

**FINAL MDG-F JOINT PROGRAMME
NARRATIVE REPORT**

<p align="center">Participating UN Organization(s)</p> <p>FAO, UNEP, UNDP, UNHABITAT, UNIDO, WFP</p>	<p align="center">Sector(s)/Area(s)/Theme(s)</p> <p>Environment and climate change</p>
<p align="center">Joint Programme Title</p> <p>UN Joint Programme on Environmental Mainstreaming and Adaptation to Climate Change in Mozambique</p>	<p align="center">Joint Programme Number</p> <p align="center">MDGF-1681-E-MOZ</p>
<p align="center">Joint Programme Cost [Sharing - if applicable]</p> <p>[Fund Contribution): USD 7,000,000</p> <p>Govt. Contribution: USD 0</p> <p>Agency Core Contribution: 0</p> <p>Other: 0</p> <p>TOTAL: USD 7,000,000</p>	<p align="center">Joint Programme [Location]</p> <p>Region (s): Southern Africa</p> <p>Governorate(s): Mozambique</p> <p>District(s): Chicualacuala</p>
<p align="center">Final Joint Programme Evaluation</p> <p>Final Evaluation Done Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Evaluation Report Attached Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Date of delivery of final report 30/09/12</p>	<p align="center">Joint Programme Timeline</p> <p>Original start date: 1 September 2008</p> <p>Final end date: 31 August 2012</p>

<p align="center">Participating Implementing Line Ministries and/or other organisations (CSO, etc)</p> <p>Ministry for the Coordination of Environmental Affairs (MICOA) Ministry of Agriculture (MINAG) Institute for Disaster Relief Management (INGC) Institute of Meteorology (INAM) Ministry of Energy (ME) Mozambique Institute for Agricultural Research (IIAM) Government of Gaza province Government of Chicualacuala district International Union for Nature Conservation (IUNC) Union of Small Scale Farmers (UNAC) Save the Children Fund (SCF)</p>
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I. PURPOSE

- a. Provide a brief introduction on the socio economical context and the development problems addressed by the programme.

Southern Africa is one of the regions most vulnerable to the impacts of climate change. Mozambique is one of the least developed countries in Southern Africa. It has a coastline of over 2,700 kms and is already experiencing the devastating effects of the increased frequency of droughts, floods and cyclones on agricultural livelihoods (crops, livestock, forests and fisheries) in rural and coastal areas.

Southern Mozambique, which includes the Limpopo River Basin (LRB) in which Chicualacuala district lies, is the area worst affected by droughts. Aware of the urgent need to address the high vulnerability of the population in the LRB, the Government chose Chicualacuala to initiate the UNJP.

The UNJP addressed two main problems: the first was the non-inclusion of environmental and climate change considerations in the majority of government policies and plans and the second was the weak adaptive capacity of the rural population to climate change impact

- b. List joint programme outcomes and associated outputs as per the final approved version of the joint programme Document or last agreed revision.

Outcome 1.

Government, civil society, communities and other stakeholders informed, sensitized and empowered on environment and climate change issues.

Outputs for outcome 1.

- 1.1 Environment priorities and indicators reflected in planning frameworks and budgets at district and community level,
- 1.2 GIS-based data and maps on climate change vulnerability for risk areas,
- 1.3 Training programmes on disaster and climate change prediction, including interpretation of maps and application of monitoring data for early warning purposes,
- 1.4 Knowledge and experience sharing within the different groups (UN implementing agencies and beneficiaries),

Outcome 2.

Government capacity at central and decentralized levels to implement existing environment policies strengthened.

Outputs for outcome 2

- 2.1 National Disaster Preparedness plan and other relevant plans revised/updated to include climate change and environment aspects,
- 2.2 Early warning and communication system enhanced in the Gaza province,
- 2.3 Authorities, civil society and other relevant actors trained to incorporate and report on environmental and climate change risk events,

Outcome 3.

Climate proofing methodology mainstreamed into government development plans, UN / donors' programming and local stakeholders' activities and investments.

Outputs for outcome 3.

- 3.1 Tools for climate proofing of risk zones in the Limpopo River Basin developed,
- 3.2 Assessment of climate proofing approaches carried out,
- 3.3 Stakeholders trained on climate proofing,

Outcome 4.

Community coping mechanisms to climate change enhanced.

Outputs for outcome 4.

- 4.1 Inventory of strategies and coping mechanisms currently in use by communities and in the Limpopo River Basin,
- 4.2 Community based natural forest resource management system established,
- 4.3 Territorial planning mechanisms at community level introduced,
- 4.4 Agro forestry practices introduced and applied at the community level,
- 4.5 Multi-purpose integrated water resource management systems created,
- 4.6 Sustainable conservation agriculture practices introduced and efficiency in small scale irrigation systems improved,
- 4.7 Prospects of biogas generation and composting using waste manure as coping mechanisms to climate variability determined,

Outcome 5.

Communities' livelihood options diversified.

Outputs for outcome 5.

- 5.1 Options for livelihood diversification identified,
- 5.2 Inventory and feasibility assessment of potential renewable energy sources carried out,
- 5.3 Animal husbandry grazing and veterinary service coverage improved,
- 5.4 Agro-processing and marketing activities developed,
- 5.5 Use of animal traction promoted to encourage land preparation and transport,

- c. Explain the overall contribution of the joint programme to National Plan and Priorities

The UNJP directly supports the National Adaptation Plan of Action (NAPA) of the Ministry for the Coordination of Environmental Affairs (MICOA) whose overall goal is to strengthen national capacity to cope with the adverse effects of climate change. NAPA has 4 main action areas as follows:

- 1 Strengthening of an early warning system

- 2 Strengthening the capacity of agricultural producers to cope with climate change
- 3 Reduction of climate change impacts in coastal zones
- 4 Management of water resources under climate change

The various activities conducted by the UNJP have contributed directly to the realization of actions 1, 2 and 4 of the NAPA.

For example, to strengthen early warning systems the UNJP has assisted the government by rehabilitating and re-equipping a weather station, expanding the reach of the Chicualacuala community radio station and conducting risk mapping exercises in Chicualacuala and 8 other vulnerable districts

To strengthen the coping capacity of agricultural producers in Chicualacuala district the UNJP has made numerous interventions (described below) in the areas of water development, agriculture, horticulture, irrigation, livestock health and production, agro-processing, fish farming, beekeeping and forestry.

To improve the management of water resources the UNJP has assisted rural communities by expanding irrigated agricultural production, installing household and community rainwater harvesting systems, drilling boreholes equipped with solar pumps and storage tanks and building livestock drinking troughs. Community water management committees have been created and trained to manage these installations.

- d. Describe and assess how the programme development partners have jointly contributed to achieve development results

MICOA is the leading government partner. The MICOA focal point has contributed actively by chairing the PMC meetings and contributing to all planning and decision making processes throughout the UNJP. He has been an invaluable intermediary between the UNJP and MICOA. The INGC focal point has visited the UNJP target areas several times and is also a member of the PMC and active contributor to planning and decision making. From experience gained in producing a risk map for Chicualacuala district, INGC technical staff, initially under the supervision of the UNJP technical staff, have conducted risk mapping exercises in a further 14 semi-arid districts. In each case good quality reports have been reduced which contribute to district disaster management planning processes. Based on these risk maps, SETSAN (The Secretariat for Food Security and Nutrition) has produced district development profiles for each of these districts. INAM took the lead in the procurement of meteorological equipment, providing the UNJP with lists, prices and potential suppliers. INAM staff were present when the equipment was installed in Chicualacuala and provided training to district level government and community leaders staff in the use and care of the equipment as well as in the analyse and interpretation of climate data. MINAG staff at the provincial level have regularly accompanied UNJP staff on field visits and taken an active role, either as participants or trainers, in most activities. At the district level, MINAG staff have been the main government counterpart ministry. The Ministry of Energy focal point, in collaboration with UNJP staff, has provided training to Chicualacuala communities and government staff on the benefits and use of renewable energies, notable solar and biogas. The ME took the lead in installing 2 solar water pumping systems in Chicualacuala. The IUNC has partnered with the UNJP to implement water development activities in Chicualacuala. IIAM has partnered with the UNJP to carry out field-based demonstrations

and training (in Chicualacuala) in conservation agriculture, livestock nutrition, dairy hygiene and cheese making and forest nursery management. Save the Children Fund collaborated with the District Government and the UNJP in conducting Newcastle disease vaccination campaigns in village chicken flocks. UNAC partnered with the UNJP and the District Government in Chicualacuala to train, equip and monitor 12 community based animal health workers from 6 different communities. The fundamental role played by the target communities in achieving development results is explained in section II below.

The contribution of all the above mentioned partners contributed significantly to the realisation of the outcomes and outputs. The UNJP resulted in the capacitation of a large number of government and non-government staff. Through this programme hundreds of persons received training in environment and climate change and in how to plan environmentally sound development while adapting to or offsetting the negative impact of climate change. The inclusion of the various partners in the implementation of the UNJP built synergies and exploited the comparative advantage of a wide range of actors. This was fundamental to the achievement of the development results.

II. ASSESSMENT OF JOINT PROGRAMME RESULTS

- a. Report on the key outcomes achieved and explain any variance in achieved versus planned results. The narrative should be results oriented to present results and illustrate impacts of the pilot at policy level)

Outcome 1.

Government, civil society, communities and other stakeholders informed, sensitized and empowered on environment and climate change issues.

When the UNJP began in September of 2008, very few persons in Mozambique were able to explain what climate change was, what causes it or how it impacts on livelihoods and development. To address this deficiency, the UNJP conducted a comprehensive programme of sensitization through training, seminars, workshops, exchange visits and the development of educational materials. As a result of this intervention, a wide ranging group of persons at all levels (national, provincial, district and community) now have a basic understanding of environmental management and climate change adaptation. Many of these persons have contributed to the mainstreaming of these issues in government plans. For example, environment and climate change have been incorporated in the Chicualacuala District (5 year) Strategic Development Plan (PEDD), in the Strategy for Food Security and Nutrition (ESAN II) and in the annual contingency plan of the INGC as a result of the intervention of the UNJP.

Outcome 2.

Government capacity at central and decentralized levels to implement existing environment policies strengthened.

Provincial and district government staff and community leaders received training in participatory planning as part of the development of the PEDD. Roughly the same group

received training from UNJP technical staff as part of the elaboration of the Chicualacuala District Land Use Plan (DLUP). Technical staff from the INGC were trained by UNJP personnel to conduct risk mapping exercises and produce high quality reports that fed into the Chicualacuala DLUP. A risk mapping exercise conducted jointly with INGC produced a high quality report that is being used for district development planning in Chicualacuala. INGC staff have since replicated the study in 14 other vulnerable districts in and outside the Limpopo Basin. A training workshop for district level decision makers from various districts in the Limpopo Basin took place in Chokwe town as part of the development of an integrated water management plan (IWMP). This was the first training of its type in Mozambique and resulted in the elaboration of a training manual for future initiatives of a similar nature. The participants from Chicualacuala proceeded to elaborate a district IWMP which was completed in June 2012 and which will contribute to the process of development of water resources in Chicualacuala.

Outcome 3.

Climate proofing methodology mainstreamed into government development plans, UN / Donors' programming and local stakeholders' activities/invests.

The UNJP has commissioned a three part study entitled:

Understanding the Socio-Economic Impacts of Climate Change and contribute towards the Development of a Climate Proofing Strategy in the Limpopo River Basin, Mozambique.

The study is being coordinated by INGC and involves inputs from national and international development partners such as Cape Town University. The three parts of the study are:

1. Physical and socio-economic impacts of climate change in the Limpopo river basin
2. Priority areas selected for climate proofing in the Limpopo river basin
3. Adaptation options for increased community resilience and reduced disaster risk

The first two parts are complete. The final part will be completed in October 2012. These studies will be the tools that INGC will use to develop a climate proofing strategy for the Limpopo river basin even though this will be outside the time frame of the UNJP.

A national climate proofing workshop was held in Maputo in July 2011. The aim of the workshop was to provide an introduction to climate proofing development planning for high level government officials, policy and decision makers, including international donors in Mozambique. Participants included senior level government policy makers, the Spanish Ambassador, the Vice-Minister of MICOA and the Representative of the UN in Mozambique. This workshop contributed to a wider understanding by senior level planners of the role that climate proofing plays to increase resilience and reduce vulnerability.

Outcome 4

Community coping mechanisms to climate change enhanced

A range of activities designed to enhance existing coping mechanism have been implemented in Chicualacuala district in a total of 18 communities. These interventions have directly benefited over 2000 families and provided indirect benefits to many more. Examples of work carried out include the following:

- The installation of rainwater harvesting systems at the household and community level
- The drilling of new 8 new boreholes and the installation of solar powered water pumping units on 6 of these boreholes to provide drinking water for rural families and their cattle and, in two cases, irrigation water for crops.
- The creation and training of 15 community committees for natural resource management. Eleven of the committees are legally registered with their own bank account. A total of 24 trained and equipped forest guards assist the committees with the execution of their duties which are principally to protect the forest.
- Agro-forestry and conservation agriculture practices were promoted in 6 communities.
- Four, irrigated production units were established in 4 communities where over 200 families produce vegetable and other crops using water from boreholes or from the river Limpopo. At these sites, nothing was being produced when the JP began. In 2011, with JP support, these 4 farmer associations produced and sold 338 tonnes of diverse agricultural products.

At the policy level, foresters and agronomists from Gaza province and Chicualacuala district participated in the various field studies conducted by the JP that resulted in the Community Based Forest Management Plan. This is a tool being used by the above mentioned natural resource management committees and one which could easily be replicated and adapted for use in other similar environments..

Outcome 5.

Communities' livelihoods options diversified

Results for this outcome are again felt principally at the community level. The promotion of renewable energy, mainly solar power for water pumping, provided clean, safe drinking water to thousands of people and also water for livestock and agriculture. In this water scarce district any livelihood diversification activities require water as a pre-requisite.

In an area where livestock play a key role in livelihoods the JP assisted the government veterinary service to expand and improve their coverage, particularly animal health care. This was done through the creation of a district network of 36 community animal health workers (CAHW) equipped and trained to prevent and treat animal diseases. In 2011 these CAHW's treated almost 26,000 animals belonging to hundreds of livestock keepers. To facilitate the work of the CAHW's the JP built 18 livestock treatment corridors in 18 villages. These corridors are used to contain the animals while they are being treated. They are used both by the CAHWs and by government veterinary staff during the annual vaccination campaigns.

- b. In what way do you feel that the capacities developed during the implementation of the joint programme have contributed to the achievement of the outcomes?

Capacity development in climate change **mainstreaming** has contributed to the sensitization of policy makers, academics and civil society groups (e.g journalists, NGO's,) in environmental and climate change issues, the importance of which was not well understood before the project began. The JP has spend much time and resources in training and building the capacity of a wide range of stakeholders Involved in various ways with development at all levels (from national to community). The result has been that, for the first time in Mozambique, environment and climate change have become cross-cutting themes that are being built into plans and policies. Concrete examples of this are the ESAN II, the PEDD and the INGC contingency plans mentioned under outcome 1 above. Through the efforts of this JP, aided by increased media coverage of climate change (e.g COP 17 and Rio + 20) and through interventions by the government and other development partners there is now a general awareness in Mozambique of the negative impact of climate change and of the need to address these issues with urgency.

Capacity development in climate change **adaptation** took place almost exclusively at the district level. It began with a comprehensive programme of training and awareness raising which informed policy makers and community members how climate change contributes to vulnerability and poverty in Chicualacuala and how they may adapt to it. The JP helped rural communities strengthen and diversify their coping strategies and livelihoods. Examples of this are:

- improved planning and organizational ability,
- the provision of clean water,
- improved forest management,
- improved animal health,
- increased agricultural production with irrigation,
- agro-processing and produce marketing)

While many challenges remain, community awareness and capacity to adapt to and manage climate change has been strengthened.

- c. Report on how outputs have contributed to the achievement of the outcomes based on performance indicators and explain any variance in actual versus planned contributions of these outputs. Highlight any institutional and/ or behavioural changes, including capacity development, amongst beneficiaries/right holders.

Outcome 1: Government, civil society, communities and other stakeholders informed, sensitized and empowered on environment and climate change (CC) issues.

Output 1.1 Environment priorities and indicators reflected in planning frameworks and budgets at district and community level:

Performance indicators

1. Four policy briefs developed and discussed per year
2. CC issues included into two national plans and/or strategies

JP achievements

Products under this output include a publication entitled “Adaptation to Climate Change in semi-arid environments. Experiences and lessons from Mozambique” The publication has been widely distributed to Mozambican stakeholders and published on various international climate change websites. One policy brief on climate change adaptation has been produced; one methodological guideline on the integration climate change in district development plans. The guidelines and policy brief were used by provincial and district level planners in the preparation of the PEDD. The original performance indicator anticipated that 4 briefs per year would be produced but this was in fact not necessary or possible given the work load associated with the many other activities.

Climate change (CC) issues have been included in the ESANII and the annual contingency plans of the INGC

Output 1.2 GIS-based data and maps on climate change vulnerability for risk areas

Performance indicators

1. Five (5) district thematic maps
2. CC data collected and recorded
3. Water/related CC impact assessed

JP achievements

Using the experience gained under the JP in Chicualacuala, the INGC has produced district thematic (risk) maps in 14 other districts in the Limpopo and Zambezi River Basins. Based on these maps, SETSAN (the Secretariat for Food security and Nutrition), with JP support, has produced development profiles in the same districts thereby highlighting the strong linkages between risk mapping and the production of reports on food security and nutritional vulnerability as part of policy formulation in natural disaster reduction and the development of a food security strategy for semi-arid regions of the country. The district food security and nutrition profile includes information about livelihoods, coping mechanisms and adaptation, household economy and food consumption. The information is used by people working on adaptation to climate change, risk reduction and food security as well as district development planning.

The risk mapping also provides a significant contribution to the territorial planning exercise, which includes the identification of safe places for community shelters in case of disaster, and district development plans as a contribution for disaster risk reduction.

CC data has been compiled and presented in various publications and reports produced by the JP. For example in the publication mentioned directly above under output 1.1, and in the

studies commissioned by UNEP and coordinated by INGC discussed under outcome 3 in the above section. Water related climate change impact has been documented in the UNEP/IUCN study into sustainable ecosystem management through improved water management.

Output 1.3 Training programmes on disaster and climate change prediction, including interpretation of maps and application of monitoring data for early warning purposes

Performance indicators

1. Diagnostic tools on the application and use of climate information developed and applied by programme
2. Materials for training programmes adapted/developed
3. Two training of trainers courses
4. One pilot district using maps

JP achievements

The diagnostic tools include the use of GIS to compile the risk maps which have been widely replicated. Also the installation of an automatic weather station in Chicualacuala which generates weather data which is electronically available at the national, provincial and district level under the auspices of the INGC/INAM programme to improve early warning systems. Weather information is also provided to Chicualacuala farmers through the district community radio station which benefitted from the JP through the building of a higher, stronger broadcasting antenna and the installation of a solar energy system which provides electricity to the radio station 24 hours a day (previously this was limited to 8 hours a day when the district generator was turned on).

Diverse training materials have been produced, tested and disseminated (see annexes 1 and 2 on products produced by the JP) . These include board games (mainly for schools) a video, various pamphlets and numerous manuals.

JP staff provided training to the provincial planning team who, in their turn, then provided training and support to district planners in the elaboration of the PEDD. INGC staff received JP training in the elaboration of risk maps and later trained their colleagues in other districts in the preparation of these maps.

Chicualacuala district used the risk map when elaborating the PEDD.

Output 1.4 Knowledge and experience sharing within the different groups (UN agencies and beneficiaries)

Performance indicators

1. At least three field days organized targeting 8 communities on a yearly basis

JP achievements

During the JP the following field visit took place:

- An exchange visit where Chicualacuala government staff and selected farmers were taken to neighbouring Massingir district to study irrigated agricultural production being practiced by numerous farmer associations close to the Elephant river
- A study tour to Kenya for government staff, community leaders and selected farmers to study water harvesting techniques and technologies.
- An exchange visit to Manica Province (Central Mozambique) when government staff and farmers visited various community based natural resource management and livelihood diversification projects
- An exchange visit to neighbouring Chibuto district to study water harvesting in ponds and dams.
- Three intercommunity exchanges where farmers from one community were taken to visit other to learn about integrated fish farming

The variance in the number of planned and actual exchanges reflects the overambitious nature of the performance indicator given the limited physical capacity of JP staff and the large number of other activities that were conducted under the JP.

In conclusion, the information provided under outcome 1 illustrates the ways in which the outputs and their associated activities, using the performance indicators as a guideline, contributed to the achievement of the outcome. Sensitization and empowerment of government staff and rural community, through JP training and support resulted in the strengthening of these institutions as can be measures in the in the nature and quality of the PEDD, the risk maps and the INGC contingency plans.

OUTCOME 2: Government capacity at central and decentralized levels to implement existing environment policies strengthened

Output 2.1: National Disaster Preparedness plan and other relevant plans revised/updated to include climate change and environment aspects

Performance indicators

1. National disaster preparedness and risk assessment plans prepared and updated each year
2. Two yearly training sessions on participatory planning to include environment and CC issues
3. Publication of results of risk assessment

JP achievements

The JP has provided technical assistance and support to INGC in the elaboration of the annual contingency plans for disaster reduction which now take account of the role of climate change in precipitating disaster situations.

Four workshops in participative environmental planning were conducted for community leaders, district government staff, school teachers and members of the district level disaster relief committees. A training manual on environmental planning was produced and copies were widely distributed in Chicualacuala as well as to government partners at the provincial and national level.

The results of risk assessment (mapping) have been published and widely distributed among involved and interested parties in the 12 districts in which the exercise took place.

Output 2.2 Early warning and communication system enhanced in the Gaza province:

Performance indicators

1. Gaps in local capacities identified and addressed
2. Percentage of areas covered by communications network
3. Sufficient time between the warning and the arrival of event

JP achievements

A taller radio antenna installed by the JP at the site of the community radio in Chicualacuala town, extended radio coverage from 35 kms to about 80 kms radius, expanding the communication network to include many villages previously not served. The installation of a solar energy system at the community radio made it possible to extend the daily broadcasting period from 8 hours per day to 16 hours per day (the power is sufficient for 24 hour coverage but the station closes at night).

The purchase of meteorological equipment and its installation in the new, automatic, meteorological. Station in Chicualacuala town provided, for the first time in many years, up-to-the-minute information on the, humidity, rainfall and wind direction and speed. This is transmitted electronically to technicians of the INAM in Maputo, Xai Xai and Chicualacuala from where the information can be used to monitor and predict extreme weather events as part of an improved early warning system.

Output 2.3. Authorities, civil society and other relevant actors trained to incorporate and report on environmental and climate change risk events:

Performance indicators

1. Twenty civil society representatives (TV, radio, newspapers) trained on reporting on CC
2. At least two yearly training events with inputs from the three collaborating agencies

2. Educative material adapted and produced
4. Study on the contribution of natural resources/predicted impacts of climate change completed
5. Government and local NGOs trained in the application and use of current and forecasted climate information by programme

JP achievements

A group of journalists from national newspapers and TV channels visited the JP in Chicualacuala to learn first hand about CC adaptation measures. These journalists published articles in their respective newspapers (Noticias and Savana). Footage filmed during the visit was screened several times on national TV (STV channel). The journalists then participated in the summit in Durban (COP 17) from where they reported on the summit and shared experiences from Chicualacuala.

A national training workshop for over 20 journalists took place in Maputo in 2011. The workshop included such topics as basic CC concepts, the interpretation of climatic information, factors influencing decisions on adaptation and the role of the press in reporting CC information.

As stated above, a range of educational materials were developed, tested and disseminated during the duration of the JP.

Two environmental training workshops targeting over 100 primary school teachers organized and conducted by MICOA as part of the JP.

Three environmental and climate change training workshops, conducted by MICOA, targeting 90 community environmental educators organized in three administrative posts of Chicualacuala took place in December of 2010

A report on the socio-economic impact of CC was produced at district level (INGC coordinated)

A report on social-economic impact of CC at river basin level was also produced (INGC coordinated)

A guideline manual for including environmental issues in primary school curriculum was produced by the JP in coordination with MICOA but never got beyond the draft stage.

700 copies of the video "The Change" were reproduced and given to MICOA for distribution as part of the environmental educators package

This summary of information under outcome 2 illustrates how the activities conducted contributed towards the realization of the outcomes and how these contributed to the realization of the outcome. Through training in environmental planning, awareness raising for journalists and other stakeholders, the installation of the meteorological station and expansion

of the coverage of the community radio station there have been improvements in disaster risk management and in planning capacity.

Outcome 3: Climate proofing methodology mainstreamed into government development plans, UN / Donors' programming and local stakeholders' activities/invests

Output 3.1 Tools for climate proofing of risk zones in the Limpopo River Basin developed:

Performance indicator

1. A document on the applied use of climate proofing is prepared

JP achievements

A three part study, described earlier in this report is being undertaken by the University of Cape Town in coordination with INGC and other national organizations, commissioned by the JP.

Output 3.2. Assessment of climate proofing approaches carried out

Performance indicator

1. Climate proofing issues are included in government plans

JP achievements

An assessment of climate proofing approaches will only become possible when the three part study is completed in October of 2012.

In 2010 a national workshop was organized by MICOA with JP support. The theme was CC, its impact in urban centres and ways to prevent or mitigate this impact. The participants included planners from all 43 municipalities in the country (about 90 participants in total). This capacity building for municipal planning officials is one essential step in ensuring that CC and climate proofing become mainstreamed into development planning at the national level.

Output 3.3 Stakeholders trained on climate proofing

Performance indicators

1. Number of stakeholders trained in climate proofing

JP achievements

A national seminar on climate proofing was held in Maputo in 2011. Over 30 participants included senior government decision makers, academics, representatives of UN agencies, the Spanish Ambassador and the Vice-Minister of MICOA. A total of some 130 stakeholders were involved in the preparation, delivery and dissemination of the information shared at the seminar.

In conclusion, outcome 3 has consistently been the most difficult in which to make progress. Climate proofing was an unknown concept at the beginning of this JP and finding the correct way to approach the subject and partner institutions with which to work took a long time. The three part study being coordinated by INGC in name of the JP will only be completed and bear fruit after the JP ends.

OUTCOME 4: Community coping mechanisms to climate change enhanced

Outputs 4.1 Inventory of strategies and coping mechanisms currently in use by communities and in the Limpopo River Basin

Performance indicators

1. Baseline study, including methodology and strategy for assessing and implementing cc coping mechanisms produced
2. Capacity needs assessment carried out
3. CC coping mechanisms implemented and/or reinforced in three communities

JP achievements

A study into coping mechanisms took place in 2010 and a comprehensive report was produced. This document helped orientate JP staff in the implementation of programmed field activities designed to reinforce coping strategies.

It was not considered necessary to conduct a formal capacity needs assessment because these needs were immediately apparent when JP field staff began working with rural communities in late 2008

A range of activities designed to reinforce coping strategies were carried out in a total of 18 communities during the JP with special emphasis on the three communities of Ndombe, Mapuvule and Chissapa situated close to the Limpopo River. The activities conducted in these three villages included: the promotion of irrigated agriculture/horticulture, integrated fish farming, pig keeping, bee keeping, the training and equipping of CAHW's to treat animal diseases and vaccinate against them, the formation and training of a community natural resource management committee (especially for forest management), supply of a tractor and agricultural implements to increase the cultivated area and facilitate marketing of products, training in agro-processing. In the other 15 villages that the JP assisted one or more of the above activities was conducted. In addition, water harvesting systems were established and renewable energy systems installed for water pumping and electricity supply. For details

of activities conducted in the various villages the reader is referred to annex II of the attached final evaluation report.

Output 4.2 Community based natural forest resource management system established:

Performance indicators

1. At least 1 community area including forested areas demarcated and registered (DUAT title)
2. At least three community committees and associations established and legalized
3. Forestry inventory(ies) completed and management plans developed

JP achievements

A total of 6 community areas have been demarcated and officially registered with the Provincial Department of Geography and Mapping.

Fifteen community natural resource management committees have been established; 11 are legalised and have their own bank accounts. A total of 24 community forest guards were trained and equipped and are working with the committees to manage their respective areas.

A participatory forest inventory took place in 2009, a report was produced. A management plan was produced and each of the 15 communities has a copy of it. Training has been provided to the committees in the practical application of the plan and in how to work together as a committee.

Output 4.3 Territorial planning mechanisms at community level introduced:

Performance indicators

1. Territorial planning, including CC and disaster risk reduction tools carried out for Eduardo Mondlane and Mapai
2. One training session on planning and cadastre
3. Local building codes and standards revised; shelter reinforcement implemented

JP achievements

As a first step, the JP provided support to the Ministry of State Administration (MAE/DNOT) to carry out field work in order to clarify physical delimitations and technical boundary descriptions of the 9 localities of Chicualacuala.

Training in territorial planning was given to over 100 district level government staff and community leaders as part of the participatory planning workshop held in September 2010

Training was provided to staff of the SDPI (District Planning and Infrastructures Service) to increase their capacity to improve the land registry and cadastre system prior to working on the territorial plan.

A draft of the territorial plan was produced and after receiving comments from district planners a second draft was produced. The second draft was submitted to the SDPI for final comments. The final version has not yet been produced.

Output 4.4 Agro forestry practices introduced and applied at the community level:

Performance indicators

1. Examples of good agro forestry practices implemented in at least three sites
2. Vegetation survey conducted by Dec 2008
3. Tree nurseries set up and species trials undertaken

JP achievements

Agro-forestry demonstrations were set up at sites in 5 communities using fruit or fodder trees, many of which were produced in the community forestry nurseries. The respective communities are still using these sites and, as such, the experience gave positive results.

A vegetation survey was conducted as planned and a good quality report was produced. Parts of the report were used as the basis for training farmers in improved land and pasture management. The report also used as part of the elaboration of the territorial plan detailed above. Three, community managed tree nurseries were set up with JP assistance and in 2009 and 2010 they produced thousands of saplings of various species that were distributed to community members. Additionally the JP purchased large number of fruit tree saplings, at the request of the communities and distributed these among interested farmers. In 2011, community interest in the nurseries waned and they slowly fell into disuse. Despite the best efforts of JP and government forestry staff, many of the trees distributed to community members died from lack of watering. This situation is common to all re-forestation actions in Chicualacuala including those managed by NGO's and by the government. The JP (and the government) achieved limited success establishing small cashew nut orchards but at the household level the results have not been encouraging, particularly with the promotion of the slower growing native species which the government is actively promoting for re-forestation.

Output 4.5 Multipurpose integrated water resource management systems created:

Performance indicators

1. Baseline document of existing water reserves completed
2. Reinforced rain water harvesting systems in ten sites
3. Number of additional water points
4. Ten sites using improved water management system
5. Improved capacity to assess water/related CC impact; planning and implementation of CC adaptation strategies

JP achievements

A detailed and comprehensive baseline study was conducted and a report produced. A further study, conducted in 2010 identified suitable sites for various forms of water harvesting. Both of the reports were distributed to government partners.

One hundred household rainwater systems have been installed, 50 systems in Chicualacuala town and 50 systems in Mapai town. In Mapai town some of the systems require finishing work. They will be complete by mid-October

Two community rainwater harvesting systems have been built at school in Chicualacuala town.

Six additional water points (boreholes) have been drilled by the JP. Four of these have solar water pumping systems mounted. The remaining two systems will be installed by MICOA in coordination with the Ministry of Energy.

A study into water related CC impact has been done and a report produced. The report was shared with Government partners and other interested parties.

Output 4.6 Sustainable conservation agriculture practices introduced and efficiency in small scale irrigation systems improved:

Performance indicators

1. Map of soil suitability and land use for agricultural activities produced
2. At least ten fields where sustainable conservation agriculture practices adopted by end of programme
3. Two small scale irrigation systems where improvements implemented and 50 farmers trained on use of efficient irrigation system
4. Renewable energy use for irrigation purposes implemented in at least two sites

JP achievements

A report detailing soil suitability and land use for agriculture was produced in 2010 and shared with Government partners.

Conservation agriculture practices are being promoted in numerous fields in 6 communities. The main techniques promoted have been:

- Maintenance of soil surface cover
- Intercropping
- Minimum tillage

Results have been mixed. Encouraging farmers to adopt minimum or zero tillage in an area where animal traction is widely used for ploughing has been difficult. The owners of the animals earn money from land cultivation. Crop farmers also do not readily accept this technique because they say it encourages pests and diseases. Where it is possible to control invasion by animals, by fencing, the maintenance of surface cover with grass or other materials has been demonstrated and results, in terms of retaining moisture have been visible. Where there are no fences, which is the case for the majority of fields in Chicualacuala, impact has been less because the animals eat or trample all materials left over after crop harvest. Promotion of intercropping with cereals and legumes (Maize/cow peas or sorghum/cow peas has been reasonably successful.

A total of 4 small scale irrigation systems have been set up with project support. Irrigated horticultural production gave the following yields in the dry season of 2011 from 47 hectares. Most of the produce was sold locally by the 200 + farmers involved. All farmers received on-going training and support in efficient water use.

Table 1 Yields of different vegetable crops produced between April and September 2011 in the four project supported irrigation schemes

Cultura	Mapuvule		Ndombe		Chissapa		Madulo	
	Area (ha)	Prod. (ton)	Area (ha)	Prod (ton)	Area (ha)	Prod (ton)	Area (ha)	Prod (ton)
Tomate	3	84.6	2	56.7	0.53	32.75	0.6	5
B.reno	1.25	15.3	1.25	13.4	1	9.38	0.45	3
Repolho	1	16.1	0.78	3.1	0.24	4.22	0	0
Couve	1	6.43	1.2	6.97	0.5	4.35	0.6	4
Alface	0.1	1.91	0.2	0.986	0.1	0.07	0.03	0.981
Milho	7	19.7	14	22.56	2.53	3.6	0.1	0
Cebola	0.5	6	0.3	2.67	0.3	0.8	0.2	3
F. vulgar	3	1.98	3	1.87	0.6	0.35	0.3	0.18
Pimenta	0.05	0.04	0.03	0.053				
Cenoura	0.05	0.021	0.02	0.018				
Beringela	0.01	0.4						
F. boer	0.045	0.05						
Alho	0.02	0.02						
Total	17.03	152.6	22.78	108.3	5.8	55.52	2.28	16.161

Source of information: Chiefs of production of the 4 farmer associations

Renewable energy (solar power) has been installed in Ndombe and in Madulo and the water pumped by the systems is used to produce irrigated vegetables.

Output 4.7 Prospects of biogas generation and composting using waste manure as coping mechanisms to climate variability determined:

Performance indicators

1. Inventory of solid waste management and mapping along the Limpopo River
2. At least five demonstration sites using waste management
3. Number of training sessions on waste management, manure compost and bio-digestion systems

JP achievements

Promotion of the use of animal manure in agriculture (not a traditional practice) has been ongoing in 4 communities where the JP assisted farmers to set up irrigated production units. The majority of the 200 + famers involved have adopted the practice. Mulching was also promoted and once again was adopted by the majority of farmers.

Demonstration sites were established in 3 of the above communities and the farmers were shown how to compost animal manure and other organic materials.

Training was provided to 35 government staff, community leaders, teachers and selected farmers in the production and use of bio-gas production.

A site was selected in Mepuza village in Chicualacuala district for the construction of a large bio-digester. The bio-digester was built with community labour under the supervision of a bio-gas specialist from Ghana. A borehole was drilled to provide water for the bio-digester (and for the community) and a solar pumping system was installed. A generator to turn gas into electricity was purchased and installed on site. The system is not yet complete. Completion date is given (by UNIDO) as October 2012.

In conclusion, it has been shown in this section that most of the targets set by the performance indicators were met. In a number of cases they were surpassed. In a few cases, the changing dynamic of the situation in Chicualacuala rendered the performance indicators invalid or inappropriate.

Outcome 5: Communities' livelihoods options diversified

Output 5.1 Options for livelihood diversification identified:

Performance indicators

1. Document on generic livelihood diversification options completed and sustainable livelihood options identified
2. Three communities provided with knowledge and skills on sustainable livelihood options

JP achievements

A report was produced in late 2010 by independent consultants detailing livelihood diversification options. However the study and resulting report were of such low quality that the recommendations were of little practical use to the JP.

The three communities of Ndombe, Mapuvule and Chissapa were those that benefitted most from JP interventions. The interventions are listed above under output 4.1. All of these activities included skills training and the transfer of knowledge to beneficiary families.

Output 5.2 Inventory and feasibility assessment of potential renewable energy sources carried out:

Performance indicators

1. Existing and feasible energy renewable sources documented
2. At least five pilot demonstration sites using renewable energy sources
3. Train 50 persons on the use and management of renewable energy technologies
4. Improved stoves introduced in 5 communities

JP achievements

A report was produced in 2009 documenting existing and feasible renewable energy sources. Solar energy and bio-gas were chosen for promotion.

Solar water pumping systems have been installed on boreholes in 7 communities and provide clean drinking water for over 2000 families. At each site, a water management committee has been set up and trained to maintain the systems.

In Ndombe, the solar system pumps water out of the Limpopo River to header tanks from where it is used to irrigate farmers fields.

At six sites where boreholes have been drilled, the JP has built livestock drinking troughs to provide much needed water for cattle and goats.

Training was provided in the manufacture of improved stoves but no stoves were promoted in Chicualacuala. This is one activity which was not given sufficient attention as a result of other priorities and a lack of capacity by the respective UN agency.

Output 5.3 Animal husbandry grazing and veterinary service coverage improved:

Performance indicators

1. Livestock mortality reduced by 25% to 50% by end of programme
2. At least ten basic cattle infrastructures built
3. At least four training workshops conducted during the project

JP achievements

While it is impossible to quantify, the community animal health workers (CAHWs), livestock farmers and the government veterinary services agree that livestock mortality and morbidity had been significantly reduced as a result of the work of the CAHWs in 18 communities.

A total of 18 cattle treatment infrastructures were built under the JP in communities selected in coordination with the district veterinary service. This number exceeds the performance indicator because of the importance role played by livestock in livelihood strategies in Chicualacuala.

Numerous, one-day training workshops for livestock keepers took place in 9 JP target communities during the duration of the project. This training was practical, hand-on and included the following topics: the importance of animal production in farming systems; livestock housing/penning; improved livestock reproduction; livestock health and livestock feeding. The training was given by the JP veterinary technician jointly with the district livestock officer.

Output 5.4 Agro-processing and marketing activities developed:

Performance indicators

1. Establishment of meat processing facility (slaughter house)
2. Refrigeration system installed
3. At least three training sessions conducted on food processing covering 100 people

JP achievements

A new slaughter house was built in Mapai town. The builder delayed greatly but the facility was officially handed over to the government in July 2011. The Chicualacuala District government is about to open a tender for its (private) management.

The existing slaughter house in Chicualacuala town was closed down in 2010 by the government because it did not meet minimum hygiene and public health standards. The JP was requested to rehabilitate it. The work was carried out and the slaughter house re-opened in July of 2012 after a public tender for its (private) management.

It was anticipated that a bio-gas or solar powered refrigeration unit would be installed in the Mapai slaughter house but the funds were insufficient to carry out this work because the JP bio-gas digester in Mepuza village cost a lot more than was budgeted.

Four, two-day training workshops in agro-processing and nutrition were organized by the JP. Over 200 farmers from 6 communities participated. The emphasis was on improved nutrition of babies and small children and on sun-drying of agricultural produce. Various processed products such as jam, tomato sauce and peanut butter were also produced by the participants. Over 90 % of the participants were women.

Output 5.5: Use of animal traction promoted to encourage land preparation and transport

Performance indicators

1. At least 200 farmers introduced in the use of animal traction

JP achievements

Two training courses in improved techniques for animal traction were organised during the JP. The first focused on harnessing and hitching techniques for donkey users. The course was given twice in separate locations. A total of 60 farmers participated, many of them women (donkey users). The second course was on the production of improved yokes for cattle. This course was also given in two locations with a total of 40 animal traction users present. Further training was considered of little value because Chicualacuala farmers are traditional users of animal traction and are reluctant to change their existing habits in the way they use their draught animals.

In conclusion, it has been shown that the majority of the performance indicators were met for outcome 5. Some were not fully achieved while other were surpassed. Other performance indicators were not met because of funding difficulties or because the pressure of other activities did not leave sufficient time to address them.

- d. Who are and how have the primary beneficiaries/right holders been engaged in the joint programme implementation? Please disaggregate by relevant category as appropriate for your specific joint programme (e.g. gender, age, etc)

The primary beneficiaries of the JP have been government staff and rural communities. Government staff at the national level include the JP focal points in the partner ministries/institutes and some technical staff in their respective institutions. At the provincial level primary government beneficiaries are those partners working in the same ministries/institutes, specifically planners, foresters, agronomists and veterinarians. At the district government level, the agricultural department, the planning department and the public works department have been the primary beneficiaries of JP training and capacity building activities. They have also, with their provincial counterparts, been actively involved in JP implementation and monitoring. Disaggregation by age and sex of the government staff involved in this project is not easy to report. However, it can be stated that women are in the minority (this is the general case across all government departments) and that the ages range from 25 to about 55 years old.

At the community level, the beneficiaries were involved in planning and executing the activities carried out by the JP. These include water harvesting, agriculture, irrigation, livestock production, beekeeping, integrated fish farming, pig keeping forestry management and the management of the solar systems for water pumping. Women were fully involved in these activities. In some activities such as agriculture, fish farming, pig keeping and beekeeping women form the majority. Ages are within the range of those considered economically active, from late teens to about 65 years old.

- e. Describe and assess how the joint programme and its development partners have addressed issues of social, cultural, political and economic inequalities during the implementation phase of the programme:
 - a. To what extent and in which capacities have socially excluded populations been involved throughout this programme?

While it may be argued that women, particularly rural women, are to some extent marginalised in decision making processes, there are no socially excluded populations in Mozambique. The JP has strived to ensure the full participation of women in the district planning process and all activities relating to climate change adaptation and livelihood diversification.

- b. Has the programme contributed to increasing the decision making power of excluded groups vis-a-vis policies that affect their lives? Has there been an increase in dialogue and participation of these groups with local and national governments in relation to these policies?

Rural women participated in and contributed actively to the preparation of the Chicualacuala PEDD. Women members of the 4 farmer associations (more than 60% of total members) now have more income from agricultural production and, as such, are more independent and able to take decisions that benefit them and their children.

- c. Has the programme and its development partners strengthened the organization of citizen and civil society groups so that they are better placed to advocate for their rights? If so how? Please give concrete examples.

An example of citizen groups that have been significantly strengthened through the JP are the 15 natural resource management committees and the 4 farmer associations formed, trained and actively assisted by the project. These citizen groups that have a total of many hundreds of members are fully involved in planning and organising forest management, irrigated agricultural production and ensuring improved livestock health. Through the training and support given to these groups they are aware of the channels through which they can advocate for their rights and in some cases have exercised these rights. An example of this is when the natural resource community of Mapuvule village complained to the district and provincial forestry service when one person (from outside the district) was given a license to cut timber, which exceeded the sustainable permissible cut, in their communal forest. As a result, the license was revoked.

- d. To what extent has the programme (whether through local or national level interventions) contributed to improving the lives of socially excluded groups?

Women members of the 4 farmer association have significantly increased their incomes through the production and sale of vegetables and other crops produced with JP support. The provision of drinking water to over 2000 families has also significantly improved the lives of women (responsible for water collection) and their children that now drink clean, uncontaminated water.

- e. Describe the extent of the contribution of the joint programme to the following categories of results:
 - a. Paris Declaration Principles

- Leadership of national and local governmental institutions

The JP provided numerous training and capacity building courses to government partner institutions at all levels (from national to community). As a result, leaders and decision makers of government institutions have a greater understanding of environmental and CC issues and of development planning. They are thus better able to integrate these issues in policies and plans.

- Involvement of CSO and citizens

The involvement of CSO's in this JP was limited because hardly any CSO's are present in Chicualacuala where the JP conducted the majority of its field activities. The JP partnered with the national NGO, UNAC, which was working in Chicualacuala until 2011, with each partner provided training elements in the programme of the other.

The citizens (individuals, committees and associations) involved in this JP were the 2000+ rural families that in some way or another benefitted from this JP. In the 18 communities where the JP worked the involvement and participation of citizens was good, in some cases excellent. Community leaders embraced the project from the early stages and were supportive of it throughout. The on-going training and support given to the communities and their leaders raised their awareness of CC issues, improved their planning and organizational capacity and empowered them to take a more active role in district development planning through their membership of the Consultative Committees at the various levels (district, administrative post, locality and village).

- Alignment and harmonization

The JP was designed to align with government policy and strategies, notably the NAPA and PARPA (Plan for the Reduction of Absolute Poverty). During the Implementation of the JP all efforts have been made to ensure harmonisation with government planning and budgeting cycles and to ensure a harmonised approach that creates synergies and avoid duplication.

- Innovative elements in mutual accountability (justify why these elements are innovative)

Joint monitoring of JP field activities by a group comprising JP focal points and government partners ensured that was agreement on what was working and what was not. When activities were delayed or not producing the desired results members of the monitoring group collectively took decisions to address these problems. The joint nature of this approach, and of the decisions taken, ensured a collective responsibility for the outcomes thereby making all partners mutually accountable for their actions. Joint monitoring of this type of JP proved to be an innovative element that strengthened the partnership between the UN agencies and their government colleagues.

b. Delivering as One

- Role of Resident Coordinator Office and synergies with other MDG-F joint programmes

The RC has been proactive in supporting and publicising the JP and has participated in some PMC meetings and national seminars organised by the JP. The MDG-F coordinator at the RCO ensured effective coordination between the JP and the MDG-F, particularly in respect of following MDG-F guidelines, the reporting of progress and the mid-term and final evaluation. The MDG-F coordinator set up and chaired meetings of a small committee comprising the coordinators and key staff of the three MDG-F joint programmes in Mozambique. These meetings provided a forum for exchange of experience and for learning from each another.

- Innovative elements in harmonization of procedures and managerial practices (justify why these elements are innovative)

The main forum for harmonizing procedures, practices and interventions was the Programme Management Committee (PMC) which met eleven times during the implementation of the JP. These meetings brought together the focal points of the participating UN agencies and their respective government colleagues and were extremely useful as a means of planning, implementing and monitoring the JP. The meetings ensured that the government was always aware of and involved in what was taking place in the JP and able to contribute ideas and experience to improve harmonization with other government programmes in the Limpopo river basin.

- Joint United Nations formulation, planning and management

The JP was conceived jointly by the six participating UN agencies and the partner government ministries/institutes including the Provincial Government of Gaza and the District Government of Chicualacuala. Formulation and planning of the JP took place over a period of several months in 2007 and 2008. Several drafts of the project document were produced and commented on by the involved stakeholders (including MDG-F) until all the partners were happy with the final version which was duly signed and submitted for funding consideration. Management of the JP has been equally participatory. FAO and MICOA coordinated programme implementation and the harmonisation of approaches. Collaboration between the UN and the Government in programme implementation was weak at the beginning of the programme but improved steadily as the programme progressed.

III. GOOD PRACTICES AND LESSONS LEARNED

- a. Report key lessons learned and good practices that would facilitate future joint programme design and implementation

One of the products of the JP is a publication entitled “Adaptation to climate change in semi/arid environments, experience and lessons from Mozambique”. This publication draws out and discusses lessons learned and identifies key interventions for scaling-up based on the specific experience of this JP. The main lessons learned that would facilitate future programme design and implementation are the following:

1: Programme design should be particularly carefully considered for such undeveloped remote areas, taking into account realistic timelines, logistical arrangements and budgets. Reconnaissance visits to the project sites and active engagement with local stakeholders to gain an understanding of the local conditions is essential. An assessment of available baseline data is crucial, particularly in a neglected area. Thus, sufficient time needs to be allocated to the design phase.

2: In arid and semi-arid regions and remote areas, where available data and understanding of what works, and what does not work in the local context, are very limited, sufficient time needs to be allocated to project design and formulation, necessitating an inception phase, in order to prevent costly inefficiencies during implementation.

3: In hindsight, there is general consensus that it would have been more appropriate and efficient in both implementation and coordination to have a Programme Coordinator for the whole JP, with his/her own separate budget for coordinating the JP activities amongst the UN agencies and national partners; as well as an FAO focal point with a separate budget for coordinating and implementing the activities at the district level. This idea was considered during the mid-year review, but was not considered feasible because of budgetary constraints.

4: The “Delivering as One UN” approach is conceptually accepted as a good way towards harmonization between all agencies. However, it should be designed so that each agency has clearly delineated implementation tasks and responsibilities, without impinging on others. A single procurement process would greatly reduce inefficiencies brought about by each agency conducting its own procurement, particularly when some agencies have to conduct international tenders, while other are obliged to conduct national tenders.

5: It is critical that there is full involvement and buy-in of the intended beneficiaries and local government leadership from day one. Project design should allow sufficient time to engage with local communities and stakeholders in order to ensure an understanding of the expected benefits of the programme. This will ensure buy-in and ownership from the start. It is imperative to create such mechanisms before the end of the programme to avoid a collapse, which is all too typical of development activities in remote areas. There is a history of development projects collapsing when projects funded by outside sources end in the district.

6: Water is central and critical to climate change adaptation in Chicualacuala and similar areas. The current and future water resource, from all sources, must be scientifically assessed and used sustainably in order to adapt to climate change and support long-term development. Future project formulation and site selection should also assess the water availability potential, as it will significantly influence adaptive capacity to climate change.

7: The study area where small-scale irrigation has been practiced has shown considerable increases in crop production. This has also resulted in the piloting of some of the conservation agriculture (CA) principles such as crop rotation, intercropping and maintaining soil cover through mulching using manure. CA is likely to be more widely accepted if the basic principles are broadened to include crop-livestock interactions that would encourage multipurpose trees and grass species that can be used for both human and livestock needs.

8: Crop-livestock integration was not envisaged as an intervention by the project, and was not developed, but it will remain a very important area for scaling-up. It has significant potential for building resilience and developing crop-livestock synergies in a smallholder system operating under rain fed conditions, and where livestock are crucial resources in adaptation. The development of animal traction rather than the conventional mechanized ploughing could also be a more affordable and environmentally sustainable solution to the problem of climate change.

9: The introduction of the slaughterhouse could catalyse the modernization of the livestock sector and provide opportunities for marketing and livelihood diversification. This is a potentially appropriate adaptation response in areas endowed with livestock resources.

10: Urgent attention to managing and regulating the harvesting of forest resources, combined with the strengthening of alternative income generation from sources other than charcoal, is vital to climate change adaptation. The development of community forest management plans and the introduction of by-laws serve as a strong basis to maintain the ecological stability of the forests. This could be an example for up-scaling in other areas.

11: Diversification of the livelihood basis using livestock and forest resources will play an important part in adapting to climate change in this district and other similar areas. Beekeeping and integrated fish and small animal farming were activities not envisioned in the project document but have been initiated based on local requests. Such flexibility will be important in incorporating changes in climate change adaptation programmes, which will help build resilience. Furthermore, the development of value chains, particularly small enterprises, based on the resource endowment of the district, will be an important means to adapting to climate change.

12: The use of renewable energy from the sun and organic waste, and its use for increasing production and value add should be supported at all times as a climate change adaptation. The technical considerations and barriers must be assessed before deciding on feasibility, particularly relating to biogas. The by-products of biogas can also be used for improving soil fertility, which is a serious constraint in the project area.

- b. Report on any innovative development approaches as a result of joint programme implementation

Community based forest management approaches are not new in Mozambique but the experience of this JP was innovative due to the way that the exercise was carried out in a

sequential, logical series of steps from the baseline study to the creation and training of community committees and the use by them of a management plan produced by the JP.

Integrated fish, pig and irrigated crop farming was also an innovative initiative conducted by the JP, showed the benefits of this type of system where waste products from one part of the system provide nutrients for another part.

- c. Indicate key constraints including delays (if any) during programme implementation
 - a. Internal to the joint programme

The key constraints during implementation were:

- Coordination of a large number of UN agencies and government partners in the implementation of numerous activities in a remote district with poor roads and communication.
- Slow, bureaucratic UN administrative procedures, notably for procurement, delayed programme implementation.
- Programme design flaws that led to implementation delays and made active government partner participation more difficult to achieve. Many of these are explained in the lessons learned above.

- a. External to the joint programme

- Long distances between isolated and disbursed rural communities in a distant (from Maputo) and isolated district (Chicualacuala).
- In Chicualacuala: poor communication, difficult roads and thus market access, shortage of rural transport, poor living and working conditions for JP staff.
- Lack of historical data for appropriate cc analysis (eg. climatic data) has greatly delayed the elaboration of the methodology and strategy for climate proofing.

- b. Main mitigation actions implemented to overcome these constraints

To help overcome the constraints mentioned above, the JP strove to create synergies through effective inter-agency communication. Regular meetings enabled common implementation strategies. Under a “delivering as one” approach, the added value of the UN system lies on the division of skills between agencies, according to their complementary mandates. When put together these create a strong synergistic effect. Synergies were enhanced by the sharing of experiences and skills between government focal points/technical staff and the focal points/technical staff of the UN agencies. This JP produced numerous examples of synergies at all levels. For example: at the community level in the preparation of the community based forestry management plan which was a joint effort between Government (SPFFB, DPA) staff, JP staff and consultants and the respective communities. At district level, synergies were created through, for example: training for farmers (SDAE, FAO); training for

the District Technical (Planning) Team (ETD, EPAP, UNDP). Synergies at national and provincial level were achieved through such activities as joint training (MICOA, UNDP, UNEP), synergies during the preparation of the District Land Use Plan (MICOA/DNAPOT/DPCA, SDPI, MAE) and joint efforts to improve disaster management (INGC, WFP, UNHABITAT).

Another way which the JP attempted to mitigate internal and external constraints was by avoiding, wherever possible, the duplication of effort. This was achieved through effective inter-agency coordination of activities and interventions and technical meetings and joint missions with government stakeholders. Regular field visits by the Programme Coordinator, field visits by the agency focal points, informal meetings between agencies, telephone and email communication are other means which the JP used to avoid duplication. Annual planning of activities was done jointly with government partners ensuring that the government was aware of what the JP was going to do in the next 12 month period.

d. Describe and assess how the monitoring and evaluation function has contributed to the:

a. Improvement in programme management and the attainment of development results

Monitoring of progress through regular field visits and the discussion of monitoring information in the quarterly PMC meeting helped keep the JP “on track” in terms of the implementation and coordination of activities. This was particularly important for joint activities which required inputs from more than one agency. Regular monitoring permitted small changes in approaches and methods where it was noted that progress was not satisfactory. The mid-term evaluation provided valuable guidance to the JP management team which resulted in an acceleration of the pace of work and some changes to programme management. For example, the JP office moved from a rented property in Chokwe city to offices within MICOA to facilitate closer coordination with government partners.

b. Improvement in transparency and mutual accountability

Progress reporting at the PMC meetings revealed the strengths and weaknesses of the UN and government partners and ensured that, to the extent possible, programme activities were conducted efficiently and with full transparency. Mutual accountability for the results of the activities was assumed by all agencies even when there were delays or when the results were not as anticipated. In the latter half of the JP it was encouraging to see that the government partners, particularly MICOA, also accepted the concept of mutual accountability, indicating that they felt a stronger sense of ownership of the JP than that displayed in the first half of the project.

c. Increasing national capacities and procedures in M&E and data

The data collection and management capacity of the project partners was strengthened through collaborative activities and through various training courses provided by the JP. For example, during the baseline study, the risk mapping exercise, the forest inventory, the

development of the IWMP, training in participatory environmental planning and training in the interpretation of risk maps government staff and community members were instructed in data collection techniques and on interpretation of the results.

- d. To what extent was the mid-term evaluation process useful to the joint programme?

The mid-term review provided an up-to-the-minute “snap shot” of the status of the JP. It showed that, although many of the activities were on schedule, a number of them were delayed and needed urgent attention if they were to be completed on time. It provided a guideline for the revision of the JP work plan and helped to strengthen the working relationship between the UN agencies and the Government partners. In short, it helped the JP to focus more clearly on the achievement of the outputs and the outcomes. It was a very useful and well executed exercise.

- e. Describe and asses how the communication and advocacy functions have contributed to the:

- a. Improve the sustainability of the joint programme

Communication and advocacy for this JP included the use of the media (TV and radio) to disseminate the experience and results of the JP to a wider audience. The national publicity that the JP received through the social media instilled a greater sense of ownership of the project, particularly within the Chicualacuala District Government. Partly as a consequence of this, the PESOD (Budgeted District Social and Economic Development Plan) that was completed by the Chicualacuala Government in July of 2012 includes funds for the maintenance and continuation of JP infrastructures and some of the activities set up under the JP.

- b. Improve the opportunities for scaling up or replication of the joint programme or any of its components

The documentation of lessons learned and best practices facilitated the identification of appropriate activities for scaling up. However, this JP was designed more as a pilot project, the first of its kind in Mozambique, and no scaling up was envisaged or budgeted during its implementation.

- c. Providing information to beneficiaries/right holders

The exchange visits to other projects that took place during the JP provided valuable lessons to Chicualacuala farmers and government staff on such issues as water management, community natural resource management and irrigation techniques. Through these shared

experiences the knowledge and capacity of farmers and decision makers to manage their own development was enhanced which will improve the sustainability of JP activities and results. Participation of farmer beneficiaries and government partners in the numerous training seminars and workshops conducted under the JP ensured that these persons were fully informed about climate change and about JP activities.

- f. Please report on scalability of the joint programme and/or any of its components
- a. To what extent has the joint programme assessed and systematized development results with the intention to use as evidence for replication or scaling up the joint programme or any of its components?

Activities for scaling up were documented as part of the JP publication entitled “Adaptation to Climate Change in Semi-Arid Environment, Experience and Lessons from Mozambique”.

- b. Describe example, if any, of replication or scaling up that are being undertaken

No scaling up of activities was undertaken during this JP. This was neither planned nor budgeted. However, while it was originally planned that the JP would work in 6 communities in Chicualacuala, various types of interventions were actually conducted in a total of 18 communities. This brought benefits to many more families than was originally foreseen.

- c. Describe the joint programme exit strategy and asses how it has improved the sustainability of the joint program

The main components of the JP exit strategy were discussed and agreed in a PMC meeting in August 2011. The strategy focuses on 5 key areas:

- Water
- Agriculture
- Livestock
- Forests
- Renewable energy

In each of these areas the exit strategy identifies the following:

- Who should be involved?
- What should be included?
- Who will do what?
- What information and training is necessary?

- Replicability?

For each of the 5 key areas a work plan was developed based on the JP response to the questions above. Thus developed, the exit strategy (and the complementary sustainability strategy) acted as a guideline to ensure an effective hand-over of project works, equipment and activities to government and community partners. In practice this took the form of a gradual withdrawal of direct JP technical assistance, replacing it with more emphasis on training and management support to build capacity. As a result of the implementation of the exit strategy, community members and government staff possess the necessary skills and knowledge to manage the various JP interventions now that the project has finished.

IV. FINANCIAL STATUS OF THE JOINT PROGRAMME

a. Provide a final financial status of the joint programme in the following categories:

1. Total Approved Budget 2.Total Budget Transferred 3. Total Budget Committed 4.Total Budget Disbursed

b. Explain any outstanding balance or variances with the original budget

V. OTHER COMMENTS AND/OR ADDITIONAL INFORMATION

VI. ANNEXES

- 1.List of all document/studies produced by the joint programme
- 2.List all communication products created by the joint programme
- 3.Minutes of the final review meeting of the Programme Management Committee and National Steering Committee
- 4.Final Evaluation Report
- 5.M&E framework with update final values of indicators