Terminal Evaluation of Coping with Drought and Climate Change in Zimbabwe

Zimbabwe

UNDP/GEF Project No. 3875

Regional Consulting Ltd., August 29, 2012

Executive Summary

The Terminal Evaluation of the *Coping with Drought and Climate Change in Zimbabwe Project* (CwDCC) was completed in conformance with GEF and UNDP guidelines and in accordance with the Terms of Reference (ToRs) for the evaluation that were provided by UNDP Zimbabwe. The evaluation was primarily based on (a) review of documents, reports and surveys that described progress on project outputs, outcomes and objectives as per indicators in the project design, (b) interviews with project participants and stakeholders to verify achievements and to identify issues related to project design and implementation, and (c) selective site visits and field observations during a two week country mission to compile evidence of site achievements and to consult with beneficiaries and stakeholders.

The *Coping with Drought and Climate Change Project* is intended to demonstrate and promote adoption of a range of gender sensitive approaches for adaptation to climate change among rural communities currently engaged in agriculture in vulnerable areas of Chiredzi District as a national model for climate change adaptation. To achieve this aim the project has five outcomes which were jointly expected to develop a cohesive approach to drought management in the district:

1. Developing the capacity of National institutions to improve knowledge base to facilitate climate change adaptation;
2. Pilot demonstration of policy oriented climate change adaptation practices;
3. Building small-holder farmers' capacity to effectively use climate early warning systems;
4. Adaptive learning and replication; and
5. Project Management and reporting.

The evaluation found that the project has developed and piloted a range of coping mechanisms and adaptation measures that effectively reduce vulnerability to drought in the project areas of Chiredzi District. The project experience is potentially a very significant contribution to national strategies and programmes on climate change adaptation in Zimbabwe. It has substantially raised the profile and national recognition of climate change risks and adaptation opportunities, provided a framework for implementing an adaptation strategy and developed the momentum and testing of some important tools for enhancing community resilience to climate change. This has the potential to contribute directly and strategically to the current development of a national climate change policy.

In regard to the Project Goal **–** "Resilience of agricultural and pastoral systems to climate change through support from government policies and use of climate early warning systems", it was observed that resilience to climate change has increased in the project sites and is influencing other agricultural areas of Chiredzi district, but the demonstrated adaptation measures and early warning systems have not yet been mainstreamed at a national and district level.

The status of the main four main components of the project is summarized below.

Outcome 1: National institutions have capacity to improve knowledge base to facilitate climate

change adaptation

- Climate scenarios, risks and vulnerabilities have been identified in general at a district level but with limited adoption beyond the project. Local officials and farmers have increased their awareness of climate change and the effects of drought. The crop and income diversification strategies and conservation farming methods are gaining recognition but evidence of institutionalized acceptance and amended programmes for the adaptation measures are not yet apparent. However, success under Outcome 2 may assist future institutional change.

Outcome 2: Livelihood strategies and resilience of vulnerable farmers/pastoralists in the selected pilot sites improved and sustained to cope with drought

- The agronomic interventions have measurably increased food security and income diversification and levels, and thus resilience to climate change in Chiredzi district project areas. Most of the agricultural adaptation measures are being regularly adopted by farmers within the project sites, although planting basins (Zia pits) apparently require too much labour. The other livelihood diversification activities have not been as successful or potentially sustainable.

Outcome 3: Enhanced use of early warning systems in agricultural and pastoral systems in the selected pilot sites systems

- The local forecasting system was appreciated by the farmers interviewed; effectiveness of the system relative to conventional forecasts needs to be empirically assessed. There is high demand for enhanced forecasts as the current national weather forecasts have not provided effective support for farming decisions, most notably the timing of planting.

Outcome 4: Farmers/ pastoralists outside the pilot sites replicate successful approaches to cope with drought

- Awareness and support of project by senior officials was high but they were unable to describe the strategy that the project had taken and is currently advancing to promote adaptation measures. There is nevertheless evidence of replication in that nearby farmers are beginning to take interest in the project interventions and adopting some of the measures.

The project completed a climate change vulnerability and risk assessment for Chiredzi District and proposed a set of generic adaptation priorities for agriculture, livestock production, livelihoods and water use (Outcome 1 – National capacity building). But it has only partially succeeded in developing the district and community level preparedness and mechanisms for adaptation. Institutional mainstreaming of adaptation has focused on technical manuals and extension staff training in the hope of dissemination.

The pilot adaptation measures, particularly focusing on a shift from maize-based agricultural production toward more diversified models and from rainfed to small-scale irrigated agriculture has demonstrated improvements in food security and household incomes at the project sites (Outcome 2 – Improved

livelihoods). The benefits of the targeted agricultural practices can be observed in the field, but there are also many other technologies that could expand the adaptation menu of measures, including soil fertility management, inter-cropping and cover crops, mulching and green manure, dryland agroforestry, etc. In contrast to the agricultural achievements, many of the natural resource management livelihood initiatives have not (yet) achieved their expected results, mostly due to the scale of the challenges relative to the technical and financial resources available and assumptions in the project planning that presented difficulties.

The new method for improved seasonal forecasting of rainfall that was introduced by the project (Outcome 3 – Early warning systems) offers great promise for Zimbabwe. The development of this method is a notable contribution toward more functional and reliable forecasting methods in Africa. However, it still requires empirical testing and focused policy deliberation on how to implement the improved system.

The project has contributed significantly toward the national dialogue and approach to climate change adaptation (Outcome 4 – Knowledge dissemination). UNDP developed and exchanged extensive knowledge on climate risks and adaptation experiences in national, regional and global fora. The learning and replication of project adaptation measures are being mostly driven by farmer recognition of the need to modify crop regimes and farming practices and the opportunities for effective adaptation in the face of recurring drought in Chiredzi District. The effectiveness of some of these measures to date in improving crop production and resilience has led to improved working relations between farmers and extension officers, and ongoing demand for more technical support and technologies from government. The motivation and commitment of the technical advisors from AGRITEX and the Department of Research and Specialist Services greatly contributed toward the adoption of many of the adaptation measures.

The project performance was affected by several aspects of context and design, including delays related to the period of economic and currency crises, the broad focus on many fronts and locations, and the dependence on the line agencies that had few resources to assist implementation. While the project implementation strategy emphasized local ownership, initiative and preferences, there were apparent constraints in (i) the quality assurance necessary for effective livelihoods development and perhaps in the promotion of moisture conservation, and (ii) inadequate logistical and overhead support for the field staff of the implementing partners to be fully engaged with the project farmers and beneficiaries.

The project partnership modalities were also affected by a lack of supervision and monitoring on the ground, and the limitations imposed by many individual contractors delivering the separate discrete components of the project. The field activities may have been too extensive, disperse and diverse for effective oversight of implementation performance, particularly given the resources available. The prospects for sustainability appear to be mixed, although they are considered satisfactory. On the one hand, the adopted agronomic and livestock measures will support sustainability at the project sites and

elsewhere. On the other hand, the measures that depend upon national or district level services to advance climate change adaptation may lack the necessary resources and commitment to carry on with some of the project activities.

Overall, despite some project design and delivery constraints, the project has effectively achieved a core set of results that provide the national awareness, the initial technical foundation and important field experiences and lessons for more comprehensive programmes and projects to address drought and climate change in southern Zimbabwe. The project is generally rated at the high end of the *Satisfactory* rating for execution and results, with Outcomes Achievement considered *Highly Satisfactory and* Monitoring and Evaluation considered *Moderately Satisfactory.*

The Terminal Evaluation provides a set of Lessons Learned and Conclusions to assist future climate change adaptation projects. It also recommends several project closure and follow-up actions related to:

- Preparing a consolidated summary report that describes the results of the project's 'Chiredzi model' and serves to further raise the profile of the project with government and donors.

- Incorporating recent fodder production, soil fertility and other related adaptation measures within a comprehensive 'Chiredzi model' suitable for scaling up.

- Identifying specific project policy implications for consideration in the new national Climate Change Strategy.

- Integrating the project weather stations into the national meteorological information system and a program for further testing and development of local, seasonal rainfall forecasting.

- Providing marketing and business management expertise for the Chilonga Crocodile subproject.

- Providing extensive supervision for the Tamuwanyika community gardens irrigation project and multiplication and availability of seed varieties and cassava planting stock that have been introduced by the project.

- Initiating policy and institutional strengthening linked to an investment strategy and appropriate national budget allocation that strategically leverages the pilot results and the business case for adaptation in drought prone areas.

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Acronyms and abbreviations

AGRITEX	Agricultural, Technical and Extension Services
CAMPFIRE	Communal Areas Management for Indigenous Resources
CO	Country Office
CwDCC	Coping with Drought and Climate Change in Zimbabwe Project
DR&SS	Department of Research and Specialist Services
EA	Executing Agency (EMA)
EMA	Environmental Management Agency
GEF	Global Environmental Facility
GiZ	Gesellschaft für Internationale Zusammenarbeit (Germany)
IA	Implementing Agency (UNDP)
PMU	Project Management Unit
PSC	Project Steering Committee
RDC	Rural District Council
SCCF	Special Climate Change Fund
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
USD	US dollar

Acknowledgments

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1. Introduction

1.1 Purpose of the evaluation

The *Coping with Drought and Climate Change in Zimbabwe Project* (CwDCC) was approved under the GEF Special Climate Change Fund (SCCF) in May 2006 as a Medium-sized project grant of $ 983,000 USD, commencing with the Inception Workshop held in May 2008, and is scheduled for closure in September 2012. The project is located in the Chiredzi District of the southern dry zone of Zimbabwe.

The Terminal Evaluation is an independent review that aims to determine progress made towards the achievement of outcomes; to identify the relevance, effectiveness, efficiency and timeliness of project implementation; to highlight issues requiring decisions and actions; and to present initial lessons learned about project design, implementation and management. The GEF and UNDP terminal evaluation guidelines specify five evaluative criteria, described as follows and further elaborated in **Annex 1: Terms of Reference**.

1. **Relevance.** Were the project's outcomes consistent with the focal areas/operational program strategies and country priorities?

2. **Effectiveness.** Are the actual project outcomes commensurate with the original or modified project objectives? If the original or modified expected results are merely outputs/inputs, the evaluators should assess if there were any real outcomes of the project and, if there were, determine whether these are commensurate with realistic expectations from such projects.

3. **Efficiency.** Was the project cost effective? Was the project the least cost option? Was project implementation delayed, and, if it was, did that affect cost effectiveness? Wherever possible, the evaluator should also compare the costs incurred and the time taken to achieve outcomes with that for similar projects.

4. **Sustainability.** Can the beneficial project results be sustained? What is the likely ability of an intervention to continue to deliver benefits for an extended period of time after completion? Projects need to be environmentally, as well as financially and socially sustainable.

5. **Impact.** What are the positive and negative, foreseen and unforeseen changes to and effects produced by a development intervention? Results include direct project outputs, short to medium-term outcomes, and longer term impact, replication effects and other local effects.

The above criteria and the questions and elements listed in the Terms of Reference are addressed under five headings for the evaluation report – 1) Project Design (including relevance, formulation and assumptions and risks) 2) Project Implementation (including effectiveness,

efficiency, financial management, project management and monitoring and reporting), 3) Project Results (including achievements, sustainability, mainstreaming/ conformance, catalytic effect and impacts), 4) Lessons Learned (including implications for scaling-up), and 5) Conclusions and Recommendations.

Specific Evaluation Criteria (**Annex 2**) and an Interview Guide (**Annex 3**) were prepared to further guide the evaluation. The Itinerary for the in-country mission is provided in **Annex 4**. It also includes the list of persons interviewed. Various documents that were reviewed are listed in **Annex 5**.

1.2 Key issues highlighted

The following key evaluation issues were identified in an initial review of the various project documents, surveys and reports:

- The political and financial crises which occurred at the beginning of the project led to various delays;
- The effectiveness of the project management strategy and partnerships (government agencies and NGOs) expected to deliver the outputs with limited supervision and monitoring;
- The project approach focused on local communities directly organizing the field implementation structures and processes, including inclusion of women and poorer households;
- The technical viability of some of the interventions, including the Likulu 'water for wildlife' (NRM) and the small scale irrigation subproject;
- The financial viability of some of the interventions, including crocodile farming;
- The reasons behind the reported high success of many of the intervention, their sustainability and the potential for scaling-up the recommendations;
- The link between project outputs and observed food security and livelihood results, including the evidence of HH income effects;
- The reliability and ongoing utilization of the new, local weather forecasting system developed by the project; and
- The commitment and capacity of local authorities to adopt and facilitate implementation of the tested adaptation measures.

1.3 Methodology of the evaluation

The terminal evaluation aimed to be evidence-based, transparent and participatory within the limits of the available two week mission. It complied with the *GEF Monitoring and Evaluation Policy,* the *Guidelines for GEF Agencies in Conducting Terminal Evaluations (2008)* and the *Guidance for Conducting terminal evaluations of UNDP-supported, GEF-financed projects (2012).*

It was also directly guided by the Terms of Reference (ToRs) for the evaluation that were provided by UNDP Zimbabwe.

The evaluation initially focused on the *Evaluation Criteria Matrix* presented in **Annex 2,** and the project achievement reporting presented in **Annex 6**. This provided the initial basis for the data collection and the main criteria and indicators for evaluating the sub-components. The evaluation also attempted to compare the pre-project baseline conditions to current conditions. A summary of the status of project outcomes was prepared by the Project Manager **(Annex 6)** to assist this comparison.

The general approach to the evaluation was based on (a) review of documents, reports and surveys that described progress on project outputs, outcomes and objectives as per indicators in the project design, (b) interviews with project participants and stakeholders to verify achievements and to identify issues related to project design and implementation, and (c) selective site visits and field observations to compile evidence of local achievements and to consult with beneficiaries and stakeholders.

The evaluation tasks included:

- Data compilation on project indicators and outputs including agricultural productivity data for the projects sites;
- Interviews with project beneficiaries and participants and project management and partners, assisted by an **Interview Guide** for the field level (see **Annex 3**) and another for the project management, staff and partners.
- Selective field sampling and comparative before and after data sets to the extent possible on the key project activities to assess performance in relation to the relevant Evaluation Criteria;
- Assessment of the scale and quality of outcomes per project indicators (e.g., HH incomes, food security indices, crop yields, etc.) and efforts to verify the reported achievements;
- Triangulation of responses to interview questions about project performance and key issues affecting results and sustainability.

In all of the discussions, an emphasis was placed on collegial and constructive dialogue and compiling reliable observations on project performance and lessons. The evaluation involved an objective and independent review of the *weight of evidence* compiled from reports, interviews/group discussions and site visits.

Evaluation ratings were completed for the following:

Monitoring and Evaluation: Highly Satisfactory (HS), Satisfactory (S) Moderately Satisfactory (MS), Moderately Unsatisfactory, (MU), Unsatisfactory (U), Highly Unsatisfactory (HU)

IA & EA Execution: Highly Satisfactory (HS), Satisfactory (S) Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU)

Outcomes Highly Satisfactory (HS), Satisfactory (S) Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU)

Sustainability: Likely (L); Moderately Likely (ML); Moderately Unlikely (MU); Unlikely (U).

Impact: Significant (S), Minimal (M), Negligible (N)

Overall Project Results Highly Satisfactory (HS), Satisfactory (S) Moderately Satisfactory (MS), Moderately Unsatisfactory, (MU), Unsatisfactory (U), Highly Unsatisfactory (HU)

1.4 Structure of the evaluation

The evaluation structure, focusing on (i) project design (including relevance, formulation and assumptions and risks), (ii) implementation (effectiveness, efficiency, financial management, project management, monitoring and reporting), (iii) results (outcome achievements, capacity building) and (iii) sustainability (institutional, financial, etc.) is based on the format recommended by UNDP and GEF guides for terminal evaluation.

Sections 1 and 2 provide background context for the project, including an outline of expected results. These results are further defined and assessed in Annex 6.

In Section 3, the Evaluation Findings are organized into Project Formulation (3.1), Project Implementation (3.2) and Project Results (3.3), as required by UNDP evaluation guidelines.

The project performance Ratings and reasons for the summary ratings are provided in Section 4.

The Lessons Learned (Sec 5) and Conclusions (Sec 6.1) have important messages for future projects, while the Recommendations (Sec 6.2) provide for proposed actions as part of the project closure and follow-up activities.

2. The Project and its Development Context

2.1 Project history

The project was developed by UNDP and the Government of Zimbabwe in 2004. The First National Communication for Zimbabwe (1998) formed an important starting point in project design and site selection. On the basis of guidance on project design from the UNDP-GEF Adaptation Policy Framework (APF), literature review, workshops and other meetings with key stakeholders, consultations with the UNCCD and UNFCCC focal point, Chiredzi District in the Save River Basin located to the southeast of Zimbabwe bordering Mozambique and South Africa was selected for the pilot project. Criteria used to focus the analysis and identify interventions at the most critical hot spots. Vulnerability to drought and climate change, and adaptive capacity and social acceptance were the main criteria.

In May, 2005 a medium size project proposal was endorsed by the government. The proposal was cleared by UNDP in March 2006. After some delay, project staff were appointed and began work in February 2008 and the Project Steering Committee was established a month later.

The project was initially structured around four outcomes: (i) promoting sustainable livelihoods for drylands in Chiredzi District in south-east Zimbabwe, (ii) enhancing use of early warning systems, (iii) integrating climate risk management across sectors, institutions and society, and (iv) upscaling adaptation lessons learned outwards to other geographic areas and upwards to national policy level. **Figure 1** shows the location of the project locations in Wards 7 – 11 and 13 of Chiredzi District.

The Inception workshop for the *Coping with Drought and Climate Change Project* was held from 28-29 May 2008 in Chiredzi. Thirty four participants representing stakeholders from government, non-governmental organizations, academia, research organisations, state enterprises and local authorities attended the workshop. The workshop and subsequent report led to some project revisions:

> *Changes to the original project Logframe included: the introduction of a new outcome, merging of two previous outcomes into one and the review of performance indicators. These improvements envisaged to improve on the fine tuning of pilot demonstration projects at community level, project performance monitoring and evaluation, and reduce redundancy.*[1]

[1] Project Inception Report, June 2008, p.14.

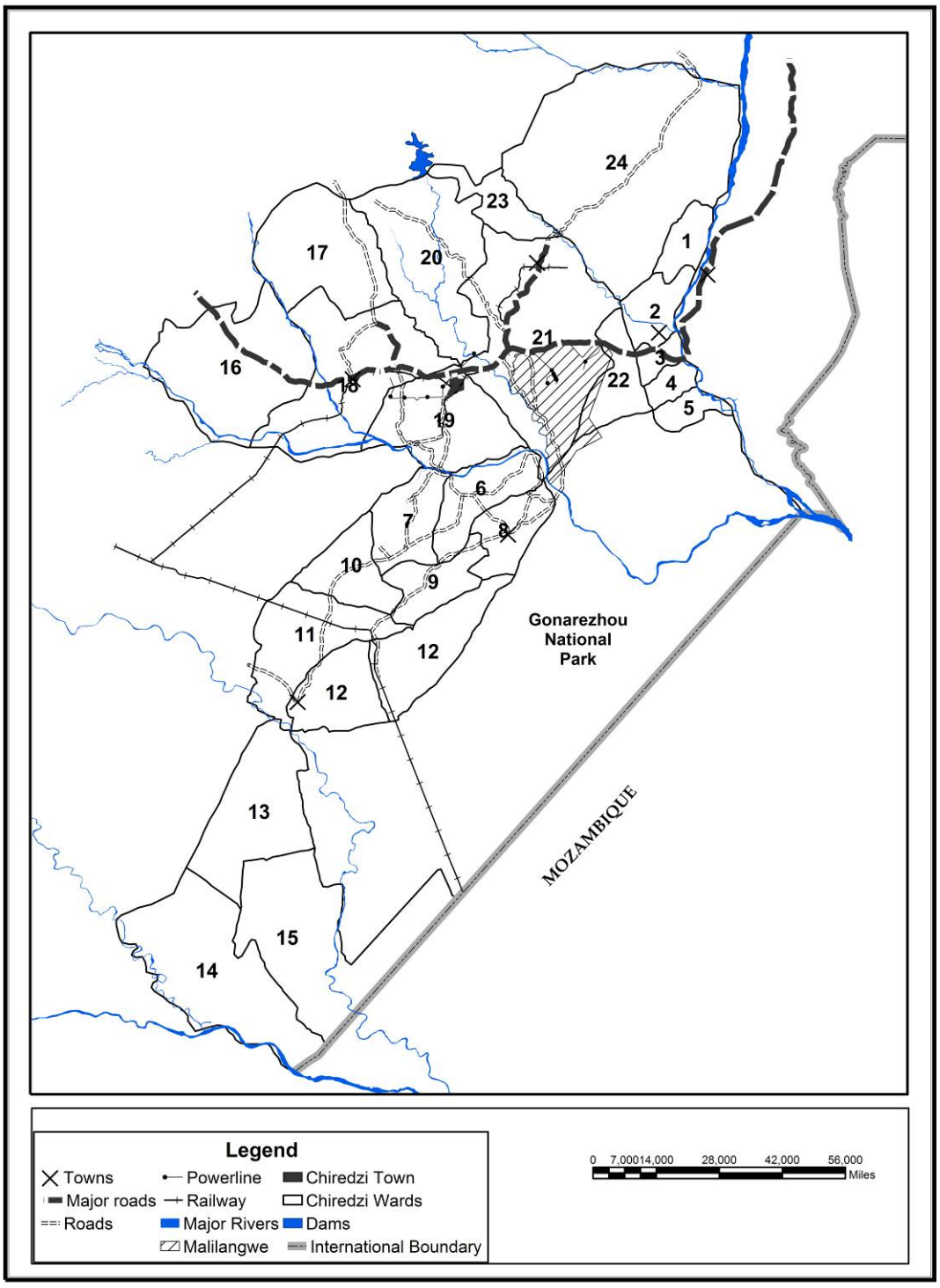

Figure 1: Chiredzi District Project Wards (7, 8, 9, 10, 11, 13)

The amendments to the project design (see **Annex 6**) were to be submitted to the second PSC meeting but this did not occur as planned since the reconfiguration was considered as minor. The project was essentially organized into four activity components:

- Climate Risk Assessment
- Selection, evaluation, prioritization and pilot demonstration of policy oriented adaptation practices
- Improving climate early warning systems
- Adaptive learning and replication

The project was described at inception as focusing on two scales:

> *The Coping with Drought and Climate Change project will work at two geographic scales. The first will be at Catchment Scale covering Runde and Save river basins, the main sources of water which supports Chiredzi livelihoods. Pilot demonstration projects will focus on a vulnerable rural community in Chiredzi district currently involved in rainfed agriculture and another with irrigation. The household will be the social unit of focus. Focusing on households may provide a better insight into the kind of policies likely to enhance household ability to adapt to future climate change. All activities planned are at these levels with the possible exception of some activities related to capacity building and upscaling.*[2]

The first year, 'preparatory phase' of the project involved consultancies to (a) prepare a *Baseline Study* aimed at determining the current situation of the Chiredzi rural communities engaged in rainfed and irrigated agriculture and assessing people's perceptions, levels of awareness, knowledge, attitudes and practices (by gender) related to climate change adaptation;[3] (b) develop downscaled climate change scenarios for Save and Runde River Basins; (c) assess the sensitivity of Save and Runde Surface water supplies to climate change impacts; (d) undertake a climate risk and vulnerability assessment at community level focusing on crop and livestock systems in rural Chiredzi District; and (e) develop a tailored seasonal climate forecast system for small-holder framers in Chiredzi district. Various consultancies were used for these outputs.

The initial technical work involved a series of pilot project designs[4]:

- Optimizing crop mixes and varieties as a climate change strategy in Chiredzi District through demonstration plots on Matibi Communal lands in Wards 7,9, 10 and 11;
- Efficient soil and water management in Wards 7, 9, 10 and 11 including use of tied ridges, rainwater harvesting 'zia pit' basins, and deep plough furrows in maize, sorghum, pearl millet, groundnut and cowpea crops; and
- Sustainable livestock production pilot measures aimed at introducing fodder storage, urea treatment of *stover* (chopped up crop residue) and improved veterinary services;

[2] Ibid., 2008, p. 7.
[3] JIMAT Development Consultants, Project Baseline Study, Final Report, Dec. 2008.
[4] Sub-project proposals were developed by consultants for each of the pilot activities, many with their own logframes.

- Community natural resources management and sustainable utilisation in Wards 7, 8 and 13, with a focus on wildlife farming (crocodiles), private-public-community partnership of ecotourism sites and safari hunting, wildlife cropping program as a drought coping mechanism and other measures to promote wildlife and fisheries livelihoods development linked to the CAMPFIRE program (Communal Areas Management for Indigenous Resources)

2.2 Problems that the project seek to address

The project addressed the future impacts of long-term climate change and the adaptive capacity of local and national stakeholders to cope with increased frequency and intensity of drought. It aimed to build the resilience of poor farm households to drought events and climate change trends which accentuate the already high level of rainfall variability. The reliance on rainfed agriculture makes the sector particularly vulnerable to climate variability and change. The country is prone to droughts, which have become more frequent over the last two decades with devastating impacts on food security, health and environmental degradation. Diminishing water resources due to climate change is an additional stress on top of anthropogenic environmental destruction and mismanagement.

In Chiredzi District, rural farmers face the difficult management decisions on how to allocate limited resources among crop production, livestock production, and off-farm employment. The main barrier to overall productivity and adaptive capacity is how effectively farmers make use of limited amounts of water and available climate information. The Project Document noted that use of formal climate information for decision-making is virtually non-existent among smallholder farmers in the District because of a lack of access to information and national scale of the forecasts. Crop production is highly oriented toward rainfed maize production. A key constraint to livestock production in the communal areas is that overgrazing in the wet season does not allow sufficient fodder to be carried over to the dry season result in a shortage of fodder during this period. The situation is aggravated by frequent droughts and declining safety net resources of poor farmers in the dryland areas. All of these challenges were the principal focus of the project.

The project's community discussions found that vulnerability in Chiredzi district is related to: inherent dryness, a high frequency of drought, monocropping (over-dependence on maize), poor farming practices, high incidence of poverty, limited alternative livelihood options outside agriculture, limited access to technology (irrigation, seed) including markets, institutions and infrastructure (poor roads, bridges, modern energy, dams and water conveyance), population pressure, skewed ownership and access to drylands livelihood assets such as livestock and wild-life, lack of drought preparedness plans and limited use of climate early warning systems.[5]

[5] Leonard S. Unganai and Amon Murwira, Optimising rainfed agriculture as a climate change adaptation strategy in southeast Zimbabwe, n.d., p.8.

2.3 Immediate and development objectives of the project

The *Coping with Drought and Climate Change Project* is intended to demonstrate and promote adoption of a range of gender sensitive approaches for adaptation to climate change among rural communities currently engaged in agriculture in vulnerable areas of Chiredzi District as a national model for climate change adaptation.

To achieve this aim the project has five outcomes which were jointly expected to develop a cohesive approach to drought management in the district:

1. Developing the capacity of National institutions to improve knowledge base to facilitate climate change adaptation;
2. Pilot demonstration of policy oriented climate change adaptation practices;
3. Building small-holder farmers' capacity to effectively use climate early warning systems;
4. Adaptive learning and replication; and
5. Project Management and reporting.

2.4 Main stakeholders

The Ministry of Environment and Natural Resources Management, through the Environmental Management Agency (EMA) has been responsible for implementing the project in collaboration with the UNDP. Implementation arrangements include a National Project Steering Committee, a Project Management Unit (Project Manager and Project Assistant) and a project team comprising Chiredzi Rural District Council, Chiredzi Research Station, Department of Agricultural, Technical and Extension Services (AGRITEX), Parks and Wildlife Management Authority, Meteorological Services Department and farmers.

The following stakeholders and roles were identified in the Project Document. A comment on actual implementation activities of these organisations is provided in the last column.

Table 1: Project Stakeholders

Organization	Roles	Implementation activities
Ministry of Environment and Tourism {Environmental management}	Policy	*Extracting policy implications from the project*
UNDP CO	Accountability to GEF for funds disbursement to for overall delivery of the project results	*Management of finances, procurement and compliance with UNDP/GEF requirements*
Environmental Management Agency	Project coordination. Hosting of a project secretariat annual basis.	*All aspects of project management and implementation coordination, reporting*

Organization	Roles	Implementation activities
	Reporting to GEF Implementation of selected activities	*and oversight, and implementation of technical papers and symposia*
Local Communities and Community Based Organizations	Decision making on adaptation projects. Raise awareness on key issues affecting livelihoods Community projects implementation	*Organisation of farmers, field demonstrations, farmer field schools and subprojects implementation*
Civil Protection Unit	Creation of drought preparedness plan	*Did not proceed as planned; related activities under UNDP project on Disaster Management*
Meteorological Department SADC Drought Monitoring Centre	Provision of climatic information	*Assist in weather forecast data for input into local, seasonal forecasting system promoted by the project. Collaboration on weather stations underway.*
Water Department and Zimbabwe National Water Authority	Provision of hydrological data and information Technical support on water resources management	*Provided feasibility advice for rehabilitating a 300 ha irrigation scheme (which did not proceed due to costs)*
Forestry Commission	Training in agroforestry and fruit production Production of the land-use information Data analysis for drought risk mapping	*No obvious involvement in project implementation.* *Provided technical guidance in planting fruit trees in the small scale (horticulture) irrigation pilot project*
Agricultural Research and Extension Services (AREX) {AgriTex}	Provision of extension support to communities	*Extensive engagement in training and delivery of adaptation measures demonstrations; technical advice from Chiradzi Research Station.*
Irrigation Department	Technical support for irrigation development, Operation and maintenance	*Provided some technical advice for two irrigation subprojects, one of which was implemented*
Livestock Development Department	Technical support for livestock development	*DR&SS (Matopos Research Station) developed training materials and provided technical advice on livestock interventions*
Chiredzi Rural District Council	Facilitating community leadership involvement	*Limited involvement, mostly in support of livelihood activities.* *Provided design advice for the Likulu wildlife enhancement subproject (which did not proceed due to costs)*
Zimbabwe Vulnerability Assessment Committee	Food Security Assessment	*Information on food and livestock was available from ZIMVAC*
CIDA	Co-sharing (financing?) Co-financing	*Did not occur. Closed operations in Zimbabwe*
Center for International Forestry Research (CIFOR) International Conservation Union (IUCN)	Technical support for livelihoods improvement through forests Technical support in drought management techniques	*Closed operations in Zimbabwe*
Practical Action ZIMTRUST	Community facilitation Livelihoods training	*Practical Action provided ongoing technical support for community*

Organization	Roles	Implementation activities
Africa 2000 Plus CIFOR	Advocacy Co-sharing/co-financing	*involvement*
UZ-Centre for Applied Social Sciences	Livelihoods training	*Did not occur*
Private Sector companies	Help develop infrastructure Products and services Help communities access technology and markets	*Did not occur, although private sector expertise is being sought to assist the crocodile farm. Providing market access for red sorghum.*
ICRISAT	Technical support in drought management technologies	*Provided support for access to drought tolerant seed varieties. Shared experiences in promoting use of seasonal climate forecast products among small holder farmers in dry areas of Zimbabwe*

2.5 Expected results

Project Objective: *To develop and pilot a range of effective coping mechanisms for reducing the vulnerability of farmers and pastoralists, particularly women and children in Chiredzi District to drought shocks.*

Following the Inception Phase a **Project Purpose** was also defined: *To demonstrate policy oriented approaches for adaptation to climate change among men and women agro-pastoral systems in Chiredzi District as a model for national processes of adaptation to climate change in the agriculture sector*. The achievement was to be measured by: (1) Increase in adoption of adaptation measures by vulnerable rural communities, and (2) Increases in agricultural productivity.[6]

Outcome 1: National institutions have capacity to improve knowledge base to facilitate climate change adaptation

This outcome involved mostly technical assessment of climate scenarios, risks and vulnerabilities in Chiredzi District, and the subsequent use of the climate scenarios for design of climate change adaptation activities. The outcome achievement indicators arising from the inception phase were: *Level of climate change risk awareness among farmers and service providers*; and *Number of service providers in Chiredzi district using climate information in operational practices*.

The planned outputs associated with this outcome included[7]:

1.1 Downscaled climate change scenarios for Save and Runde River Basins developed

1.2 Climate change impact on surface water resources in the Save and Runde river basins assessed

[6] Note: there are several variations of the logical framework; Outcome 1 is sometimes referred to as 'Climate Risk and Vulnerability Assessment;

[7] Project Inception Report, June 2008

1.3 Climate change impact scenarios for main crops and livestock in rural Chiredzi district developed
1.4 Current and future climate risk on crop and livestock production by gender assessed at community level
1.5 Vulnerable communities (hot spots) identified

Outcome 2: Livelihood strategies and resilience of vulnerable farmers/ pastoralists in selected pilot sites improved and sustained to cope with drought

This outcome involved the implementation of demonstration activities in the project areas associated with selected adaptation measures that came out of stakeholder consultations. It was to be measured by: *Number of households by gender using adapted farm management practices.*

The planned outputs associated with this outcome included:

2.1 Viable livelihood adaptation measures evaluated and prioritized for vulnerable communities by gender
2.2 Community pilot demonstration projects developed and implemented.

The agricultural interventions under Outcome 2 and their locations are summarized in **Table 2**. These involved Crop diversification, Crop variety improvement, Soil Moisture Management, Irrigation, Livestock enhancement, and other natural resources management livelihood activities.

The Community NRM pilot activities proposed to benefit up to 9,000 people over a three year period involving 400 households in Chibwedziva communal lands (Ward 8), 28 households in Ward 7 (crocodile farm) and 10 households (capture fisheries) around Masukwe dam (Ward 13) that had been identified as vulnerability hotspots.[8] A main focus of the NRM activities was to develop the Likulu Wilderness Area into a community game area for sustainable wildlife utilisation and enhancing livelihood assets of the affected rural population.[9]

Outcome 3: Use of climate early warning systems by vulnerable communities in pilot sites increase and drought preparedness improved.

[8] Community natural resources management and sustainable utilisation as a drought coping strategy in the Southeast lowveld of Zimbabwe, nd., p. 2.

[9] The project was expected to generate revenue from ecotourism and safari hunting: potentially $10,000 was projected annually to the Chehondo community from hunting and revenue from wildlife products and meat. The development of water sources was expected to enhance the numbers of wildlife in the Likulu wilderness border around Gonarezhou National Park. Drilling of three boreholes, construction of water pans and troughs for both wildlife and livestock were proposed, in order to reduce conflict over water resources.

Table 2: Agricultural Interventions under Outcome 2

Interventions		**Locations**					
	Strategies	**Ward 7**	**Ward 8**	**Ward 9**	**Ward 10**	**Ward 11**	**Ward 13**
Crop diversification							
Maize	1 Mother, 3 baby sites, 1 seed	4 ha	-	4 ha	4 ha	4 ha	-
Sorghum	1 Mother, 3 baby sites, 1 seed	4 ha	-	4 ha	4 ha	4 ha	-
Pearl Millet	1 Mother, 3 baby sites, 1 seed	4 ha	-	4 ha	4 ha	4 ha	-
Groundnut	1 Mother, 2 baby sites	4 ha	-	4 ha	4 ha	4 ha	-
Cowpea	1 Mother, 2 baby sites	4 ha	-	4 ha	4 ha	4 ha	-
Cassava	1 Mother, 2 baby sites	1 ha	-	0.3 ha	-	0.3 ha	-
Horticulture			-				-
Crop variety improvement							
3 Maize varieties (2 opv + 1 hybrid)	**ZM 421, ZM 521, SC 513** (First two are open pollinated)	4 ha	-	4 ha	4 ha	4 ha	-
3 Sorghum varieties (2 white, 1 red)	**Macia, sv4, SC smile** (SC Smile is a short hybrid red sorghum)	4 ha	-	4 ha	4 ha	4 ha	-
2 Pearl Millet varieties	Okashana 1, PMV3	4 ha	-	4 ha	4 ha	4 ha	-
2 Groundnut varieties	Nyanda, Illanda	4 ha	-	4 ha	4 ha	4 ha	-
2 Cowpea varieties	CB2, Lt 18	4 ha	-	4 ha	4 ha	4 ha	-
1 Cassava variety	M7	1 ha	-	0.3 ha	-	0.3 ha	-
Soil Moisture Management							
- Tied ridges	Ox-drawn plough made	1 ha	-	1 ha	1 ha	1 ha	-
- Infield Rainwater Basins	Hand made	1 ha	-	1 ha	1 ha	1 ha	-
- Deep plough furrow tillage	Ox-drawn plough made	1 ha	-	1 ha	1 ha	1 ha	-
- Conventional flat tillage	Ox-drawn plough made	1 ha	-	1 ha	1 ha	1 ha	-

Irrigation							
- Small scale irrigation (Tamuwanyika Garden)	Integrated fruit trees, cassava, vegetables, flood and drip irrigation.	5 ha (79 households, 39 women	-	-	-	-	-
Livestock enhancement							
- Fodder conservation	Harvest, bale and store	Yes		Yes		Yes	
- Crop Stover enhancement	Urea treatment; Molasses	yes	-	Yes	-	Yes	-
- Pasture improvement	Bana grass	Yes	-	Yes	-	Yes	-
- Veterinary Services	Disease management	Yes		Yes		Yes	
Other							
- Community Based Natural Resources Management		-	305 households (±3500 km^2)	-	-	-	-
- Captive crocodile breeding		28 households (9 women, 19 men)	-	-	-	-	-
- Fish farming		-	-	-	-	-	58 households (38 women, 20 men)
- Farmer Field Schools		Yes	-	yes	yes	yes	-

Source: Project PMU

Farmer selection: a mix of farmers with capacity and poor vulnerable households. This was done so that interventions are not perceived as being for the poor. Farmers organised themselves, to ensure cohesion but selection criteria was such that there was gender balance, poor households and the disabled also had a chance to participate.

In the case of small scale irrigation, farmers from 3 neighbouring villages were co-opted by the lead village for the security of the infrastructure and produce.

This outcome involved the installation of weather stations (8), the development of a customized rainfall forecasting system for Chiredzi District and testing of this system in assisting farmers through the agricultural extension officers. This outcome was to be measured by: *Number of small-holder farmers by gender in pilot site consistently using climate information for decision support.*

The planned outputs associated with this outcome included:

3.1 Responsive and downscaled climate forecast system for Chiredzi District developed and coupled with indigenous knowledge systems
3.2 Seasonal climate forecast information Communication and Dissemination mechanism for Chiredzi District developed and operationalised
3.3 Capacity of farmer support organizations to interpret seasonal climate forecasts and tailor their services to anticipated climate conditions for the benefit of farmers developed
3.4 Integrated system for local monitoring of rainfall developed
3.5 Community level drought preparedness plan developed (participatory drought management plan matrix).

Outcome 4: Farmers/ pastoralists outside the pilot sites replicate successful approaches to cope with drought.

This outcome involved the dissemination of experiences and lessons from the project and efforts to replicate and scale up the successful adaptation measures. This outcome was to be measured by: *Awareness of lessons from project site among decision and policy makers*.

The planned outputs associated with this outcome included:

4.1 National Project Communication strategy developed.
4.2 Evaluation and documentation of best/worst practices.
4.3 National communication strategy implemented around scaling up project

Outcome 5: Monitoring, Learning, Adaptive Feedback and Evaluation

The planned outputs associated with this outcome included:

5.1 Project Management Structures established, staffed, equipped and functional
5.2 Monitoring and evaluation system established

This outcome mostly involves project management activities.

The project outcomes in the original Project Document were modified slightly after the Inception Phase. **Annex 6** provides the relevant Results Framework, along with summary comments on achievements.

3. Evaluation Findings

3.1 Project Formulation

3.1.1 Implementation approach

The original project strategy was described as removal of barriers to adaptive capacity at individual, institutional and systemic levels, including (i) promoting sustainable livelihoods for drylands, (ii) enhancing use of early warning systems, (iii) integrating climate risk management across sectors, institutions and society, and (iv) up-scaling adaptation lessons learned outwards to other geographic areas and upwards to national policy level.

The project implementation strategy can be summarized as:

- A small, two-person PMU at EMA that coordinates and oversees a variety of contracts and cooperative arrangements with government and NGO implementing partners;
- A project delivery partnership with government agencies undertaking most of the field level activity implementation;
- A participatory, community-driven approach that let the participants determine priorities and local implementation arrangements for selected adaptation measures;
- "*Not giving too much support to project beneficiaries right from start but rather playing a facilitative role and encouraging farmers to be self-reliant has been the project's strategy to address issues of sustainability of an intervention";*
- Collaboration with Chiredzi Rural District Council as the district level organizing body for government services.

The project approach was affected by several aspects of context and design. Firstly, the commencement of the project coincided with the period of economic and currency crises when it was difficult to mobilize any consultants or government staff, resulting in a late start for the activities and limited period to select and refine the adaptation measures, in addition to loss of co-financing.

Secondly, the project had a broad focus on many fronts, with a significant emphasis on the technical development of climate change risk information, awareness-raising and the development of the project's adaptation measures. The project resources were widely spread across technical information and awareness-raising activities, and on demonstrating various farming practices and livelihood options. Changes in strategy occurred during implementation.

Thirdly, the implementation approach depended on the line agencies having the core capacity and resources to guide and facilitate field activities with limited supervision by the PMU or EMA (e.g., the district environmental officer for EMA has no transport to reach the sites).

While this strategy emphasized local ownership, initiative and preferences, there were apparent constraints in (i) the quality assurance necessary for effective livelihoods development and perhaps in the promotion of moisture conservation, and (ii) inadequate logistical and overhead support for the field staff of the implementing partners to be fully engaged with the project farmers and beneficiaries. The design aspects led to several implementation issues (Section 3.2).

The expectation that the project could both test appropriate technologies and develop institutional capacities within a short period and budget may have been unrealistic especially given the circumstances in Zimbabwe at the time. The project outcomes were never completely clear and the variations in their presentation over the course of implementation reflect a strong focus on activities (e.g., climate risk assessments) and technologies performance (e.g., crop yields) assuming that they would lead to end results (e.g., reduced household vulnerability).

3.1.2 Country ownership/driven-ness

The Terminal Evaluation found active interest and commitment toward the project at the national, district and village level, in part because of the importance of the drought issue and the lack of other programming resources to address the problem.

The project has also demonstrated the potential for expanding adaptation technologies and practices through the existing, under-resourced agricultural and livestock research and extension services in Zimbabwe in collaboration with community groups. The project has shown that with modest funding targeted at field operations and direct services to farmers, the government institutions can deliver cost-effective results in providing extension services for disseminating adaptation measures. The limiting factors to effective use of these services however include transport, communications, technical backstopping, seed procurement and basic operating supplies which are generally not available within government (critical support that is often overlooked in project planning and budgeting).

3.1.3 Stakeholder participation

The project employed participatory methods to engage farmers and households in the selection and testing of adaptation measures. The project had a high level of stakeholder participation in the direct work planning and implementation with the beneficiaries, and the direct responsibility given to the village leaders to organize the local implementation activities. There is a comparative advantage in Zimbabwe due to the relatively well-organized communities (and established community organisations such as CAMPFIRE).

The Project Steering Committee included broad representation of interests, and the minutes of their meetings reflect active interest and support in the progress made by the project.

3.1.4 Replication approach

The replication of the adaptation measures promoted by the project was primarily dependent on farmers' acceptance of the technologies and their comparative benefits. Nearby villages showed an interest in also adopting the drought-tolerant crop varieties and moisture conservation, along with NGOs. The lead farmers and farmer field school approach was geared to dissemination but there was no explicit strategy for replication other than through the pilot demonstrations.

Other aspects of replication included the climate risk and vulnerability studies which reportedly influenced similar efforts at the national level. The up-scaling of the climate change adaptation measures is nevertheless constrained by the limited period for pilot testing the measures, and a lack of government resources at the field level to more widely promote the selected measures.

3.1.5 Cost-effectiveness

As noted above, project was able to make good use of the willing and capable agricultural agencies despite the project being led by EMA, an environment agency, and the limited funding incentives for the partner agencies to participate in the project. The project has generated a substantial array of outputs for the funding provided. Cost effectiveness was not the case, however in the Likulu wilderness sub-project effort that had to be abandoned, and some of the other livelihood activities that may or may not prove to be worthwhile investments.

Overall, given the scope of activities and achievements, the cost-effectiveness in terms of outputs relative to costs has been reasonable for a medium-sized project. Project management costs are proportionally high but this can occur when budgets are small and activities dispersed. The main gap was the non-agricultural/natural resource-based livelihood activities that required much more substantial feasibility analysis and technical guidance and expertise, and that led to non-completion of some of the planned outputs.

3.1.6 UNDP comparative advantage

The support that UNDP has provided to the government in the climate change enabling activities also enhanced the delivery of this project, and was complemented by the good working relationships with government officials. Experiences-sharing with several other related African projects was also organized by UNDP. Proposals were initiated to mobilize additional resources for adaptation activities (without success). On the other hand, the restrictive procurement practices of UNDP apparently created delays and constrained logistical flexibility, to the detriment of UNDP's comparative advantage as an implementing agency.

3.1.7 Linkages between project and other interventions within the sector

Collaboration with the few other donors in the agricultural sector was very limited. GiZ and Plan International were able to fill in some logistical support requirements for extension agents that were not otherwise available. ICRISAT assisted acquisition of drought tolerant seed varieties.

The project was complementary to the development of the national Climate Change Strategy which is also being supported by UNDP.

3.1.8 Indicators quality and utilization

The key project achievement indicators were:

- 20% reduction in impact of climate variability on sources of livelihood for both men and women smallholder farmers
- Increase in adoption of adaptation measures by vulnerable rural communities
- Increases in agricultural productivity
- Level of climate change risk awareness among farmers and service providers
- Number of service providers in Chiredzi district using climate information in operational practices
- Number of households by gender using adapted farm management practices
- Number of small-holder farmers by gender in pilot site consistently using climate information for decision support
- Awareness of lessons from project site among decision and policy makers

The project reporting utilized many of these indicators although not always in a consistent manner. There may be some potential bias in the indicators toward measuring project activities and engagement of the targeted beneficiaries rather than sustainable results. In hindsight, more clarity on the expected outcomes could have enhanced the accuracy of the indicators. For example, in measuring achievement of Outcome 3 – early warning systems, this should have provided an indication of increased reliability of the new local forecasting method, or measuring Outcome 4 – replication, this should be able to report on uptake of measures outside of the project sites.

3.1.9 Management arrangements

Figure 2 outlines the project organisation. The hierarchy of provincial and district authorities that was originally envisioned to manage the implementation was superseded by more direct involvement of consultants and technical advisors, and Agritex extension agents who assisted the site demonstration and livelihood activities.

The primary project implementation partnerships included:

- Chiredzi Research Station for identification of appropriate technologies and training of extension workers;
- Agricultural, Technical and Extension Services workers (AgriTex agents) for farmer mobilization, training and supervision of field activities;
- Matopos Research Station (small grains, livestock and small ruminants), and Makoholi Research Station (soil water conservation, livestock, grazing and fodder);
- ICRISAT assisted with access to drought tolerant seed varieties and livestock training;
- Parks and Wildlife Management Authority for nature conservation, captive wildlife breeding and aquaculture;
- Department of Meteorological Services for seasonal climate information;
- Chiredzi Rural District Council for support with nature conservation activities; and
- The district office of the Environmental Management Agency helped with the coordination of the various players at district level.

Project organisation issues related to the generally weak links between Harare and the district and the lack of resources for field activity oversight. The role of the RDC also did not occur as planned due to lack of resources and incentives.

Project management however was handled effectively by the project manager and project assistant, although excluding sufficient supervision of field activities due to their dispersed locations and the high dependence on government partners in the district. The EMA representative in the district did not have transport and had difficulty facilitating and monitoring field progress.

The demands for administrative coordination between the PMU and UNDP procurement were also higher than expected due to the lengthy procedures that are associated with UNDP operations.

The PSC was attentive and active in providing regular quarterly review and direction. There were at least 14 meetings of the committee to date, with good attendance (7-17 attendees), active discussion of issues, and effective administration and record keeping.

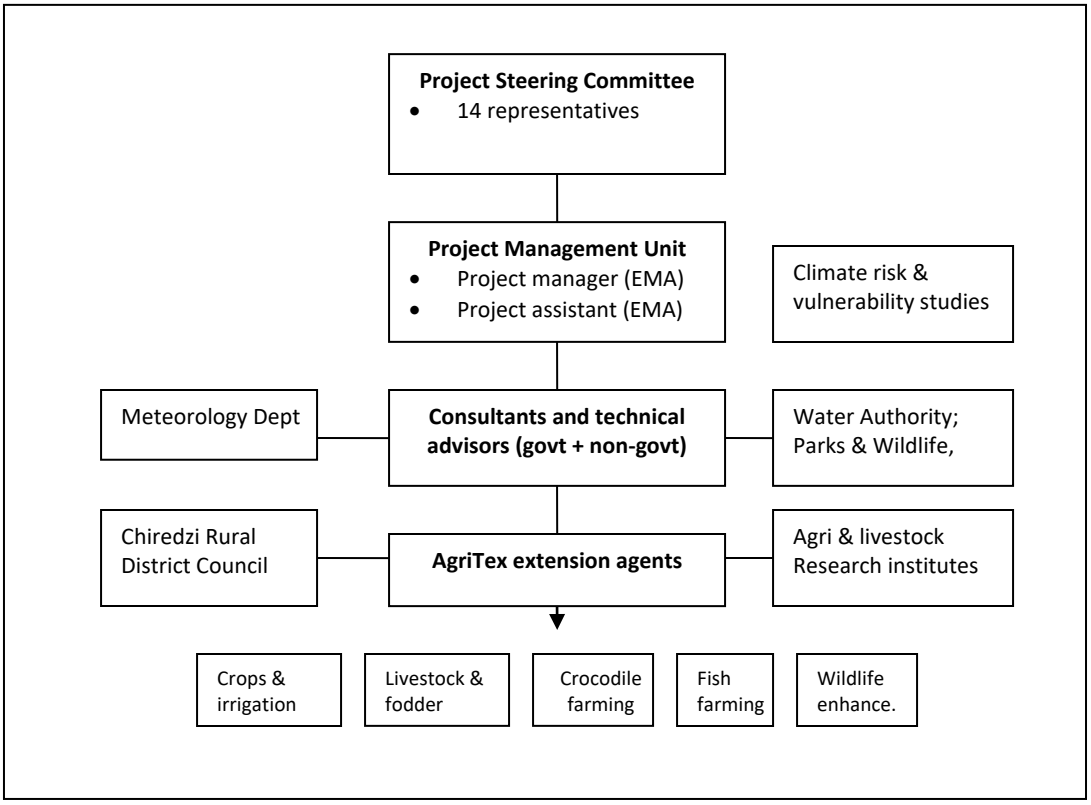

Figure 2 – Project Organisation

3.2 Project Implementation

3.2.1 Implementation Issues

The project faced implementation issues typical of many Medium-sized GEF projects. The project start-up was delayed which left less time to demonstrate the project approach and technologies. In the case of Zimbabwe, the political and economic events that coincided with commencement of the project further accentuated the delay problem.

Availability of project implementing staff and resources at the field level also affected progress. The project baseline survey and subsequent review of progress noted several key issues that the project faced:

> *Current adaptation mechanisms are centered on timing of planting and use of drought tolerant crops and varieties. Seed availability is in short supply as a result of shortage in the market systems and failure to save seed from own production. For livestock farmers, providing feed and water to animals was the main strategy used. There is limited diversification away from agriculture. Level of knowledge of*

adaptation options is moderately high but resources for implementation are scarce.[10]

Delays in approval of workplans and budget release by UNDP CO, capacity constraints among implementing partners, delays in recruitment of experts, and co-financing that did not occurred as planned were the primary issues. It was also noted:

Government partners in Chiredzi district are facing serious transport and communication challenges. These capacity constraints increase project implementation costs since the Project Management Unit has to provide logistical support from Harare even for minor activities. None of the project partners from government are on email and telephone landlines are not always working. This situation resulted in high communication costs. For the adaptation interventions being piloted to continue beyond project life, these capacity constraints need to be addressed. Lack of capacity among local institutions has been identified by the project to be one of the most important barriers to climate change adaptation. WARDs in Chiredzi district stretch over several tens of kilometres and it's virtually impossible for the extension agents to reach out to all or even a fraction of the farmers without an appropriate means of transport.[11]

An independent review of project experiences in 2010 summarized several issues:

- *The much-needed involvement of field Agritex staff in monitoring the projects was compromised by budgetary constraints;*
- *The perception by high ranking officials* [i.e., recognition of the benefits of the technologies] *in both Agritex and DR&SS would in the long run jeopardise the dissemination and adoption of results to other communities. (Ideally the findings from the trials would be mainstreamed into the research and extension messages);*
- *The community natural resource management and utilisation interventions required specialised skills [e.g., business development services] that were not available at the local level which jeopardised the success of the project; and*
- *The partnerships that were created with state and quasi-state institutions such as Agritex, DR&SS and National Parks Authority were not complemented by any established partnerships that involved other development actors such as NGOs*.[12]

Other implementation issues included poor remuneration and lack of incentives within government partner departments, which adversely affected morale of some of the workers the project depended on for the implementation of pilot demonstration projects on the ground.[13]

[10] JIMAT Development Consultants, Project Baseline Study, Final Report, Dec. 2008, p.75.
[11] Annual Progress Report, Jan-Dec 2009.
[12] Edward Chuma, Coping With Drought Project, Lessons and Experiences of Coping with Drought in Zimbabwe, May 2010 p.15
[13] Project Progress Report, Q1, 2011.

The trial and error approach to many of the pilot field activities and sporadic supervision resulted in some shortcomings (see Section 3.3.3) that stem from the original project design – including an overly ambitious scope of objectives, unrealistic expectations of government capacity, insufficient quality assurance on some of the outputs and over-dependence on one project manager and his administrative assistant that made up the PMU.

It may be that the project has tried to do too many activities through too many subcontractors, and mostly left the pilot project partners and stakeholders to implement field activities on their own (usually with little additional resources) with an optimistic view that self initiative will provide local ownership. There was also an undue expectation that the Regional Council and the line agencies would have the capacity and resource to implement the field activities.

3.2.2 Financial planning and co-financing

The project budget was $ 983,000, 92.8 % of which had been expended by June 2012. The breakdown by Outcome is shown in **Table 3** below. However, the actual amounts spent varied significantly for Outcome 2 – Livelihoods (under-spent) and Outcome 5 – Project management (over-spent).

The project budgeting and financial planning have not been particularly efficient. **Table 4** shows the wide range of annual variance between budgeted and actual expenditures, especially for Outcome 5 which includes project management costs. For the three years 2009-2011, the annual outcome level variances between budget and actual ranged from +553% to -100%.

Table 3: Project Budget ($USD)

YR	1	2	3	4	5	Total	% of total
Outcome 1	34500	27500				62000	6.3
2	74000	157000	147000	138000	96500	612500	62.3
3	22000	32000	15500	0	0	69500	7.1
4	20000	20000	20000	20000	20000	100000	10.2
5	60500	10000	28000	11500	29000	139000	14.1
TOTAL						**983000**	100

Table 5 shows that although 62% of the total budget was originally allocated for Outcome 2 activities, less than 25% of actual expenditures to date have gone to this Outcome. Similarly, 14% of the budget was allocated for Outcome 5 but actual expenditures have been almost 27% of total expenditures. Outcome 5 (project management) was 76% over budget; Outcome 3 (warning systems) was 29% over budget; while Outcome 2 (livelihoods development) and Outcome 1 (national capacity) were 63% and 43% under budget respectively. The shift in

emphasis between the project components over the process of implementation and the need for greater management support than anticipated may explain some of these numbers.

The lower than expected expenditures for Outcome 2 reflect the rationalisation of some the planned livelihood and resilience building activities that were beyond the project budget. For example the Chilonga irrigation needed in excess of $500,000, whereas the Likulu Wilderness project needed more than $200,000 leading to them being dropped from the original menu of adaptation options.

The higher than expected expenditures for Outcome 1 reflect the increased effort and attention toward risk and vulnerability studies for the project area. The inability of the low cost rain gauges to withstand the high summer temperatures that are characteristic of Chiredzi District and the costs of the weather stations may have contributed to over-spending on Outcome 3. The much higher than anticipated costs related to Outcome 5 – monitoring, learning, project management may be due to the number of technical advisors required to complete the various studies and the underestimates of project management requirements. The service contracts made up 21% and travel was 6% of expenditures to date. This includes both project management and technical advisor activities that were charged under Outcome 5.

Cash co-financing, originally proposed at over $500,000, did not evolve as planned due to the political and economic events that prevented the anticipated contributions from partners. The reasons for failure of UNDP to contribute the $200,000 in cash contribution authorized by the endorsed Project Document are not apparent from the documentation or discussions, but the collapse of the Zim dollar appears to be a factor in this contribution withdrawal by UNDP. Only a small portion of the total planned cash and in-kind co-financing of $ 1.156 M was realized through the government.

As per the project agreement, the Government of Zimbabwe provided for (a) all salaries, benefits and allowances of Government personnel to be involved in the project, except for costs related travel on project business, which will be paid from the project, (b) office space for project personnel (including consultants), as well as water, electricity and other relevant utilities, and (c) conference rooms needed for meetings.

The annual financial audits commented on the process of registering fixed assets and the delays in completion of some activities and recommended appropriate actions. No major financial management issues were identified.

Table 4: Annual Budgets and Expenditures by Outcome ($ USD)

	2008			2009			2010			2011			30-Jun-12		
Outcome	**Budget**	**Actual**	**Variance**	**Budget**	**Actual**	**Variance**	**Budget**	**Actual**	**Variance**	**Budget**	**Actual**	**Variance**	**Budget**	**Actual**	**Variance**
1	34500			27500	35610	+29.50%									
2	74000			157000	93800	-40.3%	147000	46551	-68.3%	138000	67340	-51.2%	96500	16655	-17.3%
3	22000			32000	21000	-34.4%	15500	34103	+120.0%	0	12000		0	22390	-22390
4	20000			20000		-100%	20000	31875	+59.4%	20000	20650	+3.3%	20000	54742	+173.7%
5	60500			10000	60876	+508.8%	28000	73746	+163.4%	11500	75080	+552.9%	29000	35497	+22.4%
	211000	**210279**	**-0.34%**	**246500**	**211286**	**-14.3%**	**210500**	**186275**	**-11.5%**	**169500**	**175070**	**+3.3%**	**145500**	**129284**	**-11.1%**

Table 5: Total Budgets and Expenditures by Outcome ($ USD)

Outcome	Outcome Budget	% of Total Project Budget	Actual Spent	% of Total Project Expend.	Variance to date	% Variance from Budget
Outcome 1: National institutions capacity	62,000	6.3%	35,610	3.9%	-26,390	-42.6%
Outcome 2: Livelihood strategies and resilience	612,500	62.3%	224,346	24.6%	-388,154	-63.4%
Outcome 3: Enhanced use of Early Warning Systems	69,500	7.1%	89,493	9.8%	+19,993	+28.8%
Outcome 4: Farmers/ pastoralists replicate successful approaches	100,000	10.2%	107,267	11.8%	+7,267	+7.3%
Outcome 5: Monitoring, Learning, Adaptive Feedback and Evaluation + Project Management	139,000	14.1%	245,199	26.9%	+106,199	+76.4%
Total	**$ 983,000**		**$ 912,194**		**-70,806**	**-7.2%**

Note: Expenditures ('Actual Spent') are to June 2012.

3.2.3 Monitoring and reporting process

A lot of attention has been paid to monitoring project results, perhaps with limited return for the level of investment, particularly given the shortage of funds for field support and alternative livelihoods development. However, monitoring is a priority for UNDP and the expectation was that household surveys in the project sites would provide the necessary level of detail.

The project monitoring program was developed at length to provide comprehensive data at baseline and subsequent final stages of the project. The Baseline Report (2009) provided household survey data (n=102) on targeted villages in Wards 1, 2, 7 and 11 for 2008. The project's Monitoring and Evaluation system was described as "being anchored around four clusters of indicators of interest to GEF and these were: *Impact, Coverage, Sustainability and Replicability*." A follow-up survey was completed in June 2011 (n=492) and the data reportedly provide the most up to date record of project effects. The data from the 2011 survey have not been compiled or analysed (although it is planned to do so). The survey parameters were apparently not fully comparable to the baseline survey and it is not known if any randomized controlled sampling of non-intervention households was included.

Monitoring of changes in agricultural productivity is complicated by the high annual and spatial variability in rainfall and other physical factors. It should also be noted that the region is characterized by high migration of men to South Africa in search of employment, which can create distortions in assessing socio-economic effects.

There are two critical comments on the monitoring system. Firstly, the measurement of farmer responses to the introduced adaptation measures and the factors that affected the level of adaptation across the project sites has not been monitored in a systematic manner despite the contracted surveys which mostly address household perceptions of climate change and the effects on agricultural production and adaptation preferences. The anecdotal observations of the extension agents and the sparse data on specific results of the (mother-baby) trials appear to be secondary to the somewhat academic household surveys (2008 and 2011). The surveys looked at the big picture on climate change, but more specific information was needed on the actual performance of the technologies themselves. A quantitative summary of indicative or representative results of the activities listed on Table 2 would have provided more confidence in the conclusions of the monitoring program.

Secondly, the lack of a clear monitoring plan and testing of the core indicators and the various versions of the outcome statements inhibited a systematic approach to monitoring and reporting on progress. A central concern is that monitoring should be able to measure meaningful changes in farming adaptation practices and not simply completion of activities

funded by the project. Clarity and consistency in the expected results and reasonably reliable indicators of their achievements are needed for a good monitoring program. These are not apparent in this project. Despite the grand effort, some of the preliminary data are not particularly insightful.[14] For example, a more revealing measure of effects may have been the sale of some 4000 cassava plants from the government nursery, independent of the project, or examples of increased household food supply and on-farm incomes that can be directly linked to adaptation activities (e.g., small scale irrigation).

These criticisms notwithstanding, the quarterly and annual progress reports provided an adequate summary of project status in a concise and timely manner.

3.2.4 Execution and implementation modalities

The multi-partnership implementation modality had the advantage of drawing upon government expertise and outreach but also with reduced ability to directly supervise progress at the operational level. For example, the planned 'community based drought preparedness plan' was never completed because of budgetary and time constraints, and due to the lack of a significant commitment from the regional Council.

At the field level, the implementation modalities involved collaboration with the beneficiaries through successful lead farmers, farmer field schools and field days that maximized farmer involvement and exposure to the crop trials and other adaptation measures.

Despite the substantial achievements described in Section 4 below, several aspects of the modalities affected project delivery. Project implementation experienced various constraints:

- timely access to technical inputs due to the lack of transport for extension agents;
- insufficient training on the use of the localized weather forecasting systems and the process of formulating planting advice for the farmers;
- the lack of follow-up support to date and guidance on addressing specific challenges at the project sites (see Sec. 3.3.3) ; and
- heavy dependence upon an array of contractor implementing partners to deliver individual outputs that don't always contribute toward a cohesive project implementation strategy.

The project's logical framework, which evolved slightly over the course of the project implementation, has not been particularly useful in providing focus and clarity of end results.

[14] E.g., "Results from the June 2011 project survey shows that about 3.8 to 78.6% of farmers across the four pilot WARDs have taken up nature conservation as a drought coping strategy in the last 3 years. 2.2 to 54% of the farmers have always practiced this before.....demand for medium (10-14 days) range and seasonal climate forecasts grew to about 43-83.5% of the farmers across the four pilot WARDs." (PIR, 2011).

3.2.5 Management by the UNDP Country Office

The UNDP role has generally met expectations as defined in the Project Document. The main issue has been delays in recruitment and procurement, and inflexibility in funding minor operational costs. (The GEF project design assumption that governments have the resources to provide the necessary in-kind support for implementation is often incorrect)

One example of positive quality assurance and adaptive management was the decision of UNDP to not support the procurement of livestock as requested by the community stakeholders (late 2009) but rather to propose pasture development, since the purchase and distribution of livestock would have posed a variety of problems contrary to the project approach.

3.2.6 Coordination and operational issues

The coordination and operational issues center on the multi-focal and partnership modalities in the project design and the varied and dispersed activities. The project could not have been implemented without the cooperation and commitment of the partners. Coordination from an administrative perspective was effectively managed by the PMU. In terms of facilitating a coordinated approach to drought preparedness and management, a role generally ascribed to Regional Councils, there were some obvious gaps. The noted operational issues t mostly focus on the capacity of the partners to deliver effective and consistent support at the field level.

3.3 Project Results

An overview summary of the project results and comments on achievements were prepared by the Project Manager and by the Evaluation Consultant in relation to the project results framework. **Annex 6** presents this summary and each outcome is elaborated below.

3.3.1 Project objective

The project has developed and piloted a limited range of coping mechanisms and adaptation measures that effectively reduce vulnerability to drought for crop and livestock production at the project sites in four wards. This approach in Chiredzi is potentially a very significant contribution to national strategies and programmes on climate change adaptation.

It was noted that at the beginning of the project about 25-44% of the farmers depended on one or two crops (sorghum and maize) while a subsequent survey in 2011 determined that 40% (against a target of 60%) of farmers have now adopted a diversified crop mix including drought tolerant varieties of maize, sorghum, pearl millet, groundnuts and cowpeas integrated with soil

moisture management.[15] It is stated that the strategies to optimize rainfed agriculture have the potential to benefit about 6,600 households in Chiredzi district and many thousands more at the national level through the knowledge generated to improve productivity of rainfed agriculture. It will take some years to confirm this potential but there is no doubt that the new crop varieties and diversification alone make a significant difference to climate change resilience.

3.3.2 Achievement of Outcome 1: National institutions have capacity to improve knowledge

The project completed a series of technical studies and reports that indentified the particular climate change risks and vulnerabilities to crop and livestock production systems in Chiredzi District, along with the possible adaptation measures. The Synthesis Report states:

> *Community participatory climate risk analysis for Chiredzi district revealed that drought is the most important climatic hazard ad five types of drought are normally experienced in the district. The five types of drought are: early season (characterized by delayed or slow onset of the rains), mid-season (rains break for weeks on end about January/February), terminal (rains just terminate from about January/February), seasonal (rains are light and patchy throughout the season) and extreme drought (in this case rains fail for two or more consecutive seasons.)*[16]

This technical work established a model approach for risk and vulnerability analysis that subsequently influenced the national approach to climate change program (with the same consultants), and assisted in developing some capacity for downscaling global climate models for Zimbabwe.

In the Project Document (see also **Annex 6**), there was an expectation of this component (originally part of Outcome 3) contributing toward the mainstreaming of climate analysis into district development planning, including preparation by the project of a draft drought preparedness plan for the district. Uptake of the technical analysis into the government planning systems has only been minor to date (This mainstreaming expectation seems to have been lowered after the Inception Phase, as reflected in the project monitoring indicators.)

For several reasons, including the challenges associated with institutional capacity development and the pre-occupation of Chiredzi Rural District Council with other issues (most notably revenues from wildlife and tourism which support more than 90% of their operating budget), there has been little observable institutional response to the technical analyses prepared by the project. It is expected that the District Development Plan will address drought and climate

[15] UNDP/GEF Project Implementation Review 2011.
[16] Coping with Drought and Climate Change Project, Coping with Drought, Vulnerability and Adaptation to Climate Change: A focus on Chiredzi District, Zimbabwe, Synthesis Report, 2009, p. 13.

change in some form but there is no basis to expect the ward or district level plans to integrate advice or lessons from the project which mostly focus on crops and livestock rather than wildlife.

At the national level, this outcome has clearly raised awareness of the climate change issues and opportunities, including through a major symposium ('Building a Climate Resilient Society', June 2012) which involved 43 papers on climate change issues in Zimbabwe. Interviews with senior government officials however, also highlight that they are aware of the project but not the specific strategy (agricultural diversification, drought tolerant varieties, moisture conservation) and the upscaling implications, or the challenges in mainstreaming the priority climate change adaptation measures into government systems.

Efforts are expected during the final stages on project closure to provide targeted input from the project to the national Climate Change Strategy. For example, the ***Coping with Drought Synthesis Report*** produced under Outcome 1 provides general advice on the 'Policy-related limitations to current drought management initiatives' that could be considered at the national level:

- *insufficient importance given to drought risk management by government institutions,*
- *lack of drought management structures at community and district levels,*
- *poor management of irrigation project,*
- *poor community participation in long-term drought risk reduction programmes*

There remain several institutional coordination and capacity constraints that have not been adequately addressed by the project and that require further attention. The following observations on Outcome 1 provide some context for future policy and program development:

1. It should first be recognized that the institutional development results were not well defined. Following the inception phase, the original Outcome 3: "Drought preparedness and mitigation activities integrated across sectors, programmes and at various levels of society in the pilot sites" became diluted in a new Outcome 1: "National institutions have capacity to improve knowledge base to facilitate climate change adaptation" (see Annex 6). Institutional change is difficult for a small environment agency to lead without a clear mandate and perhaps this was recognized at the inception phase, along with the reduced funding due to loss of co-financing.

2. The project placed an emphasis on the adaptation technologies rather than the institutional processes for adaptation. The inherent complexities and lack of incentives for institutional action led by EMA may have discouraged commitment from the relevant organizations. There is also a logical case that the Chiredzi approach

and technologies need to prove themselves in generating results before the relevant agencies and community organisations take an interest in adaptation.

3. The project design assumed a central coordinating role for the RDC but the councils do not appear to have the necessary resources and capacity needed to fully address drought and climate change, especially where their limited revenues are not tied to agriculture or water management. The concept of district level strategies for climate change adaptation needs to have a more effective technical and financial foundation.

4. Departmental budgets are a key aspect of capacity to deliver climate change adaptation. In this project, relatively small support was provided to the line agencies expected to implement field activities at the community and household level (Outcome 2), and perhaps too much focus was given the technical studies (Outcome 1) rather than end results: changing farming practices. It is not clear, for example, that the uncompleted institutional outputs such as a district drought preparedness plan would have made much difference without resources and commitment for implementation.

5. While the project has established a positive national profile, there is still a lack of understanding on the part of senior government officials as to the specific approach and strategy that has been tested in this project (let alone the need for upscaling). The fact that the project manager and other participants are involved in the development of the national Climate Change Strategy is reason for optimism but the mainstreaming process for effective adaptation measures has only just commenced.

6. There appear to be opportunities to enhance land productivity in Chiredzi district through community-based catchment area improvements linked to conservation farming, agroforestry and pasture development. The minor role of the Zimbabwe National Water Authority (ZINWA) and sub-catchment plans in the project and the emphasis on household level interventions reflects a gap in the integrated approach. Rainwater harvesting and low-cost community-based watershed treatments could be used to capture rainfall and flood flows in the low gradient channels and flood zones that intersect the district. But this would require a more elaborate institutional model and sorting out the complex institutional constraints and financing mechanisms.[17]

[17] *For example, see* Davison Gumbo, Expert Group Seminar in Conjunction with the OECD Global Forum on Sustainable Development, **Working Together to Respond to Climate Change**, *Zimbabwe Country Case Study on Domestic Policy Frameworks for Adaptation in the Water Sector*, WWF-Southern Africa, March 2006, p. 8: "*Decentralization in Zimbabwe in as far is the water sector is concerned is centred on the creation of ZINWA, Catchment Councils and their linkages with the RDCs. Decentralization has become a reality in terms of structure but what is unclear is the extent to which the central government has accepted to "let go". This is largely due to the limited capacity to generate revenue both at catchment Council level*

Climate change adaptation strategies aimed at more integrated approaches may need to address the status of the decentralized water management system envisioned under the Water Act (1998). The reform process has faced some major challenges owing to a combination of factors ranging from conflicting policies and weak institutional linkages, to insufficient funding.[18] The same issues are likely to confront the National Climate Change Strategy.

3.3.3 Achievement of Outcome 2: Adaptation practices and livelihoods

The achievements under the agronomic and livestock elements have been impressive:

- about 40% of farmers in pilot area adopted a crop mix involving sorghum, pearl millet, cowpeas, drought tolerant maize varieties and groundnuts;
- about 30% of farmers implementing infield rainwater harvesting and soil moisture conservation (although the labour requirements and availability of draught livestock power are a constraint);
- dependence on rainfed agriculture as the sole source of livelihood decreased by more than 20%, and traditional crops are now complemented by small gardens, livestock production, nature conservation and trading.
- increased planting and dietary acceptance of cassava which grows well in dry conditions (although uptake is constrained by limited availability of planting material and early knowledge of the crop);
- almost 40% of the farmers have adopted livestock production as part of mixed-production model;
- introduction of guinea fowls which are considered hardier under drought conditions;
- farmers' use of an indigenous tuber that saves their livestock during drought periods;

The crop and moisture conservation demonstrations involved 92 households. Through farmer field schools and field days more than 600 other farmers were exposed to the crop mix being promoted by the project, and many of the same farmers experimented with four soil moisture management techniques, including: tied ridges, deep plough tied furrows, rainwater basins ("zai pits"), and flat land preparation. A series of recent droughts in Chiredzi have contributed to increasing the farmers' willingness to diversify their crop mix, along with improved access to seeds owing to the project and NGO interventions. The 'Mother – child' approach to farmer demonstrations appears to have been productive in engaging farmers.

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as well as the RDCs. The lack of capital as well as capacity has meant that decentralization has occurred in name only as in reality as these structures rely on handouts from central government for survival."

[18] H. Makurira and M. Mugumo**,** *Water Sector Reforms in Zimbabwe: The Importance of Policy and Institutional Coordination on Implementation*, **Watershed Management in Sub-Saharan Africa**, Proceedings of the African Regional Workshop on Watershed Management, FAO, Oct. 2003.

Other livelihood development activities included:

- 28 households involved in captive crocodile breeding,
- about 120 households involved in Natural Resources Management as a source of income
- 58 households have been introduced to aquaculture (fish farming) as an alternative source of livelihood
- 72 households involved in a community gardens small-scale irrigation project at Tamuwanyika.

A project review workshop in 2010 described the key themes during project implementation:

> *The key messages emerging from the crops pilot demonstration projects was that soil moisture conservation technologies if deployed consistently can be an effective adaptive strategy in rainfed agriculture. A second message emerging is that there is scope to promote alternative or new crops such as cassava that showed tremendous drought tolerance during demonstrations. The third message was that farmers are currently not fully exploiting available improved crop genetic materials. A fourth message that is emerging from the pilot projects is that there are alternative livelihood options around natural resources management and sustainable exploitation in arid and semi-arid regions*.[19]

There are other adaptation measures that could be considered for the Chiredzi model. For example, recent research suggests that enhancing soil nutrient management can have a significant effect on maize production under variable rainfall conditions and reducing the risk of crop failure in Zimbabwe.[20]

Some implementation challenges were identified in early stages of the project, including:

- "Seed multiplication trials where farmers became involved in multiplying seed before they had a chance to assess performance and suitability to local biophysical environment and socio-cultural conditions;
- Cassava was introduced without a clear idea of how it would fit into the existing farming systems – security concerns were expressed if grown in the field while suggestions to plant in gardens which would make it a competitor for the limited moisture that was available;
- The "mother and baby" trials were not flexible with the result that "baby" farmers grew specified trial combinations instead of letting them choose which treatments they wanted to try out on their own based on observing the mother trials;
- Data from the rain gauge network was not used to determine how it could be used to assess what amount of rainfall was needed before planting could commence, which would ensure better crop establishment unlike the current practice of dry planting;

[19] Proceedings of The Chiredzi Pilot Projects Review and Planning Workshop 22-25 June 2010 Flamboyant Hotel, Masvingo

[20] Rurinda J., et. al., *Integrating soil nutrient management and timing of planting for increasing maiz production under variable rainfall in eastern Zimbabwe*, National Climate Change Adaptation Symposium, Coping with Drought and Climate Change Project, 2012.

• Some of the moisture conservation techniques such as tied ridges and furrows, and basins were found to be largely inappropriate because of the high labour requirements as well as the fact that the structure of the soil made it difficult to maintain them rendering the perceived benefits from these structures redundant."[21]

A few shortcomings were also observed during the brief Terminal Evaluation field visit that reflected insufficient field supervision, including

- Farmer constraints to adoption of labour intensive practices such as chopping of stover[22] in the urea treatment demonstrations, construction of Zia pits and addition of mulching;
- Failure to ensure that technical rather than local political advice was followed in the selection of borehole sites for the Likulu Wilderness project which was eventually abandoned due to costs;
- Uncertainty and lack of business planning for the Chilonga Crocodile Project;
- Lack of action to address gap-filling (plant mortalities), water use efficiency and some failed plots in the irrigated community gardens project;
- Likely abandonment of a project-funded drip (micro) irrigation demonstration facility because of local disagreement on who would be the beneficiaries (inadequate leadership to resolve the issue);
- Installation of the pressure pump on the wrong side of the water tank in the Tamuwanyika community gardens;
- Lack of mulching methods, normally essential for moisture conservation in all drylands projects, due to concerns about termites and no proposed solutions;
- Participant doubts about seed multiplication and availability and cassava plant stock;
- Under-recognition of local micro-watershed management opportunities to enhance rainwater harvesting, groundwater recharge, agroforestry products and fodder production;
- Ad hoc dependence on GiZ and Plan International to provide fuel for the extension supervisor's motorcycle; and
- Five of seven handpumps reportedly not functioning in Ward 8 leaving the community vulnerable to water shortages although this is apparently not a climate adaptation concern.

Many of these operational issues are understandable for a project in rural Zimbabwe where local capacity and resources are very limited, but they nevertheless leave a concern about sustainability of some of the livelihood outputs, despite other achievements under Outcome 2. The aquaculture and capture fisheries development activities are too new to assess results. It was not possible to evaluate their status during the mission.

[21] Edward Chuma, Coping With Drought Project, Lessons and Experiences of Coping with Drought in Zimbabwe, May 2010.

[22] *Stover* is the leaves and stalks of maize, sorghum or soybean plants that are left in a field after harvest, which can be directly grazed by cattle or dried for use as fodder, including through 'urea treatment'.

3.3.4 Achievement of Outcome 3: Early warning systems

This component has introduced a new, reportedly more accurate and effective system of providing weather forecasts and crop planting advice to farmers. This is a significant contribution since the current Met Office forecasts have been shown to be largely unreliable, tending to over-forecast near normal rainfall and usually failing to predict below normal events including droughts.[23] The new method involving locally generated forecasts is an important contribution to agricultural climate change adaptation in southern Africa.

The anecdotal information on the pilot testing indicates positive results from these forecasts, but comparative data with the traditional system were not available. The current system has a low 17% utilization rate of Met Office forecasts by small-holder farmers, but the improvement as a result of the new customized approach is not yet assessed.

Meteorological instruments at six stations were installed to measure: rainfall, maximum and minimum temperature, relative humidity and a few locations, evaporation. Equipment to measure wind speed and direction were too expensive for the project. The Chiredzi Met Station locations are as follows:

Station	**Station GPS position**
Chilonga Irrigation scheme	S 21 deg 14' E 31 deg 38'
Tamuwanyika Garden	S 21 deg 15' E 31 deg 35'
Mhlanguleni High School	S 21 deg 32' E 31 deg 29'
Machindu Primary School	S 21 deg 28' E 31 deg 35'
Chikombedzi Vet Office	S21 deg 40' E 31 deg 19'
Mupakati Agr. Offices	S 21 deg 15' E 31 deg 45'
Agritex Office	S21 deg 10' E31 deg 35'
Boli Primary School	S21 deg 30' E31 deg 30'

It was noted that a system of weather information flow exists but is poorly coordinated and not monitored. The weather forecast information products do not get to the targeted smallholder farmers. In addition, the products do not always carry the relevant content making them valueless. However, it is encouraging to note that opportunities for improving the situation do exist. Forecasts continue to be generated regularly and there are existing channels that start from the Met Office HQ through the media or AGRITEX to the farming communities.[24]

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[23] Desmond Manatsa, Leonard Unganai, Christopher Gadzirai & Swadhin K. Behera, *An innovative tailored seasonal rainfall forecasting production in Zimbabwe,* Natural Hazards, July 2012; and Leonard S. Unganai, Jessica Troni, Desmond Manatsa and Daisy Mukarakate, *Tailoring seasonal climate forecasts for climate risk management in rainfed farming systems of southeast Zimbabwe,* Coping with Drought and Climate Change Project, Environmental Management Agency, Harare, Zimbabwe, 2012.

[24] Environmental Management Agency, Capacity Needs Assessment and Strategy for Enhanced Use of Seasonal Climate Forecasts for Small-holder Farmers in Chiredzi District, Harare, April 2010.

These stations provided for locally observed rainfall records in the project area, and are used mainly to evaluate planting decisions. "By developing a culture of using locally observed climatic data, and simultaneously slowly introducing the farmers to climate forecast products, a firm foundation for the uptake of medium range and seasonal forecasts is being established." In addition, the project developed a local methodology to assist the extension agents in improved seasonal rainfall forecasting. "Although the project managed to generate interest in a range of climate forecast products among extension workers and farmers consistent dissemination and uptake have been constrained by poor communication infrastructure and limited decentralised services from the National Weather Service."[25]

The project has established that the seasonal forecast products are very useful in helping farmers make decisions about planting/cropping density and timing of weeding activity using a cultivator. The 2011 survey indicated that demand for climate forecast products among farmers has increased by about 43-83.5% depending on the interaction between the extension worker and farmers around climate data. Indigenous knowledge however, has not been fully addressed as planned in the local forecasting system that has been developed.

3.3.5 Achievement of Outcome 4: Adaptive learning and replication

A variety of knowledge products, experiences-sharing and learning events have been produced by the project in support of climate change adaptation in Zimbabwe. Awareness raising at both the district and national level was provided. For example, the project created a website (www.ema-cwd.co.zw), flyers, posters and technical reports that enhance public and farmer understanding of climate change risks and adaptation opportunities. It also prepared a communication strategy, although the proposed evaluation of effectiveness has not occurred.

As noted in this report, the project has contributed significantly toward the national dialogue and approach to climate change adaptation. The learning and replication of project adaptation measures is being mostly driven by farmer recognition of the need to modify crop regimes and farming practices in the face of recurring drought. The effectiveness of some of these measures to date in improving crop production and resilience has led to improved working relations between farmers and extension officers, and ongoing demand for more technical support and technologies from government.

3.3.6 Sustainability of project results

The project reports have argued that the implementing partnerships with government departments and NGOs are evidence of ownership and sustainability. This is doubtful. A new

[25] Quarterly Progress Report, 2011.

awareness of project-related adaptation measures and especially the advantages of crop diversification and moisture conservation have been created but it is too early to say whether the project sites and technologies will be fully maintained and expanded and whether partner organizations will re-align their programming around the project technologies.

The project climate change risks and vulnerability assessment provided input to a similar approach in the Second National Communication under UNFCCC (same consultants) and is expected to have additional contribution in some form toward the current preparation of a national Climate Change Strategy.

At the field level, sustainability will be primarily supported by the enhanced crop and livestock productivity and income benefits that have been demonstrated by farmers at the project sites and elsewhere. These may generally ensure continuation and expansion of the adaptation measures. The outputs that have particular management implications – irrigation systems, orchard maintenance, carry some sustainability concerns. However, sustainability of the farmer-accepted interventions distinctly contrasts with the very limited capability and resources of the government agencies to maintain any regular field support without additional funding.

3.3.7 Country ownership and gender equity

The level of interest and participation in the project by government agencies and communities has been high due to the growing demand for effective responses to the drought problem as the rainfall pattern becomes more erratic. The lack of other funding for agricultural programs also heightened interest in the project, as has the increased awareness of climate change. Some of the research and extension staff demonstrated particular commitment to the project. Local engagement and ownership was also especially evident where farmers and households found improvements in food security and income from the project activities.

Women and men participated equally in the project activities, which was planned into the project design. Gender equity was promoted in the project as shown by the gender breakdown of training participant and project beneficiaries. Measures were also taken to ensure poor and disadvantaged households were included in the project participants.

3.3.8 Mainstreaming

The project has been fully aligned with UNDP and GEF strategies in a direct focus on poverty alleviation, food security and climate change adaptation, and with a high level of gender balance. The integration of adaptation across sectors and agencies however, has not been a focus of the project design or achievements. This may begin with the proposed project inputs into the national Climate Change Strategy and in the follow-up efforts to advance the seasonal

weather forecasting method. It will be further assisted by the final documentation, refinement and dissemination of information on the adaptation technologies that have been demonstrated.

3.3.9 Catalytic effect

The project has had a catalytic effect by (a) creating increased awareness of climate change risks and vulnerabilities, and (b) demonstrating an approach and measures to effectively adapt to climate change and that have the potential for sustainability and replication beyond the project. The project reports estimated that the optimized crop pilots have the potential to benefit about 6600 households and the livestock interventions 7440 households in Chiredzi district. There is no doubt the project has introduced a significant, new approach to agriculture and food security in the district that has also created awareness of adaptation possibilities at the national level.

3.3.10 Institutional capacity development

The risk and vulnerability assessment no doubt contributed to increased understanding of climate change analyses by national staff in EMA, Ministry of Natural Resource and Environmental Management, Ministry of Agriculture, and elsewhere. The main focus of skills development has been the AgriTex extension staff who have been involved in the project.

The training (including TOT) and technical manuals generated by the project have in a small way enhanced institutional capacity in the agricultural sector to address climate change. But the mainstreaming of adaptation into government has not been a major focus of the project. Institutional change was not readily apparent in the project, and there was some lack of clarity about the expected “development of national capacity” that was implied in Outcome 1.

4.0 Rating of Project Performance

In accordance with UNDP/GEF evaluation requirements, the project results, implementation, sustainability and M&E systems will be rated in terms of:

Highly satisfactory (HS). The project had no shortcomings in the achievement of its objectives in terms of relevance, effectiveness, or efficiency.

Satisfactory (S). The project had minor shortcomings in the achievement of its objectives in terms of relevance, effectiveness, or efficiency.

Moderately satisfactory (MS). The project had moderate shortcomings in the achievement of its objectives in terms of relevance, effectiveness, or efficiency.

Moderately unsatisfactory (MU). The project had significant shortcomings in the achievement of its objectives in terms of relevance, effectiveness, or efficiency.

Unsatisfactory (U). The project had major shortcomings in the achievement of its objectives in terms of relevance, effectiveness, or efficiency.

Highly unsatisfactory (HU). The project had severe shortcomings in the achievement of its objectives in terms of relevance, effectiveness, or efficiency.

4.1 IA and EA Project Execution

Rating Criteria: *Assess and rate the effectiveness and efficiency of the project implementation and management by the Implementing Agency and the Executing Agency.*

Rating: Satisfactory

Reasons for Rating: The project required significantly more investment in project management than originally envisioned and there have been operational constraints in the multi-partnership implementation of activities on the ground. But, overall, given the scope of activities and the external factors at play in the country, the implementing and executing agencies (UNDP and EMA) have effectively delivered measurable results that significantly advance climate change adaptation in Zimbabwe. Project execution has been generally pro-active and engaged farmers in participatory manner, important attributes for success. Some efficiency could have been gained through better management of the livelihoods development and more field supervision but this was overshadowed by the substantial results in the adaptation measures that were promoted by the project.

4.2 Monitoring and Evaluation

Rating Criteria: *Assess and rate the quality and thoroughness of the project monitoring and evaluation systems.*

Rating: Moderately Satisfactory

Reasons for Rating: The adjustments in the project's logical framework following the inception phase, the lack of a clear and concise monitoring plan, and the uncertain links between the eight core indicators and the baseline and follow-up surveys suggested some weaknesses in the project's M&E system. A lot of effort went into contracted surveys without enough quality assurance on the indicators, the recorded performance of the adaptation measures, and the interpretation of causality. The preliminary data from the 2011 survey have yet to be consolidated and some of the initial data do not provide sufficient survey evidence to test the qualitative, ad hoc and anecdotal observations of the field results. Annual variability in rainfall and other exogenous factors complicate the assessment of effects. Despite these survey limitations however, the M&E process and reporting were given due attention, with several internal reviews of progress. The detail and timeliness of the quarterly and annual reporting were adequate for the purposes even if the rigor that was expected of before and after surveys was not apparent.

4.3 Outcomes Achievement

Rating Criteria: *Assess and rate the extent to which have the project objective and expected outcomes been achieved.*

Rating: Highly Satisfactory

Reasons for Rating: All four of the project outcomes were successfully achieved, with qualification as noted in the report. The enhanced household food security and income from diversified adaptation measures and their effects on national awareness of adaptation opportunities are the most obvious achievements. There were two significant key results that dominated the project outcomes:

- the recognition and awareness of the potential to enhance resilience to climate change through crop diversification with drought-tolerant varieties, moisture conservation methods and small-scale irrigation; and
- the development of methods that significantly improve seasonal weather forecasts and the accuracy and reliability of advice the extension agents provide to farmers.

4.4 Sustainability of Outcomes

Rating Criteria: *Assess and rate the overall risks to sustainability; sustainability is considered to be the likelihood of continued benefits after the GEF project ends.*

Rating: Satisfactory (Likely within the project sites)

Reasons for Rating: The agricultural productivity and related food security and income diversification drive farmer demand for the adaptation measures and thus provide a basis for both sustainability and replication since farmers are actively looking for cost-effective interventions to respond to drought. They have also given momentum and profile for the project to enhance climate change adaptation at a national level. On the other hand, mainstreaming of climate change adaptation into national or district level organisations and development processes may lack the necessary resources and motivation to carry on with the project activities. It will also take more time for some of the recent irrigated horticulture, livestock production, fisheries and livelihood activities to demonstrate proven, sustained results.

4.5 Impact of the Project

Rating Criteria: *Assess and rate the extent to which the project has contributed to, or enabled progress toward reduced climate change vulnerability and increased adaptation.*

Rating: Satisfactory (Potentially significant)

Reasons for Rating: The project has had an impact on national and district level awareness of climate change risks and adaptation opportunities, even though the elements of the Chiredzi model are not yet fully recognized in government. Impact (long term outcomes) at the site level has been generally positive. Impact on government policies and government and donor development programs, which may have been beyond the scope of the project, remains to be seen but looks promising given the current input from the project into the national Climate Change Strategy and the profile that the project has established. The recommendations in this Terminal Evaluation aim to strengthen these prospects by consolidating the successful elements of the Chiredzi model and drawing out the implications for action at the policy level for scaling up the approach.

4.6 Overall Project Results

Rating Criteria: *Assess and rate the general results of the project including the catalytic replication and scaling-up effects.*

Rating: Satisfactory

Reasons for Rating: The overall project results are rated at the high end of the Satisfactory score. The measurable outcome achievements are the primary mark of overall success of the project, although some of the livelihoods development under-performance and institutional sustainability issues reduced the level of success. The replication of agronomic and livestock production measures and the stimulus provided for climate risk and vulnerability assessment, policy development

impetus, localized seasonal rainfall forecasting and other related awareness and support for climate change adaptation are positive contributions generated by the project.

As per the requirements of UNDP's terminal evaluation guide, **Table 6** summarizes the rating of performance for various dimensions.

Table 6: Rating Project Performance		
Monitoring and Evaluation		**Comments**
Overall quality of M&E	MS	Not enough direct comparative data on performance of the adaptation measures, but generally met the requirements.
M&E design at project start up	MS	Indicators produced at inception could have been more representative and should have been tested; monitoring plan not well developed.
M&E Plan Implementation	MS	Reporting was detailed and timely but the household surveys have not provided consistent tracking of project progress and effects; data was somewhat ad hoc.
IA & EA Execution		
Overall Quality of Project Implementation/Execution	S	Relatively good.
Implementing Agency Execution	S	Effectively implemented the management functions under difficult conditions and a broad range of project activities/locations
Executing Agency Execution	S	Demonstrated occasional adaptive management and pro-active oversight, although procurement delays and administrative issues created inefficiency.
Outcomes		
Overall Quality of Project Outcomes	HS	The agronomic and livestock measures have been largely successful and taken up by farmers with some elements being replicated nearby.
Relevance	HS	The outcomes were highly relevant given the pressing issues of drought and food security stress associated with it.
Effectiveness	HS	Most of the measures have been very effective, with some constraints on land and moisture conservation measures that require extra labour and disappointing

		use of mulching on the tree plantation.
Efficiency	□S	Cost-effectiveness was high on the crop trials and small scale irrigation but not apparent on some of the livelihoods development and some uncertainties about crocodile farming and fisheries yet to be determined.
Catalytic Role		
Production of a public good	Yes	Relevant technologies have been demonstrated.
Demonstration	Yes	The pilot demonstration of adaptation measures created additional interest and demand from within and outside of the project.
Replication	Yes	Some evidence of replication was observed. E.g., private farmers' purchase of cassava planting stock based on evidence from crop trails.
Scaling up	No	It is too early to assess scale-up potential but momentum has been created at the national level.
Sustainability		
Overall likelihood of risks to Sustainability:	S[26]□	The agricultural productivity and income benefits of the main interventions will override the other sustainability risks.
Financial resources	MS	Financial viability of the measures will sustain and expand farmer interest, but the potential for ongoing government support for extension is uncertain.
Socio-economic	S□	The local involvement and positive results for food security and incomes will drive sustainability, although there are some concerns about management of the model community irrigation system.
Institutional framework and governance	MS □	This will depend upon momentum and funding generated by the national Climate Change Strategy.
Environmental	□S	The measures are generally designed to support environmental sustainability, although small scale irrigation will need to be carefully managed.

[26] The risks to sustainability are 'moderately unlikely' for the agronomic and livestock measures; the potential for sustainability is 'Satisfactory' given the evidence of viability and farmer demand.

Overall Project Results	S	The project has produced a core set of results that, although not completely meeting all of the planned results, has made a significant contribution toward climate change adaptation that potentially provides a model approach for national programs to address drought and climate change in rural areas. The lessons learned below highlight the qualified success of the project.

5. Lessons Learned

5.1 Time and effort required to prove adaptation measures

It takes concerted effort, regular technical backstopping and multi-year refinement of field technologies based on local experience to ensure that effective climate change adaptation measures are accepted, adopted and sustained. Basic training, irregular support and field presence, and limited opportunities for monitoring and discussion are constraints associated with small projects. Emphasis on the field level challenges is needed. The effective time frame for the project was three years – some of the interventions (small scale irrigation, urea treatment, fisheries development) are only in their first or second year. The key issues that remain outstanding include (i) the reluctance of some farmers at the project sites to fully invest in moisture conservation and uncertainties about sustainability, (ii) the management requirements associated with small scale irrigations systems, (iii) the limitations of extension agents in providing effective rainfall forecasting advice to farmers, (iv) the ongoing availability of seeds and planting stock for the crop varieties that have been introduced by the project, and (v) the financial viability of crocodile farming.

5.2 Critical logistical and operational support at the field level

The need for logistical and other operational support for field staff to maintain contact and relationships with farmers/beneficiaries is paramount, particularly given the challenges associated with introducing new farming practices. The UNDP/GEF financing and procurement systems are not sufficiently sensitive to the constraints in project delivery at the 'last mile' of services to the beneficiaries particularly the inability of government to provide the necessary transport and resources that are essential for project success. There is not much point in strengthening human resource capacity (e.g., training extension agents) if the new skills cannot be effectively utilised on the job (field logistics, communications and materials).

5.3 Productivity and diversification benefits of agronomic measures

The food security and income benefits of crop diversification with improved varieties and moisture conservation, the small scale irrigation, and the local, seasonal rainfall forecasting are major potential drivers of sustainability and replication of the climate change adaptation measures. The positive response to new pearl millet varieties, new maize and hybrid sorghum varieties, the planting of cowpeas to effectively utilise the late rains, and the initial acceptance of cassava were important results from the farmer trials. This has been demonstrated at a pilot level by the project although further refinement and documentation of the successful measures and benefits are needed. The project has generated significant enough results in a small number of sites to warrant greater attention for replication and dissemination at a national level, subject to further refinement of the Chiredzi adaptation model.

5.4 Risk and diversification in livelihood development strategies

Livelihoods development outside of the agricultural sector was a major challenge that the project could not fully address. It required greater technical expertise and a full examination of livelihoods options, markets and management constraints, both of which were not provided by the project. The local priority toward wildlife safari hunting and consumption may present a barrier to other natural resources management livelihood opportunities. The development strategy for Chiredzi district needs to evolve from wildlife and wilderness management toward greater community-based water, fodder and farmland productivity enhancement, drawing upon the approach that has been initiated in the agricultural components of this project. The current bias toward wildlife hunting safaris as a key revenue source for the district and communities imposes a livelihood vulnerability that further accentuates the drought and climate change risks.

5.5 Potential effects of improved extension advice for local rainfall forecasts

Farmers in drought-prone areas of Chiredzi District place a high priority on seasonal rainfall forecasts in balancing risks related to rainfall failure or weakness, and in making their planting decisions and investment of scarce resources. This project has highlighted the lack of confidence in the current national forecasting process for farming decisions, and the potential for improvements through relatively simple supply of basic rainfall/temperature information and innovative approaches through extension agents in assisting farmer-oriented local forecasts. However, without follow-up action the sustainability and potential for improved forecasting is uncertain.

5.6 Technology and management gaps to be addressed in Chiredzi model

The project reflects the importance of bottom-up approaches with farmers and communities in drought-prone areas. Many of the adaptation measures are established techniques introduced in the project area through participatory methods (lead farmers, farmer field schools, etc.). Further refinement, reinforcement and experience-based adjustment of the adaptation measures will be needed to advance dissemination. The soil and water conservation that was implemented is modest by international dryland standards. Further modifications may be needed for rainwater harvesting and moisture conservation, planting of drought-tolerant crop varieties to suit local preferences, and engaging the local farmers in reliable seasonal rainfall forecasts.

Greater focus on the management aspects of adaptation measures alongside the technology aspects is necessary for further development and dissemination of the Chiredzi model. This includes community organisation of irrigation systems and pasture development, orchard maintenance and management, post-harvest value addition and marketing of agricultural products.

6. Conclusions and Recommendations

6.1 Conclusions

1. The project has substantially raised the profile and national recognition of climate change risks and adaptation opportunities in southern Zimbabwe. It has provided a framework for implementing an adaptation strategy in drought prone areas and developed the momentum and testing of some important tools for enhancing community resilience to climate change. The project experience has the potential to contribute directly and strategically to the current development of a national climate change policy and to adaptation practices throughout the country.

2. The project completed a comprehensive climate change vulnerability and risk assessment for Chiredzi District and proposed a set of generic adaptation priorities for agriculture, livestock production, livelihoods and water use (Outcome 1). But it has only partially succeeded in developing the national, district and community level preparedness and mechanisms for adaptation. Institutional mainstreaming of adaptation has focused on technical manuals and extension staff training in the hope of downstream dissemination. For example, the commitment and institutional capacity to implement the priority measures for Save River basin and Chiredzi District adaptation is at best, uncertain, and in hindsight such expected capacity building results may have been beyond the scope of a medium-sized project.

3. The shift from maize-based agricultural production toward more diversified models and from rainfed to small-scale irrigated agriculture has demonstrated improvements in food security and household incomes at the project sites (Outcome 2). This has important implications for government policies and rural development programs to address climate change. The benefits of the targeted agricultural practices can be observed in the field, but there are also many other technologies that could expand the adaptation menu of measures, including soil fertility management, inter-cropping and cover crops, mulching and green manure, dryland agroforestry, rainwater harvesting and related micro-watershed soil and water conservation.

4. The new method for improved seasonal forecasting of rainfall and for strengthening extensionist-farmer decision processes (Outcome 3) offers great promise for Zimbabwe. The low confidence in and utilization rate (17%) of farmers in the current weather forecasts necessitate a systemic change in the forecasting products and processes for agricultural purposes. The development of this method is a notable contribution toward more functional and reliable forecasting methods in Africa. However, it still requires empirical, controlled

testing and focused policy deliberation on how to effectively implement the improved system. A follow-up program is clearly warranted.[27]

5. In contrast to the agricultural achievements, many of the natural resource management livelihood initiatives (e.g., Likulu wilderness, CAMPFIRE, crocodiles) have not (yet) achieved their expected results, mostly due to the scale of the challenges relative to the technical and financial resources available and some questionable assumptions in the project planning (e.g., technical advise prevails over local political influence) that presented difficulties during implementation. The modest support provided by the project, the over-dependence on local capabilities with sporadic field supervision, and the overly ambitious activity objectives created a variety of difficulties in implementing this component.

6. The project experience suggests that the institutional arrangements for inter-agency delivery of climate change adaptation programmes are constrained by budgets, direction, leadership and technical capacity. The Rural District Council mechanism has not demonstrated its effectiveness in this regard, albeit with no financial support from the project. EMA may not have had the mandate to fully address this and other coordination issues.

7. The policy direction and institutional framework for climate change adaptation is still under development in Zimbabwe. There are positive results from optimized crop diversification and livestock interventions that suggest a business case for ramping up investment in the adaptation measures that have been piloted in Chiredzi district, particularly once the measures have proven cost-effectiveness in a ward and district. Support is needed for a decentralized approach based on local organisations and institutions. Some of the income generated from successful interventions could be used by farmer communities to offset the travel costs of the extension agents and other technical advisors.

8. The project strategy and partnership approach has been constrained by a lack of supervision and monitoring on the ground, and the limitations imposed by many individual contractors delivering the separate discrete components of the project. This approach may have been adequate for the technical studies with EMA serving a coordination function but the field activities have been too extensive, disperse and diverse for effective oversight of implementation performance, particularly given the breadth of the project activities. There were instances where the project could have intervened to avert or reduce problems if it had a maintained greater on-the-ground field presence and more direct facilitation.

[27] See the capacity development plan funded by the project: Environmental Management Agency, *Capacity Needs Assessment and Strategy for Enhanced Use of Seasonal Climate Forecasts for Small-holder Farmers in Chiredzi District*, Harare, April 2010.

9. The prospects for sustainability appear to be mixed, although they are considered satisfactory. On the one hand, the agricultural productivity and related income effects of the agronomic and livestock measures will support sustainability (financial drivers) at the project sites and perhaps even nearby villages. On the other hand, the measures that depend upon national or district level services to advance climate change adaptation may lack the necessary resources and motivation to carry on with some of the project activities (e.g., District CAMPFIRE outputs, crocodile markets). The process of integrating Met stations into government network however is likely. When the project ends, there will be even less support for extension outreach to promote the project adaptation measures. How the outputs of the project are promoted, adopted and utilized within government institutions to refine policies and programmes remains to be seen.

10. Overall, despite some project design and delivery constraints, the project has effectively achieved a core set of results that provide the national awareness, the initial technical foundation and important field experiences and lessons for more comprehensive programmes and projects to address drought and climate change in southern Zimbabwe.

6.2 Recommendations

1. The baseline and recent follow-up household survey data should be consolidated into a summary report that describes the results of the project's 'Chiredzi model' in comparison with non-project sites, and serves to further raise the profile of the project with government and donors.

2. Recent fodder production activities within the project and potential community pasture land development and micro-catchment area regeneration should be incorporated into the district drought preparedness strategy as part of a comprehensive 'Chiredzi model'. The fodder enhancement aspects of a climate change adaptation package have yet to be fully incorporated into the recommended project strategy. Soil fertility measures could also be added.

3. The policy implications of the project regarding support for crop diversification, drought-tolerant crop varieties, moisture conservation methods, local seasonal forecasting and small-scale irrigation should be identified and submitted for consideration in the new national Climate Change Strategy in the form of specific, practical opportunities to advance adaptation measures. These could include adopting the crop optimization approach demonstrated in this project, mainstreaming local seasonal weather forecasting into the national system,

community-based pasture development and promoting a carefully-managed shift toward community-based small scale irrigated farming.

4. The weather stations should be integrated into the national meteorological information system and a program for further testing and development of local, seasonal rainfall forecasting should be jointly prepared by EMA and the Dept. of Meteorology.

5. The project should arrange for marketing and business management expertise for the Chilonga Crocodile subproject before closure of the *Coping with Drought and Climate Change Project*.

6. The Ministry of Agriculture should be requested to provide intensive supervision and technical backstopping for (a) the Tamuwanyika community gardens irrigation project given the ongoing management requirements in the coming years and the project's importance as a small scale irrigation pilot for Chiredzi district; and (b) strengthening the multiplication and availability of seed varieties and cassava planting stock that have been introduced by the project. Sustainability of these two elements is critical to effective climate change adaptation in the district.

7. The Government of Zimbabwe, with support from UNDP, should provide follow-up policy and institutional strengthening linked to an investment strategy and appropriate national budget allocation that strategically leverages the pilot results and the business case for adaptation based on a consolidated and refined Chiredzi model, incorporating lessons learned, and that recognizes the direction and support that is required to effectively engage Rural District Councils and line agencies in climate change adaptation.

Annexes

for

Terminal Evaluation of Coping with Drought and Climate Change in Zimbabwe

Annex 1: Terms of Reference

Draft Terms of Reference
Terminal Evaluation of Zimbabwe adaptation project: Coping with Drought and Climate Change (00055366)

1. Introduction

The UNDP Evaluation Policy states that: "Project evaluations assess the efficiency and effectiveness of a project in achieving its intended results. They also assess the relevance and sustainability of outputs as contributions to medium-term and longer-term outcomes. Terminal evaluations (TE) provide a comprehensive and systematic accounting of performance at the end of the project cycle, considering the totality of the effort from project design, through implementation to wrap up, also considering the likelihood of sustainability and possible impacts. The target audience for a terminal evaluation is GEF Operational Focal Point, project partners and beneficiaries, UNDP at country, regional and HQ levels, UNDP Evaluation Office, GEF Secretariat and GEF Evaluation Office.

The project in question is funded by the Special Climate Change Fund, a UNFCCC fund managed by the GEF. The project title is "*Coping with Drought and Climate Change*" and the project objective is to demonstrate and promote adoption of a range of gender segregated approaches for adaptation to climate change among rural communities currently engaged in agriculture in vulnerable areas of Chiredzi district as a national model. The implementing partner is the Environmental Management Agency (EMA). The project has four Outcomes and aims to benefit approximately farmers across four (4) Wards in Chiredzi District.

The project began implementation in October 2007 and is due to close in September 2012. The project has three project monitoring reports (so-called PIR report– Project Implementation Review report) for monitoring years July 2008-2009; 2009-2010 and July 2010 – June 2011.

2. Objectives of the evaluation

The objective of the evaluation is to:

- Provide a comprehensive and systematic accounting of performance;
- Assess project design, implementation, likelihood of sustainability and possible impacts.

3. Scope of the Evaluation

The following questions should be covered by the evaluation:

3.1 Project formulation:

- Were the project's objectives and components clear, practicable and feasible within its time frame?
- Were the capacities of the executing institution(s) and its counterparts properly considered when the project was designed?
- Were lessons from other relevant projects properly incorporated in the project design?
- Were the partnership arrangements properly identified and roles and responsibilities negotiated prior to project approval?
- Were counterpart resources (funding, staff, and facilities), enabling legislation, and adequate project management arrangements in place at project entry?
- Were the project assumptions and risks well articulated in the PIF and project document?

3.2 Assumptions and risks:

- An assessment of the stated assumptions and risks, whether they are logical and robust, and have helped to determine activities and planned outputs.
- Externalities (i.e. effects of climate change, global economic crisis, etc.) which are relevant to the findings.

3.3 Project implementation:

- The logical framework used during implementation as a management and M&E tool
- Effective partnerships arrangements established for implementation of the project with relevant stakeholders involved in the country/region
- Lessons from other relevant projects (e.g., same focal area) incorporated into project implementation Feedback from M&E activities used for adaptive management.

3.3.1 Finance/co-finance

The evaluation report should clarify the financial particulars of the project, including extent of co-financing across the portfolio. Project cost and funding data should be presented, including annual expenditures. Variances between planned and actual expenditures should be assessed and explained. Observations from financial audits as available should be considered.

The evaluation should include a table that shows planned and actual co-financing commitments, as set out in **Annex 3**. Evaluators during their fact finding efforts should request assistance from the Project Team to fill in the table, and the Evaluator should then follow up through interviews to substantiate. The evaluator should briefly describe the resources the project has leveraged since inception and indicate how these resources are contributing to the project's ultimate objective.

The evaluator should determine the reasons for differences in the level of expected and actual co-financing, and the extent to which project components supported by external funders was well integrated into the overall project. The evaluation should consider the effect on project outcomes and/or sustainability from the extent of materialization of co-financing.

3.3.2 IA and EA execution:

The evaluator should assess and rate **(R)** the quality of Implementing Agency execution (refer to Annex 1 for the ratings table). The assessment should be established through consideration of the following issues:

- Whether there was an appropriate focus on results by the implementing and executing agencies
- The adequacy of IA & EA supervision
- The quality of risk management
- Responsiveness of the managing parties to significant implementation problems (if any)
- Quality and timeliness of technical support to the project team
- Candor and realism in supervision reporting
- Suitability of chosen executing agency for project execution
- Any salient issues regarding project duration, for instance to note project delays, and how they may have affected project outcomes and sustainability

3.3.3 Monitoring and evaluation:

The evaluator should assess and rate **(R)** the quality of monitoring and evaluation (refer to Annex 1 for the ratings table). The evaluation team should be expected to deliver an M&E assessment that provides:

1. An analysis of the M&E plan at project start up, considering whether baseline conditions, methodology and roles and responsibilities are well articulated. Is the M&E plan well conceived? Is it articulated sufficient to monitor results and track progress toward achieving objectives?
2. The quality of M&E plan implementation: Was the M&E plan sufficiently budgeted and funded during project preparation and implementation?
3. The effectiveness of monitoring indicators from the project document for measuring progress and performance;
4. Compliance with the progress and financial reporting requirements/ schedule, including quality and timeliness of reports;
5. The value and effectiveness of the monitoring and evaluation reports and evidence that these were discussed with stakeholders and project staff;
6. The extent to which follow-up actions, and/or adaptive management, were taken in response to monitoring reports (PIRs) ;
7. Check to see whether PIR self-evaluation ratings were consistent with the MTE and TE findings. If not, were these discrepancies identified by the project steering committee and addressed?
8. Terminal Evaluations for full size projects should also include consideration of the M&E analysis carried out for the mid-term evaluation and whether changes were made to project implementation as a result of the MTE recommendations.

3.3.4 Stakeholder involvement:

The evaluation should include findings on the role and involvement of key project stakeholders. Two aspects can be considered:

1. A review of the quality and thoroughness of the stakeholder plan presented in the PIF and project document which should be reviewed for its logic and completeness.
2. The level of stakeholder participation during project implementation.

Questions regarding stakeholder participation include:

- Did the project involve the relevant stakeholders through information sharing and consultation and by seeking their participation in project design, implementation, and M&E? For example, did the project implement appropriate outreach and public awareness campaigns?
- Did the project consult with and make use of the skills, experience, and knowledge of the appropriate government entities, nongovernmental organizations, community groups, private sector entities, local governments, and academic institutions in the design, implementation, and evaluation of project activities?
- Were the perspectives of those who would be affected by project decisions, those who could affect the outcomes, and those who could contribute information or other resources to the process taken into account while taking decisions? Were the relevant vulnerable groups and powerful supporters and opponents of the processes properly involved?

3.3.5 Adaptive management:
The evaluation team should take note whether there were changes in the project framework during implementation, why these changes were made and what was the approval process. In addition to determining the reasons for change. The evaluator should also determine how the changes were instigated and how these changes then affected project results. A few key questions to consider:

- Did the project undergo significant changes as a result of recommendations from the mid-term evaluation? Or as a result of other review procedures? Explain the process and implications.
- If the changes were extensive, did they materially change the expected project outcomes?
- Were the project changes articulated in writing and then considered and approved by the project steering committee?

3.4 Project results:

Results as measured by broader aspects such as: country ownership, mainstreaming, sustainability, catalytic role and impact.

3.4.1 Country ownership:

- Was the project concept in line with development priorities and plans of the country (or countries)?
- Were the relevant country representatives from government and civil society involved in project implementation, including as part of the project steering committee?
- Was an intergovernmental committee given responsibility to liaise with the project team, recognizing that more than one ministry should be involved?
- Has the government(s), enacted legislation, and/or developed policies and regulations in line with the project's objectives?

3.4.2 Mainstreaming:
UNDP projects financed by the GEF are key components in UNDP country programming. As such, the objectives and outcomes of the project should conform to UNDP country programme strategies. The section on mainstreaming should assess:

1. Whether it is possible to identify and define positive or negative effects of the project on local populations (e.g. income generation/job creation, improved natural resource management arrangements with local groups, improvement in policy frameworks for resource allocation and distribution, regeneration of natural resources for long term sustainability).
2. If the project objectives conform to agreed priorities in the UNDP country programme document (CPD) and country programme action plan (CPAP).
3. Whether there is evidence that the project outcomes have contributed to better preparations to cope with natural disasters.
4. Whether gender issues had been taken into account in project design and implementation, (i.e. project team composition, gender-related aspects of pollution impacts, stakeholder outreach to women's groups, etc). If so, indicate how.[28]

3.4.3 Sustainability:

The evaluator should assess and rate **(R)** the overall risks to sustainability (refer to Annex 1 for the ratings table). Sustainability is considered to be the likelihood of continued benefits after the GEF project ends. Consequently the assessment of sustainability considers the risks that are likely to affect the continuation of project outcomes. The GEF Guidelines establish four areas for considering risks to sustainability: Financial risks;, socio-economic risk; institutional framework and governance risks; and environmental risks. Each should be separately evaluated and then rated on the likelihood and extent that risks will impede sustainability.

Relevant factors to improve the sustainability of project outcomes include:

- Development and implementation of a sustainability strategy.
- Establishment of the financial and economic instruments and mechanisms to ensure the ongoing flow of benefits once the GEF assistance ends (from the public and private sectors, income generating activities, and market transformations to promote the project's objectives).
- Development of suitable organizational arrangements by public and/or private sector.
- Development of policy and regulatory frameworks that further the project objectives.
- Incorporation of environmental and ecological factors affecting future flow of benefits.
- Development of appropriate institutional capacity (systems, structures, staff, expertise, etc.).
- Identification and involvement of champions (i.e. individuals in government and civil society who can promote sustainability of project outcomes).
- Achieving social sustainability, for example, by mainstreaming project activities into the economy or community production activities.
- Achieving stakeholders' consensus regarding courses of action on project activities.

3.4.4 Catalytic effect

[28] Both UNDP and GEF are focusing greater attention to ensure that gender issues are taken into account in project formulation and implementation, (see UNDP Gender Equality Strategy 2008-2011).

The evaluator should complete the ratings table **(R)** on whether or not the project has had a catalytic effect (refer to Annex 1 for the ratings table). The reviewer should consider the extent to which the project has demonstrated: a) production of a public good, b) demonstration, c) replication, and d) scaling up. Replication can have two aspects, replication proper (lessons and experiences are replicated in different geographic area) or scaling up (lessons and experiences are replicated within the same geographic area but funded by other sources). Examples of replication approaches include:

- Knowledge transfer (i.e., dissemination of lessons through project result documents, training workshops, information exchange, a national and regional forum, etc).
- Expansion of demonstration projects.
- Capacity building and training of individuals, and institutions to expand the project's achievements in the country or other regions.
- Use of project-trained individuals, institutions or companies to replicate the project's outcomes in other regions.

3.4.5 Impact

The reviewer should discuss the extent to which projects are achieving impacts or are progressing toward the achievement of impacts among the project beneficiaries. Impacts in the context of adaptation projects refer to the extent to which vulnerability to climate change has decreased, as measured by the indictors included in the Results Framework, and other quantitative and qualitative information. Process indicators, such as regulatory and policy changes, can also be used to measure impact.

3.5 Conclusions, Recommendations and Lessons

Conclusions should be comprehensive and balanced, and highlight the strengths, weaknesses and outcomes of the project. They should be well substantiated by the evidence and logically connected to the evaluation findings. They should respond to key evaluation questions and provide insights into the identification of and/or solutions to important problems or issues pertinent to project beneficiaries, UNDP and GEF.

The evaluation report should provide practical, feasible recommendations directed to the intended users of the evaluation about what actions to take and decisions to make. The recommendations should be specifically supported by the evidence and linked to the findings and conclusions around key questions addressed by the evaluation.

The evaluation report should include, if available, lessons that can be taken from the evaluation, including best (and worst) practices that can provide knowledge gained from the particular circumstance (programmatic and evaluation methods used, partnerships, financial leveraging, etc.) that are applicable to other GEF and UNDP interventions.

4. Outputs

1. An inception report should be prepared by the evaluation team prior to the main evaluation mission. It should detail the evaluators' understanding of the project being evaluated and why, showing how each evaluation question (detailed in Section 3 of this ToR) will be answered by way of: proposed methods, proposed sources of data and data collection procedures. The inception report should include a proposed schedule of

tasks, activities and deliverables, designating a team member with the lead responsibility for each task or product. The inception report should annex the signed code of conduct agreement form – attached at Annex 4.

2. A draft evaluation report, which includes the evaluation scope and method, findings, conclusions and recommendations. The report should cover the following five major criteria: relevance, efficiency, effectiveness, results and sustainability, applied to a) project formulation b) project implementation and c) project results.

3. A final evaluation report**.**

Annex 2 contains the sample outline report. The draft report is considered complete, in contractual terms, only when it has achieved acceptable standards.

5. Conduct of work

An 'evaluation mission' should be scheduled, providing an intensive 10 days to 2 weeks for the evaluation team to hold interviews and visit project sites. The evaluation mission should be planned far enough in advance to enable interviews to be properly set up, especially to request meetings with senior Ministry officials. A detailed plan for the mission should be included in the TE inception report, which should be revised based on CO, project team and OFP inputs.

The evaluation will properly examine and assess the perspectives of the various stakeholders. Interviews should include a wide array of interested persons including civil society, NGOs and the private sector, local ministry officials as relevant, and national ministry officials (in addition to the OFP).

Field visits are expected to the project site or a select sampling if there are multiple sites. The decision on which sites to visit should be done jointly with the CO and project team.

Data analysis should be conducted in a systematic manner to ensure that all the findings, conclusions and recommendations are substantiated by evidence. Appropriate tools should be used to ensure proper analysis (e.g. including a data analysis matrix that records, for each evaluation question/criteria, information and data collected from different sources and with different methodology).

By the end of the evaluation mission and prior to submitting a first draft evaluation report, a wrap up discussion should be organized with the country office and project team to present initial findings and request additional information as needed. A template for the evaluation report is provided in Annex 2.

Following the review of the draft evaluation report, the evaluation team should indicate how comments have been addressed in the revised evaluation report.

5. Consultant Competencies

The TE will be conducted by an independent consultant (s). The *Coping with Drought and Climate Change* Project Management/Coordinator will provide support in the field as may be required including making appointments with the required stakeholders and proposed interviewees. The consultant (s) will be responsible for the delivery, content,

technical quality and accuracy of the evaluation, as well as the recommendations.
He/She will have a wide range of skills, as follows:

- Evaluation specialist with at least a higher degree in Climate change Adaptation, Rural Livelihoods/Development, Natural Resources Management, Development Studies, Sustainable Development or other relevant field;
- A minimum of ten (10) years of relevant work experience in the field of Climate Change and related activities. Relevant experience in Southern Africa will be added advantage;
- Proven expertise in evaluating multifaceted programmes/projects and results-oriented monitoring and evaluation;
- Previous experience in evaluating programmes/project for UNDP or other UN/multilateral agencies is a requirement; previous experience evaluating GEF projects will be a distinctive advantage;
- Excellent analytical and reporting skills and fluency in written and spoken English are essential;
- Demonstrated ability to assess complex situations in order to succinctly and clearly distil critical issues and draw forward looking conclusions.
- Knowledge of international comparative policy, legislation and their application to deliver agricultural adaptive strategies and resilience will be a distinctive advantage.
- Knowledge of the national policy and legislation in the field of climate change will be a distinctive advantage.

Some prior knowledge of the following would be ideal:

- GEF, UNDP reporting frameworks
- Key policy documents relating Climate Change in Zimbabwe such as National Communications, National Capacity Self- Assessment, Technology Assessment
- Millennium Development Goals

Annex 1: Ratings table

The ratings should be based on a six point scale:

- **Highly Satisfactory** (HS): no shortcomings
- **Satisfactory** (S): minor
- **Moderately Satisfactory** (MS):moderate
- **Moderately Unsatisfactory** (MU): significant
- **Unsatisfactory** (U): major
- **Highly Unsatisfactory** (HU): severe

Table 3. Rating Project Performance		
Monitoring and Evaluation		**Comments**
Overall quality of M&E	□??	
M&E design at project start up	□??	
M&E Plan Implementation	□??	
IA & EA Execution		
Overall Quality of Project Implementation/Execution	□??	
Implementing Agency Execution	□??	
Executing Agency Execution	□??	
Outcomes		
Overall Quality of Project Outcomes	□??	
Relevance	□??	
Effectiveness	□??	
Efficiency	□??	
Catalytic Role		
Production of a public good	yes/no	
Demonstration	yes/no	
Replication	yes/no	
Scaling up	yes/no	
Sustainability		
Overall likelihood of risks to Sustainability:	□??	
Financial resources	□??	
Socio-economic	□??	
Institutional framework and governance	□??	
Environmental	□??	
Overall Project Results	□??	

Annex 2: Sample Evaluation report outline

Title and opening page
Provide the following information:

- Name of the UNDP/GEF project
- UNDP and GEF project ID#s.
- Evaluation time frame and date of evaluation report
- Region and countries included in the project
- GEF Operational Program/Strategic Program
- Executing Agency and project partners
- Evaluation team members
- Acknowledgements

Executive Summary
2 -3 pages that:

- Briefly describe the project evaluated
- Explain the purpose and objectives of the evaluation, including the audience
- Describes key aspects of the evaluation approach and methods
- Summarizes principle conclusions, recommendations and lessons

Acronyms and Abbreviations
(See: UNDP Editorial Manual[29])

Introduction

- Purpose of the evaluation
    - Briefly explain why the terminal evaluation was conducted (the purpose), why the project is being evaluated at this point in time, why the evaluation addressed the questions it did, and the primary intended audience.
- Key issues addressed
    - Providing an overview of the evaluation questions raised .
- Methodology of the evaluation
    - Clear explanation of the evaluation's scope, primary objectives and main questions. The Evaluation ToR may also elaborate additional objectives that are specific to the project focal area and national circumstances, and which may address the project's integration with other UNDP strategic interventions in the project area
    - Stakeholders' engagement in the evaluation, including how the level of stakeholder involvement contributes to the credibility of the evaluation findings, conclusions and recommendations.
- Structure of the evaluation
    - Acquaint the reader with the structure and contents of the report and how the information contained in the report will meet the purposes of the evaluation and satisfy the information needs of the report's intended users

[29] UNDP Style Manual, Office of Communications, Partnerships Bureau, updated November 2008

- **Evaluation Team**
    - Briefly describing the composition of the evaluation team, background and skills and the appropriateness of the technical skill mix, gender balance and geographical representation.
- Ethics
    - The evaluators should note the steps taken to protect the rights and confidentiality of persons interviewed (see UNEG 'Ethical Guidelines for Evaluators' for more information).[30] Attached to this report should be a signed 'Code of Conduct' form from each of the evaluators.

Project Description and development context

- Project start and duration
- Problems that the project seeks to address
- Immediate and development objectives of the project
- Main stakeholders

Findings

(In addition to a descriptive assessment, all criteria marked with (*) should be rated[31])

Project Formulation

- Analysis of LFA (Project logic /strategy; Indicators)
- Assumptions and Risks
- Lessons from other relevant projects (e.g., same focal area) incorporated into project implementation
- Stakeholder participation (*)
- Replication approach
- Cost-effectiveness
- UNDP comparative advantage
- Linkages between project and other interventions within the sector, including management arrangements

Project Implementation

- The logical framework used during implementation as a management and M&E tool
- Effective partnerships arrangements established for implementation of the project with relevant stakeholders involved in the country/region
- Feedback from M&E activities used for adaptive management
    - Financial Planning
    - Monitoring and evaluation (*)
    - Execution and implementation modalities
    - Management by the UNDP country office

[30] UNEG, 'Ethical Guidelines for Evaluation', June 2008. Available at: http://www.uneval.org/search/index.jsp?q=ethical+guidelines

[31] The ratings are: Highly Satisfactory, Satisfactory, Marginally Satisfactory, Unsatisfactory

- Coordination and operational issues

Project Results

- Attainment of objectives (*)
- Country ownership
- Mainstreaming
- Sustainability (*)
- Catalytic Role
- Impact

Conclusions, recommendations & lessons

- Corrective actions for the design, implementation, monitoring and evaluation of the project
- Actions to follow up or reinforce initial benefits from the project
- Proposals for future directions underlining main objectives
- Best and worst practices in addressing issues relating to relevance, performance and success

Annexes

- TOR
- Itinerary
- List of persons interviewed
- Summary of field visits
- List of documents reviewed
- Questionnaire used and summary of results
- Evaluation Consultant Agreement Form

Annex 3: Co-finance table

Co financing (Type/ Source)	IA own Financing (mill US$)		Government (mill US$)		Other Sources* (mill US$)		Total Financing (mill US$)		Total Disbursement (mill US$)	
	Proposed	**Actual**	**Proposed**	**Actual**	**Proposed**	**Actual**	**Proposed**	**Actual**	**Proposed**	**Actual**
Grant										
Credits										
Loans										
Equity										
In-kind										
Non-grant Instruments *										
Other Types										
TOTAL										

Annex 4: Code of conduct agreement form:

Evaluators:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and: respect people's right not to engage. Evaluators must respect people's right to provide information in confidence, and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals, and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study limitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Evaluation Consultant Agreement Form[32]

Agreement to abide by the Code of Conduct for Evaluation in the UN System

Name of Consultant: _____

Name of Consultancy Organization (where relevant)**:** _____

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at (place)on Signature: _____

[32] www.unevaluation.org/unegcodeofconduct

Annex 2: Evaluation Criteria Matrix

Evaluative Criteria	Questions	Indicators	Sources
Relevance: How does the project relate to the main objectives of the GEF focal area, and to the environment and development priorities at the local, regional and national levels?			
UNCCC and other Rio Conventions contribution	How has the project complemented the country NAPA, SNC and other national climate change strategies?	Direct links between Rio convention documents and the project activities	UNCCC documents and project work plans and reports
	How has the project complemented the SLM NAP under UNCDD?	Direct links between Rio convention documents and the project activities	UNCDD documents and project work plans and reports
GEF CCA focal area consistency	How does the project support the GEF Climate change adaptation focal area and strategic priorities?	Degree of cohesiveness between the project and national priorities, policies and strategies	Project documents, national policies and strategies
Country and stakeholder ownership	Is the project country-driven? What level of stakeholder participation has occurred in the project?	No. of stakeholders involved in project implementation Evidence of co-financing contributions being met	Project progress reports; interviews with stakeholders
Beneficiary participation	How does the project support the needs of the stakeholders? Has the project implementation been inclusive, including women and the poor, or overlooked any target groups?	Degree of involvement and inclusiveness in the project design and implementation % representation of the poor and women in the beneficiaries Distribution of benefits from the project	Project documents; project survey data; interviews and small group discussions
Project design coherence (logic model quality)	Does the project have a clear logic model and theory of change from activities to objectives? Are there any activities that are	Level of coherence between project expected results and project design internal logic Level of coherence and consistency between project	Project documents; interviews with project staff and managers

	now considered to have not been necessary and sufficient to achieve the expected results?	design and project implementation approach Activities identified as not having led to useful project results	
Complementarity with other donors	Does the project support activities and objectives that are not being addressed by other donors? How do GEF funds help to fill gaps (what is the evidence of 'additionality' of the project)? Was there coordination or linkage with other donor projects?	Degree of coherence and complementarity with other donor programming (national or regional) Possible overlap or links with other donor projects	Project documents; information on other donor projects; interviews with other donor project staff
Relevant lessons and experiences for the future	Has the project experience provided lessons that are relevant for future projects or for national strategies on climate change adaptation?	No. of lessons identified by stakeholders for similar projects Implications that are drawn from the project for government policy as identified by key stakeholders	Data collected through interviews and small group discussions
Effectiveness: To what extent have the expected outcomes and objectives of the project been achieved?			
Achievement of the objectives and outcomes	To what extent have the objective and expected outcomes been achieved? What spatial and temporal variability occurred in the results and what factors may explain the variations?	See Table 2	Project document; field observations; project surveys; participant interviews
Risk management	How well did the project design anticipate the risks and risk management measures? How effective were the responses	Occurrence of unanticipated risk events/issues and their effects on project delivery Identified barriers and constraints	

	to risk events/issues? What risk factors need to be considered for future projects?	to mitigating or managing risks Participant views of risk management effectiveness	
Lessons learned	What lessons have been learned from the project regarding achievement of outcomes? What would you have done differently in the project design and/or implementation strategy to improve the results?	Participant views of the project design and implementation strategy and re-design opportunities Any project assumptions that proved invalid	Participant interviews
Efficiency: Was the project implemented efficiently, in-line with international and national norms and standards?			
Project management	Was the annual work planning undertaken in a timely and participatory manner? Were the quarterly and annual reports completed as required? Was a monitoring plan and system established and utilizing indicators from the Project Document? Did the project management bodies respond in a timely manner to specific issues (adaptive management)? Were the project activities and disbursements implemented as per project work plans?	Timing and participation levels in annual work planning Timing and quality of project reporting Extent to which project indicators were used in reporting Actions taken to respond to identified issues Activity completion rates and financial disbursement rates Occurrence of identifiable communication problems or issues	Project documents and work plans; Project progress and monitoring reports Minutes of meetings of project management bodies Project financial reports and data Interviews with project staff and stakeholders

	Was there effective communication within the project between management and field implementation staff/partners?		
Project financing	Did the leveraging of funds (cofinancing) happen as planned? Were financial resources utilized efficiently; how could they have been used more efficiently? Was procurement and disbursement implemented efficiently? Did the financial audit reports make any observations that reflect on financial management?	Actual co-financing amount generated Outputs produced relative to costs Timeliness and issues in procurement or disbursement Observations of financial auditors	Project financial reports and data Project monitoring reports Project financial audits
Implementation partnerships	How effective were the partnerships with participating agencies and organizations? What notable examples of collaboration or non-collaboration may have occurred during implementation? What constraints, if any, emerged in the implementation partnerships?	Extent of collaborative implementation of activities Views of partners on the quality and productiveness of the working relationships Evidence of sustained partnerships beyond the funding of activities provided by the project	Project monitoring reports
Utilization of local capacity	Did the project efficiently utilize local capacity in implementation? What capacity constraints, if any,	Proportion of technical capacity and services provided from national sources	Project monitoring reports Interviews with project participants

	occurred and how were they overcome?	Evidence of quality of local inputs and capacity issues	
Sustainability: To what extent are there financial, institutional, social-economic, and/or environmental risks to sustaining long-term project results?			
Financial sustainability	How financially viable are the adaptation measures promoted by the project and how do they drive replication?	Implementation of measures to assist financial sustainability of project results	Interviews with farmers and project survey data; project monitoring reports
Institutional sustainability	What climate change adaptation capacity improvements can be observed in the implementing partners and the stakeholders?	Degree to which outputs and outcomes are embedded within the institutional framework and partner organizations	Interviews with stakeholders
Results sustainability	How sustainable are the four outcomes in terms of changing traditional practices and why? What are the exit strategies that have been or could be considered to enhance sustainability?	Observable changes in attitudes, beliefs and behaviors as a result of the project Efforts made to moderate the effects of project closure and to maintain results to date	Interviews with stakeholders Field observations regarding sustainability of investments Project monitoring reports
Impact: Are there indications that the project has contributed to, or enabled progress toward reduced climate change vulnerability and increased adaptation?			
Climate change vulnerability reduction	Has long term vulnerability to climate change been reduced in the project areas?	Measures of CC vulnerability related to drought and food security	Project reports; interviews with stakeholders
Livelihoods resilience	How resilient are farming practices and farm household livelihoods as compared to before the project?	Performance of practices introduced by the project and level and consistency of acceptance by farmers	Interviews with stakeholders Project survey data

Note: this is a general guide only and may be revised and supplemented as the evaluation proceeds

Annex 3: Interview Guide

This is a general guide only to be used in context with the evaluation issues and criteria above. It is not a questionnaire. It serves as an informal guide to assist in prompting discussion during the interviews.

Project Formulation

1. Does the project address the priorities of your district/area with regard to drought and climate change? How significant is the drought problem compared to before the project?

2. To what extent do you think the project has been addressing the key factors affecting your ability to cope with the drought problem?

3. If we were to undertake the project again, is there anything you would change?

Project Implementation

4. What has been your experience with the effectiveness of the project implementation? Have there been any issues that may offer lessons for future projects?

5. What specific factors or conditions have particularly helped or hindered progress in project implementation?

6. How effective have the project partnerships been? Can you give an example of collaboration between the partners?

7. Are there any links between this project and other projects in your area?

8. How would you rate the quality of the technical support at the field level? How could it have been improved?

9. How well were your views taken into account by the project staff and managers?

Project Results

Livelihoods (1)

10. Can you explain the factors that have contributed toward the achievements shown in the project reports and surveys?

11. Which of the project supported livelihood activities are most successful and which are the least successful? Why?

12. Have similar livelihood interventions been used in other projects or other areas with similar or different results?

Warning Systems (2)

13. Can you give an example of where the new weather information service has affected your farming practices?

14. How did you make farming decisions before and how is it different now, if at all?

15. Do you think this service will be continued and if so what changes would you make?

Mainstreaming (3)

16. Which participating organisations or programs have benefitted from the drought preparedness and mitigation activities (Outcome 3)?

17. What difference does it make to have a community drought mitigation program? Please explain.

Replication (4)

18. What is the most important learning, skill or tool, if any, have acquired from the project? Where?

19. Are there examples of farms outside of the project which have adapted these methods? Which ones and where?

Project Sustainability

20. Are you and others likely to maintain the use of the project methods after the project? Which ones will you keep and which ones will be discarded or not used regularly?

Interview Guide – Part II – reference questions: project staff and partners

Project Formulation

1. Were there any particular aspects of the project design that were either not relevant or not realistic?
2. If the project was to be implemented again, are there any changes in project design and results framework that you would suggest?
3. Were there any project risks that were not identified or adequately considered, and how could they have been better anticipated and managed?
4. How relevant or useful has the project been to advancing the national development and climate change adaptation priorities of the government?
5. How effective and efficient was the project structure and organization in facilitating implementation? Would you have changed anything in hindsight?

Project Implementation

6. What have been the major challenges or issues in implementing the project? What are the main reasons for delays?
7. Has annual work planning and budgeting been effective, and have disbursements been in line with annual budgets?
8. What changes in project strategy were required during project implementation and what adaptive management measures undertaken? (basis for revised logframes and responses to MTR)

9. Have the project modalities for delivery of activities through government agencies, NGOs and consultants been effective and efficient? What are the key factors that affected project delivery?
10. How effective has project coordination and communication been within the project and with relevant stakeholders?
11. Have the project monitoring indicators been effective and feasible for reporting on progress?

Project Results

12. What are the most important or significant achievements of the project to date?
13. What expected results have not been achieved or are not fully satisfactory?
14. What follow-up assessment of training program results has been undertaken? What gaps remain in staff capacity development?
15. What changes in institutional capacity could be attributed to the project?
16. Has the project had any unanticipated positive or negative results?
17. What are the key lessons for future projects that have been learned during the implementation of the project?

Sustainability

18. How likely is it that the main outcome level results – technologies adoption, capacity building, etc., can be sustained? What will be the effects of project closure? What preparations are being made for closure?
19. How financially viable are the adaptation measures to facilitate sustainability?
20. What project exit strategies, if any, have been or could be considered to enhance sustainability?

Impact

21. Has long term vulnerability to climate change been measurably reduced in the project area?
22. How resilient are farming practices and farmer livelihoods to increased climate variability?

Annex 4: Itinerary and Interviews

Day	Destination	Activity and Contacts
Itinerary for field visits to CwD project Sites in Matibi II Chiredzi District, 22 -28 July 2012		
Sunday	Harare-Chiredzi	**Travel to Chiredzi**
Monday, July 23 08:00 – 11:00	Chiredzi Research Station AGRITEX District office Livestock Production Department Veterinary Dept Chiredzi Rural District Council	○ **Chiredzi Research Station** – interview with Mr Daniel Maringa ○ **AGRITEX**: interview with Mr. Gibson Dzoro ○ **Livestock Production Dept:** interview with Mr Stanslas Siziba ○ **Veterinary Services**: Dr Makwangudze {not available} ○ **Chiredzi Rural District Council**: Discussion with Mr Chenjeriai Zanamwe and other staff, and with CEO, Mr. Issac Matsumele
	Ward 7 – Chilonga	Visit pilot projects and meet with Agritex Extension Agents: Mr Togarepi and Ms Siziba and Tafireyi Blessing (Livestock) **Pilot projects** ○ Chilonga Crocodile Project (Mr. Edson, Chairperson; Ms Mara, Secretary) ○ Crops Farmers ○ Horticulture Garden ○ Met Station
Tuesday, July 24	Ward 8	Visit Likulu Wilderness and meet with the Ward Councilor and 7 project Committee Members – 'CAMPFIRE' (Communal Area management Program for Indigenous Resources) Urea treatment site with extension agent (Tafireyi Blessing)
		Interview with Project Manager: Dr. Leonard Unganai
Wednesday July 25	Ward 11	Visit pilot projects and meet with Agritex Extension Agents : Mr Mushayi and Mr Chauke; **Pilot projects** ○ Cassava Pilot Demo ○ Crops Farmers; discussion with 20

		community members (12 women) o Met Stations Discussion with 6 Agritex extension agents Chinyavada Jonas (Ward 10) Manyenyeni Julius (Ward 11) Siziba Marvalous (Ward 7) Togarepi Fani (Wards 7&9) Tafirei Blessing (Ward 7) Zanamuie Damlaicko (Ward 9)
Thursday July 26	Ward 7	Large meeting with farmers; approx. 50 attending **Pilot Projects** o Community gardens site visit (Tamu Waneka irrigation system) **Return to Harare**

Harare 30 July – 4 August 2012

Day	**Meeting**	**Interview person**
Monday 30 July	Director General Environmental Management Agency	Ms Mutsa Chasi, Director General
Tuesday 31 July AM	GEF Focal Point, Director, Ministry of Environment	Mr. I.D. Kunene, Director
PM	Climate change technical consultant at University of Zimbabwe	Dr. Anom Murwira, Department of Geography and Environmental Sciences
Wednesday 1 August AM	Dept . of Meteorological Services	Mr. Sahanga, Acting Director Mr. Jephias Mugumbate
AM	UNDP Senior Management	Ms Daisy Mukarakate
PM	Meeting with NGOs Practical Action	Mr. Kudzai Marovanidze, Programme Team leader Mr. Henry Muchedzi
	Meeting with PS, Ministry of Environment & Natural Resources Management	Mr. Florence Runyararo Nhekairo, Permanent Secretary
Thursday 2 August	Preparation for Debriefing	
Friday 3 August	Debriefing with government, UNDP and Harare stakeholders	
Saturday 4 August	Departure	

Annex 5: List of Documents Reviewed

Chuma Edward, Coping With Drought Project, Lessons and Experiences of Coping with Drought in Zimbabwe, May 2010**.**

Coping with Drought and Climate Change Project, Community natural resources management and sustainable utilisation as a drought coping strategy in the Southeast lowveld of Zimbabwe, nd., p. 2.

Coping with Drought and Climate Change Project, Coping with Drought, Vulnerability and Adaptation to Climate Change: A focus on Chiredzi District, Zimbabwe, Synthesis Report, 2009

Coping with Drought and Climate Change Project, Report Training Workshop Seasonal climate forecasts and agricultural risk management Masvingo, September 2009

Coping with Drought and Climate Change Project, Project Fact sheets

Coping with Drought and Climate Change Project, Proceedings of The Chiredzi Pilot Projects Review and Planning Workshop 22-25 June 2010 Flamboyant Hotel, Masvingo.

Coping with Drought and Climate Change Project, Quarterly Progress Reports, Jan/Mar 2008 – Jan/Mar 2011.

Coping with Drought and Climate Change Project, Trends in Crop Yields from Lead project farmers in WARD 11, 2011.

Desmond Manatsa, Leonard Unganai, Christopher Gadzirai & Swadhin K. Behera, *An innovative tailored seasonal rainfall forecasting production in Zimbabwe,* Natural Hazards, July 2012.

Environmental Management Agency, Mission Report, COPING WITH DROUGHT AND CLIMATE CHANGE PROJECT ZIMBABWE PILOT SITE REGIONAL VISIT, 26 September – 1 October 2010.

Environmental Management Agency, Capacity Needs Assessment and Strategy for Enhanced Use of Seasonal Climate Forecasts for Small-holder Farmers in Chiredzi District, Harare, April 2010.

Environmental Management Agency, The Communication Strategy for the Project "Coping with Drought and Climate Change , EMA, Harare, Sept. 2010.

Government of Zimbabwe, United Nations Development Programme, Zimbabwe: Coping with Drought and Climate Change, Project Plan, April 2008.

Government of Zimbabwe, Medium Size Project, Coping with Drought and Climate Change, project Inception Report, June 2008.

Government of Zimbabwe, Route Survey Report for Likulu Wilderness Area, n.d. (The first two boreholes drilled end up as dry holes and detailed geophysical survey was carried out on three new sites).

KPMG, Financial and Compliance Report for Zimbabwe: Coping with Drought and Climate Change, 31 Dec 2010, and 31 Dec 2009, and Dec 31, 2008.

Leonard S. Unganai, Jessica Troni, Desmond Manatsa and Daisy Mukarakate, *Tailoring seasonal climate forecasts for climate risk management in rainfed farming systems of southeast Zimbabwe,* Coping with Drought and Climate Change Project, Environmental Management Agency, Harare, Zimbabwe, 2012.

Owens Trudy, John Hoddinott, Bill Kinsey, University of Zimbabwe and Free University Amsterdam The impact of agricultural extension on farm production in resettlement areas of Zimbabwe, January 2001

Project Steering Minutes, Coping with Drought and Climate Change Project

Rurinda J., et. al., *Integrating soil nutrient management and timing of planting for increasing maiz production under variable rainfall in eastern Zimbabwe*, National Climate Change Adaptation Symposium, Coping with Drought and Climate Change Project, 2012.

UNDP, Zimbabwe Case Study, Adaptation Learning Mechanism, Oct 2011.

UNDP/GEF, Coping with Drought and Climate Change Project Document, 2008

UNDP/GEF Project Implementation Review 2010 and 2011.

UNDP/GEF-GoZ: Coping with Drought and Climate Change Project, Report: Training provided on Downscaling Climate Change Scenarios for Save and Runde River Basins (Zimbabwe) by the Climate Systems Analysis Group (CSAG), University of Cape Town, December 2008

Unganai Leonard S. and Amon Murwira*, Optimising rainfed agriculture as a climate change adaptation strategy in southeast Zimbabwe, n.d.*

Annex 6: Status of Project Achievements as per Project Document (2007)

Expected Result	Baseline Status - 2005	Target and benchmarks	Comment on achievements
Project Objective: To develop and pilot a range of effective coping mechanisms for reducing the vulnerability of farmers and pastoralists, particularly women and children in Chiredzi District to drought shocks	To be assessed in the first three months of the project	By end of project the drought vulnerability assessment value is less than 60% of the 2006 value in the three communal areas of Chiredzi District.	*The project has developed and piloted a range of coping mechanisms and adaptation measures that effectively reduce vulnerability to drought. This approach in Chiredzi is potentially a very significant contribution to national strategies and programmes on climate change adaptation.*
Outcome 1: Livelihood strategies and resilience of vulnerable farmers / pastoralists in the selected pilot sites improved and sustained to cope with drought.	40% of households food secure in 11 of the 24 wards in 2005 Less than 5% of poor households depend on livestock and other value added dryland products during droughts	By end of project number of food secure households in the 3 Chiredzi communal areas increased to 80%. By end of project at least 50% of poor households in pilot sites diversify their livelihood strategies to include livestock, and other value added dryland products	*Household food security and incomes have clearly increased as a result of the project interventions in the project areas. This is a direct result of introducing new drought-tolerant varieties, crop diversification, moisture conservation methods, small scale irrigation (one site) and fodder and livestock production improvements.* *Other livelihood development strategies related to natural resources management, crocodile farming and other interventions have shown less success and evidence of sustainability.*
Outcome 2: Enhanced use of Early Warning Systems in agricultural and pastoral systems in the selected pilot sites.	No farmers receiving or using formal early warning information in 2005. No systematic use of climatic information by extension agents, District planners and other service providers See table 2.9	By end of project 40% of farmers in the three communal areas of Chiredzi and District planners, extension agents, catchment managers, NGOs and other service providers use hydro-climatic information for decision support. By end of project average crop yields among small-holder farmers in the three communal areas of Chiredzi District increased by 6%, water use efficiency by 10%, post harvest loss reduced by 20% and livestock productivity (meat production per cattle in stock) increased by 5%.	*The new, localized rainfall forecasts are reported by farmers as providing more accurate information and advice on crop planting decisions. They have also strengthened relations between extension agents and farmers. The extension staff feel that they have not had enough training on use of the system which involves combining national weather data with local indicators. The operational aspects of the new forecasting model may require further assessment and refinement.* *This component is a significant contribution that the Dept. of Meteorology fully supports in a common interest to provide more reliable forecast information and advice to farmers.*
Outcome 3: Drought preparedness and mitigation activities	Climate risk currently not integrated in annual District planning	Environmental risk management integrated in the procedures and operating culture of all relevant institutions	*The planned outcome to integrate or mainstream climate risk management into government institutions seems to a have been modified after the inception*

integrated across sectors, programmes and at various levels of society in the pilot sites.	Existing community owned drought mitigation schemes have operational and sustainability difficulties	operating in the pilot sites by end of project. By end of project there will be at least one effective community drought mitigation programme in each of the pilot sites.	*phase. Greater awareness has been developed at a national and district level but the adaptation strategies and measures have not been significantly institutionalized as standard practices.*
Outcome 4: Farmers/ pastoralists outside the pilot sites replicate successful approaches to cope with drought	1. No adoption of successful drought coping strategies based on lessons from elsewhere 2. No awareness of local or international lessons related to successful drought coping strategies 3. No project	By the end of the project, community leaders in the project pilot sites are able to describe at least one lesson in coping with drought learnt from another site (not necessarily in Zimbabwe) By the end of the project, senior officials in relevant sectoral ministries are able to describe strategies to increase adaptive capacity to cope with drought from both Zimbabwe and neighbouring countries. Throughout the project, annual PIRs do not identify access to technical inputs as a constraint to project implementation.	*The success of the agronomic and livestock adaptation measures has gained notable recognition at the project sites, and this may be spilling over to nearby villages. The food security and income effects are likely to drive sustainability and replication.* *Senior officials were not able to describe the particular strategies that the project has been implementing but the project does have a profile and support in principle at the national and district level.* *Access to technical backstopping was at times a constraint to achievement of some of the livelihood activities.*

Note: The above is from the Project Document, except for text in italics.

Annex 6: Comments on Project Achievements as per Revised Logical Framework (2008)					
	Indicator	**Baseline**	**Target**	**Achievements recorded by Project Manager**	**Evaluator comments**
Goal: Resilience of agricultural and pastoral systems to climate change impacts in Zimbabwe enhanced through support from government policies and use of climate early warning systems	20% reduction in impact of climate variability on sources of livelihood for both men and women smallholder farmers				*Resilience to climate change has increased in the project sites and is influencing other agricultural areas of Chiredzi district. But the demonstrated adaptation measures and early warning systems have not yet been mainstreamed at a national/district level.*
Purpose: To demonstrate policy oriented approaches for adaptation to climate change among men and women agro-pastoral systems in Chiredzi District as a model for national processes of adaptation to climate change in the agriculture sector.	1. Increase in adoption of adaptation measures by vulnerable rural communities	1. 25% of farmers depend on one crop and 44% on two crops (sorghum and maize) - Less than 2% of farmers using infield rainwater harvesting. - 37% of farmers own livestock as an adaptation measure. - Less than 1% of farmers into wild-life as a viable land use option for Arid and Semi-Arid areas - 41% of households depend on rainfed agriculture as sole means of livelihood NB: Pilot Project area for crops &	1. By end of project, number of farmers growing a mix of more than four crops including (sorghum, pearl millet, opv maize, groundnuts, cowpeas and cassava increase to at least 60%). - By end of project number of farmers using infield rainwater harvesting increase to at least 10%. - By end of project 40% of farmers adopt livestock production as an adaptation measure. - By end of project 5% of rural	- Nearly 60% of farmers in the project area now grow at least a mix of maize, sorghum, pearl millet, cowpeas, groundnuts and cotton. Cotton is being largely promoted by the private sector who provide a ready market for the crop. In the case of red sorghum, farmers are also motivated to grow the crop because of the presence of a ready market in the beer brewing industry. The ready availability of seed was key to increasing and sustaining crop diversification in semi-arid regions. Cassava uptake remained low, partly because of limited institutional support for the crop. - Tied ridges and deep plough furrows being used by virtually all farmers in project area for soil moisture management. - No major change in percentage	*The crop diversification, drought-tolerant varieties, moisture conservation methods, small scale irrigation, livestock fodder technologies and livestock improvement activities have provided a package of interventions that define the successful Chiredzi model.* *While there are various other dryland agriculture measures that could be added (e.g., soil fertility), the project approach is an important contribution to developing the national processes for adaptation to climate*

		livestock has 1200 farmers; Project area for Natural Resources Management has 400 farmers	households take up wild-life as an alternative land use option. - By end of project, number of households that depend solely on rainfed agriculture is reduced by 1%. NB: Project area has 1600 farmers	of farmers with livestock as an adaptation strategy. Project focused on fodder improvement and enhancing use of available feed sources such as crop Stover and Mollasses. - Less than 5% of households adopted nature conservation and wildlife breeding because of limited opportunities for that land use option. - Introduction of small scale irrigation in one pilot site (Ward 7) saw at least 30% of households having an alternative to rainfed agriculture.	*change. Increased awareness of the project model/experience is needed.* *While the agronomic interventions have demonstrated general acceptance and enhanced productivity, the livestock and NRM benefits from various adaptation measures are less apparent.* *If the project is to serve as a model for national scaling-up, it will need to refine the demonstration and training venue (pilot trials/demos) qualities at the project sites.*
	2. Increases in agricultural productivity	2. Maize (0.55 t/ha), sorghum (0.56 t/ha), pearl millet (0.4 t/ha), groundnuts (0.28 t/ha. - Livestock mortality in drought years averages about 20%. - Livestock off-take rate 4.4%	2. By end of project mean yields of cereals increase by 20% in drought years. - By end of project livestock mortality in drought years reduced to below 10%. - By end of project livestock off-take rate increases to 6%.	- Mean yields among the project lead farmers over three years are as follows: Maize ZM521 (0.32 t/ha); Sorghum SC Smile (0.7 t/ha); pearl millet (1 t/ha); groundnuts (0.1 t/ha); cowpeas (0.15 t/ha). Cassava was harvested only for consumption. Consumption by the lead farmer increased from 25 kgs in year 1 to 100 kgs in year 3. Yields of groundnuts were affected by disease. Lack of markets affected cowpea production. The adoption rate of pearl millet has increased to about 30% since project start. - Livestock mortality during drought years has declined largely because farmers discovered a locally available tuber they feed livestock during droughts and also graze in neighbouring conservancies. Project interventions on livestock fodder conservation	

				and enhancement, and pasture enhancement started late to have made an impact. - Project had no activities to influence livestock off-take.	
Outcome 1: National institutions have capacity to improve knowledge base to facilitate climate change adaptation	3. Level of climate change risk awareness among farmers and service providers	81% aware of climate change problem	By end of project 100% awareness level is achieved among farmers in project area	- Virtually all farmers in the project area and, the community and political leadership, including service providers are aware of climate change and the risks it pose on local livelihoods.	*Climate scenarios, risks and vulnerabilities have been identified in general at a district level but with limited adoption beyond the project. Officials and farmers have increased their awareness of climate change and the effects of drought. The crop and income diversification strategies and conservation farming methods are gaining recognition but evidence of institutionalized acceptance and amended programmes for the adaptation measures are not yet apparent. However, success under Outcome 2 may assist future institutional change.*
	4. Number of service providers in Chiredzi district using climate information in operational practices.	Two service providers routinely use climate information (Zimbabwe National Water Management Authority and Chiredzi Research Station)	By end of project all service providers use seasonal climate forecasts to guide operational planning	- Key service providers including Agritex, Chiredzi Research Station, the Water Authority and some local NGOs now routinely use climate information to help farmers make improved decisions.	
Outcome 2: Livelihood strategies and resilience of vulnerable farmers/pastoralists in the selected pilot sites improved and sustained to cope with drought	5. Number of households by gender using adapted farm management practices.	Less than 5% of 1600 farmers from 5 pilot sites	Number of households using adapted crop and livestock management practices increase to 20% by end of project. NB: 20% of 1600 farmers	- Project directly influenced 30% of farmers to use adaptive strategies and indirectly influenced a further estimated 1200 through Farmer Field Schools.	*The agronomic interventions have measurably increased food security and income diversification and levels, and thus resilience to climate change. Most of the agricultural adaptation*

					measures are being regularly adopted by farmers within the project sites, although planting basins (Zia pits) apparently require too much labour. The other livelihood diversification activities have not been as successful or potentially sustainable.
Outcome 3: Enhanced use of early warning systems in agricultural and pastoral systems in the selected pilot sites systems	6. Number of small-holder farmers by gender in pilot site consistently using climate information for decision support	41% and 27% of male and female headed households using seasonal forecasts respectively (NB: This is out of 1600 farmers in pilot sites)	By end of project number of farmers using climatic information increase to 60%. (This is percentage of the 1600 farmers in pilot sites)	- Access to climate information increased to nearly 100% as a result of the project. However, use of the information requires a more detailed assessment.	*The local forecasting system was appreciated by the farmers interviewed; effectiveness of the system relative to conventional forecasts needs to be empirically assessed. There is high demand for enhanced forecasts (Indicator 6 mostly measures project participation rate rather than forecast effectiveness)*
Outcome 4: Farmers/ pastoralists outside the pilot sites replicate successful approaches to cope with drought	7. Awareness of lessons from project site among decision and policy makers	Nil at project start-up	By the end of the project lessons from project sites will have been documented and disseminated widely.	- Lessons from project have been documented and disseminated in project area, nationally through workshops and publications and internationally through peer reviewed articles.	*Awareness and support of project by senior officials was high but they were unable to describe the strategy that the project had taken and is currently advancing to promote adaptation measures. (Replication evidence: Nearby farmers are beginning to take interest in the project interventions/measures)*

Note: the first two columns are from: Revised Indicators, PIU, 2008