenting with this approach, and while it is only one piece of the puzzle, ACRP could learn from theses experiences and incorporate their successes.

Overall, a DRR strategy must address the various elements of the conceptual framework that was laid out in the introduction. ACRP staff should think through, with *woreda* and *kebele* counter-parts, what interventions address (or could possibly address) the various components. For components that do not have interventions, the challenge is to think more broadly about what could address these elements:

1. Reducing the occurrence of adverse events.
2. Reducing the risk of negative human outcome through reducing exposure to adverse events that continue to occur.
3. Transferring risk within communities. Where shocks occur, the imperative is to improve the capacity of communities to deal with idiosyncratic risk.
4. Transferring risk or shifting some of the burden of a shock that affects most people in a community out of the local system.
5. Enabling prudent risk taking.

One recommended activity would be for ACRP staff (both international and those based in Tsaeda Amba and Addis Ababa) to go through this framework, and put the various interventions already being promoted into these various categories. Some may fit more than one. On the basis of the baseline, Table 10 depicts possible places where ACRP interventions may address known hazards.

Transferring risks within communities is all about dealing with idiosyncratic risk, and it is clear that most DRR activities in Ethiopia are (rightfully) focused on covariate risk, particularly on drought. But a comprehensive risk management and reduction strategy would differentiate these two kinds of risk and deal with them separately. This is evident in part of the current strategy that focuses on HIV/AIDS. While a national pandemic, it can affect one household but not necessarily its neighbor (which is more or less the definition of idiosyncratic risk).

While the research team is not in position to question the results of the initial hazard assessment, or the prioritization of HIV/AIDS programming as part of ACRP, it is notable that HIV/AIDS rarely came up in the hazard ranking exercises, despite prompting questions. This is not to imply that HIV/AIDS programming is unimportant, but it might imply that it is either a separate component of DRR (one that focuses specifically on idiosyncratic risk) or else it is a different kind of programming altogether. ACRP staff must take on the decision for that. If the former it is certainly not the only form of idiosyncratic risk, so should rightfully be considered one component of a DRR strategy for dealing specifically with that category of risks. If the latter, it would in no way undermine the importance of HIV/AIDS programming. But it would imply that it belongs somewhere other than ACRP.

Likewise, it is clear that, until quite recently, little thought was given to including in DRR activities any kind of protections against man-made (or at least non "natural") disasters. In this case, the salient example is that of hyper-inflation in the price of basic foods in an economy where people are reliant on the market for their consumption for a significant part of the year. So far, there is little in the way of DRR interventions that offer any reduction in the risk inherent in this kind of hazard. The PSNP blunted the impact of the food price crisis, but it wasn't able to reduce any of the risk inherent in rapid price inflation. The PSNP reduces the risk of a rapid decline in consumption but, in itself, it does not reduce the risk of an inflation shock. Are there DRR interventions that reduce the risk of such shocks – either by changing the nature or prevalence of the hazard itself, or by changing the nature of the community's exposure to it or the ability of the community to cope with it? This remains an area for learning and experimentation. ■

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Annexes

Annex 1

Statistical results of household survey, May 2009

The tables in this annex present a summary of the statistical information gathered during the household survey in May 2009, and some limited analysis of this data (cross tabs by gender of head of household, by livelihood zone and by income group). Further analysis of this statistical data will follow later on. The figures presented here are an attempt to compare the results of the participatory baseline assessment with the results of the household survey, at least in the areas where comparable data exists.

These figures are presented on the next two pages, and discussed in the narrative report.

The tables presented here include:

1. Basic descriptive statistics of HH characteristics (size, Sex of HHH, education of HHH)
2. Measures of food sources, income sources and assets at household level
3. Assets index along lines of DPPA 2008 (land and livestock) and comparison of proportions by wealth group, gender and livelihood zone
4. Measure of livelihood diversification (number of reported income sources and number of households reporting each)
5. Water sources and distance
6. Savings and indebtedness
7. Current food security status: DD, CSI and HFIAS
8. Disaster management results
9. Impact of disasters

There is a discussion of the comparison between these results and those of the participatory livelihoods baseline focus groups in the main report.

FIGURE A1

Comparison of Household Income:
Participatory Baseline and Household Survey

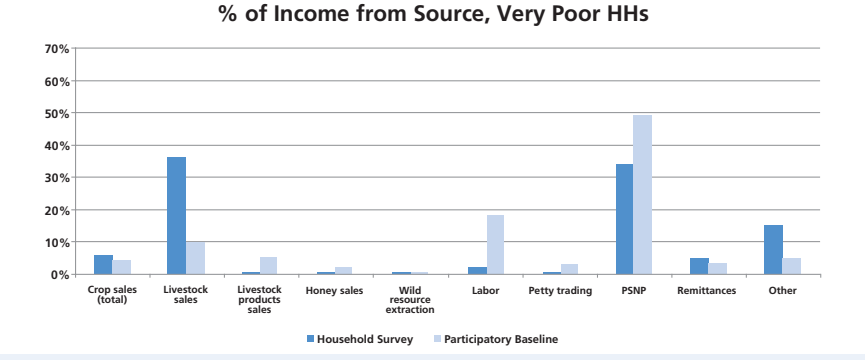

FIGURE A2

Comparison of Assets:
Participatory Baseline and Household Survey

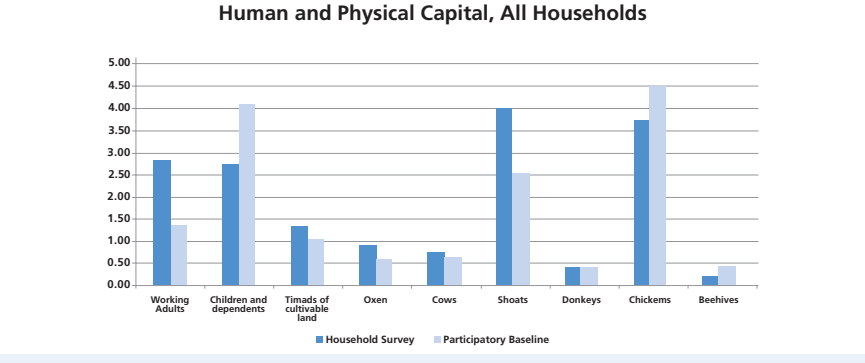

Table A1. Household Descriptive Statistics

		n	%
Sex of HH Head	Male	250	62.5
	Female	150	37.5
Sex of HH members	Male	1078	46.7
	Female	1231	53.3
Age of HH members	0-14	993	43.0
	15-64	1162	50.3
	65+	155	6.7
Ability of HH members (>age 10) to read and write	Yes	1094	64.6
	No	600	35.4
Health status of HH members	Always able to work, attend school	1973	85.5
	Usually able to work, attend school	199	8.6
	Never able to work, attend school	136	5.9
Highest education completed	No school	1611	70.1
	1st cycle primary	458	19.9
	2nd cycle primary	159	6.9
	1st cycle secondary	47	2.0
	2nd cycle secondary	10	0.4
	Technical college / university	14	0.6

Table A2a. Household Income Sources and Assets

		Totals		By sex of HH head		By livelihood zone			By household wealth group			
		N	Value	Male (n=250)	Female (n=150)	Atsbi-Wonberta Highlands (n=80)	Eastern Plateau (n=300)	Irob Mountains (n=20)	Very Poor: <1650 ETB (n=256)	Poor: 1650-2249 ETB (n=61)	Middle Income: 2250-2999 ETB (n=41)	Better-off: 3000+ ETB (n=42)
Total mean income (ETB)		400	1645	1951	1137	1506	1702	1348	835	1890	2568	5261
Source of income (% - percent refers to % of HHs reporting source)	sales of own agricultural products	72	18.0	20.0	14.7	22.5	18.0	0.0	16.0	19.7	30.0	16.3
	sales of livestock	219	54.8	59.6	46.7	51.2	56.0	50.0	41.4	75.4	80.0	81.4
	sales of livestock products	24	6.0	5.6	6.7	3.8	7.0	0.0	7.0	4.9	2.5	4.7
	sales of honey	4	1.0	1.2	0.7	2.5	0.7	0.0	0.8	0.0	2.5	2.3
	sales of wild products	13	3.2	2.8	4.0	2.5	3.7	0.0	2.7	1.6	0.0	11.6
	farm labor	6	1.5	1.2	2.0	1.2	1.7	0.0	1.2	4.9	0.0	0.0
	non-farm labor	14	3.5	3.2	4.0	5.0	3.3	0.0	2.7	4.9	0.0	9.3
	petty trade (specify goods)	4	1.0	1.2	0.7	0.0	1.3	0.0	0.8	0.0	0.0	0.0
	own business	26	6.5	8.0	4.0	1.2	8.3	0.0	4.3	8.2	10.0	14.0
	work in another household	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	professional/ civil servant	9	2.2	2.8	1.3	0.0	3.0	0.0	0.4	3.3	0.0	14.0
	productive safety nets program (PSNP)	357	89.2	88.0	91.3	95.0	87.0	100.0	92.6	88.5	77.5	81.4
	other food for work or cash for work program	18	4.5	5.2	3.3	3.8	3.3	25.0	4.7	4.9	5.0	2.3
	remittances	19	4.8	5.2	4.0	7.5	4.0	5.0	2.7	3.3	15.0	9.3

Table A2b. Household Income Sources and Assets

+-		Totals	By sex of HH head		By livelihood zone			By household wealth group			
		Value (ETB)	**Male** (n= 250)	**Female** (n= 150)	**Atsbi-Wonberta Highlands** (n=80)	**Eastern Plateau** (n=300)	**Irob Mountains** (n=20)	**Very Poor:** <1650 ETB (n=256)	**Poor:** 1650-2249 ETB (n=61)	**Middle Income:** 2250-2999 ETB (n=41)	**Better-off:** 3000+ ETB (n=42)
Total mean income		1645	1951	1137	1506	1702	1348	835	1890	2568	5261
Mean Income amount by source (ETB)	sales of own agricultural products	88.74	114.76	45.37	62.12	101.75	.00	55.14	71.48	193.25	216.05
	sales of livestock	584.26	723.89	351.55	561.10	574.99	816.00	229.61	857.54	1287.00	1654.30
	sales of livestock products	7.62	8.64	5.93	6.25	8.50	.00	9.65	6.56	.75	3.49
	sales of honey	3.00	3.20	2.67	10.00	1.33	.00	1.56	.00	2.50	16.28
	sales of wild products	6.36	6.44	6.23	1.75	8.02	.00	2.99	8.20	.00	29.77
	farm labor	5.50	2.20	11.00	2.50	6.67	.00	6.25	9.84	.00	.00
	non-farm labor	25.77	19.90	35.53	40.58	23.53	.00	5.26	23.93	.00	174.42
	petty trade (specify goods)	4.75	5.80	3.00	.00	6.33	.00	4.10	.00	.00	19.77
	own business	62.42	91.04	14.73	15.00	79.23	.00	21.09	46.23	135.00	263.95
	work in another household	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	professional/ civil servant	176.96	262.33	34.67	.00	235.94	.00	1.69	25.41	.00	1600.00
	productive safety nets program (PSNP)	553.91	578.21	513.40	658.00	533.21	448.00	469.23	700.74	709.62	704.88
	other food for work or cash for work program	7.55	8.80	5.47	.50	7.69	33.60	6.96	11.11	11.48	2.33
	remittances	72.12	79.20	60.33	145.63	54.00	50.00	39.26	9.84	120.00	311.63
	other	10.34	3.30	22.07	4.50	12.58	.00	4.53	41.39	.00	10.47

Table A2c. Household Income Sources and Assets

		Totals		By sex of HH head		By livelihood zone			By household wealth group			
		N	Value	Male (n=250)	Female (n=150)	Atsbi-Wonberta Highlands (n=80)	Eastern Plateau (n=300)	Irob Mountains (n=20)	Very Poor: <1650 ETB (n=256)	Poor: 1650-2249 ETB (n=61)	Middle Income: 2250-2999 ETB (n=41)	Better-off: 3000+ ETB (n=42)
Livelihood diversification	# of income sources	400	1.96	2.04	1.83	1.96	1.97	1.80	1.77	2.20	2.22	2.51
House ownership (%)	Yes	387	97.0	97.2	96.7	97.50	97.30	90.00	96.90	96.70	97.40	97.7
Iron sheet roofing (%)	Yes	67	16.8	18.1	14.8	5.10	20.70	5.00	17.30	14.80	12.80	20.90
Access to land (%)	Yes	375	93.8	93.6	94.0	92.50	94.30	90.00	93.80	95.10	100.00	86.00
Land owned (timad)	Amount	400	1.77	1.96	1.46	1.49	1.89	1.15	1.71	1.75	2.15	1.77
Livestock owned (TLU)	Tropical Livestock Units	400	1.28	1.438	1.017	1.17	1.34	0.79	1.16	1.39	1.43	1.67

Table A3. Water Sources and Distance

		n	% of HHs
Primary HH Water Source	Bore hole (via faucet)	84	21.1
	Hand-dug well with hand pump	145	36.3
	Protected spring with faucet or pipe	24	6.0
	Rainwater surface catchment (protected)	8	2.0
	River (direct)	37	9.3
	Unprotected spring	82	20.6
	Pond/surface water catchment (unprotected)	19	4.8
Type of toilet used	None	47	11.8
	Wooden standard pit latrine	310	77.5
	Cementer standard pit latrine	19	4.8
	Ventilation improved pit latrine	20	5.0
	Other	4	1.0

	N	Minimum	Maximum	Mean	Median	Std. Deviation
Minutes to fetch water from primary water source	400	1	375	35.28	20	55.067

Table A4. Savings and Debt

		n	% of HHs
Existence of HH Savings	Yes	6	1.5
	No	394	98.5
Existence of HH Debt	Yes	218	54.5
	No	182	45.5
Source of loans	DECSI/ MFI/DEDEBIT	194	78.9
	Money lender	1	0.4
	Friend/neighbor/ relatives	29	11.8
	Bank	1	0.4
	Cooperatives	20	8.1
	Other	1	0.4
Reason for loan	To buy food	56	22.9
	Health expenses	1	0.4
	Educational expenses	1	0.4
	Housing materials expenses	1	0.4
	To buy agricultural inputs	17	6.9
	To buy livestock	167	68.2
	To start new business	2	0.8

	Minimum	Maximum	Mean	Std. Deviation
Amount of loan (ETB)	9.00	6000.00	2045.9980	1275.64506

Table A5a. Food Security Status - FCS (Dietary Diversity)

	Minimum	Maximum	Mean	Std. Deviation
Food consumption score (aggregate)	12.00	98.00	37.9650	11.46144

	Range	n	%
Food consumption score (disaggregated)	0-21	39	9.8
	21.5-35	97	24.2
	35.5+	274	66.0

	Mean	Std. Deviation
# of days eating grains or tubers in the last week	6.69	.752
# of days eating pulses or legumes in the last week	5.06	2.555
# of days eating vegetables in the last week	.44	1.027
# of days eating fruits in the last week	.09	.429
# of days eating meat, eggs or fish in the last week	1.11	1.408
# of days eating dairy products in the last week	.41	1.271
# of days eating sugar or honey in the last week	1.54	2.270
# of days eating oils in the last week	4.04	2.676

Table A5.b Food Security - HFIAS*

	N	Minimum	Maximum	Mean	Std. Deviation
HFIAS access score (1 week recall, 0-49 scale)	397	0	49	25.68	8.822

		n	*%*
HFIAS access score (aggregate)	0-9	10	2.5
	10-19	91	22.9
	20-29	154	41.3
	30-39	125	31.5
	40-49	17	4.3

HFIAS questions (modified)	**Mean**	**Std. Deviation**
1. # of days in the past week that you worried HH would not have enough food	4.59	2.196
2. # of days in the past week that HH relied on less preferred foods	6.22	1.504
3. # of days in the past week any HH member had to eat a limited variety of foods	5.06	2.174
4. # of days in the past week that HH gathered wild food, hunted, or harvested immature crops	.00	.100
5. # of days in the past week any HH member had to limit portion size	3.96	2.377
6. # of days in the past week HH had to reduce the number of meals in a day	3.62	2.512
7. # of days in the past week that there was no food to eat in the HH	.98	1.868
8. # of days in the past week any HH member had to go to bed hungry	1.08	1.778
9. # of days in the past week any HH member had to skip entire days without eating	.21	.769

		n	*%*
Modified HFIAS food security categories	Food secure	4	1.0
	Mildly food insecure	5	1.2
	Moderately food insecure	114	28.5
	Severely food insecure	277	69.2

* Categories modified slightly

Table A5.c Food Security - The Coping Strategies Index

	N	Minimum	Maximum	Mean	Std. Deviation
Coping Strategies Index (0-189 scale)	399	0	109	41.03	20.139

			n	%
CSI score categories	0-19	(Food secure)	50	12.5
	20-39	(Borderline food insecure)	163	40.9
	40-59	(Moderately food insecure)	105	26.3
	60-79	(Very food insecure)	69	17.3
	80-99	(Extremely food insecure)	11	2.7
	100+	(??)	1	0.3

CSI questions (modified)	Mean	Std. Deviation
# of days in the past week rely on less preferred or less expensive food?	6.22	1.504
# of days in the past week borrow food, or rely on help from a relative?	1.29	1.912
# of days in the past week purchase food on credit?	.57	1.303
# of days in the past week gather wild food, hunt, or harvest immature crops?	.01	.100
# of days in the past week consume seed stock held for next season?	2.76	2.603
# of days in the past week send household members to eat elsewhere?	.13	.695
# of days in the past week send household members to beg?	.04	.465
# of days in the past week limit portion size at mealtimes?	3.97	2.377
# of days in the past week restrict consumption by adults in order for small children to eat?	2.49	2.470
# of days in the past week reduce the number of meals eaten in a day?	3.62	2.512
# of days in the past week skip entire days without eating?	.21	.769

Table A6. Disaster Management

		Totals		By sex of HH head		By livelihood zone			By household wealth group			
		N	Value	Male (n=250)	Female (n=150)	Atsbi-Wonberta Highlands (n=80)	Eastern Plateau (n=300)	Irob Mountains (n=20)	Very Poor: <1650 ETB (n=256)	Poor: 1650-2249 ETB (n=61)	Middle Income: 2250-2999 ETB (n=41)	Better-off: 3000+ ETB (n=42)
Knowledge of government body concerned with disaster management	Yes	321	80.5	81.5	78.7	83.8	79.9	75.0	77.0	85.2	82.5	92.9
Knowledge of government policies in addressing disaster in local area	Yes	309	77.4	77.5	77.3	78.8	77.3	75.0	73.0	85.2	80.0	90.5
Knowledge of committee in the community dealing with disaster management	Yes	299	74.9	75.5	74.0	72.5	76.3	65.0	70.3	82.0	82.5	85.7
How often in the past year HH member has attended public meeting about management of disaster risks?	Never	247	61.9	62.7	60.7	70.0	60.9	45.0	64.8	47.5	70.0	57.1
	Some-times	128	32.1	30.5	34.7	20.0	33.8	55.0	31.6	34.4	25.0	38.1
	Many times	24	6.0	6.8	4.7	10.0	5.4	0.0	3.5	18.0	5.0	4.8
Any HH members trained in risk/ vulnerability assessment in past year	Yes	54	13.5	14.5	12.0	12.5	13.7	15.0	12.1	26.2	7.5	9.5
Local early warning system in community	Yes	275	68.9	69.1	68.7	70.0	68.9	65.0	62.5	75.4	82.5	85.7
	No	28	7.0	8.4	4.7	2.5	8.7	0.0	7.8	6.6	7.5	2.3
	Don't know	96	24.1	22.5	26.7	27.5	22.4	35.0	29.7	18.0	10.0	11.6
Presence of disaster preparedness plan in community	Yes	252	63.2	64.7	60.7	60.0	63.9	65.0	58.2	73.8	65.0	76.2
	No	31	7.8	8.8	6.0	6.2	8.7	0.0	9.8	6.6	5.0	0.0
	Don't know	116	29.1	26.5	33.3	33.8	27.4	35.0	32.0	18.0	30.0	23.8

Tables A7a. Impact of Disasters

		n	%
HH affected by major shock in the past 12 months	Yes	382	95.5
Shock affected HH's ability to feed its members	Yes	383	96.2
Coping strategies to deal with shock	Distress sales / exchanging of farm produce	71	17.8
	Distress sales of personal/ HH items	15	3.8
	Distress sales of productive assets	224	56.1
	Increased extraction / sales of natural resources	16	4.0
	Sought additional wage labor	87	21.8
	HH members left to seek work elsewhere	37	9.3
	HH sought support from government	316	79.2
	HH sought support from NGO	59	14.8
	Begging	5	1.3

Tables A7b. Impact of Disasters

		Mean	Std Deviation
Impact of disasters (1-5 scale) in decreasing order of importance (most significant first)	Food Price Inflation	3.56	0.918
	Drought	3.53	0.843
	Livestock Pests and Diseases	1.63	0.842
	Frost	1.63	0.85
	Hail	1.43	0.937
	Agricultural Pests and Diseases	1.38	0.674
	Human Illness	1.36	0.67
	Flooding	1.16	0.474
	HIV/AIDS	1.07	0.383

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