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ETHIOPIA DROUGHT INSURANCE UPDATE AND 2007 WEATHER RISK MANAGEMENT WORKPLAN



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NOTE TO THE EXECUTIVE BOARD

This document is submitted to the Executive Board for approval.

The Secretariat invites members of the Board who may have questions of a technical nature with regard to this document to contact the WFP staff focal points indicated below, preferably well in advance of the Board's meeting.

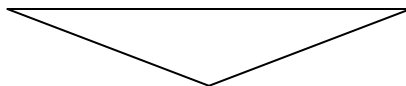
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Should you have any questions regarding matters of dispatch of documentation for the Executive Board, please contact Ms C. Panlilio, Administrative Assistant, Conference Servicing Unit (tel.: 066513-2645).



DRAFT DECISION*



The Board (i) takes note of continued progress on Phase I of the Ethiopia Drought Insurance Project and looks forward to the final project report to be submitted at the First Regular Session in 2007; and (ii) authorizes the Secretariat to prepare a project budget and workplan to submit to donors for their consideration.

* This is a draft decision. For the final decision adopted by the Board, please refer to the Decisions and Recommendations document (document WFP/EB.2/2006/16) issued at the end of the session.



I. ETHIOPIA PHASE I: PILOT PROJECT IMPLEMENTED

Contingency Funding Secured Through Transaction with Axa Re

1. As communicated to Board members in the Executive Director's letter of February 2006, WFP awarded the Ethiopia drought insurance contract to Axa Re following a competitive tender process. For a premium of US\$930,000, the contract guarantees contingency funding of US\$7.1 million to be made as an insurance payout if and when extreme drought occurs during Ethiopia's 2006 agricultural season. The Government of Ethiopia would use any payout received to fund contingency plans for drought intervention.

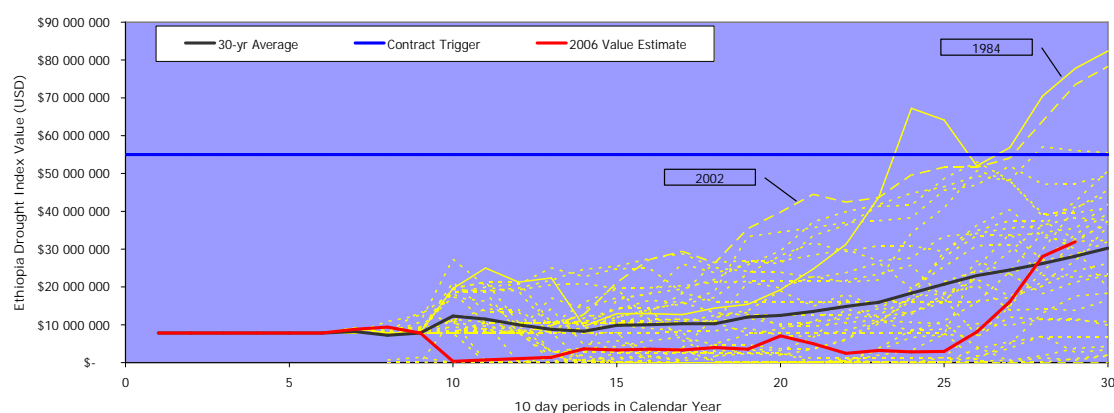
Data Flow Secured through the National Meteorological Agency (NMA) Capacity-Building

2. WFP continues to work with NMA to secure data flow. Since 1 January 2006, NMA has reliably reported daily rainfall data for each of the 26 weather stations. It has also prepared and distributed agricultural drought index updates.

Drought Index Accurately Tracks Agricultural Season

3. Extension officers in the field verified that the agricultural index accurately tracks actual crop yields. A payout is not expected this year, as demonstrated in Figure 1. The dotted line plots the index value – simulated agricultural value losses – throughout the 2006 season. The value of the derivative contract on 20 October 2006 was US\$32.0 million. If no more rain falls over the entire country for the remaining 10 days of the contract period, the value of the derivative contract on 31 October 2006 will be approximately US\$37 million, just above the average index level but well below the payout trigger level of US\$55 million; hence a payout is not expected.

Figure 1. Drought Index Performance



Implementation Rulebook Drafted by Government of Ethiopia and WFP

4. The Government of Ethiopia established a steering committee to oversee the implementation of the project and integration into government programmes, particularly the Productive Safety Net Programme (PSNP).¹ WFP and members of the steering committee have since designed an *Implementation Rulebook* to regulate transfers from insurer to beneficiaries in a payout scenario. The rulebook is under final review by the Government; the draft version, which is available on request, is summarized below.
5. The *Implementation Rulebook* is intended to assist government officials and implementing partners in administering livelihood interventions before severe rainfall shortages become catastrophic drought as a result of inadequate and untimely emergency response. It outlines planned food-for-work or cash-for-work projects through which resources can be transferred to transitory food-insecure beneficiaries who are not part of the PSNP and so mitigate the impact of harvest failure on their livelihoods. The *Implementation Rulebook* is modelled on the PSNP *Implementation Manual*; sections that are significantly different include beneficiary targeting and selection, planning of public works projects, transfer scheme design and financial management (see Annex A).
6. The *Implementation Rulebook* was designed to transfer contingency funding of US\$7.1 million – sufficient to serve 62,000 households in 10 to 15 most affected *woredas* (administrative districts) in agricultural areas. At this stage, its main purpose is to serve as a template for future versions of the project. After the pilot stage, in the event of a significant expansion of the contingency funding facility, changes would be necessary, for example better coordination with other safety-net programmes, improved contingency planning and capacity-building and detailed monitoring and evaluation guidelines. In future, the *Implementation Rulebook* will also have to address the needs of pastoralists in pre-emergency situations.

Lessons Learned from Ethiopia Drought Risk Management Phase I

7. The Ethiopia Drought Insurance Pilot Project has shown that:
 - (i) it is feasible to use market mechanisms to finance drought risk in Ethiopia;
 - (ii) it is possible to develop objective, timely and accurate indicators for triggering drought assistance. The Ethiopian agricultural drought index shows an 80 percent correlation with the total number of historical food aid beneficiaries from 1994 to 2004; more critically, the index picks up the well documented catastrophic droughts of the past 40 years, which it was designed to capture. This suggests that such an index is a relatively good proxy of actual aggregate needs in case of drought. Also, the index is updated every ten days, which greatly improves the timeliness of information; and
 - (iii) ex-ante resources can give governments the incentive to put contingency plans in place, allowing earlier response to shocks. In drafting the *Implementation Rulebook*, the Government of Ethiopia took a significant step in upgrading its contingency planning process; the guarantee of predictable and reliable contingency funding catalysed institutional interest and commitment.

¹ See “Progress Report on the Ethiopia Drought Insurance Pilot Project”, June 2006. The committee, chaired by the Food Security Coordination Bureau (FSCB), consists of representatives from FSCB, the Ministry of Agriculture the Disaster Prevention and Preparedness Agency (DPPA) and the Institute of Development Research at Addis Ababa University.



8. Low-probability, high-consequence risk such as catastrophic drought is suitable for transfer to global markets where it can be pooled and where diversified risk portfolios can be put together to reduce the cost of coverage. WFP demonstrated that index insurance can be used to transfer such risks out of developing countries. However, if insurance is to become an effective risk-management tool for Ethiopia, it must be coordinated with other financial instruments to provide more comprehensive coverage of Ethiopia's drought risks. Transiently food-insecure households remain exposed to mild or local droughts that leave them susceptible to asset depletion and other destructive coping mechanisms even when conditions are not severe enough to trigger an insurance payout. More cost-effective instruments for financing these higher-frequency, lower-impact events must be established alongside the insurance component to produce a comprehensive financial contingency plan.
9. At the operational level, it is crucial to coordinate with PSNP partners and build the capacity needed to prepare for and implement livelihood interventions. Phase I of this project focused on testing an innovative financial tool. The second phase will focus on developing a sustainable risk-management strategy by designing an integrated financial solution for the three-year period corresponding with the 2008–2010 PSNP. This plan would make use of coordinated financial instruments tailored to different levels of risk, thereby providing comprehensive coverage.
10. WFP's engagement in this risk-management work supports its Strategic Objectives, as outlined in the Strategic Plan (2006–2009):
 - protecting livelihoods in crisis situations and enhancing resilience to shocks; and
 - strengthening the capacity of countries and regions to establish and manage food-assistance and hunger-reduction programmes.

Final Report in 2007 on Ethiopia Phase I

11. Following the 2006 agricultural season, WFP will present a final report on Phase I of the Ethiopia project at the Board's First Regular Session of 2007. This will include a final assessment of lessons learned.

II. WORK PLAN AND BUDGET FOR 2007

Develop Ethiopia Phase II

12. WFP management has not submitted a proposal for insurance coverage for Ethiopia's 2007 agricultural season; WFP is instead expecting to develop an integrated plan for 2008–2010 that would address sustainability and effectiveness as discussed above.
13. WFP will seek project funding of US\$450,000. Any premium funding would be appealed for as part of Ethiopia's appeal for 2008–2010.
14. The proposed 2007 Workplan being prepared for Ethiopia Phase II will support the 2008–2010 harvest seasons. It will:
 - develop a concept note on Phase II with key development partners: January;
 - develop a comprehensive drought index covering all of Ethiopia, calibrated to contingency plans and including pastoral regions: April;



- investigate financial structuring options and recommend optimal risk management framework – i.e., the optimal livelihood protection facility (LPF) – see Section III, Financing: June;
- prepare a financial transaction for the insurance component of the LPF, jointly with key development partners – if requested by the government: July;
- examine the financial effectiveness of the insurance instrument, including a comparison with alternative mechanism: November;
- support the development of contingency plans addressing the transiently food-insecure population: November; and
- develop a final recommendation for organizational responsibilities for consideration by governing bodies: November.

III. ETHIOPIA PHASE II: INTEGRATED EMERGENCY FINANCING FRAMEWORK TO PROTECT LIVELIHOODS

15. This section presents the preliminary concept of a second phase drought risk financing project in Ethiopia. A discussion paper written by WFP, DFID Ethiopia and World Bank staff outlines a reform of the emergency drought relief system in Ethiopia, based on recent innovations in resource mobilization and related financing to meet the needs of beneficiaries more effectively.² The concept is to shift, to the extent possible, away from disaster relief after the event to risk management before a disaster occurs as the best way of responding to drought. At present, mechanisms to protect the livelihoods of “transiently” food-insecure populations have not been developed, even for the reformed food security system in Ethiopia. **Instead, those at risk of transient food insecurity face a significant probability of regressing to the ranks of the chronically food-insecure in future shocks.**
16. There is ample evidence that transiently food-insecure households start managing an impending disaster relatively early – even before harvest failure. In the early stages, coping strategies tend to involve less costly actions such as sale of non-productive assets or migration of family members. In the later stages, however, when initial coping mechanisms are exhausted, households are forced to sell productive assets or employ strategies such as removing children from school. Short-term shocks can thus have long-term consequences and involve considerable setbacks to development. For example, studies show that households that suffered substantially during the 1984–1985 Ethiopian drought and famine continued to experience up to 3 percent less annual per capita growth during the 1990s compared with households that were less affected.³ Repeated shocks followed by late or inadequate responses have led to loss of livelihoods and increasing chronic food insecurity. Analysis of the long-term impact of the 2002 drought shows that up to 2 million previously vulnerable but not necessarily food-insecure people have fallen into destitution as a result.

² This preliminary paper is the outcome of informal discussions among the Government of Ethiopia, WFP, the World Bank and Department for International Development (DFID) representatives. Future versions will incorporate the views and comments of other key stakeholders. The paper does not reflect the views of any of these organizations. The paper is available on request.

³ World Bank. 2004. *Well-Being and Poverty in Ethiopia – the Role of Agriculture, Aid and Agency*. Washington DC, Poverty Reduction and Economic Management, Africa Region.



17. The PSNP gives timely livelihood protection for many chronically food-insecure people, but the transiently food-insecure remain subject to the shortcomings of the emergency-relief system. Studies suggest that in view of the risk of transiently food-insecure households falling into destitution, the Government and donors need to protect development gains through timely funding for livelihood-support interventions based on contingency plans.⁴
18. The assumption is that households need to know the extent to which food shortfalls will be covered in the next lean season: what matters to household heads is the timing of reliable information that they will receive assistance. The current project design and the *Implementation Rulebook* indicate that the total amount of an insurance payout, if any, will be known by the end of October. At the beginning of November, the Government will tell heads of households about their participation in food-for-work or cash-for-work programmes. As in the PSNP, the choice of food or cash assistance is the decision of each community. Beneficiaries will then receive cash or food from January or February; but it is the announcement rather than the disbursement of resources that is essential to stem asset depletion.
19. To address the needs of Ethiopia's transiently food-insecure population comprehensively, it is necessary to understand the nature of the risk and its impact on people in vulnerable areas of the country. After this, the risk can be financed.

⇒ *Risk*

20. Catastrophic droughts occur once every 20 years in Ethiopia.⁵ In addition, Ethiopia experiences localized or mild drought every four years, as indicated in the frequency distribution graph in Figure 2.

⇒ *People*

21. There are 8.3 million⁶ chronically food-insecure people in PSNP. During the most recent large-scale drought in 2002, approximately 12.5 million people required food aid. Comparing this "emergency needs" figure with the PSNP figure of 8.3 million indicates that approximately 4 to 5 million transiently food-insecure people are at risk of livelihood loss during the next catastrophic drought.⁷
22. In normal rainfall years, it is assumed that PSNP, particularly its contingency reserve, will manage food insecurity by catering to the chronically food insecure and a limited caseload of transiently food-insecure people. In a drought year, additional facilities are necessary to meet the livelihood protection (LP) needs of the transiently food insecure. Assuming that transfers to households are US\$100 – about US\$20 per beneficiary⁸ – and delivery costs are about US\$7 per beneficiary, the total costs of LP to protect transiently food-insecure people would be approximately US\$27 per beneficiary. Based on these

⁴ Overseas Development Institute (ODI). 2006. *Saving Lives through Livelihoods: Critical Gaps in the Response to the Drought in the Greater Horn of Africa*. London, Humanitarian Policy Group.

⁵ These expectations are based on weather data from 1956 to 2006. Data indicate no significant trend, but it is uncertain how global warming and climate change will alter these expectations.

⁶ Including the current 7.2 million PSNP beneficiaries and the 1.1 million planned beneficiaries in Somali region.

⁷ These numbers are indicative and would need to be adjusted to take account of demographic factors and long-term trends in food insecurity.

⁸ This figure mirrors safety net modalities.



assumptions, approximately US\$113 million in LP funds would be required in a 2002-type drought year to protect the livelihoods of 4.2 million beneficiaries and US\$135 million in a 1984-type year, to protect the livelihoods of 5 million beneficiaries.

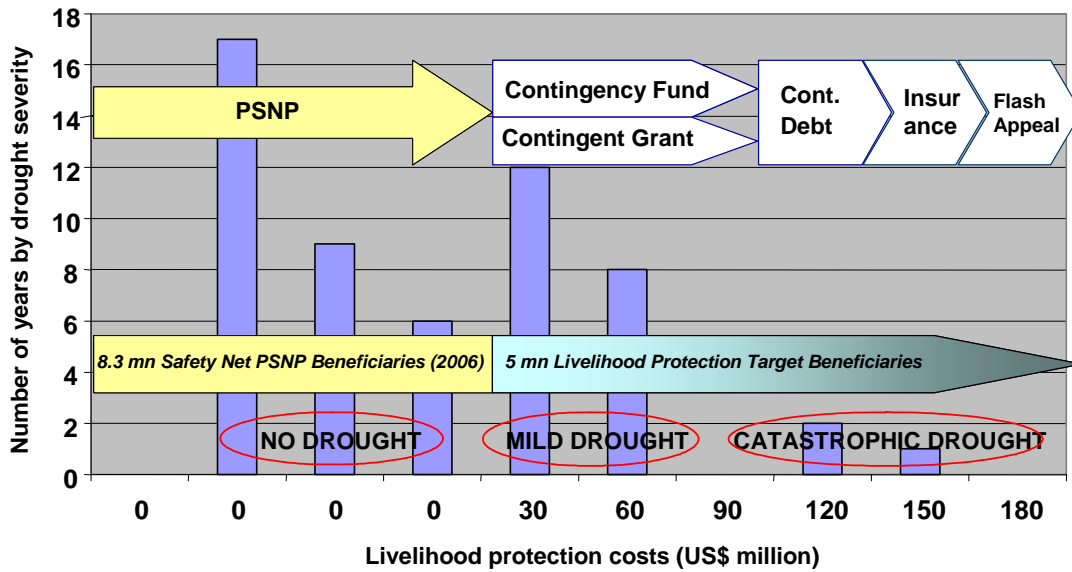
⇒ *Financing*

23. The objective of the proposed risk financing structure is to minimize the costs of establishing guaranteed and timely livelihood protection funds. Under this envisioned structure, drought events are financed through a three-year LPF comprising a contingency fund, a contingent grant or debt, and insurance.⁹ A localized weather index triggers these instruments sequentially, and once all LPF funds are exhausted a flash appeal would be launched. Each instrument finances different portions of the risk and is coordinated to minimize its unique cost structure, including capital, administrative and opportunity costs. Figure 2 gives an example.

⁹ A three-year timeframe is considered optimal to complement PSNP. Definitions: *Contingency fund* = fund for a specific purpose and triggered by preset conditions; *Contingent grant/debt* = pre-approved grant/debt, disbursable on confirmation of pre-agreed disbursement conditions; *Index insurance* = insurance or derivative contract providing specific automatic payouts in case of predefined insurance events, or triggers.



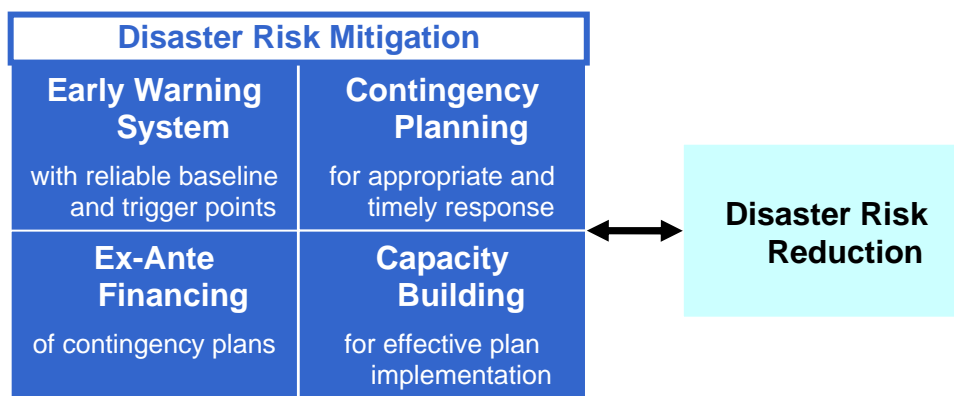
Figure 2. Financing the Risk



24. This Livelihood Protection Facility seeks to cover all vulnerable people in Ethiopia, including pastoralists. WFP would therefore design a separate index that reliably triggers contingency plan implementation and related financing in pastoral areas. The Pastoral Livelihood Protection Index (PLPI) calibrates a livestock forage production index (hazard model) to budgeted contingency plans prepared by the Government of Ethiopia (exposure model). This index would strengthen the incumbent early warning system by providing budgeted livelihood support information, which is valuable for both financiers and actors serving pastoral regions. Annex B gives more details on the index.

Integrating the Facility and Approach into a Country-wide Risk Management Framework

25. Development gains achieved through investment in rural development, for example, should be protected if they are to drive further progress. Ethiopia Phase II seeks to provide this protection through early livelihood interventions when economic systems are exposed to weather shocks, which are the main threat to agricultural development. The project presents a prior financing facility and proposes integration of the facility into an emerging disaster risk mitigation framework of early warning, contingency planning and capacity-building (see Figure 3).

Figure 3. Risk Management Framework

26. This work must proceed in parallel with disaster risk reduction, which focuses on improving overall resilience to shocks and so reduces the need for risk mitigation after disasters. The relative cost-effectiveness of the two approaches depends on the magnitude and nature of the risk; investment in either approach must be based on sound livelihood analysis, which will also reveal the extent to which people trade return on investment for risk minimization, in other words the extent to which people forego potentially significant profits in order to protect themselves from shocks. Such risk reduction often translates into high degrees of income diversification and sub-optimal investment in activities that generate high returns such as cash-crop farming. Research indicates that the poor are particularly risk-averse: their inability to accept and manage risk and to accumulate and retain wealth is sometimes referred to as the “poverty trap”.¹⁰

IV. INVESTIGATION OF SUITABLE PARTNERS AND INSTITUTIONAL HOME FOR WEATHER RISK MANAGEMENT WORK

27. WFP continues its dialogue with United Nations and World Bank Group partners to select which institution(s) to recommend to the Board as the “home” for work on weather risk management. The following scenario illustrates the process of building an effective *ex-ante* risk management framework. It involves five steps and various development partners:

Step One: Preparedness and Development of budgeted emergency contingency plans, led jointly by national authorities and the United Nations country team.

Step Two: Development of weather-based index that accurately tracks risk exposure, led by WFP and the Food and Agriculture Organization of the United Nations (FAO).

Step Three: Design of financial plan to meet contingency plan funding needs, led by the Office for the Coordination of Humanitarian Affairs (OCHA). The plan would be integrated into an OCHA-led contingency appeal.

Step Four: Management of optimal risk transfer to international risk markets and international financial institutions.

¹⁰ World Bank. 2002. *World Development Report 2001/2002: Attacking poverty*. Washington DC.



Step Five: Follow-up of project implementation and continuous monitoring of data flow and contingency plan updates, led by the United Nations country team.

28. To facilitate coordination, a joint risk management centre housed at one of the leading institutions could be established – possibly modelled on the Joint Logistics Centre (JLC).

Outlook Beyond 2007: Consider Replication to Other Countries On Case-By-Case Basis

29. At the request of United Nations country teams, WFP could redesign the *modus operandi* for risk financing according to the five steps outlined above. This would imply significant up-front work on contingency and preparedness plans for the government and United Nations country teams. WFP intends to evaluate the lessons learned from Ethiopia and to limit its 2007 workplan as outlined in section II. It could consider replicating the project in countries where country teams initiate and lead the contingency planning process, and would submit separate project funding requests to the Board should governments request risk financing services. WFP would need to secure research and development funds for each country project it is asked to support.

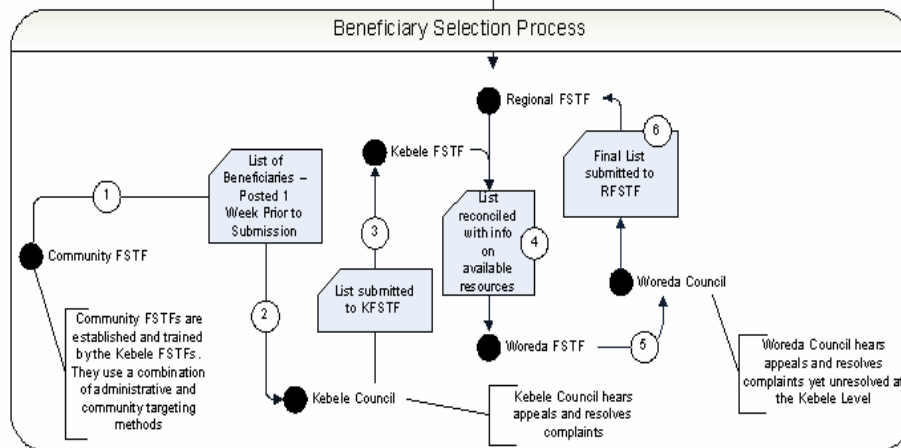
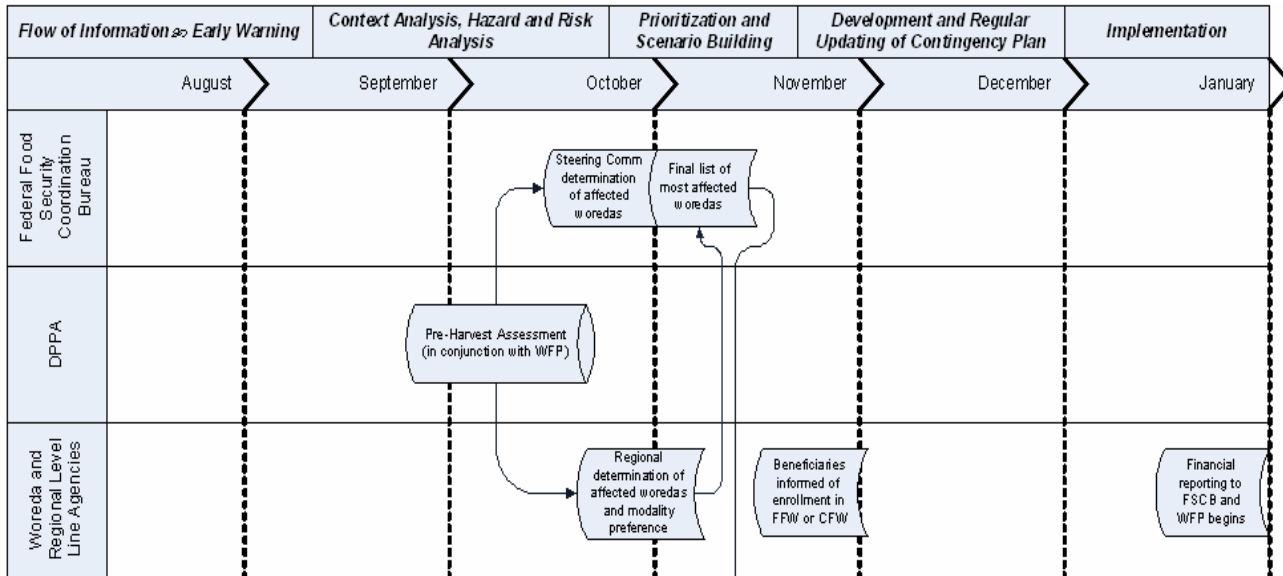


ANNEX A

IMPLEMENTATION RULEBOOK GUIDELINES

- **Beneficiary selection.** The beneficiaries of this project are not the most resource-poor, although they remain susceptible to asset depletion and subsequently risk falling into chronic food insecurity in adverse weather. The *Implementation Rulebook* specifies the selection criteria and process, which is based on community-level assessment but validated by the Government at the *kebele* (community), *woreda* and regional level.
- **Planning of Public Works Projects.** Administrators of this project have limited time to plan public works projects because of the short time between confirmation of an insurance payout in early November and the start of mandatory public works on January 1. The *Implementation Rulebook* gives guidelines to help administrators to optimize planning in this time.
- **Transfer Scheme.** A detailed transfer scheme directs the flow of funds from insurer to beneficiaries in a payout scenario. The project steering committee determines the *woredas* affected and earmarked for drought insurance payouts and is advised by regional and *woreda*-level government agencies using early warning information, index values and pre-harvest needs assessment. Food security task forces at the community and *kebele* levels select beneficiaries according to community targeting principles; beneficiary lists are reconciled with earmarked resources for individual *woredas*. Beneficiaries are then informed of their slated enrolment into either cash-for-work or food-for-work programmes. The Government of Ethiopia and WFP expect early notification of future income support to help beneficiaries plan, thereby stemming asset depletion (see Figure 4).
- **Financial Management.** The steering committee decides which *woredas* receive a portion of insurance payout in food or cash and informs the Ministry of Finance, which directs funds accordingly. The *Implementation Rulebook* is intended for inclusion in the audit plan of the Office of the Federal Auditor General. Each region has a regional Auditor General responsible for auditing financial transactions. Federal and regional auditors will be responsible for verifying the accounting procedures and systems and for the flow of resources.

Figure 4. Transfer Scheme Design



- CFW cash for work
- FFW food for work
- FSCB food security coordination bureau
- FSTF food security task force
- KFSTF Kebele Food Security Task Force
- RFSTF Regional Food Security Task Force



ANNEX B

PASTORALIST INDEX DESIGN

- Hazard model.** The hazard model builds on the existing Livestock Early-Warning System (LEWS), which monitors the condition and availability of forage for livestock in East Africa. In the Ethiopian regions of Afar, Somali and Borena, LEWS maintains 84 monitoring sites that collect data on soil conditions, rangeland plants and livestock grazing. This information is combined with satellite data on rainfall, temperature and solar radiation to derive site-specific forage production and then matched with normalized difference vegetation index (NDVI) satellite data to create maps showing forage conditions over large areas. Field validations show that the LEWS methodology is effective, but WFP is exploring improvements to meet the strict data requirements for insurance purposes and to contribute sound information for early warning.
- Exposure model.** The exposure model will be based on budgeted contingency planning figures from the Government of Ethiopia. These figures will be informed by scenario-building exercises by relevant institutions, such as the government's Disaster Prevention and Preparedness Agency, and reflect the cost of livelihood protection in the event of below-average forage production. Pastoral livelihood protection during crises entails well-designed interventions, including provision of supplementary livestock feeding, destocking and restocking support, emergency veterinary programmes, and traditional food and water assistance. Establishment of a contingency planning process involving pastoral experts, implementing partners and government officials ensures that the right interventions happen at the right time. A good plan includes programming options, triggers for action and predetermined institutional roles and responsibilities.

ACRONYMS USED IN THE DOCUMENT

DFID	Department for International Development (United Kingdom)
DPPA	Disaster Prevention and Preparedness Agency
FAO	Food and Agriculture Organization of the United Nations
FSCB	Food Security Coordination Bureau (Ethiopia)
JLC	Joint Logistics Centre
LEWS	Livestock Early-Warning System
LP	livelihood protection
LPF	livelihood protection facility
NDVI	normalized difference vegetation index
NMA	National Meteorological Agency
OCHA	Office for the Coordination of Humanitarian Affairs (United Nations)
OED	Office of the Executive Director
ODI	Overseas Development Institute
OEDSP	Special Projects Branch
PLPI	Pastoral Livelihood Protection Index
PSNP	Productive Safety Net Programme