

Joint Programme on Environment Mainstreaming and Adaptation to Climate Change MOZAMBIQUE

Prog/project Title: **Joint Programme on Environment Mainstreaming and Adaptation to Climate Change**

Programme/project Duration
(Start/end dates): **Three years**
Jan 2008 – Dec 2010

Fund Management: **Pass Through**

Managing or Administrative Agent: **UNDP**

Total estimated prog/project budget:
USD 7,000,000

Out of which:

1. Planned resources:

- Government
- Regular/Other Resources
- NGO or private
- UN Org....
- UN Org...
- Donor ...
- Donor ...

The Joint Programme on Environment Mainstreaming and Adaptation to Climate Change directly contributes to:

United Nations Development Assistance Framework (UNDAF) outcomes:

1. By 2009, Government and Civil Society Organizations capacity at national, provincial and local level, strengthened to plan, implement and monitor socio-economic development in a transparent, accountable, equitable and participatory way in order to achieve the MDGs;
4. Increased and more equitable economic opportunities to ensure sustainable livelihoods for women and men

UNDAF outputs:

- 1.7 – Institutions responsible for the promotion of pro-poor and sustainable economic development strengthened;
- 4.1 – Efficient policies, plans, and strategies are ensured to promote equitable and sustainable economic development;
- 4.2 – Sustainable local economic development (rural and urban) enhanced.

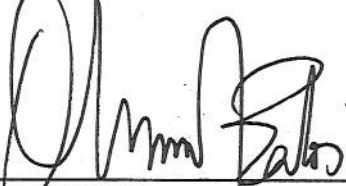
Joint Programme Outcomes:

1. Government, civil society, communities and other stakeholders informed, sensitized and empowered on environment and climate change issues;
2. Government capacity at central and decentralized levels to implement existing environment policies strengthened;
3. Climate proofing methodology mainstreamed into government development plans, UN / Donors' programming and local stakeholders' activities and investments;
4. Community coping mechanisms to climate change enhanced;
5. Communities' livelihoods options diversified

Millennium Development Goals addressed (MDGs):

- Goal 1: Eradicate extreme poverty and hunger
Goal 3: Promote gender equality and empower women
Goal 7: Ensure environmental sustainability
Goal 8: Develop a global partnership for development

For the Government of Mozambique



Oldemiro Baloi
Minister of Foreign Affairs and Cooperation

For the Implementing Partners



Alcinda António de Abreu
Minister for Coordination of Environmental Affairs

For the United Nations System in Mozambique



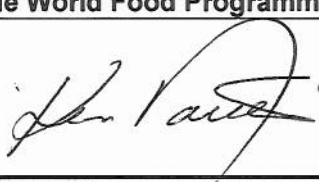
Ndolamb Ngokwey
UN Resident Coordinator

For the Food and Agriculture Organization of the United Nations (FAO)



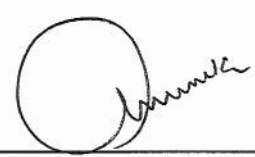
Ms. Maria José Oliveira Zimmermann
FAO Representative

For the World Food Programme (WFP)



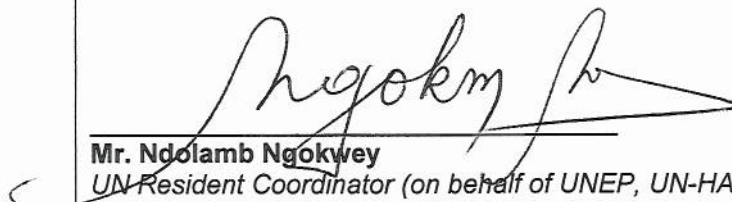
Mr. Ken Davies
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For the United Nations Development Programme (UNDP)



Ms. Anna Soumaré Coulibaly
UNDP Country Director

For the United Nations Environment Programme (UNEP), the United Nations Human Settlements Programme (UN-HABITAT) and the United Nations Industrial Development Organization (UNIDO)



Mr. Ndolamb Ngokwey
UN Resident Coordinator (on behalf of UNEP, UN-HABITAT and UNIDO)

Executive Summary:

Mozambique is a country especially exposed to extreme climatic events due to its geographic location and the frail socio-economic context of its population, part of which is already living in extreme poverty conditions. Recurrently, and with increasing magnitude, it endures the adverse impact of droughts and cyclones - particularly in semi-arid areas - increasing the susceptibility of people and infrastructure in those areas to overcome the negative impact.

In spite of its remarkable progress, Mozambique still faces severe limitations of various natures (financial, infrastructural, human, environmental, etc.). Due to the State's limited budget –50% of which depends on external aid – investment restrictions are imposed on critical sectors such as education and health. Inevitably, insufficient resources are dedicated to environment and the improvement of people's lives.

Poverty reduction is one of the main objectives for the Government of Mozambique, and it is included in major country development plans, such as the second Action Plan for the Reduction of Absolute Poverty. However, poverty alleviation in the long-term is impossible if due consideration is not given to the sustainable use of natural resources and conservation of the environment on which people are dependent and build their livelihoods upon. Addressing environmental concerns is critical for sustainable production, food security and economic growth. Depletion of natural resources and degradation of the environment can cause poverty, and poverty can exacerbate environmental degradation. These factors have an inextricable relationship which, if incorporated into the country's main policies at national, regional and local levels, will guarantee an improvement in the livelihoods of the poorest sectors of the population.

Ongoing and planned development initiatives and investments, which often have an important impact on the livelihoods of dispersed communities, are threatened to varying degrees. The communities' strong dependence on subsistence farming and consequent vulnerability to climate related events, make it imperative to strengthen the preventive and adaptive capacity of the local population that is necessary to improve their resilience and future survival.

In the above context, and in line with the country's endeavors to achieve economic development and overall progress, the UNDP/Spain Millennium Development Goals Achievement Fund (MDGF) agreed to program financial support towards key development goals to support innovative actions with the potential for wide replication and high impact in select countries and sectors. The Joint Programme on Environment Mainstreaming and Adaptation to Climate Change proposal aims to achieve five significant outcomes through the implementation of specific activities in some of the most affected and at risk areas, namely along the Limpopo River Basin and the District of Chicualacuala.

The current situation in the proposed target areas evidences a population living in precarious conditions. The most pressing need, identified through extensive consultation with the government, civil society, and other affected stakeholders, is access to water for human consumption and productive uses, as well as the quality of available water. Climate change evidences itself in water related events or the lack thereof. Furthermore, the balance of ecosystems and conservation of the environment depends for the most part on water. This Joint Programme will address that crisis and the related implications at the macro level, through the mainstreaming of environmental concerns into existing government policies through substantive capacity building; dissemination of technical knowledge for more efficient water collection, consumption and use; propagation of mechanisms for adaptation to climate change. The problem will be addressed at the micro level, by evaluating the potential and sustainability of existing and future boreholes and the rehabilitation of small, selected dams and irrigation schemes. It will identify, design and implement rain water harvesting techniques that will enable the most vulnerable areas and population to have greater access to water, which will subsequently result in the increase of more sustainable and productive livelihoods.

The Joint Programme will be implemented in strict accordance with a Results Framework, an integrated Work Plan and a detailed table for monitoring and evaluation purposes, the Programme Monitoring Framework. This table states in a clear manner five programme outcomes, the outputs, targets, indicators, means of verification and collection, and risks and assumptions related to the outputs. These tools will be instrumental in the execution of the activities planned and will enable monitoring of implementation, evaluation of outputs and measurement of indicators.

Situation Analysis

Mozambique shares the Limpopo basin with three other countries, namely, Botswana, South Africa and Zimbabwe, and it hosts 19.3% of the total basin area. In the Limpopo basin, drought is the most common and devastating natural hazard affecting the livelihood of the population. The Chicualacuala District, in the Province of Gaza, is the geographical entry point of the Limpopo Basin into Mozambique. The Limpopo River has 4 effluents: the Munene, Nuanetzi, Chefu and Singuedzi rivers. The flow rates vary considerably during the year and the basin area experiences increasingly frequent and severe climate related disasters in the form of droughts and occasional floods, which have serious negative consequences on the livelihoods of the people living there. According to the INGC, on a scale of Very Low-Moderate-Very High Drought Hazard Index (DHI), Chicualacuala has a high DHI. Consequently, there is a high chance of crop failure and/or agricultural production variation due to erratic rains that occur only a few days during a 2-3 month period. A severe drought in 1991-93 affected 1.32 million people throughout the whole country. The Limpopo Basin faces droughts regularly, such as the 2002 drought that affected some 43 districts in the South and Central Provinces. The flow of the Limpopo River is irregular during the dry season and it comes close to drying out upstream. Occasionally, heavy and excessive rains may occur and the water level of the Limpopo River rises, creating a torrent in Pafúri. This causes large areas of lowland zones to become flooded, including farms that are usually established along the flood plains, making access into the zone difficult. For instance, in Mabalane, the water reached levels of 10.04 meters, 10.35 meters, and 13.80 meters in 1971, 1977 and 2000, respectively. The severe flood of 2000, caused by unusually heavy rainfall and the additional burden of three cyclones, killed 700 people, affected 2 million people along the main branch of the Limpopo River, and caused an estimated 15 % loss of herds in the Chicualacuala district. The total estimated cost of this disaster was reflected in the loss of about 20% of Mozambique's gross domestic product for that year.

This Joint Programme will be implemented in Gaza Province along the Limpopo River Basin. Whereas the general policy and environmental planning proposals are intended to cover a vast area of the river basin area, the majority of pilot initiatives and specific community interventions will take place in the Chicualacuala district - the poorest and most marginalized area situated in the northern part of the Gaza Province. The district covers an area of 18.243 km², about 24% of the total province area; it has a population of 39.358 inhabitants (55.7% are women), accounting for 3% of the total population of the province. The rural population is dispersed (2.1 inhabitants per km²) and lives in nine localities spread over the three main Administrative Posts, namely Eduardo Mondlane, Mapai and Pafúri. About 90 percent of the population of the Chicualacuala district lives in poverty, thus not being able to meet their basic food and non-food needs. The main sources of income are agricultural and livestock production - both managed using traditional/cultural practices, including charcoal production and the use of slash-and-burn methods that often result in uncontrolled bush fires. There are small-scale enterprises including a saw mill, carpentries, and bakeries, among other small businesses. An informal economy is in place, where cross-border trading with people from Zimbabwe has been growing, as they take advantage of the Limpopo railway corridor. Nevertheless, there are no evident gains for the people of Eduardo Mondlane, as the products in demand come from other parts of the country.

The Chicualacuala District has a limited number of health facilities: 3 health centers, 7 health posts, 3 maternity wards and 2 morgues, serviced by a small team of technicians and nurses. Although no serious epidemic cases have been observed since 2000 - possibly due to the dry climate conditions - malaria, diarrhoea and nutritional problems are the main public health concerns in the region. About 7% of newborns have birth weights below 2.5kg, indicating nutritional and maternal health problems in the community. The incidence of HIV is 19%, but only 80 people are receiving anti-retroviral treatment, coupled with a food basket supply, twice a month. In general, health and other service delivery are constrained by the fact that the local settlement pattern is much dispersed, requiring people to travel long distances to reach any type of service facility. Out of 143 teachers in the district, 35 are educated to teach the 9th and 10th grades. This is an important group with the capability to disseminate environmental and climate change issues at local level.

The administrative posts have irregular power supply, which is predominantly diesel-generated and hence, dependent on availability of fuel, fluctuating petroleum prices, and governmental budget allocations. The electricity supply is provided mainly for the medical post, administrative offices, water pumping, and a few houses, for about four to six hours during the night, regardless of other needs there may be.

The district suffers from significant and structural water shortages. Drinking water is supplied only once a week, a situation that is aggravated by the fact that household size averages 8 persons, with limited water storage facilities. Families survive with about 60 liters of water per day, and it is the women's and young girls' responsibility to collect it every other day. This chore takes them several hours, time that could be spent in more income-producing activities. There are a limited number of boreholes and livestock water points, mainly due to the lack of financial resources. These conditions, coupled with the depth of the water table (80-130 m depth), poor water quality, and limited availability of underground water, make communities dependent on external, i.e. government assistance, and compromise the sustainability of their livelihoods. Livelihoods in the district are largely dependent on subsistence farming: 63% of the families occupy 0.25 ha to 2 ha, areas that are heavily impacted by climate related events.

Chicualacuala lies in an agro-ecological region characterized by poor to moderate soil fertility and tropical arid and semi-arid climate conditions. Annual rainfall is 300 mm to 600 mm, and comes erratically between November and February. As a consequence, yields of rain-fed food crop production are very low, unpredictable and subjected to the vagaries of the weather. The risks associated with the correct time of planting are very high, while the length of the growing period is limited to around 110 days. The main agriculture crops are maize, sorghum, pearl millet and beans (cowpea). People rely on animal production, holding small to medium herds of cattle, about 5 to 300 heads per family. The total number of cattle in the district is some 25,000 bovines. Unfortunately, though goat milk is available, milk consumption is not common. Traditional practices encourage keeping large herds of livestock as a sign of wealth and power. Only 20% of the families consider selling a few goats, and about 17% of those that are considered to be better-off – because of the number of heads they own and the use of animal traction - will consider selling cattle as well. The district has experienced outbreaks of foot and mouth disease due to its location, the fact that it receives livestock and is a transport corridor to and from Zimbabwe. During the dry season (March to October) communities rely on a range of indigenous plants and tree fruits (such as leaves of *Momordica balsamica* - cacana, roots and fruits of *Boscia albitrunca* - xukutsi, fruits of *Strychnos* sp. – massala/macua, etc.) as supplementary food sources.

A land suitability map indicates several constraints for agriculture, with most of the area classified for pasture and forest, and small patches for agriculture with low productivity. The suitable areas for agriculture/livestock are situated at the eastern boundaries, which may receive some rains during the winter. Along the river there are 300 ha of potentially suitable land for irrigated crop production, yet to be properly exploited rainwater harvesting techniques and investments in efficient irrigation systems will be required. Given this situation, livestock production/animal husbandry and wildlife game farming (60% of the Limpopo National Park forms part of Chicualacuala district) might offer the predominant opportunities for development to improve and diversify community livelihoods. Logging, harvesting of wood for poles, firewood and charcoal are the main non-agricultural income generating activities. A community in Mepuzi last year received an amount of 40.000 Mt. resulting from logging royalties. Major indigenous tree species are *Azelia quanzensis*, *Colophospermum mopane*, *Combretum imberbe*, *Acacia* sp., *Faidherbia albida*, etc. Trading non-wood products, harvesting grass used for roof thatching and basket making are an important source of income for 63% of the families. Due to the short duration of the agricultural growing season, it is imperative to introduce short-cycle varieties and techniques for moisture and agriculture conservation, in order to enhance household food security for the rural population.

In order to address the needs of the district, and taking account of its current climate vulnerability, it is important to (i) identify and map the zones that are likely to be most affected (ii) reinforce the mechanism to forecast the occurrence of climate-related events, (iii) embark on activities that increase the resilience of communities, and (iv) incorporate climate change adaptation into strategies, policies and development plans. Some of the specific actions include increasing water quality and supply for different purposes; increasing livestock production and milk supply; planting indigenous and exotic trees (*Cassia abbreviata*, *Philenoptera bussei*, etc.) with a view to improve the fodder supply and protect crops against wind and heat; introducing drought-resistant crops; using small-scale irrigation systems and appropriate water management techniques; encouraging milk processing; establishing an accessible financing mechanism; and promoting developing markets for agricultural products. All of these will need to be implemented in a manner that improves gender equity, empowers women, and builds the capacity of local communities to bargain and negotiate their terms of trade and diversifies and sustains their livelihoods.

Background/context

Large-scale emigration, economic dependence on neighboring countries, severe drought and flood conditions in different areas, and a prolonged civil war hindered the country's development since its independence from Portugal in 1975. Mozambique remains dependent upon foreign assistance for much of its annual budget, and the majority of the population remains below the poverty line. Subsistence agriculture continues to employ the vast majority of the country's work force.

At the national level, the guiding principles for integrated development are articulated in the objectives of the Five-year Programme 2005-2009 of the Government of Mozambique. Mainly, the plan "follows the main objective of reducing absolute poverty through the promotion of sustainable social and economic development ... the strengthening of human capital, of socio-economic infrastructures, of institutional development, and the provision of basic services that create a conducive environment that induces a wider initiative, and greater individual and institutional private investment...".

The United Nations Development Assistance Framework (UNDAF) for Mozambique represents the contribution of the UN System to the efforts of the Government in developing the country and is fully harmonized with the Government's planning cycle and priorities. A number of UNDAF outcomes (1.7, 4.1, 4.2) address and incorporate the issue of environment in UN country support programming to achieve sustainable development and poverty eradication, notably through (i) increased access to and use of quality basic services and social protection for the most disadvantaged populations, (ii) increased and more equitable economic opportunities to provide sustainable livelihoods, and (iii) more efficient use of available resources to promote equitable and sustainable economic development. The draft National Adaptation Programme of Action is a building block for this joint programme.

Currently, Mozambique is party to the Convention on Biological Diversity (CBD), the Montreal protocol, the United Nations Convention to Combat Desertification (UNCCD), the United Nations Framework Convention for Climate Change (UNFCCC), UNFCCC Kyoto Protocol, the Convention on International Trade in Endangered Species, the Basel Convention on Hazardous Wastes, the United Nations Convention on the Law of the Sea, and the Ramsar Convention on Wetlands, among others.

Although Mozambique has reportedly demonstrated a reduction in absolute poverty at the national level from 69% in 1997 to 54% in 2003, some regions in the country, such as the Province of Gaza, show high indicators of chronic malnutrition (43%) and poverty (60%). After concerted consultations with the Governor of Gaza Province and the Provincial Council, the Chicualacuala District was indicated as a main target intervention area for the joint programme. Thus, a number of the field oriented and community-based activities outlined in this joint programme, were devised in light of the needs articulated by the Gaza Province Governor and his Council, the Chicualacuala District Administrator, INGC and other civil society stakeholders in the district and in compliance with the Results Framework of the Joint Programme Proposal. Addressing the aforementioned issues with local government and communities in areas affected by climate change is at the core of this joint programme.

In the last few years, Mozambique has made significant progress in the area of disaster preparedness and management, and is now able to anticipate the occurrence of most natural disasters and take action to reduce their impact on the country. Nevertheless, the specific local impact is not known and the current warning system is not one hundred percent effective in communicating warnings to local communities in the appropriate time frame. To be able to reduce vulnerability to climate change, it is imperative that communities have reliable early warning and preparedness and response mechanisms, especially in areas like the Gaza Province and the Chicualacuala District that are particularly and extremely vulnerable.

The UN Organizations participating in this joint programme are FAO, UNDP, UNEP, UN-HABITAT, UNIDO and WFP. The main government partners will be the Ministry for Coordination of Environmental Affairs (MICOA), the Ministry of Agriculture (MINAG), the National Disaster Management Institute (INGC) and the National Meteorology Institute (INAM). Other government ministries that will be involved are the Ministries of Energy (ME), Public Works (MOPH) and Planning and Rural Development (MPD). NGOs will be involved in programme implementation, as will a number of Civil Society Organizations already active in the Limpopo Basin area and Chicualacuala District.

Lessons Learned

Past experiences indicate that for technical assistance support initiatives to succeed, community participation, strong political commitment from the government, and partners sharing a common agenda are

needed from the initial phases of the process. A joint programme requires active, rather than passive, participation from all the partners. This means that meetings with full attendance should be regular, requested inputs should be provided in a timely and orderly fashion, a clear disposition for consensus and common grounds should prevail, and discussions should be geared towards the achievement of goals rather than be based on small differences of opinion. In addition, it is crucial to have strong leadership and maintain good working relationships among partners. Restricting bureaucratic procedures to a minimum should be an important strategy for more efficient implementation. Focus should give emphasis to competencies and technical capacities of the agencies rather than to their mandates. Partners need to appreciate their differences, if any, and develop a mechanism for resolving them. To ensure sustainability, it is important that initiatives influence policy in the long term.

The Proposed Joint Programme

The key causes of problems identified in the situation analysis will be addressed in a joint manner through the implementation of activities that will specifically provide the communities in the district of Chicualacuala with the necessary tools to become more resilient to the impact of climate change and other extreme weather events, and to adopt alternative livelihoods options as sources of income generation. Simultaneously, the programme has a component that aims to integrate results into policy formulation and planning initiatives at a wider, i.e. provincial and national, level. In addition, capacity building via training programmes for stakeholders at various levels, i.e. from provincial down to community level, is an essential component and building block for the implementation of the programme.

This programme has been jointly conceptualised by the participating UN agencies and Mozambican Ministries. It is to be implemented by the same partners, each bringing their unique comparative advantage to the programme. Key Government Ministries and institutions, as well as the decentralised levels of government in the Gaza Province and the Chicualacuala District, will be involved in the implementation of the programme. The main government partners (Ministries) will provide coordination (led by MICOA) and technical expertise in their area of competence, as well as facilitate and participate in the implementation of some of the programme activities. At the provincial and local levels, the key government partners will be the Office of the Governor of Gaza and the Provincial Council, the Administrator of Chicualacuala, the Permanent Secretary of the District, and the Head of the Administrative Post of Mapai. Civil society partners will be strongly involved in programme implementation. Government partners will facilitate the contacts and the work with other Ministries linked to the different activities. Participating UN agencies were closely involved in the conceptualisation of this programme.

The division of labor, based on competency, is discussed in section six. Notably, civil society, as well as the local associations and community leaders, have been consulted; and the government – at the national level - has been involved in the conceptualization and design of the programme since its inception. The provincial and district level government representatives have been extensively conferred with and have demonstrated their commitment by contributing to the development of the Joint Programme document. In the process of formulating the programme during consultations with the different levels of government and civil society actors, as well as beneficiaries, one of the purposes achieved was raising awareness and creating a conscience about environmental issues and climate change concerns.

Results Framework (Annex I)

The joint programme aims to support the Government of Mozambique's efforts towards sustainable development through the implementation of two components: Environmental Mainstreaming and Adaptation to Climate Change. The activities will be carried out along the Limpopo River Basin, with particular emphasis on the district of Chicualacuala, and foreseeably, in the district capital and the administrative post of Mapai.

The Summary of Results Framework presented in this document (Annex I) largely follows the Joint Programme Results Framework that was earlier prepared in the Concept Note of the Joint Programme. Thus, the current framework includes five outcomes, while the output indicators and activities are presented in a more concise manner, but maintains the concepts and activities originally proposed in the Concept Note.

Joint Programme Outputs:

Component 1 - Environment and climate change mainstreaming

1. Government, civil society, communities and other stakeholders informed, sensitised and empowered regarding environment and climate change issues.

The availability of data and dissemination of information is crucial for a joint programme aiming at influencing policies and programme planning of government and development partners, as well as changing attitudes and practices at community level. Extensive data on climate change will be collected, updated and made available in a user friendly format. A communication strategy and communication tools will be developed and applied to raise awareness of all stakeholders at central and decentralized levels, and their degree of sensitivity to the issue. Specific attention will be paid to empower civil society - including from a gender-sensitive perspective - at central and decentralized levels, to play a greater role in assisting communities to adapt to climate change and to protect the environment. The impact of climate change will be felt primarily on water which has rippling effects on all sectors. A study to determine the impact of climate change on water resources under different scenarios will be undertaken using GIS, and climate adaptations plans developed as part of efforts to enhance the capacity of the people of Mozambique at all levels to adapt to climate change impacts on water within the framework of integrated water resources management.

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

Although the Government of Mozambique has adopted important policies on environment and climate change in the last few years, their conveyance into concrete action as well as their reflection into the main sectoral and local plans and budgets has not been fully realized. This joint programme will enhance the capacity of the Government at all levels to implement these policies and plans, most notably the National Adaptation Programme of Action, is being finalized by the Ministry for Coordination of Environmental Affairs (MICOA) parallel to the conception of this programme. This will be done through the sensitization and training of government staff on issues, plans and programmes related to environment, and through the evaluation of the national and decentralized disaster preparedness plans and further identification of strategic approaches to integrate environment and climate change into these plans. This will also include training relevant government officials, especially at province and district levels, and through the provision of technical assistance to revise relevant ministries' plans and budgets. Other work will involve supporting MICOA in its advocacy and coordination efforts, sharing of best practices, and the identification of appropriate and sustainable financing mechanisms to fund environment protection and climate change adaptation activities of the Government. The lead agency in disaster preparedness in Mozambique (INGC) will be capacitated in order to enable it to meet this objective in the current and future plans. Stakeholders at provincial and district level will be trained to ensure that they take into account and incorporate environmental issues into planning and policy.

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

As a process to identify risks to a development project, or any other specified natural or human asset, as well as a consequence of climate variability and change, climate proofing aims to ensure that those risks are reduced to acceptable levels through long-lasting and environmentally sound, economically viable, and socially acceptable changes. This outcome will be achieved through the development and application of a tool for climate proofing of activities and investments in risk areas. Stakeholders at all levels will be trained on the use of climate proofing tools. This will lead to the development of a strategy to implement climate proofing of areas at risk of climate change in Mozambique with a focus on ensuring that the multi-dimensional needs for human well-being are met, in particular the needs of the poor. A training programme will also be developed and conducted for the stakeholders to efficiently implement this strategy. A training programme for policy and decision makers in government, UN and donor agencies, as well as relevant private sector entities will also be developed and conducted to assist them in integrating climate proofing in development plans, programmes and initiatives. This should result in a policy document for which guidelines will be developed to ensure the mainstreaming of climate proofing. The focus will be to ensure that multi-dimensional needs for human well-being are met, and in particular, the needs of the more vulnerable population.

Component 2 - Adaptation to climate change

4. Community coping mechanisms to climate change enhanced.

A comprehensive inventory of coping mechanisms will be undertaken to complement those that have already been identified in the consultative process, during the development of this joint programme document. A baseline analytical study will be undertaken as a basis for monitoring the impact of the Joint Programme on the target community, especially on the improvements in the ability to cope, as well as become more resilient to climate change. This will be complemented by the development of tools for the implementation of climate friendly coping mechanisms in arid and semi/arid areas and river basins. The programme will support the community in adopting and strengthening certain coping mechanisms that have been identified as more appropriate for their situation. Some of these include roof reinforcement against wind, adoption of drought-resilient crop varieties and fruit trees, and further developing a more efficient early warning system. Communities and local government will be capacitated to implement the strategy. Finally, solid waste management solutions will be piloted, adapted and replicated through capacity development of communities in programme areas.

5. Community livelihoods options diversified

An evaluation of climate change impact on livelihoods (crops, forestry, livestock, water, etc.) will be done in order to determine the levels to which these livelihoods are vulnerable to unusual climatic events. Options for livelihoods diversification will then be identified through a participatory mechanism with local communities. Feasibility studies will be carried out, firstly, to identify the livelihood diversification options available, and subsequently, to establish priority alternatives that ensure the enhancement of the quality of life and increase the income generation capacity of the communities benefited. This will result in the conceptualisation of a tool for diversification of sustainable livelihood options available to stakeholders. Communities and other stakeholders will then be capacitated and empowered on livelihood diversification in order to become more resilient to climate change. Water resources management and use of renewable energies at community level will be addressed as part of the joint programme, mainly through demonstration/pilot projects or sites and capacity development of communities.

The Work Plan and Budget (Annex II)

The Joint Programme's annual work plan and budget for 2008 are presented in **Annex II** in accordance with the agreed Joint Programme format accepted by all participating UN Organizations. It provides details on the indicative activities to be carried out and the responsible implementing partners, timeframes and planned inputs from the participating UN Organizations.

The basis for all resource transfers to an implementing partner is only partly detailed in the Work Plan as this will require further agreement between the Implementing Partners and participating UN Organizations *inter alia* on the terms of reference, scope of work, contract agreements, etc.

By signing this Joint Programme, each signatory UN organization undertakes full responsibility to support implementation of the component(s) and achieve results identified with each of them as shown in Annex I, and detailed in the Annual Work Plan and Budget for the 3 year duration of the programme.

Additional management arrangements are detailed in some of the following sections.

Annual reviews

The implementing partners and the participating UN Organizations shall jointly conduct scheduled/annual planning and review meetings for all activities covered in the results framework, monitoring and evaluation plan and work plans covered by this Joint Programme. This will include an assessment of the risks and assumptions to determine whether they still hold. These visits will also provide inputs to the regular reviews that will be done as part of the Joint Programme.

The annual work plan and budget will be produced with the necessary adjustments made based on the lessons learned from a review of the risks and assumptions and implementation progress achieved. The new work plan and budget will be submitted in writing to the JP Steering Committee for its approval. In

case, substantive changes are to be made to the scope of this joint programme, a revision will be required and amendments will need to be signed by all parties.

Management and coordination arrangements

In order to ensure that any personnel changes within the partner organizations do not compromise the outcomes of the Joint Programme, this section details the specific activities, roles and responsibilities of each partner organization as well as the roles of the National Steering, and Programme Management Committees.

The Resident Coordinator (RC) will have the leadership of ongoing programmatic oversight of the activities and facilitate collaboration between participating UN Organizations, to ensure that the programme is on track and that promised results are being delivered.

A National Steering Committee (NSC) will be created to provide oversight and strategic guidance to the programme, and it will formally consist of - at a minimum - a representative from the Government of Mozambique, a Representative of the Spanish Government, and the Resident Coordinator. The RC and the representative from the Government of Mozambique will co-chair the NSC. Other representatives and observers can be invited by the co-chairs (Civil Society, other donors, etc.). Other formal members (i.e. National Directors within the Ministries) may be included in the NSC. The NSC will normally meet semi-annually and will make decisions by consensus. The NST can also be convened in case of specific decisions that need to be taken¹.

As the implementing organizations will not be members of the NST, a Programme Management Committee (PMC) will be established. The PMC's role is to provide operational coordination to the Joint Programme. The membership will consist of *implementing* participating UN Organizations of the Joint Programme and relevant Government Counterparts, namely, FAO, UNDP, UNEP, UN-HABITAT, UNIDO and WFP, and MICOA, MINAG, INGC and INAM. All implementing agencies must attend and participate in the PMC meetings to report on the development of activities under their responsibility and to resolve any outstanding matters of common interest. The PMC will be convened by FAO and meet every three months. Should extraordinary meetings be needed, they can be called on an *ad-hoc* basis. The RC or *her/his representative* will chair the PMC. Joint Programme managers and experts can be invited to the PMC meetings as needed.

The responsibilities of the PMC will include:

- ensuring operational coordination;
- appointing a Programme Manager or equivalent thereof;
- managing programme resources to achieve the outcomes and output defined in the programme;
- aligning MDG-F funded activities with the UN Strategic Framework or UNDAF approved strategic priorities;
- establishing programme baselines to enable sound monitoring and evaluation;
- establishing adequate reporting mechanisms in the programme;
- integrating work plans, budgets, reports and other programme related documents; and ensures that budget overlaps or gaps are addressed;
- providing technical and substantive leadership regarding the activities envisaged in the Annual Work Plan;
- agreeing on re-allocations and budget revisions and make recommendations to the RC as appropriate;
- addressing management and implementation problems;
- identifying emerging lessons learned; and,
- establishing communication and public information plans.

FAO, as the convening/coordinating agency, will act as secretariat to the PMC. This means organizing all the meetings, consolidating different reports and being the focal point for the contacts with Ministry of

¹ At the time of writing this Joint Programme, the MDG-F Committee had not yet met nor considered and defined its terms of reference. In addition, while a draft proposal for generic terms of reference was prepared and circulated by the MDG-F Secretariat in early October, none of the UN and Government implementing partners had had an opportunity to review and discuss these prior to the deadline set for the submission of this Joint Programme document.

Coordination of the Environment. Each programme partner will designate a lead person/focal point responsible for ensuring that commitments from their agency are complied with. FAO shall convene a selection team to draft the Programme Manager's terms of reference, and select three possible candidates to be presented to the PMC, which will appoint the selected candidate. The Programme Manager will report to the coordinating agency focal point, who will in turn, share the information with the PMC. A bi-annual report of programme progress will be prepared and submitted to the PMC. The programme will be implemented as per the attached work plan.

Activities in the programme, as well as the work of the NSC and the PMC, should be integrated under the UNDAF thematic structures in place. The two committees may wish to organize occasional joint meetings to enhance communication between the oversight and operational coordination functions. Overall programme consultations and facilitation will be arranged and availed by the Ministry for Coordination of Environmental Affairs.

Since the funds for the programme are received by the respective UN agencies, each agency will have the responsibility of managing its own funds. To ensure transparency and coherence, the joint programme will produce one single annual narrative progress report, to be submitted to the Administrative Agent (UNDP). This Office will receive individual financial reports from the participating UN organizations and consolidate them with the narrative report, which will then be sent to the RC, who will share it with the Steering Committee. The role of the Resident Coordinator and of the local MDG-F Steering Committee is particularly important in making sure that the Joint Programme is managed in an integrated fashion throughout its implementation.

Key roles:

FAO will ensure overall programme management and in-country coordination. It will, in close cooperation with the UN Country Team (UNCT), recruit a Programme Coordinator and set up a fully functional programme office. FAO will provide the main technical expertise and leadership to the programme, mainly in the areas of production and environment impact of agricultural, fishery and forestry sectors. It will be closely involved in all analyses and assessments of risk areas, and the development of strategic approaches at the community level, as well as the implementation of capacity building activities through the provision of technical assistance. More specifically, as the lead agency, FAO will:

- identify a focal point in the agency, responsible for ensuring a leadership role within the Joint Programme
- alert the PMC on any deviations from the work plan and propose corrective measures;
- carry out institutional coordination, planning and communication;
- convene all meetings and be the repository of information;
- monitor and verify progress on activities;
- establish work plans; and
- coordinate the drafting completion and dissemination of reports, *Inter alia*.

FAO will also coordinate logistic arrangements, for example, for field visits of implementing partners to targeted areas on a need-basis, in a coordinated and planned manner, and according to the work plan.

UNDP will contribute to the programme mostly in the areas specified in the log frame. It will be closely involved in the development and implementation of strategies for advocating and communicating, especially within the various levels of government. UNDP will also identify the lead person in the agency responsible for ensuring that all activities the agency has committed to undertake within the Joint Programme are performed as per the programme agreements and work plan.

UNEP will provide the main technical expertise and leadership on environment and climate change (notably on climate proofing). It will be closely involved in all analyses and assessments of risk areas, in the development of strategic approaches at community level, as well as in the implementation of capacity building activities through the provision of technical assistance and identifying the impact of climate change on water resources under different climate change scenarios as part of an integrated natural resources

management. UNEP will also work on adaptation aspects as identified in the log frame. It will also identify the lead person in the agency responsible for ensuring that all activities the agency has committed to undertake within the Joint Programme are performed as per the programme agreements and work plan. As a non-resident agency, UNEP will ensure its direct or delegated participation at the Programme Management Committee (PMC) meetings.

UN-HABITAT will provide additional technical expertise in the area of environment and climate change, notably as it relates to territorial planning issues and governance at local level. It will be involved in vulnerability and disaster assessments as well as in capacity building activities related to upgrading human settlements and basic services. It will also identify the lead person in the agency responsible for ensuring that all activities the agency has committed to undertake within the Joint Programme are performed as per the programme agreements and work plan.

UNIDO will provide technical expertise and leadership on alternative energies for productive purposes, solid waste management, small-scale agricultural and industrial processing. It will be closely involved in the implementation of demonstration sites and pilot projects, most notably in the area of alternative energies for productive purposes and solid waste management. It will also identify the lead person in the agency responsible for ensuring that all activities the agency has committed to undertake within the Joint Programme are performed as per the programme agreements and work plan.

WFP will provide technical expertise and leadership on disaster management, as well as vulnerability mapping. It will draw on its extensive field presence and field work on vulnerability assessment and baseline information on food security and disasters to play a major role in assessments and risk analyses as well as mapping of information and related capacity building activities. It will also identify the lead person in the agency responsible for ensuring that all activities the agency has committed to undertake within the Joint Programme are performed as per the programme agreements and work plan.

Coordination

The UNCT will ultimately coordinate UN involvement in the joint programme. FAO as the chair of the Programme Management Committee (PMC) will maintain the UNCT informed on the implementation of the Joint Programme.

The PMC will meet on a regular basis, and from these meetings, the coordinating agency (FAO) will report to the PSC and the UN Resident Coordinator and will ensure the administration of the programme. The Government of Mozambique, i.e. the Office of the Governor of Gaza Province, will provide office premises for the programme to the extent possible. All technical agencies will provide technical services and backstopping in their respective areas of expertise as per the agreed log frame and annual work plan for 2008. Each Agency will nominate a lead person from the agency who will manage the inputs from the agency and will be responsible for ensuring that the components that are implemented by said agency are carried out according to the Joint Programme agreements and work plan.

Apart from constituting a coordination platform for the implementation of the Joint Programme, the PMC will also ensure that all partners are:

- Informed of important changes and events in the overall Joint Programme;
- Invited to joint training events, national meetings, workshops and other events carried out as part of the programme, or which have a direct bearing on the programme;
- Informed of coordination meetings between the UN and partners and are provided with the minutes of all coordination meetings; and
- Part of a network that meets regularly to review progress of the programme.

Technical follow up meetings will take place between the different UN agencies on a trimester basis to discuss progress and compile a consolidated narrative report and follow up on the budget implementation.

Cash transfer modalities

Cash transfer modalities, the size and frequency of disbursements, and the scope and frequency of monitoring, reporting, assurance and audit will be agreed to and documented by the PMC prior to programme implementation taking into consideration the capacity of implementing partners and can be adjusted during programme implementation in accordance with applicable policies, processes and procedures of the participating UN Organizations. For the participating ExCom agencies, in this specific case UNDP and WFP, the provisions required under the Harmonized Approach to Cash Transfers (HACT) as detailed in their Country Programme Action Plans (CPAPs) or in other agreements covering cash transfers will apply. Other participating UN Organizations will apply their existing cash transfer modalities.

Fund Management Arrangements

In line with “Delivering as One: Operational Plan of the UN system in Mozambique 2007-2009” to complement the UNDAF 2007-2009, in support of the national development agenda, this Joint Programme will be coordinated by FAO and implemented by FAO, UN-Habitat, UNDP, UNEP, UNIDO, and WFP, i.e. the Participating UN Organizations.

UNDP as AA will consolidate narrative and financial reports prepared by FAO in consultation with the Participating UN Organizations, and will present them, together with annual and final certified financial statements, to the Resident Coordinator for submission to the National Steering Committee. Details of the fund management arrangements are stipulated in the Letter of Understanding between the donor(s) and UNDP, as well as in the Memorandum of Understanding between the Participating UN Organizations and UNDP and form part of the “Delivering as One: Operational Plan of the UN system in Mozambique 2007-2009”.

FAO, as the Coordinating Agency of this Joint Programme, will be accountable for effectively facilitating the process of annual planning, monitoring and review. Each Participating UN Organization will then be responsible for the implementation of particular activities of the Joint Programme as stipulated in the overall log frame and Annual Work Plan.

Each Participating UN Organization (PO) assumes complete programmatic and financial responsibility for the funds disbursed to it by the Administrative Agent (AA) and can decide on the execution process with its partners and counterparts following the organization’s own applicable regulations.

Each PO establishes a separate ledger account for the receipt and administration of the funds disbursed to it by the AA. POs are requested to provide certified financial reporting according to the budget template provided in the MDG-F Operational Guidance Note issued by MDTF Office and are entitled to deduct their indirect costs on contributions received not exceeding 7 per cent of the Joint Programme in accordance with the provisions of the MDG-F MOU signed between the AA and POs.

Subsequent installments will be released in accordance with Annual Plans approved by the NSC. The release of funds is subject to meeting a minimum commitment threshold (legally binding contracts signed, including multi-year commitments which may be disbursed in future years) of 70% of the previous fund release to the POs combined. If the 70% threshold is not met for the programme as a whole, funds cannot be released to any organization, regardless of the individual organization’s performance.

On the other hand, the following year’s advance can be requested at any point after the combined commitment against the current advance has exceeded 70% and the work plan requirements have been met. If the overall commitment of the programme reaches 70% before the end of the twelve-month period, the POs may after endorsement by the NSC request the MDTF Office, through the RC to release the next instalment ahead of schedule.

Feasibility, risk management and sustainability of results

From the initial phase of the programme, evidence of strong political willingness, support, and commitment by Government authorities and UN agencies for the implementation of policies and adaptation measures related with climate change were present, particularly at the provincial and local government levels. This environment was instrumental in generating trust among the stakeholders and a preliminary guarantee for the successful implementation of the programme, based on the active participation of all actors. Additionally, during consultations, local actors - the direct beneficiaries of the programme – showed a great willingness to actively implement pilot activities that complement/strengthen the on-going measures aimed at reducing the impact of climate change (i.e. the introduction of small irrigation systems). These conditions ensure ownership and sustainability of the programme by local and national stakeholders.

Since Climate Change affects every sector of society, there is a need to unify efforts in a transparent way in order to increase public confidence in the programme. This is the key challenge for UN agencies for the successful implementation of this programme, and it demands joint planning and efficient communication. The overarching goals of a joint programme may be undermined if individual thematic goals supersede the collective goals. However, in the proposed organizational structure of the program, the UNCT should, ideally, guarantee efficient coordination among the different participants, as well as assist each participating agency in the implementation of the programme. A regular monitoring plan will be established to follow up on the implementation and identify possible drawbacks in order to reformulate the plans accordingly.

Environmental protection, climate change adaptation and climate proofing are relatively new to Mozambique, particularly in the selected target area. The lack of knowledge about how climate change impacts livelihoods of communities often results in the implementation of 'survival' day-to-day activities and interventions to deal with isolated disasters, instead of long-term strategies. Capacity building, awareness campaigns and technical assistance will be provided to address Climate Change issues at all levels (national, provincial, district and local). This will enable institutions and civil society to further execute adaptation activities that will help the communities to cope with the negative impacts of climate change in a sustainable way, and create a sense of ownership and responsibility for implementing these activities.

The absence of favourable working conditions, such as appropriate housing, minimal access to water, an absence of electricity for most of the day, weak communication systems, difficult access to the area, etc., is a barrier for implementation of the proposed activities as it could compromise regular supervision and technical support. In this regard, the Administrator of Mapai offered space for the programme office at the government's site, and the basic infrastructure of a house to be rehabilitated. This will provide the minimum conditions for the programme to be launched.

Crop production levels can be lower than expected due to adverse climate conditions, insufficient access to water and inefficient use of water resources. This may discourage involved partners to proceed with the programme. However, the programme will implement activities that include efficient use of water for irrigation, best practices for sustainable use of resources, enhanced use of drought-resistant crops, etc. These activities, together with the application of conservation agriculture techniques and other practices related to water harvesting and management should be integrated into the District Development Plans in order to create a longer-term functional and financial basis for sustainability. It is important to note in this respect that the timely availability of resources and disbursement of funds may be crucial for a number of envisaged programme components due to the strong dependence of the proposed activities on unforeseeable climate events (and short agricultural seasons with potential below-average rainfall) that may jeopardize the implementation of some of the planned activities in the short and mid-term.

It is important that women take a leading role in several of the associations or committees that will be created during the programme. As the programme emphasizes the empowerment of women, it defines and applies 'gender equitable' selection criteria for a number of programme activities to achieve the anticipated gender balance.

Accountability, Monitoring, Evaluation and Reporting (The overall Programme Monitoring Framework is attached as **Annex III**).

The Implementing partners in the programme area will take part in all the programmed Monitoring and Evaluation (M&E) activities, which will be a capacity building process in itself since they will be learning "on

the job” on different M&E methodologies. Monitoring and evaluation of the joint programme will be achieved through the establishment of a system to be used throughout the Joint Programme implementation according to the baseline study. The baseline study will identify significant indicators to verify/measure the appropriateness and timeliness of the project. This system will be adopted by the partners at the onset of this programme, and it will consist of an initial baseline study and three yearly reports, at the end of each year. The Joint Programme will have a mid-term review and a final evaluation. The mid-term review will be organized by the MDG-F Secretariat. The final evaluation will be carried out by a tri-partite panel, including the Steering Committee.

The Joint Programme annual and final reviews are based primarily on assessing progress against the results and activities set out in the Programme Monitoring Framework. The Joint Programme Steering Committee will be responsible for ensuring that these assessments are carried out according to plan and comply with international monitoring and evaluation standards. Brief quarterly updates on progress in the implementation of the Joint Programme will be made available to the donor.

The Means of Verification listed in Programme Monitoring Framework (Annex III) is planned in such a way as to allow data to be available at the time of the annual and the final reviews.

The annual review of the joint programme, done collectively by national partners and participating UN organizations, should result in a single report, thus reducing transaction costs. The PMC will decide on the use of a common reporting format based on results-based annual programme level reporting^{2/}.

The MDTF Office is responsible for the annual Consolidated Joint Programme Progress Report, which will consist of three parts:

AA Management Brief. The Management Brief consists of analysis of the certified financial report and the narrative report. The management brief will identify key management and administrative issues, if any, to be considered by the NSC.

Narrative Joint Programme Progress Report. This report is produced through an integrated Joint Programme reporting arrangement. The report should be reviewed and endorsed by the PMC before it is submitted to the MDTF Office on 28 February of each year.

Financial Progress Report. Each Participating UN organization will submit to the MDTF Office a financial report stating expenditures incurred by each programme during the reporting period. The dead-line for this report is 31 March.

The following list shows a number of indicators (at outcome level) and sources of verification.

Outcome 1, main indicators: Four policy briefs developed and discussed per year; CC issues included into two national plans and/or strategies; Five (5) district thematic maps; CC data collected and recorded; Diagnostic tools on the application and use of climate information developed and applied by end of programme; Materials for training programmes adapted/developed; Two training of trainers courses; One pilot district using maps; At least three field days organized targeting 8 communities on a yearly basis.

Outcome 2, main indicators: Increased number of Government staff at different levels aware of importance of environment implications; Environment policies implemented at district and provincial levels; Government action plans and budgets including environment considerations; National disaster preparedness and risk assessment plans prepared and updated each year; Two yearly training sessions; Increased percentage of areas covered by communications network; Sufficient time between the warning and the arrival of event; Twenty civil society representatives (TV, radio, newspapers) trained on reporting on CC; At least two yearly training events with inputs from the three collaborating agencies; Study on the contribution of natural resources/predicted impacts of climate change completed; Government and local NGOs trained in the application and use of current and forecasted climate information by programme; Educative (thematic) material adapted and produced.

^{2/}The Standard Progress Report used by the Ex-com agencies or any other reporting format used by any other agency may be adapted for the purpose. Donor requirements should also be kept in mind.

Outcome 3, main indicators: Document prepared by 6/2008; Implementation strategy prepared by end 2008; Cost-benefit analysis produced; Three awareness training workshops conducted by 9/2008; Training programme designed by 7/2008; Fifty stakeholders trained on a yearly basis.

Outcome 4, main indicators: Adoption by communities of best practices in use of natural resources; Reduce current water leakage in irrigation systems by 50%; Baseline study, including strategy for assessing and implementing CC coping mechanisms produced; CC coping mechanisms reinforced and implemented in three communities; Demarcation and legalization of community and forestry areas; Community committees and associations established and legalized; Forestry inventory(ies) completed and management plans implemented; Territorial planning, including CC and disaster risk reduction tools completed and applied for Eduardo Mondlane and Mapai; One training session on planning and cadastre; Local building codes and standards revised; shelter reinforcement implemented; Examples of good agroforestry practices implemented in at least three sites; Tree nurseries and species trials established; Baseline document of existing water reserves completed; Improved water pumping facilities in eight sites, Reinforcement of rain water harvesting systems in ten sites; Number of additional water points introduced; 10 sites using Improved water management system; Map of soil suitability and land use for agricultural activities produced; At least ten fields where sustainable conservation agriculture practices adopted by end of programme; Two small scale irrigation systems where improvements implemented and 50 farmers trained on use of efficient irrigation system; Renewable energy use for irrigation purposes implemented in at least two sites; Inventory of solid waste management and mapping along the Limpopo River; At least five demonstration sites using waste management; Number of training sessions on waste management, manure compost and bio-digestion systems.

Outcome 5, main indicators: Use of alternative/renewable energy for production purposes; Sustainable livelihood options identified; Provide three communities with knowledge and skills on sustainable livelihood options; Existing and feasible energy renewable sources documented; At least two pilot demonstration sites using renewable energy sources per year; Train 50 persons on the use and management of renewable energy technologies; Improved stoves introduced in 5 communities; Number of basic cattle infrastructures built; Livestock mortality reduced by 25% to 50% by end of programme; At least four training workshops conducted during the project; Establishment of meat processing facility (slaughter house); Refrigeration system installed; At least three training sessions conducted on food processing covering 100 people; At least 200 farmers introduced in the use of animal traction.

Ex Ante Assessment of Cross-cutting Issues

Environmental mainstreaming entails the integration of the environmental perspective throughout the country's development plans, statutory documents and at all levels of implementation, requiring widespread knowledge of the issues. Everyone must be aware of the magnitude of environmental problems, understand their basic importance, and realize the impact of the activities to be implemented within that framework. An understanding of the inextricable links between the cross cutting issues involved, namely: sustainable development and resource management, poverty alleviation, human rights, gender equality and the environment, is essential.

Due consideration of the environment is indispensable for effective poverty reduction: people depend and build their livelihoods upon the natural resources, and the environment, as these are the basis for sustainable production, food security and economic growth.

The close relationship between poverty reduction and the realization of key human rights obligations is based on the principles of the right to life and personal security and the right to food that is sufficient for health and well being, as per the Universal Declaration of Human Rights. Poverty is caused, among others, by the discriminatory practices and exclusion of poor and marginalized people in the decision-making processes that directly affect their lives. In this context, the relationship of human rights, poverty and the environment is very clear. Effective participation in the design of environmental, development and poverty alleviation programmes ensures that the needs of those less fortunate are met, while creating a conscience of sustainability to ensure future access to natural resources.

The use and management of natural resources is dependent, at varying degrees, on the relations between men and women and the environment they live in. In order to address the causes of inequality and poverty, and the role of equal participation, it is important to evaluate gender equality and empowerment.

Development opportunities depend on the effects of the relations between women and men on decision-making and implementation processes.

The goals of this joint programme directly touch on the alleviation of poverty, address the concerns of gender equality and the fulfillment of human rights implications, under an overarching perspective of environmental sustainability and the strengthening of resilience to climate change. The programme aims to provide alternative livelihoods options that are environmentally friendly. In the specific context of this programme, where women are responsible for working in the fields (machambas), collecting the water (120 liters every other day), gathering and stockpiling the wood (for building, firewood, etc), besides the regular housekeeping activities (clean the house, cook, take care of the children), drawing on women's knowledge, resources and know-how shall contribute to the recognition of equal rights and opportunities for women and men, and girls and boys.

This joint programme has consulted the individuals, communities, associations and different levels of authorities to ensure that their participation in the design and planned implementation of activities genuinely addresses their needs. Specifically, in Chicualacuala, the most important male labour force generally migrates to South Africa for work. In most cases, the remittances these workers bring home are merely sufficient to maintain the household for a period of 4-5 months, after which, the women have to find the way to provide for the household. If the population of Chicualacuala were being provided with the minimum necessary services (water, electricity, financing and a sewage system), the community would benefit from productive time (now dedicated to collection of water and firewood), which would be invested in other income generating activities, providing a better standard of living for these people. This programme will empower women and create livelihood opportunities for the whole community. The interrelation of the above cross-cutting issues is best evidenced in the fact that by tackling any of the areas of intervention, the others are affected. Drought and lack of access to water are the main environmental concerns of the region, which are addressed in this programme through the activities planned and included in the results framework.

Legal Context or Basis of Relationship

The assistance provided by the UN Organizations participating in the implementation of this Joint Programme is governed by the respective legal basis and cooperative agreements between the Government of the Republic of Mozambique and the different participating UN agencies. These existing legal agreements apply to all activities implemented by the participating UN Organizations under this Joint Programme.

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UNDAF outcomes:

1. By 2009, Government and Civil Society Organizations capacity at national, provincial and local level, strengthened to plan, implement and monitor socio-economic development in a transparent, accountable, equitable and participatory way in order to achieve the MDGs;
4. Increased and more equitable economic opportunities to ensure sustainable livelihoods for women and men

UNDAF outputs:

- 1.7 Institutions responsible for the promotion of pro-poor and sustainable economic development strengthened
- 4.1 Efficient policies, plans, and strategies are ensured to promote equitable and sustainable economic development
- 4.2 Sustainable local economic development (rural and urban) enhanced

Outcomes of Joint Programme:

1. Government, civil society, communities and other stakeholders informed, sensitized and empowered on environment and climate change (CC) issues
2. Government capacity at central and decentralized levels to implement existing environment policies strengthened
3. Climate proofing methodology mainstreamed into government development plans, UN / Donors' programming and local stakeholders' activities and investments
4. Community coping mechanisms to climate variability enhanced
5. Communities' livelihoods options diversified

| JP Outputs (Lead UN Agency) | Output indicators and Responsible UN Organization | Reference to Agency priority or Country Programme | Implementing Partner | Indicative activities for each Output | Resource allocation and indicative time frame* (\$) | | | | UN AGENCY |
|--|---|--|--|--|---|-------|-------|-------|-----------|
| | | | | | Y1 | Y2 | Y3 | Total | |
| 1. Environment Mainstreaming | | | | | | | | | |
| <i>Outcome 1:</i> Government, civil society, communities and other stakeholders informed, sensitized and empowered on environment and climate change issues | | | | | | | | | |
| 1.1 Environment priorities and indicators reflected in planning frameworks and budgets at district and community level (UNDP) Baseline: Absence of environmental parameters in local budgets | 1.1.1 Four CC adaptation policy briefs developed and discussed at various policy fora, at decentralized levels per year (UNDP/UN HABITAT) | PARPA 2006-2009, GOM (Gov. of Mozambique) 5-year Plan (2005-2009), NSDS (National Strategy for Sustainable Development) UNDAF 2007-2009, FAO Special Programme on Food Security (SPFS), UNHABITAT Env. Prog., UNDP | INGC, MICOA, Provincial and District authorities | 1.1.1.1 Provide technical support for the preparation of policy briefs and advocacy materials | 8500 | 40300 | 36700 | 85500 | FAO |
| | | | | | 0 | 0 | 0 | 0 | UNEP |
| | | | | 1.1.1.2 Prepare and hold presentations at local development fora, District Council meetings, etc. on climate change risks and challenges | 18000 | 0 | 0 | 18000 | UNHABITAT |
| | | | | | 0 | 0 | 0 | 0 | UNIDO |
| | 1.1.2 Climate Change issues included into two national plans and/or strategies (WFP, UNDP, FAO) | | | 1.1.1.3 Mainstream Climate Change in ESAN II (Food Security and Nutrition Strategy) and annual contingency plans | 11000 | 69000 | 0 | 80000 | UNDP |
| | | | | 10000 | 10000 | 10000 | 30000 | WFP | |
| | | | | 1.1.1.4 Identify sustainable | | | | | |

| JP Outputs (Lead UN Agency) | Output indicators and Responsible | Reference to Agency priority or Country Programme | Implementing Partner | Indicative activities for each Output | Resource allocation and indicative time frame* (\$) | | | | UN AGENCY |
|---|---|--|--|--|---|--|------------------------------------|--|--|
| | UN Organization | | | | Y1 | Y2 | Y3 | Total | |
| | | Country Programme Action Plan (CPAP), WFP CPAP. | | financing mechanism to fund environment protection and climate change adaptation activities at local levels of government. | | | | | |
| 1.2 GIS-based data and maps on climate change vulnerability for risk areas in the Limpopo River Basin (WFP) Baseline: Limpopo Basin Atlas | 1.2.1 Five (5) thematic district maps produced with clear information on risk factors (WFP) 1.2.2 CC information and statistics collected and recorded (WFP) | PARPA 2006-2009, GOM 5-year Plan (2005-2009), NSDS, National Rural Development Strategy (NRDS), UNDAF 2007-2009, UNEP Env. Prog., WFP CPAP. | INGC, UEM, INAM | 1.2.1.1 Comprehensive mapping of areas at risk from climate change, including impact analysis and monitoring plan 1.2.1.2 Collect selected data on meteorological and climate change statistics at central and decentralized levels to support monitoring of CC information 1.2.1.3 Assess water-related CC impact for different scenarios and develop elements for CC adoption strategies within the integrated water resources management (IWRM) | 0 50000 0 0 42000 | 0 50000 0 0 40000 | 0 0 0 0 30000 | 0 100000 0 0 0 112000 | FAO UNEP UNHABITAT UNIDO UNDP WFP |
| 1.3 Training programmes on disaster and CC prediction, including interpretation of maps and application of monitoring data for early warning purposes (UN-HABITAT) Baseline: inexistence of adequate toolkits, maps and training initiatives; limited outreach current training initiatives | 1.3.1 Diagnostic tools on the application and use of CC information developed and applied (UNDP) 1.3.2 Training programmes developed and implemented jointly with the UNDP/GEF Coping with Drought and Climate Change project (UNDP) 1.3.3 Local leadership training programmes - LLTP integrated with innovative | PARPA 2006-2009, GOM 5-year Plan (2005-2009), NSDS, NRDS, UNDAF 2007-2009, UNDP/GEF Coping with Drought and Climate Change LLTP, UNHABITAT Env. Prog., WFP CPAP. | INGC, MICOA, Provincial and District authorities | 1.3.1.1 Provide technical support to stakeholders in the use and application of climate change information at local level 1.3.1.2 In a participatory manner, select three relevant topics, adapt to LLTP and other thematic gender/sensitive manuals for printing and distribution 1.3.1.3 Adapt UN HABITAT's "Limpopo river game" materials to local climate risk context, publish and distribute widely (primary | 0 0 28500 0 15000 15000 | 0 0 31500 0 33500 10000 | 0 0 0 0 11500 10000 | 0 0 60000 0 60000 35000 | FAO UNEP UNHABITAT UNIDO UNDP WFP |

| JP Outputs (Lead UN Agency) | Output indicators and Responsible | Reference to Agency priority or Country Programme | Implementing Partner | Indicative activities for each Output | Resource allocation and indicative time frame* (\$) | | | | UN AGENCY |
|---|--|--|--|---|--|---|---|--|---|
| | UN Organization | | | | Y1 | Y2 | Y3 | Total | |
| | <p>sustainable land use methodologies applied (UN HABITAT)</p> <p>1.3.4 Training of trainers courses implemented (UN-HABITAT)</p> <p>1.3.5 One district using maps and information for planning purposes (WFP)</p> | | | <p>schools, Civil society organizations CSOs, etc.)</p> <p>1.3.1.4 Develop gender sensitive training materials and technical guidelines on hazard resistant housing reconstruction for different target audiences (for men and women), including municipal authorities, NGOs, local builders, artisans and communities (in local language)</p> <p>1.3.1.5 Field test, revise, publish, and disseminate CC training materials and guidelines (graphics, local languages) applying gender/sensitivity</p> <p>1.3.1.6 Set criteria and select gender balanced candidates for training of trainers courses at various levels</p> <p>1.3.1.7 Develop and conduct training on use and interpretation of climate change risk maps and application of monitoring data</p> | | | | | |
| <p>1.4 Knowledge and experience sharing within the different groups (UN implementing agencies and beneficiaries) (FAO)</p> <p>Baseline: Limited information and experience sharing</p> | <p>1.4.1 At least three field days organized targeting 8 communities per year (all participating UN Agencies)</p> | <p>PARPA 2006-2009, GOM 5-year Plan (2005-2009), NSDS, NRDS, UNDAF 2007-2009, FAO SPFS, UNDP/GEF Coping with Drought and Climate Change LLTP, UNEP Env. Prog.,</p> | <p>All Government partners, Provincial and District authorities, local communities</p> | <p>1.4.1.1 Organize field days for exchange of experiences, lessons learned and best practices</p> <p>1.4.1.2 Conduct on-site brainstorming and technical discussion sessions to share lessons learned and best practices</p> <p>1.4.1.3 Undertake community exchange visits to other (projects)</p> | <p>0</p> <p>0</p> <p>5000</p> <p>0</p> <p>0</p> <p>0</p> | <p>40306</p> <p>14000</p> <p>8500</p> <p>0</p> <p>21000</p> <p>2500</p> | <p>42894</p> <p>10000</p> <p>5500</p> <p>0</p> <p>44000</p> <p>2500</p> | <p>83200</p> <p>24000</p> <p>19000</p> <p>0</p> <p>65000</p> <p>5000</p> | <p>FAO</p> <p>UNEP</p> <p>UNHABITAT</p> <p>UNIDO</p> <p>UNDP</p> <p>WFP</p> |

| JP Outputs (Lead UN Agency) | Output indicators and Responsible | Reference to Agency priority or Country Programme | Implementing Partner | Indicative activities for each Output | Resource allocation and indicative time frame* (\$) | | | | UN AGENCY |
|---|--|--|--|---|---|-------|--------|--------|--|
| | UN Organization | | | | Y1 | Y2 | Y3 | Total | |
| | | UNHABITAT Env. Prog., WFP CPAP. | | districts or neighbouring provinces - maintaining gender balance - to see relevant experience on Community Based Natural Resource Management (CBNRM) | | | | | |
| Outcome 2: Government capacity at central and decentralized levels to implement existing environment policies strengthened | | | | | | | | | |
| 2.1 National Disaster Preparedness plan and other relevant plans revised/updated to include climate change and environment aspects (UNEP) Baseline: INGC strategies do not sufficiently address Climate Change challenges | 2.1.1 Environmentally conscious national disaster risk reduction plan and related provincial, district and community action plans prepared and updated every year (UNEP /UN-HABITAT /WFP/FAO) 2.1.2 Every year at least 2 training events for government staff (10 selected individuals, at least four women) at provincial and district levels in participatory planning including environmental and climate change risk issues (UNEP/UN-HABITAT/WFP/FAO) 2.1.3 Presentation of results of vulnerability and disaster risk assessment (UN-HABITAT, WFP, FAO) | PARPA 2006-2009, GOM 5-year Plan (2005-2009), UNDAF 2007-2009, National Adaptation Plan of Action (NAPA), INGC Master Plan, FAO SPFS, UNEP Env. Prog., UNHABITAT Env. Prog., WFP CPAP. | MICOA, MAE, SETSAN, INGC, MINAG, Provincial Government, District Administrations | 2.1.1.1 Provide technical assistance to INGC to incorporate results of environment and climate change risk assessments (from programme outputs) into existing Disaster Preparedness Plans | 41600 | 24563 | 25437 | 91600 | FAO UNEP UNHABITAT UNIDO UNDP WFP |
| | | | | 2.1.1.2 Develop and conduct training programmes on environmental issues and participatory planning for provincial/district/municipal administrators, decision makers and planners (at least 30% women) 2.1.1.3 Prepare hazard risk maps of identified areas through high resolution satellite imagery 2.1.1.4 Make an inventory map of all levels of stakeholders (disaggregated by sex) associated with local development planning and vulnerability reduction and record their roles, responsibilities and areas of intervention | 50000 | 30000 | 150000 | 230000 | |
| | | | | | 14000 | 19500 | 26500 | 60000 | |
| | | | | | 0 | 0 | 0 | 0 | |
| | | | | | 0 | 0 | 0 | 0 | |
| | | | | | 5000 | 7000 | 5000 | 17000 | |

| JP Outputs (Lead UN Agency) | Output indicators and Responsible UN Organization | Reference to Agency priority or Country Programme | Implementing Partner | Indicative activities for each Output | Resource allocation and indicative time frame* (\$) | | | | UN AGENCY |
|---|--|--|---|---|---|---|------------------------------------|--|--|
| | | | | | Y1 | Y2 | Y3 | Total | |
| 2.2 Early warning and communication system enhanced in the Gaza province (UNDP) Baseline: Poorly integrated communication system | 2.2.1 Gaps in local communication capacities for early warning identified and filled (UN HABITAT/UNDP) 2.2.2 Energy requirements of communication system assessed and appropriate alternatives identified (UNIDO) | PARPA 2006-2009, GOM 5-year Plan (2005-2009), UNDAF 2007-2009, NAPA, NRDS, INGC Master Plan, UNDP/ UNHABITAT Env. Prog., UNIDO Integrated Programme for Private Sector Development (IP). | MOPH, INGC, INAM, ICS | 2.2.1.1 Analyze current availability, coverage, and needs of community related to radio-communication facilities 2.2.1.2 Select and implement , in collaboration with CSO partner(s) , the most sustainable radio-communication option, including community radio facilities 2.2.1.3 Identify appropriate technologies and potential equipment requirements and install renewable energy for radio communications | 0 0 8000 31565 40000 0 | 0 0 0 31565 0 0 | 0 0 0 31565 0 0 | 0 0 8000 94695 40000 0 | FAO UNEP UNHABITAT UNIDO UNDP WFP |
| 2.3 Authorities, civil society and other relevant actors trained to incorporate and report on environmental and climate change risk events (UNDP) Baseline: Limited awareness among stakeholders of climate change risks | 2.3.1 Civil Society representatives and other relevant actors trained (TV networks: 6; major newspapers: 6; National Radio: 1, and regional community radio stations: 6) (UNEP, UNDP, FAO) 2.3.2 Educative (thematic) entertainment gender sensitive material adapted and produced for community awareness on CC and disaster risk (UN HABITAT, UNDP) 2.3.3 Study on the | PARPA 2006-2009, GOM 5-year Plan (2005-2009), UNDAF 2007-2009, NAPA, INGC Master Plan, FAO SPFS, UNEP Env. Prog., UNHABITAT Env. Prog., UNDP CPAP. | ICS, INGC, MPD, Provincial Government, District Administrations, CSOs, public and private TV and radio stations | 2.3.1.1 Train media, civil society and other relevant actors on conveyance of reliable and factual information on climate change 2.3.1.2 Conduct training for media, civil society and other information dissemination actors (at least 20% women) on the incorporation of environmental climate change information into public dialogue and public awareness campaigns 2.3.1.3 Undertake a gender sensitive study on the socio-economic impact of climate change on natural resource utilization and management | 38300 45000 60000 0 90000 0 | 42700 25000 0 0 125000 0 | 19000 0 0 0 45000 0 | 100000 70000 60000 0 260000 0 | FAO UNEP UNHABITAT UNIDO UNDP WFP |

| JP Outputs (Lead UN Agency) | Output indicators and Responsible | Reference to Agency priority or Country Programme | Implementing Partner | Indicative activities for each Output | Resource allocation and indicative time frame* (\$) | | | | UN AGENCY |
|--|--|--|--------------------------|---|---|---------------------------------|----------------------------|---------------------------------|--|
| | UN Organization | | | | Y1 | Y2 | Y3 | Total | |
| | <p>contribution of natural resources/predicted impacts of climate change on the performance of the provincial economy completed (UNDP, UNEP, FAO)</p> <p>2.3.4 Government and local NGOs trained in the application and use of current and forecasted climate information (UNDP)</p> | | | <p>2.3.1.4 Prepare, publish and disseminate climate change advocacy materials in the local language (publications, video, etc.) based on lessons derived from programme implementation</p> <p>2.3.1.5 Organize public events and lectures on climate change and implement awareness campaigns in primary schools at local level</p> | | | | | |
| Outcome 3: Climate proofing methodology mainstreamed into government development plans, UN / Donors' programming and local stakeholders' activities and investments | | | | | | | | | |
| <p>3.1 Tools for climate proofing of risk zones in the Limpopo River Basin developed (UNEP)</p> <p>Baseline: Absence of climate proofing methodology</p> | <p>3.1.1 A document on the applied use of climate proofing tools prepared by 6/2008 (UNEP)</p> <p>3.1.2 Implementation strategy for climate proofing, including guidelines for mainstreaming climate proofing, prepared by end 2008 (UNEP/UNDP)</p> | PARPA 2006-2009, GOM 5-year Plan (2005-2009), UNDAF 2007-2009, UNEP Env. Prog. | INGC, MICOA | <p>3.1.1.1 Identify activities /initiatives for climate proofing in the Limpopo river basin</p> <p>3.1.1.2 Design and formulate a climate proofing implementation strategy, including practical mainstreaming guidelines</p> | 0 40000 0 0 0 0 | 0 110000 0 0 0 0 | 0 0 0 0 0 0 | 0 150000 0 0 0 0 | FAO UNEP UNHABITAT UNIDO UNDP WFP |
| <p>3.2 Assessment of climate proofing approaches carried out (UNEP)</p> <p>Baseline: Absence of climate proofing assessments</p> | <p>3.2.1 Cost-benefit analysis of implementation of climate proofing activities (UNEP/UN HABITAT)</p> <p>3.2.2 Three awareness training workshops for policy makers conducted by (UNEP/UNDP)</p> | PARPA 2006-2009, GOM 5-year Plan (2005-2009), UNDAF 2007-2009, UNEP Env. Prog. | INGC, MICOA, MOPH, MINAG | <p>3.2.1.1 Support the integration and implementation of climate proofing/CC issues into national policies/plans and UN/Donors</p> <p>3.2.1.2 Organise awareness training workshops targeting policy makers</p> | 0 40000 0 0 0 | 0 120000 0 0 0 | 0 0 0 0 0 | 0 160000 0 0 0 0 | FAO UNEP UNHABITAT UNIDO UNDP WFP |

| JP Outputs (Lead UN Agency) | Output indicators and Responsible UN Organization | Reference to Agency priority or Country Programme | Implementing Partner | Indicative activities for each Output | Resource allocation and indicative time frame* (\$) | | | | UN AGENCY |
|---|--|--|---|---|---|--|--|---|--|
| | | | | | Y1 | Y2 | Y3 | Total | |
| | 9/2008 (UNEP) | | | | | | | | |
| 3.3 Stakeholders trained on climate proofing (UNEP) Baseline: Stakeholders not trained | 3.3.1 Training programme on climate proofing designed by 7/2008 (UNEP) 3.3.2 50 stakeholders, at least 50% women, trained on a yearly basis (throughout the programme) on climate proofing (UNEP) | PARPA 2006-2009, GOM 5-year Plan (2005-2009), UNDAF 2007-2009, UNEP Env. Prog. | INGC, MICOA, MINED, Provincial Government | 3.3.1.1 Develop and conduct a training programme on climate proofing for policy/decision makers in Government of Mozambique UN/Donors 3.3.1.2 Conduct training sessions on climate proofing for stakeholders | 0 28000 0 0 0 0 | 0 30000 0 0 0 0 | 0 30000 0 0 0 0 | 0 88000 0 0 0 0 | FAO UNEP UNHABITAT UNIDO UNDP WFP |
| 2. Adaptation to Climate Change | | | | | | | | | |
| <i>Outcome 4:</i> Community coping mechanisms to climate change enhanced | | | | | | | | | |
| 4.1 Inventory and subsequent implementation of strategies and coping mechanisms currently in use by communities in the Limpopo River Basin (UNEP) Baseline: coping initiatives unknown/not mapped | 4.1.1 Methodology for assessing climate change coping mechanisms prepared by April 2008 (UNEP/WFP/FAO) 4.1.2 Baseline document, including inventory of coping mechanisms and environmental indicators disaggregated by sex, prepared by Mid 2008 (UNDP, UNEP, WFP, FAO) 4.1.3 Strategy applying and implementing climate friendly coping mechanisms designed by 9/2008 (UNEP/UN HABITAT) 4.1.4 Three communities | PARPA 2006-2009, GOM 5-year Plan (2005-2009), UNDAF 2007-2009, UNEP Env. Prog., UNHABITAT Env. Prog., UNDP CPAP, WFP CPAP. | MICOA, MINAG, INGC, UEM, FEWs NET | 4.1.1.1 Prepare terms of reference, including a methodology, team, indicators, and time-frame, disaggregated by sex, to map coping mechanisms of communities in the programme area 4.1.1.2 Design and formulate a strategy to implement CC coping mechanisms 4.1.1.3 Select three communities with an equitable participation to implement and reinforce coping mechanisms 4.1.1.4 Develop and conduct a training programme on the implementation of climate adaptation techniques and mechanisms at community level | 77001 50000 8000 0 20000 20000 | 50138 70000 0 0 0 10000 | 14063 40000 0 0 0 10000 | 141202 160000 8000 0 20000 40000 | FAO UNEP UNHABITAT UNIDO UNDP WFP |

| JP Outputs (Lead UN Agency) | Output indicators and Responsible | Reference to Agency priority or Country Programme | Implementing Partner | Indicative activities for each Output | Resource allocation and indicative time frame* (\$) | | | | UN AGENCY |
|---|--|--|--|---|---|---------------------------------|--------------------------------|---------------------------------|--|
| | UN Organization | | | | Y1 | Y2 | Y3 | Total | |
| | supported to implement and reinforce coping mechanisms by mid/2010 (UNEP/UN HABITAT/ WFP) 4.1.5 Capacity needs assessment carried out (UNDP/UNEP) | | | | | | | | |
| 4.2 Community based natural forest resource management system established (FAO) Baseline: No application of principals for sustainable forestry activities | 4.2.1 Community areas, including forested areas, delimited and registered with DUAT (Land title) by 12/08 (FAO / UN-HABITAT) 4.2.2 Community committees and associations with at least 50% women participation established and legalized by December 2008 (FAO) 4.2.3 Forestry inventories and management plans developed by December 2008 (FAO) | PARPA 2006-2009, GOM 5-year Plan (2005-2009), UNDAF 2007-2009, NRDS, FAO SPFS and Forestry Programme | MINAG (DNTE/ DINAGECA) SPFFB of Gaza Province and District DSE, CSOs | 4.2.1.1 Demarcation of community forest areas in Mapai 4.2.1.2 Support the establishment and training of community organizations, including women's organizations (committees and associations and community forestry guards/wardens) 4.2.1.3 Undertake participatory forestry inventories and prepare management plans 4.2.1.4 Identify and provide technical support /training on sustainable economic forestry activities (timber, poles, charcoal, beekeeping, etc.) 4.2.1.5 Develop business plans for income generating activities related to forestry addressing women's needs and their economic empowerment 4.2.1.6 Train communities in bush fire control/management and in awareness campaigns on the negative impact of uncontrolled | 158800 0 0 0 0 0 | 156519 0 0 0 0 0 | 68481 0 0 0 0 0 | 383800 0 0 0 0 0 | FAO UNEP UNHABITAT UNIDO UNDP WFP |

| JP Outputs (Lead UN Agency) | Output indicators and Responsible UN Organization | Reference to Agency priority or Country Programme | Implementing Partner | Indicative activities for each Output | Resource allocation and indicative time frame* (\$) | | | | UN AGENCY |
|--|---|--|---|--|---|---------------------------------------|---------------------------------------|---|--|
| | | | | | Y1 | Y2 | Y3 | Total | |
| | | | | lines | | | | | |
| 4.3 Territorial planning mechanisms at community level introduced (UN-HABITAT) Baseline: Limited application of territorial planning | 4.3.1 Territorial planning strategy encompassing CC and disaster risk reduction tools (UN HABITAT) 4.3.2 Local building codes and standards reviewed (UN HABITAT) 4.3.3 Programme on shelter, roof reinforcement, developed and implemented at community level (UN HABITAT) 4.3.4 Participatory planning implemented in Eduardo Mondlane and Mapai (UN | PARPA 2006-2009, GOM 5-year Plan (2005-2009), UNDAF 2007-2009, UNHABITAT Env. Prog. | MINAG (DNTF/DINAGECA) SPFFB of Gaza Province and District DSE, CSOs | 4.3.1.1 Undertake a combined analysis of applicable territorial planning strategies (legislation, land use and registration, building codes, etc.) to cope with CC risk 4.3.1.2 Capacity building on participatory planning and simplified cadastre in local communities 4.3.1.3 Design and implement a programme for reinforcing shelter roofs and train community on techniques 4.3.1.4 Build demo reinforced shelter | 0 0 72500 0 0 0 | 0 0 122750 0 0 0 | 0 0 64750 0 0 0 | 0 0 260000 0 0 0 | FAO UNEP UNHABITAT UNIDO UNDP WFP |
| 4.4 Agroforestry practices introduced and applied at the community level (FAO) Baseline: Limited application of sustainable agroforestry practices | 4.4.1 Vegetation survey conducted by December 2008 (FAO) 4.4.2 Pilot tree nursery established by April 2009 (FAO) 4.4.3 Agroforestry practices demonstrated and in use by the end of the project. (FAO, WFP, UNDP) | PARPA 2006-2009, GOM 5-year Plan (2005-2009), UNDAF 2007-2009, FAO SPFS & "Trees outside forest" – Afforestation Strategy for Mozambique, UNDP CPAP, WFP CPAP. | MINAG (IIAM, DPA of GAZA, and District DSE, PA) MICOA | 4.4.1.1 Conduct a vegetation survey to identify potential species for agroforestry programmes (fodder, shade, nitrogen fixation, fruits/food, medicinal purposes) 4.4.1.2 Introduce/develop agroforestry practices to reduce effects of wind/heat damages to crops and increase fodder for animals 4.4.1.3 Establish tree nurseries (to be managed by women) and trials for selected species for fruits; fodder; shade trees 4.4.1.4 Train community members on tree seed collection and seed | 80000 0 0 0 41000 0 | 71690 0 0 0 67000 4000 | 27400 0 0 0 67000 5000 | 179090 0 0 0 175000 9000 | FAO UNEP UNHABITAT UNIDO UNDP WFP |

| JP Outputs (Lead UN Agency) | Output indicators and Responsible | Reference to Agency priority or Country Programme | Implementing Partner | Indicative activities for each Output | Resource allocation and indicative time frame* (\$) | | | | UN AGENCY |
|--|--|---|--|---|---|--|--|---|--|
| | UN Organization | | | | Y1 | Y2 | Y3 | Total | |
| | | | | processing practices | | | | | |
| 4.5 Multi purpose integrated water resource management systems created (UN-HABITAT) Baseline: Considerable system losses of scarce water resources | 4.5.1 Existing water reserve and borehole network reviewed and water-pumping facilities and rain water harvesting reinforced by 2/2009 (UN HABITAT, UNIDO, UNEP) 4.5.2 Improved capacity to assess water-related CC impact; planning and implementation of CC adaptation strategies 8/08 (UNEP) | PARPA 2006-2009, GOM 5-year Plan (2005-2009), UNDAF 2007-2009, UNEP Env. Prog., UNHABITAT Env. Prog., UNIDO IP. | MINAG, MOPH, MICOA, INGC | 4.5.1.1 Evaluate the potential and sustainability of existing and future boreholes and the rehabilitation of selected small dams and irrigation schemes 4.5.1.2 Identify, design and implement rain water harvesting techniques 4.5.1.3 Support the establishment of additional community-managed water facilities 4.5.1.4 Protect water pumps against floods and install additional water points for livestock 4.5.1.5 Train and build capacity of local technical staff and communities (at least 50% women) in water resource management 4.5.1.6 Develop water resources management plan for the district and strategies for adaptation | 0 118000 200000 25145 0 0 | 0 100000 236000 88275 0 0 | 0 100000 174000 26750 0 0 | 0 318000 610000 140170 0 0 | FAO UNEP UNHABITAT UNIDO UNDP WFP |
| 4.6 Sustainable conservation agriculture practices introduced and efficiency in small scale irrigation systems improved (FAO) Baseline: No systematic application of principles and techniques of conservation | 4.6.1 Map of soil suitability and land use for agricultural activities produced by June 2008 (FAO) 4.6.2 Conservation agriculture practices | PARPA 2006-2009, GOM 5-year Plan (2005-2009), UNDAF 2007-2009, FAO SPFS, UNIDO IP, WFP CPAP. | MINAG (DNSA, IIAM, SPA Gaza, and district DSE and PA) ME | 4.6.1.1 Undertake a soil survey and map out current farming areas and irrigation system coverage 4.6.1.2 Assess soil potential for agricultural activities on selected sites 4.6.1.3 Review community knowledge and experience and | 215500 0 0 54784 0 4000 | 185319 0 0 17655 0 4000 | 180581 0 0 14392 0 4000 | 581400 0 0 86831 0 12000 | FAO UNEP UNHABITAT UNIDO UNDP WFP |

| JP Outputs (Lead UN Agency) | Output indicators and Responsible | Reference to Agency priority or Country Programme | Implementing Partner | Indicative activities for each Output | Resource allocation and indicative time frame* (\$) | | | | UN AGENCY |
|--|--|--|--|---|---|--|---|--|---|
| | UN Organization | | | | Y1 | Y2 | Y3 | Total | |
| | <p>introduced and implemented in a number of selected communities (minimum of 10) by the end of the project (FAO, WFP)</p> <p>4.6.3 Every year at least 50 farmers trained on efficient irrigation system use (FAO)</p> <p>4.6.4 Irrigation system extended to at least two communities by 2/2009 (FAO, UNIDO)</p> | | | <p>select and introduce most suitable drought resistant crop varieties</p> <p>4.6.1.4 Identify, develop and implement community-supported mechanisms to extend irrigation systems and improve efficient use of available water resources</p> <p>4.6.1.5 Establish seed production and nurseries for multiplication units for vegetables and other resilient plants</p> <p>4.6.1.6 Train community (at least 50% women) in water and small scale irrigation management, and conservation agriculture</p> <p>4.6.1.7 Establish demonstration fields for conservation agriculture practices</p> <p>4.6.1.8 Introduce field days for exchange and dissemination of improved techniques</p> | | | | | |
| <p>4.7 Prospects of biogas generation and composting using waste manure as coping mechanisms to climate change determined (UNIDO)</p> <p>Baseline: Limited application of composting techniques</p> | <p>4.7.1 Sites and available sources for waste products mapped in the Limpopo Basin River, including the Chicualacuala district end of 2008 (UNIDO/FAO)</p> <p>4.7.2 A minimum of five selected demonstration sites established in the selected</p> | <p>PARPA 2006-2009, GOM 5-year Plan (2005-2009), UNDAF 2007-2009, FAO SPFS, UNIDO IP, UNHABITAT Env. Prog.</p> | <p>MICOA/ MINAG/ Provincial Government</p> | <p>4.7.1.1 Carry out an inventory of solid waste management sites and practices in the selected areas and assesment of the feasibility of modifying these for manure production purposes</p> <p>4.7.1.2 Provide technical assistance to install demonstration sites on waste management and composting</p> | <p>40000</p> <p>0</p> <p>0</p> <p>74044</p> <p>0</p> <p>0</p> | <p>41094</p> <p>0</p> <p>2500</p> <p>48685</p> <p>0</p> <p>0</p> | <p>11856</p> <p>0</p> <p>17500</p> <p>36380</p> <p>0</p> <p>0</p> | <p>92950</p> <p>0</p> <p>20000</p> <p>159109</p> <p>0</p> <p>0</p> | <p>FAO</p> <p>UNEP</p> <p>UNHABITAT</p> <p>UNIDO</p> <p>UNDP</p> <p>WFP</p> |

| JP Outputs (Lead UN Agency) | Output indicators and Responsible | Reference to Agency priority or Country Programme | Implementing Partner | Indicative activities for each Output | Resource allocation and indicative time frame* (\$) | | | | UN AGENCY |
|---|---|---|---|---|---|------------------------------------|-----------------------------------|--|--|
| | UN Organization | | | | Y1 | Y2 | Y3 | Total | |
| | areas using waste management including manure, hides, solid waste management by the end of the programme (UNIDO/FAO/UN-HABITAT) | | | and incorporate into coping mechanisms to CC 4.7.1.3 Develop and conduct training programmes on waste management, manure composting and bio-digestion systems for provincial/district/municipal administrators, decision makers and planners (at least 50% women) | | | | | |
| Outcome 5: Communities' livelihoods options diversified | | | | | | | | | |
| 5.1 Options for livelihood diversification identified (FAO) Baseline: Sever limitations in rural employment opportunities | 5.1.1 Document on generic livelihood diversification options disaggregated by sex, prepared by mid 2008 (FAO, UNEP, WFP) 5.1.2 Feasibility studies of selected livelihood diversification alternatives disaggregated by sex carried out by end 2008 (UNEP, FAO, UNIDO) 5.1.3 Three (3) Communities trained on and assisted with sustainable livelihood options (WFP) | PARPA 2006-2009, GOM 5-year Plan (2005-2009), UNDAF 2007-2009, FAO SPFS, UNEP Env. Prog., WFP CPAP. | | 5.1.1.1 Undertake a general feasibility study on livelihood diversification options in the selected target district 5.1.1.2 Undertake in-depth feasibility studies on a number of priority alternatives (possible agroprocessing products that are have comparative advantage) selected for follow-up implementation | 65600 50000 0 0 0 4000 | 0 0 0 0 0 4000 | 0 0 0 0 0 4000 | 65600 50000 0 0 0 12000 | FAO UNEP UNHABITAT UNIDO UNDP WFP |
| 5.2 Inventory and feasibility assessment of potential renewable energy sources carried out (UNIDO) | 5.2.1 Existing and feasible renewable energy sources documented by 5/2008 (UNIDO) 5.2.2 A minimum of 5 pilot | PARPA 2006-2009, GOM 5-year Plan (2005-2009), UNDAF 2007-2009, FAO SPFS, UNHABITAT Env | ME/ MICOA/ Provincial Government INGC Local communities, DSE PA | 5.2.1.1 Identify potential renewable energy sources in the programme area (including Chicualacuala district) and carry out detailed feasibility studies to set up renewable energy based pilot | 40300 0 0 166064 0 | 20063 0 31000 155171 0 | 19938 0 26000 93625 0 | 80300 0 57000 414860 0 | FAO UNEP UNHABITAT UNIDO UNDP |

| JP Outputs (Lead UN Agency) | Output indicators and Responsible UN Organization | Reference to Agency priority or Country Programme | Implementing Partner | Indicative activities for each Output | Resource allocation and indicative time frame* (\$) | | | | UN AGENCY |
|--|--|--|-----------------------------------|---|---|-------------------------------------|-------------------------------------|-------------------------------------|--|
| | | | | | Y1 | Y2 | Y3 | Total | |
| Baseline: No utilization of alternative energy and indiscriminate use of charcoal | <p>demonstration sites established by the end of the programme in the selected areas using alternative renewable energy sources. (UNIDO, FAO)</p> <p>5.2.3 Improved stoves introduced in 5 communities (UNIDO, WFP, UN HABITAT)</p> <p>5.2.4 Training programme on management and use of renewable energy sources and technologies by 7/2008 (UNIDO, UN HABITAT)</p> <p>5.2.5 50 stakeholders (at least 50% women) trained on use of renewable energy sources and technologies by 11/2008 (UNIDO)</p> | UNHABITAT Liv. Prog., UNIDO IP, WFP CPAP. | DSE, FAO | <p>renewable energy based pilot installations</p> <p>5.2.1.2 Install a minimum of 5 renewable energy pilot demonstration units using the alternative energy sources, including one for irrigation purposes</p> <p>5.2.1.3 Introduce improved stoves and assess the potential to manufacture these stoves locally</p> <p>5.2.1.4 Develop and conduct a training programme of local stakeholders and provincial/district planners on use of renewable energy sources and technologies</p> <p>5.2.1.5 Identify productive uses that could potentially link renewable energy technologies to income generation opportunities, e.g. packing and conservation of fresh vegetables, meat and milk, refrigeration systems, animal skins and hides processing and tannery industry</p> | 0 | 1500 | 1500 | 3000 | WFP |
| <p>5.3 Animal husbandry grazing and veterinary service coverage improved (FAO)</p> <p>Baseline: Limited livestock carrying capacity</p> | <p>5.3.1 Basic cattle infrastructure built at a number of selected communities by the end of project (FAO)</p> <p>5.3.2 Livestock mortality reduced by 25 to 50% at the</p> | PARPA 2006-2009, GOM 5-year Plan (2005-2009), UNDAF 2007-2009, UNIDO IP. | MINAG, local communities, DSE, PA | <p>5.3.1.1 Construction of infrastructure for cattle (holding pens, dipping tanks and shower passages)</p> <p>5.3.1.2 Determine/evaluate amount of biomass productivity (available dry/fresh matter) during dry and</p> | 145000 0 0 14445 0 0 | 136763 0 0 14445 0 0 | 113038 0 0 14445 0 0 | 394800 0 0 43335 0 0 | FAO UNEP UNHABITAT UNIDO UNDP WFP |

| JP Outputs (Lead UN Agency) | Output indicators and Responsible | Reference to Agency priority or Country Programme | Implementing Partner | Indicative activities for each Output | Resource allocation and indicative time frame* (\$) | | | | UN AGENCY |
|--|--|--|-----------------------------------|---|---|--------------------------------|------------------------------------|-------------------------------------|--|
| | UN Organization | | | | Y1 | Y2 | Y3 | Total | |
| | end of the project (FAO) 5.3.3 At least 4 training workshops (rangeland utilization, selection of breeders and herd dynamics) on best practices conducted during the project (FAO) | | | wet seasons and improve animal feed flow (nutritional status) during the dry season 5.3.1.3 Provide technical advice to communities on livestock management to increase livestock production (selection of local good breeders, herd dynamics management and sustainable rangeland utilization) 5.3.1.4 Strengthening the production of small stock (goats, sheep and chicken) for women and poor households 5.3.1.5 Support veterinary services to improve services coverage for disease prevention and control (foot and mouth disease, tick born disease, new castle, etc) | | | | | |
| 5.4 Agro-processing and marketing activities developed (UNIDO) Baseline: Absence of agro-processing activities | 5.4.1 Meat processing established and businesses plan developed and implemented by 03/2009 (FAO, UNIDO) 5.4.2 At least 3 training sessions conducted on food processing/transformation, and on other livestock products, by the end of project covering 100 people of which at least 50% should | PARPA 2006-2009, GOM 5-year Plan (2005-2009), UNDAF 2007-2009, FAO SPFS, UNIDO IP. | MINAG, UEM, Provincial Government | 5.4.1.1 Develop marketing activities for agricultural and animal products and their by-products (tomatoes, cabbage, carrots, meat, biltong, skins, horns, etc.) to increase offtake from farmers 5.4.1.2 Upgrade existing cattle slaughter facilities and butchery outlets 5.4.1.3 Develop and implement a business plan for a public-private partnership approach for the | 46300 0 0 0 0 0 | 83731 0 0 0 0 0 | 52769 0 0 80999 0 0 | 182800 0 0 80999 0 0 | FAO UNEP UNHABITAT UNIDO UNDP WFP |

| JP Outputs (Lead UN Agency) | Output indicators and Responsible UN Organization | Reference to Agency priority or Country Programme | Implementing Partner | Indicative activities for each Output | Resource allocation and indicative time frame* (\$) | | | | UN AGENCY |
|---|---|--|----------------------|---|--|---|---|--|--|
| | | | | | Y1 | Y2 | Y3 | Total | |
| | of which at least 50% should be women (FAO, UNIDO) | | | development of a value chain for meat products destined for the Maputo and neighbouring markets | | | | | |
| 5.5 Use of animal traction promoted to encourage land preparation and transport (FAO) Baseline: Limited use of animal traction for productive purposes | 5.5.1 Each year at least 200 farmers introduced in the use of animal traction (FAO) | PARPA 2006-2009, GOM 5-year Plan (2005-2009), UNDAF 2007-2009, FAO SPFS. | MINAG | 5.5.1.1 Train farmers (at least 50% women) in the use of animal traction (bovine and donkey) for crop production and transport of goods | 24254 0 0 0 0 | 24563 0 0 0 0 | 23944 0 0 0 0 | 72760 0 0 0 0 0 | FAO UNEP UNHABITAT UNIDO UNDP WFP |
| Sub-Totals | | | | | 981155 471000 414000 366047 217000 100000 | 917747 549000 451750 355796 315500 93000 | 636100 330000 314250 298156 167500 82000 | 2535002 1350000 1180000 1019999 700000 275000 | FAO UNEP UNHABITAT UNIDO UNDP WFP |
| TOTALS | | | | | 2549202 | 2682794 | 1828005 | 7060001 | |
| | | | | Please refer to Annex IV for the segregated total budget table including AOS/GMS | | | | | |

Annex II A

Annex II A: Joint Programme Annual Work Plan

*For precise text of the activity please refer to the Results Framework (Annex I)

| Annual targets (first year) | Activities* | TIME FRAME | | | | UN AGENCY | RESPON- SIBLE PARTY ** | PLANNED BUDGET | | |
|---|--|------------|----|----|----|--------------|------------------------------|--------------------|--------------------------------|-----------------|
| | | Q1 | Q2 | Q3 | Q4 | | | Source of Funds | Budget Descrip- tion *** | Total Amount |
| 1.1 Environment priorities and indicators reflected in planning frameworks and budgets at district and community level | | | | | | | | | | 47,500 |
| Four Climate Change (CC) adaptation policy briefs developed and discussed; CC issues included in one provincial and one district plans and/or strategies; | 1.1.1.1 Provide technical support for policy briefs and advocacy | | | | Q4 | UNDP | UNDP | MDG-F | P; S&C, E, Trav; Misc | 34,500 |
| | 1.1.1.3 Mainstream CC in contingency plans | | | Q3 | Q4 | WFP | WFP | MDG-F | P, S&C, E, Misc | 11,500 |
| | 1.1.1.4 Identify financing mechanisms to fund environment protection | | | | Q4 | UNDP | UNDP | MDG-F | P; Misc; | 1,500 |
| 1.2 GIS-based data and maps on climate change vulnerability for risk areas | | | | | | | | | | 92,000 |
| Five (5) thematic district maps produced; CC data collected and recorded; | 1.2.1.1 Mapping of areas at risk | | | | Q4 | WFP | WFP | MDG-F | | 31,500 |
| | 1.2.1.2 Collection of Environmental and CC data | | Q2 | Q3 | Q4 | WFP | WFP | MDG-F | | 10,500 |
| | 1.2.1.3 Assess water-related CC impact and develop strategies for IWRM | | Q2 | Q3 | Q4 | UNEP | UNEP | MDG-F | | 50,000 |

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| Annual targets (first year) | Activities* | TIME FRAME | | | | UN AGENCY | RESPON- SIBLE PARTY ** | PLANNED BUDGET | | |
|--|--|------------|----|----|----|--------------|------------------------------|--------------------|---------------------------------|-----------------|
| | | Q1 | Q2 | Q3 | Q4 | | | Source of Funds | Budget Descrip- tion *** | Total Amount |
| 1.3 Training programmes on disaster and climate change prediction, including interpretation of maps and application of monitoring data for early warning purposes | | | | | | | | | 58,500 | |
| Develop and apply diagnostic tools on the application and use of CC information; Adapt training materials for trainers and use of maps | 1.3.1.1 Provide technical support in the use and application of CC information | Q1 | Q2 | | | UNDP | UNDP | MDG-F | P; Trav | 15,000 |
| | 1.3.1.2 Select three relevant topics to adapt, print and distribute | | Q2 | Q3 | Q4 | UN-HABITAT | UN-HABITAT | MDG-F | P; Misc; | 12,000 |
| | 1.3.1.3 Adapta River game material to local climate risk context | | | Q3 | | UN-HABITAT | UN-HABITAT | MDG-F | P, C, Miscel | 13,250 |
| | 1.3.1.4 Develop training and technical guidelines on hazard resistant housing | | | | Q4 | UN-HABITAT | UN-HABITAT | MDG-F | P, C, travel, equipment, Miscel | 2,000 |
| | 1.3.1.6 Set criteria for selection of candidates for training of trainers | | Q2 | | | UN-HABITAT | UN-HABITAT | MDG-F | | 1,000 |
| | 1.3.1.7 Training on interpretation of CC risk maps and monitoring data | | | Q3 | | WFP | WFP | MDG-F | | 15,250 |
| 1.4 Knowledge and experience sharing within the different groups (UN implementing agencies and beneficiaries) | | | | | | | | | 5,000 | |
| 3 field days targeting a total of 8 | 1.4.1.1 Field days for exchange of best practices experiences | | | | Q4 | FAO | FAO | MDG-F | P, Trans, S&C, E, Trav, Misc | 4,000 |

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| Annual targets (first year) | Activities* | TIME FRAME | | | | UN AGENCY | RESPON- SIBLE PARTY ** | PLANNED BUDGET | | |
|---|---|------------|----|----|----|--------------|------------------------------|--------------------|-------------------------------------|-----------------|
| | | Q1 | Q2 | Q3 | Q4 | | | Source of Funds | Budget Descrip- tion *** | Total Amount |
| communities | 1.4.1.2 Conduct on site technical sessions to share lessons learned | | | Q3 | | FAO | FAO | MDG-F | P, Trans, Trav, Misc | 1,000 |
| 2.1 National Disaster Preparedness plan and other relevant plans revised/updated to include climate change and environment aspects | | | | | | | | | | 110,600 |
| National disaster preparedness and risk assessment plans, including hazard risk maps, prepared and updated; 1 training sessions on environmental issues and participatory planning; | 2.1.1.1 Provide technical assistance to INGC to incorporate results of risk assessment in plans | | Q2 | Q3 | Q4 | WFP | WFP | MDG-F | P | 12,850 |
| | 2.1.1.2 Training programmes on environmental issues and participatory planning | | Q2 | Q3 | Q4 | UNEP | UNEP | MDG-F | P, Train, Trans, S&C, E, Trav, Misc | 68,300 |
| | 2.1.1.3 Prepare Hazard risk maps | | | | Q4 | UNEP | UNEP | MDG-F | | 3,150 |
| | 2.1.1.4 Inventory map and roles of all stakeholders | | Q2 | Q3 | Q4 | UN-HABITAT | UN-HABITAT | MDG-F | P; Trans; S&C, E, Trav; Misc | 26,300 |
| 2.2 Early warning and communication system enhanced in the Gaza province | | | | | | | | | | 79,565 |
| Increase percentage of areas covered by communications network. Accomplish | 2.2.1.1 Analyse availability and needs for radio communication | | | Q3 | Q4 | UNDP | UNDP | MDG-F | P, Trav | 13,000 |
| | 2.2.1.2 Select and implement radio communication systems | Q1 | Q2 | | | UNDP | UNDP | MDG-F | Misc | 5,000 |

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| Annual targets (first year) | Activities* | TIME FRAME | | | | UN AGENCY | RESPON- SIBLE PARTY ** | PLANNED BUDGET | | |
|--|--|------------|----|----|----|--------------|------------------------------|--------------------|--|-----------------|
| | | Q1 | Q2 | Q3 | Q4 | | | Source of Funds | Budget Description *** | Total Amount |
| Communications network, Accomplish timely warning of disasters | 2.2.1.3 Identify appropriate technologies and equipment requirements, including renewable energy for radio communication | | | Q3 | Q4 | UNIDO | UNIDO | MDG-F | P; C; Train; S&C; E; Trav; Misc | 61,565 |
| 2.3 Authorities, civil society and other relevant actors trained to incorporate and report on environmental and climate change risk events | | | | | | | | | | |
| 233,300 | | | | | | | | | | |
| At least one training session on the application and use of current and forecasted climate information; Conduct a gender sensitive study on the socio-economic impact of CC on natural resources utilization and management; | 2.3.1.1 Training media and other actors in conveying reliable and factual information on CC | Q1 | | | Q4 | UNDP | UNDP | MDG-F | P, C, Train, Trans, S&C, e, Trav, Misc | 48,300 |
| | 2.3.1.2 Training civil society on incorporating environmental CC information into public dialogue | | Q2 | Q3 | Q4 | UNEP | UNEP | MDG-F | P; C; Train; Trans, S&C; E, Trav; Misc | 60,000 |
| | 2.3.1.3 Study on socio economic impact of CC on natural resources utilization and management | | Q2 | Q3 | Q4 | UNEP | UNEP | MDG-F | P, C, Trav, S&C, Misc | 65,000 |
| | 2.3.1.4 Prepare, and publish climate change advocacy materials | | Q2 | Q3 | Q4 | UN-HABITAT | UN-HABITAT | MDGF | P; C; S&C; Misc | 60,000 |
| 3.1 Tools for climate proofing of risk zones in the Limpopo River Basin developed | | | | | | | | | | |
| 40,000 | | | | | | | | | | |
| | 3.1.1.1 Identify activities/initiatives for climate proofing in Limpopo Basin | Q1 | Q2 | Q3 | Q4 | UNEP | UNEP | MDG-F | P, C | 40,000 |

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| Annual targets (first year) | Activities* | TIME FRAME | | | | UN AGENCY | RESPON- SIBLE PARTY ** | PLANNED BUDGET | | |
|---|--|------------|----|----|----|--------------|------------------------------|--------------------|--------------------------------|-----------------|
| | | Q1 | Q2 | Q3 | Q4 | | | Source of Funds | Budget Descrip- tion *** | Total Amount |
| 3.2 Assessment of climate proofing approaches carried out | | | | | | | | | | 40,000 |
| | 3.2.1.1 Support the integration of climate proofing/CC issues in government plans | | Q2 | Q3 | Q4 | UNEP | UNEP | MDG-F | P, C | 40,000 |
| 3.3 Stakeholders trained on climate proofing | | | | | | | | | | 28,000 |
| | 3.3.1.1 Develop, and conduct a training programme on climate proofing | | Q2 | Q3 | | UNEP | UNEP | MDG-F | P, C, E | 28,000 |
| 4.1 Inventory of strategies and coping mechanisms currently in use by communities and in the Limpopo River Basin | | | | | | | | | | 175,001 |
| Completion of baseline study, including strategy for assessing and implementing CC coping mechanisms; CC coping mechanisms reinforced and implemented in at least one community | 4.1.1.1 Map CC coping mechanisms of communities | Q1 | Q2 | Q3 | | UNEP | UNEP | MDG-F | P, C, S&C, E, Misc | 74,300 |
| | 4.1.1.2 Design a strategy to implement CC coping mechanisms | Q1 | Q2 | Q3 | Q4 | UNEP | UNEP | MDG-F | P, C, S&C, E, Misc | 5,000 |
| | 4.1.1.3 Select 3 communities to implement coping mechanism | | Q2 | Q3 | Q4 | FAO | FAO | MDG-F | P; C, Train,S&C, E, Trav, Misc | 85,701 |
| | 4.1.1.4 Develop and conduct a training programme for the implementation of climate adaptation technologies | | Q2 | Q3 | Q4 | UNDP | UNDP | MDG-F | P; C; Train; S&C; Trav; Misc | 10,000 |
| 4.2 Community based natural forest resource management system established | | | | | | | | | | 158,800 |

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| Annual targets (first year) | Activities* | TIME FRAME | | | | UN AGENCY | RESPON- SIBLE PARTY ** | PLANNED BUDGET | | |
|---|--|------------|----|----|----|--------------|------------------------------|--------------------|--|-----------------|
| | | Q1 | Q2 | Q3 | Q4 | | | Source of Funds | Budget Descrip- tion *** | Total Amount |
| Certification of community committees/associations and at least one community forest area demarcated; Inventory of forest resources and management plan completed and beginning of implementation | 4.2.1.1 Demarcation of community forest areas in Mapai | | Q2 | Q3 | Q4 | FAO | FAO | MDG-F | P, C, Trans, S&C, E, Trav, Misc | 40,300 |
| | 4.2.1.2 Establish and train community organizations | | Q2 | Q3 | Q4 | FAO | FAO | MDG-F | P, C, Train, Trans, S&C, E, Trav, Misc | 18,500 |
| | 4.2.1.3 Carry out a participatory inventory and develop management plans | | | Q3 | Q4 | FAO | FAO | MDG-F | P, C, Train, Trans, S&C, E, Trav, Misc | 80,000 |
| | 4.2.1.4 Technical support/training on sustainable forest activities | | | Q3 | Q4 | FAO | FAO | MDG-F | P, C, Train, Trans, S&C, E, Trav, Misc | 10,000 |
| | 4.2.1.6 Train communities on bush fire control and management | | | Q3 | Q4 | FAO | FAO | MDG-F | P, C, Train, S&C, E, Trav, Misc | 10,000 |
| 4.3 Territorial planning mechanisms at community level introduced | | | | | | | | | | 72,500 |
| Territorial planning including CC and disaster risk reduction completed; One training session on planning and cadastre carried out | 4.3.1.1 Undertake applicable territorial planning strategies to cope with CC | Q1 | Q2 | Q3 | Q4 | UN-HABITAT | UN-HABITAT | MDG-F | P, C, E, Trav | 21,000 |
| | 4.3.1.2 Capacity building on participatory planning | | | | Q4 | UN-HABITAT | UN-HABITAT | MDG-F | P, C, Train, Trav | 8,500 |
| | 4.3.1.3 Design and implement shelter structure and roofs | | Q2 | Q3 | Q4 | UN-HABITAT | UN-HABITAT | MDG-F | P, C, Train, E, Trav, Misc | 26,000 |
| | 4.3.1.4 Build demonstrative reinforced shelter | | | Q3 | Q4 | UN-HABITAT | UN-HABITAT | MDG-F | P, C, Train, E, Trav | 17,000 |

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| Annual targets (first year) | Activities* | TIME FRAME | | | | UN AGENCY | RESPON- SIBLE PARTY ** | PLANNED BUDGET | | |
|---|---|------------|----|----|----|--------------|------------------------------|--------------------|--|-----------------|
| | | Q1 | Q2 | Q3 | Q4 | | | Source of Funds | Budget Description *** | Total Amount |
| 4.4 Agroforestry practices introduced and applied at the community level | | | | | | | | | | 121,000 |
| Vegetation survey carried out; establishment of one tree nursery; one seed collection training carried out | 4.4.1.1 Identify potential Agroforestry (AF) tree species | | | Q3 | Q4 | FAO | FAO | MDG-F | P, C, Trans, S&C, E, Trav, Misc | 50,300 |
| | 4.4.1.2 Introduce/develop AF practices | | Q2 | Q3 | Q4 | FAO | FAO | MDG-F | P, C, Trans, S&C, E, Trav, Misc | 10,000 |
| | 4.4.1.3 Establish tree nurseries and trials | | | Q3 | Q4 | FAO | FAO | MDG-F | P, C, Train, S&C, E, Trav, Misc | 30,000 |
| | 4.4.1.4 Train communities on tree seed collection and processing | Q1 | | Q3 | | FAO | FAO | MDG-F | P, C, Train, Trans, S&C, E, Trav, Misc | 30,700 |
| 4.5 Multi purpose integrated water resource management systems created | | | | | | | | | | 343,145 |
| Baseline document on existing water reserves completed; Reinforcement of rain water harvesting; Increase number for water points | 4.5.1.1 Evaluate potential for boreholes, dams and irrigation systems and rehabilitaion | | | Q3 | Q4 | UN-HABITAT | UN-HABITAT | MDG-F | P; C; Trav | 44,145 |
| | 4.5.1.2 Identify, design and implement rain water harvesting | | Q2 | Q3 | Q4 | UN-HABITAT | UN-HABITAT | MDG-F | P, C, S&C, Trav, Misc | 63,000 |
| | 4.5.1.3 Support establishment of additional water facilities | | Q2 | Q3 | Q4 | UN-HABITAT | UN-HABITAT | MDG-F | P, C, Train, S&C, E, Trav, Misc | 93,000 |
| | 4.5.1.4 Protect water pumps and install additional water points | | | Q3 | | UN-HABITAT | UN-HABITAT | MDG-F | P, C, Train, S&C, E, Trav, Misc | 7,000 |

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| Annual targets (first year) | Activities* | TIME FRAME | | | | UN AGENCY | RESPON- SIBLE PARTY ** | PLANNED BUDGET | | |
|--|--|------------|----|----|----|--------------|------------------------------|--------------------|--|-----------------|
| | | Q1 | Q2 | Q3 | Q4 | | | Source of Funds | Budget Description *** | Total Amount |
| | 4.5.1.5 Train local technical staff and communities on water resource management | | | | Q4 | UN-HABITAT | UN-HABITAT | MDG-F | P, C, Train, S&C, E, Trav, Misc | 18,000 |
| | 4.5.1.6 Develop water resources management plan | | Q2 | Q3 | Q4 | UNEP | UNEP | MDG-F | P, C, Train, Trans, S&C, E, Trav, Misc | 118,000 |
| 4.6 Sustainable conservation agriculture practices introduced and efficiency in small scale irrigation systems improved | | | | | | | | | | 274,284 |
| Soil survey and land use maps for potential agriculture areas completed; At least two fields for sustainable conservation agriculture practices adopted; extension of irrigation systems to improve efficient use of water resources | 4.6.1.1 Soil survey and map out existing farming areas | Q1 | | | | FAO | FAO | MDG-F | P, C, Trans, S&C, E, Trav, Misc | 35,300 |
| | | | Q2 | | | | | | | |
| | 4.6.1.2 Assess soil potential for agriculture activities | | | | | FAO | FAO | MDG-F | P, C, Trans, S&C, E, Trav, Misc | 55,300 |
| | | | Q2 | Q3 | | | | | | |
| | 4.6.1.3 Review community knowledge and introduce drought resistant crops | | Q2 | Q3 | Q4 | FAO | FAO | MDG-F | P, C, Trans, S&C, E, Trav, Misc | 30,000 |
| | | | | | | | | | | |
| | 4.6.1.4 Identify, develop and extend irrigation system and improve efficiency of water use | | Q2 | Q3 | Q4 | FAO | FAO | MDG-F | P; C; Trans, S&C, E; Trav, Misc | 90,290 |
| | 4.6.1.5 Establish seed production and nurseries for crop multiplication | | | | Q4 | FAO | FAO | MDG-F | P, C, Trans, S&C, E, Trav, Misc | 15,000 |

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| Annual targets (first year) | Activities* | TIME FRAME | | | | UN AGENCY | RESPON- SIBLE PARTY ** | PLANNED BUDGET | | |
|--|---|------------|----|----|----|--------------|------------------------------|--------------------|--|-----------------|
| | | Q1 | Q2 | Q3 | Q4 | | | Source of Funds | Budget Description *** | Total Amount |
| | 4.6.1.6 Train community in water and small scale irrigation management | | | | Q4 | FAO | FAO | MDG-F | P, Train, Trans, S&C, E, Trav, Misc | 15,000 |
| | 4.6.1.7 Establish demonstration fields of conservation agriculture | | | | Q4 | FAO | FAO | MDG-F | P, C, Train, Trans, S&C, E, Trav, Misc | 28,900 |
| | 4.6.1.8 Field days for dissemination of improved techniques | | | Q3 | | FAO | FAO | MDG-F | P, C, Trans, S&C, E, Trav, Misc | 4,494 |
| 4.7 Prospects of biogas generation and composting using waste manure as coping mechanisms to climate variability determined | | | | | | | | | | 114,044 |
| Inventory of solid waste management sites and mapping carried out; | 4.7.1.1 Carry out an inventory of solid waste management sites and practices | | | Q3 | Q4 | UNIDO | UNIDO | MDG-F | P, C, Trans, S&C, E, Trav; Misc | 55,079 |
| | 4.7.1.2 Demonstration sites on waste management and composting incorporated to CC | | Q2 | | Q4 | UNIDO | UNIDO | MDG-F | P, C, Trans, S&C, E, Trav, Misc | 41,195 |
| | 4.7.1.3 Train on waste management, manure composting and bio-digestion | | | Q3 | Q4 | UNIDO | UNIDO | MDG-F | P, Train, Trans, S&C, E, Trav, Misc | 17,770 |
| 5.1 Options for livelihood diversification identified | | | | | | | | | | 119,600 |
| Feasibility of livestock diversification | 5.1.1.1 Undertake feasibility study on livelihood diversification options | Q1 | Q2 | Q3 | | UNEP | UNEP | MDG-F | P, C, Trans, S&C, E, Misc | 89,300 |

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| Annual targets (first year) | Activities* | TIME FRAME | | | | UN AGENCY | RESPON- SIBLE PARTY ** | PLANNED BUDGET | | |
|---|--|------------|----|----|----|--------------|------------------------------|--------------------|---------------------------------|-----------------|
| | | Q1 | Q2 | Q3 | Q4 | | | Source of Funds | Budget Description *** | Total Amount |
| completed | 5.1.1.2 Undertake in-depth feasibility studies for selected activities | | | Q3 | Q4 | FAO | FAO | MDG-F | P, C, Trans, S&C, E, Misc | 30,300 |
| 5.2 Inventory and feasibility assessment of potential renewable energy sources carried out | | | | | | | | | | |
| | 5.2.1.1 Identify potential renewable energy sources with feasibility studies | | | Q3 | Q4 | UNIDO | UNIDO | MDG-F | P; E; Trav; Misc | 20,865 |
| | 5.2.1.2 Install five renewable energy pilot demonstration units (one for irrigation) | | | Q3 | Q4 | UNIDO | UNIDO | MDG-F | P, C, Trans, S&C, E, Trav; Misc | 114,665 |
| Existing and feasible energy renewable sources document; | 5.2.1.3 Introduction of improved stoves and assess potential to manufacture | | | | Q4 | UNIDO | UNIDO | MDG-F | P; E; Trav; Misc | 21,935 |
| | 5.2.1.5 Identify productive uses that can use renewable energy for income generation | | | Q3 | Q4 | UNIDO | UNIDO | MDG-F | P, Train, Trav, | 48,899 |
| 5.3 Animal husbandry grazing and veterinary service coverage improved | | | | | | | | | | |
| | 5.3.1.1 Construction of infrastructure for cattle | | | | Q4 | FAO | FAO | MDG-F | P, C, Trans, S&C, E, Misc | 30,000 |

Joint Programme on Environmental Mainstreaming and Adaptation to Climate Change in Mozambique

| Annual targets (first year) | Activities* | TIME FRAME | | | | UN AGENCY | RESPON- SIBLE PARTY ** | PLANNED BUDGET | | |
|--|--|------------|----|----|----|--------------|------------------------------|--------------------|---------------------------------------|-----------------|
| | | Q1 | Q2 | Q3 | Q4 | | | Source of Funds | Budget Descrip- tion *** | Total Amount |
| | 5.3.1.2 Determine/evaluate seasonal amount of biomass available | | | | Q4 | FAO | FAO | MDG-F | P, C, Trans, S&C, E, Trav, Misc, Trav | 11,700 |
| | 5.3.1.3 Provide technical advise on livestock management | | Q2 | Q3 | Q4 | FAO | FAO | MDG-F | P, Trav, S&C, E, Trav, Misc | 20,000 |
| | 5.3.1.4 Strengthening the production of small stock | | Q2 | Q3 | Q4 | FAO | FAO | MDG-F | P, Trans, S&C, E, Trav, Misc | 23,300 |
| | 5.3.1.5 Train communities on livestock management | | | Q3 | | FAO | FAO | MDG-F | P, Train, Trans, S&C, E, Trav, Misc | 39,445 |
| | 5.3.1.6 Support veterinary services for disease prevention and control | Q1 | Q2 | Q3 | Q4 | FAO | FAO | MDG-F | P, c, Trans, S&C, E, Trav, Misc | 35,000 |
| 5.4 Agro-processing and marketing activities developed | | | | | | | | | | 46,300 |
| | 5.4.1.1 Develop marketing activities for agriculture and animals and its by-products | | | Q3 | | FAO | FAO | MDG-F | P, Train, Trans, S&C, E, Trav, Misc | 16,300 |
| | 5.4.1.2 Upgrade existing cattle slaughter and butchery facilities | | | | Q4 | UNIDO | UNIDO | MDG-F | P, C, Trans, S&C, E, Trav, Misc | 30,000 |
| 5.5 Use of animal traction promoted to encourage land preparation and transport | | | | | | | | | | 24,254 |

Joint Programme on Environmental Mainstreaming and Adaptation to Climate Change in Mozambique

| Annual targets (first year) | Activities* | TIME FRAME | | | | UN AGENCY | RESPON- SIBLE PARTY ** | PLANNED BUDGET | | |
|---|---|------------|----|----|----|--------------|------------------------------|--------------------|--|------------------|
| | | Q1 | Q2 | Q3 | Q4 | | | Source of Funds | Budget Descrip- tion *** | Total Amount |
| At least 200 farmers introduced in the use of animal traction | 5.5.1.1 Train farmers in the use of animal traction | | | | Q4 | FAO | FAO | MDG-F | P, C, Train, Trans, S&C, E, Trav, Misc | 24,254 |
| Total Planned Budget for JP | | | | | | | | | | 2,549,202 |

**** Responsible Party:**
Please note that while a UN Agency has been indicated as the Responsible Party, a number of these activities will be implemented through and/or outsourced to National Partners/NGOs/CSOs. This information will be updated once the programme will be actually implemented and the work plan reviewed.

***** List of categories:**
P (personnel & management; C (contracts); Train (training); Trans (transport); S&C (supplies and commodities); E (equipment); Trav (travel); Misc (miscellaneous)

Table 2: Programme Monitoring Framework (PMF)

*Please see Results Framework for baselines by output

| Expected Results (UNDAF CP Outcomes and Outputs; and JP Outcomes and Outputs) | Indicators (including baselines* and targets) | Means of Verification (MOV) | Collection methods (with indicative time frame & frequency) | Responsible Agency(ies) and Implementing Partners | Risks and Assumptions |
|--|--|--|---|--|--|
| JP OUTCOME 1: Government, civil society, communities and other stakeholders informed, sensitized and empowered on environment and climate change (CC) issues. | Absence of/limited information on environment and CC data and training materials, including lack of knowledge in the use of said data. | Publications Documents officially approved or published | Quarterly progress reporting Annual plans | UN-HABITAT, UNDP, FAO, WFP | The (degree of) commitment of Government, civil society, communities and other stakeholders involved should be evidenced by adequate funding drought related initiatives |
| OUTPUT 1.1: Environment priorities and indicators reflected in planning frameworks and budgets at district and community level | Four policy briefs developed and discussed per year | Increased budget allocation for environmental activities | District annual budget | UN-HABITAT, UNDP MICOA, INGC, provincial and district authorities | Weak understanding and low priority given to CC and environment issues |
| | CC issues included into two national plans and/or strategies | One National and one Provincial workshop organized References to CC in national plans and/or strategies | Copies of publications/materials Minutes of meetings, lists of participants | WFP, UNDP, FAO CONDES MICOA | |
| OUTPUT 1.2: GIS based data and maps on CC vulnerability for risk areas in the Limpopo River Basin | Five (5) district thematic maps CC data collected and recorded Water/related CC impact assessed | Maps produced and available Statistical data reports on meteorological and CC information | Actual use of maps in Government offices and Civil society managed programmes | WFP INGC, UEM, INAM | Current data covers short periods, with gaps Scarce data on CC Maps too generic |
| OUTPUT 1.3: Training programmes on disaster and climate change prediction, including interpretation of maps and application of monitoring data for early warning purposes | Diagnostic tools on the application and use of climate information developed and applied by programme | Publications Meetings agenda and minutes New toolkit produced, published and distributed | Copies of publications/materials | UNDP, WFP, UN-HABITAT INGC, MICOA, District and Province authorities | Low prioritization of issues from relevant authorities and stakeholders |
| | Materials for training programmes adapted/developed Two training of trainers courses One pilot district using maps | Number of materials adapted, produced, and used in the training sessions. Number of training sessions Evidence of inclusion of maps in reports | Copies of materials adapted/developed Training session reports including lists of participants | UNDP, UN-HABITAT, WFP INGC, MICOA, Provincial and District authorities | Reduced number of participants at training sessions Lack of people with sufficient skills to receive and pass on training Work overload for potential skilled candidates |
| OUTPUT 1.4: Knowledge and experience sharing within the different groups (UN implementing agencies and beneficiaries) | At least three field days organized targeting 8 communities on a yearly basis | Reports of field days | Semester progress reporting, minutes, lists of participants | ALL UN AGENCIES, Government partners and select Civil Society Organizations (CSOs) | Insufficient Inter agency coordination Timely and coordinated logistical support Access to communities is |

| Expected Results (UNDAF CP Outcomes and Outputs; and JP Outcomes and Outputs) | Indicators (including baselines* and targets) | Means of Verification (MOV) | Collection methods (with indicative time frame & frequency) | Responsible Agency(ies) and Implementing Partners | Risks and Assumptions |
|---|--|--|--|--|--|
| | | | | | hampered by road inaccessibility |
| JP OUTCOME 2: Government capacity at central and decentralized levels to implement existing environment policies strengthened | <p>Number of Government staff at different levels aware of importance of environment implications</p> <p>Environment policies implemented</p> <p>Government action plans and budgets include environment considerations</p> | <p>Documents officially approved or published</p> <p>Execution of budgets evidence expenditures on environment conscious activities</p> | <p>Quarterly progress reporting</p> <p>Reports</p> | UN-HABITAT, UNDP, UNEP, FAO, WFP | <p>Government, civil society, communities and other stakeholders committed</p> <p>Stakeholders agree on usefulness of environmental indicators</p> <p>National policies, strategies and structures should be consolidated</p> |
| OUTPUT 2.1: National Disaster Preparedness plan and other relevant plans revised/updated to include climate change and environment aspects | <p>National disaster preparedness and risk assessment plans prepared and updated each year</p> <p>Two yearly training sessions on participatory planning to include environment and CC issues</p> <p>Publication of results of risk assessment</p> | <p>Number of plans updated and revised</p> <p>Number of hazard risk maps prepared</p> <p>Mapping of involved stakeholders</p> | <p>Yearly monitoring of plans</p> <p>Hazard risk areas identified in maps</p> <p>Training session reports including list of participants</p> | <p>UNEP UN-HABITAT, WFP, FAO</p> <p>MICOA, MAE, SETSAN, INGC, MINAG, provincial/district authorities</p> | <p>Insufficient funds/reliable data for environment data collection</p> <p>Clear perception of individual roles of stakeholders, including Government, in drought rehabilitation, emergency response and preparedness</p> |
| OUTPUT 2.2: Early warning and communications system enhanced at provincial level | <p>Gaps in local capacities identified and addressed</p> <p>Percentage of areas covered by communications network</p> <p>Sufficient time between the warning and the arrival of event</p> | <p>Existence and operational capacity of communications network (radio communication facilities)</p> | <p>Copies of publications/materials</p> <p>Information on disaster risk management in reports</p> | <p>UN-HABITAT, UNDP, UNIDO</p> <p>MOPH, INGC, INAM, ICS</p> | <p>Gaps in local communication capacities</p> <p>Limited radio coverage</p> <p>Dispersed population cannot be reached in time</p> |
| OUTPUT 2.3: Authorities, civil society and other relevant actors trained to incorporate and report on environmental and climate change risk events | <p>Twenty civil society representatives (TV, radio, newspapers) trained on reporting on CC</p> <p>At least two yearly training events with inputs from the three collaborating agencies</p> <p>Educative material adapted and produced</p> <p>Study on the contribution of natural resources/predicted impacts of climate change completed</p> <p>Government and local NGOs trained in the</p> | <p>Frequency and accuracy of reports on climate change and environmental events</p> <p>Number of manuals produced for training purposes</p> <p>Training session reports including lists of participants</p> <p>Value of contribution of natural resources to provincial economy</p> <p>At least three training events on application and use</p> | <p>Copies of publications/materials/manuals</p> <p>Publication and dissemination of the study</p> <p>Semester progress reporting, minutes, lists of participants</p> | <p>UNEP, UNDP, FAO</p> <p>INGC, INAMM, MINAG and MICOA</p> | <p>Collaboration from relevant authorities and stakeholders</p> <p>Absence/weakness of environment and CC risks in sectoral strategies for development</p> <p>Education authorities do not conscientiously incorporate environmental and cc risks into the curricula nor develop region-specific materials</p> |

| Expected Results (UNDAF CP Outcomes and Outputs; and JP Outcomes and Outputs) | Indicators (including baselines* and targets) | Means of Verification (MOV) | Collection methods (with indicative time frame & frequency) | Responsible Agency(ies) and Implementing Partners | Risks and Assumptions |
|---|--|--|--|--|--|
| | application and use of current and forecasted climate information by programme | of current and forecasted climate information | | | |
| | Educative (thematic) material adapted and produced | Number of games, books and other material adapted and produced Publications | Copies of publications/materials disseminated | UN-HABITAT, UNDP | Collaboration from relevant authorities and stakeholders insufficient |
| JP OUTCOME 3: Climate proofing methodology mainstreamed into government development plans, UN / Donors' programming and local stakeholders' activities and investments | Absence of climate proofing methodologies and assessments Methodology for climate proofing produced | | | | |
| OUTPUT 3.1: Tools for climate proofing of risk zones in the Limpopo River Basin developed | | | | | |
| OUTPUT 3.2: Assessment of climate proofing approaches carried out | | | | | |
| OUTPUT 3.3: Stakeholders trained on climate proofing | | | | | |
| JP OUTCOME 4: Community coping mechanisms to climate change enhanced | Adoption by communities of best practices in use of natural resources Reduce current water leakage in irrigation systems by 50% | Improved livelihoods Adaptive measures implemented List of variables indicating higher efficiency in water including verification of leaks along the system | Semester progress reporting and site visits Technical reports on water management Measurement of amount of water leaked | UN-HABITAT, UNDP, UNEP, FAO, WFP MINAG (INAM), ME | Resistance to change based on cultural habits Needs and expectations of communities not taken into consideration from the inception stage Climate conditions (favourable or unfavourable) |
| OUTPUT 4.1: Inventory and subsequent implementation of strategies and coping mechanisms currently in use by communities and in the Limpopo River Basin | Baseline study, including methodology and strategy for assessing and implementing cc coping mechanisms produced capacity needs assessment carried out | Baseline document available / distributed across the region | Copies of inventory baseline study and strategy | UNDP, UNEP, FAO, WFP MINAG, MICOA, MOPH, CSO | Availability of relevant data Insufficient collaboration from relevant authorities and stakeholders to obtain information |

| Expected Results (UNDAF CP Outcomes and Outputs; and JP Outcomes and Outputs) | Indicators (including baselines* and targets) | Means of Verification (MOV) | Collection methods (with indicative time frame & frequency) | Responsible Agency(ies) and Implementing Partners | Risks and Assumptions |
|--|---|---|--|--|---|
| | CC coping mechanisms implemented and/or reinforced in three communities | Reports of site visits confirming existing CC coping mechanisms | Visit communities Copies of publications/reports | UNDP/UNEP MINAG, MICOA, MOPH, CSO | Insufficient funds to apply the CC coping strategies |
| OUTPUT 4.2: Community based natural forest resource management system established | At least 1 community area including forested areas demarcated and registered (DUAT title) | Communities holding DUAT (Right of Use and Benefit to Land) titles Cadastre maps of delimited areas | Records at Serviço de Geografia e Cadastro Copies of land title certificates | FAO, MINAG and CSOs, DPA and District authorities | Communities are entirely committed to community areas Communities' willing to cooperate in the judicious use of natural resources if given the right initiatives |
| | At least three community committees and associations established and legalized | Records of local, district or provincial authorities | Boletim da Republica containing information | FAO MINAG, Provincial forestry services, district authorities, CSOs | Community steering committees with the associations are not aware of CC and environmental issues nor are they strong enough to actually steer the organization |
| | Forestry inventory(ies) completed and management plans developed | Availability of forestry inventory(ies) Dissemination of management plans Monitoring of management plans Maps | Visit sites and confirm compliance with monthly extraction quotas or annual allowable cuts Management plans and by-laws | FAO MINAG, Provincial forestry services, district authorities, CSOs | Guides from management plan ignored Non-compliance with management plans |
| OUTPUT 4.3: Territorial planning mechanisms at community level introduced | Territorial planning, including CC and disaster risk reduction tools carried out for Eduardo Mondlane and Mapai One training session on planning and cadastre | Availability of documents and tools included in the territorial plans; Number of maps included Training session reports including lists of participants | Visit district planning center to find manuals and maps Urban plans Materials produced available | UN-HABITAT MINAG, MOPH, district administrator | Collaboration from relevant authorities and stakeholders insufficient |
| | Local building codes and standards revised; shelter reinforcement implemented | Manuals and codes available Number of facilities using building codes adapted to local conditions applied | Visit district planning center to find manuals Visit facilities | UN-HABITAT MINAG, MOPH, district administrator | Availability of material and labour |
| OUTPUT 4.4: Agroforestry practices introduced and applied at the community level | Examples of good agroforestry practices implemented in at least three sites Vegetation survey conducted by Dec 2008 Tree nurseries and species trials established by April 2009 | Visit communities List of potential species for agroforestry | Semester progress reporting, minutes, lists of participants | FAO, WFP, UNDP MINAG, district agriculture authorities, MICOA | Resistance to change People will be sensitized in a way that allows for committed participation |

| Expected Results (UNDAF CP Outcomes and Outputs; and JP Outcomes and Outputs) | Indicators (including baselines* and targets) | Means of Verification (MOV) | Collection methods (with indicative time frame & frequency) | Responsible Agency(ies) and Implementing Partners | Risks and Assumptions |
|---|--|--|--|--|--|
| OUTPUT 4.5: Multi purpose integrated water resource management systems created | <p>Baseline document of existing water reserves completed</p> <p>Improved water pumping facilities in eight sites</p> <p>Reinforcement rain water harvesting systems in ten sites</p> <p>Number of additional water points</p> <p>10 sites using Improved water management system</p> <p>Improved capacity to assess water/related CC impact; planning and implementation of CC adaptation strategies 8/08</p> | <p>Dissemination of baseline</p> <p>Baseline and documents availed by relevant authorities</p> <p>Results of tests of water quality</p> <p>Control existence</p> <p>Visit sites, check for improvement indicators</p> | <p>Publications and reports</p> <p>Visits to water points</p> <p>Programme progress report</p> <p>Site visits</p> <p>calculate measurement of indicators</p> | <p>UNEP, UN-HABITAT, UNIDO</p> <p>MINAG, MOPH, MICOA, INGC, and district authorities</p> | <p>Collaboration from relevant authorities and stakeholders</p> <p>Water tables are deeper than expected</p> |
| OUTPUT 4.6: Sustainable conservation agriculture practices introduced and efficiency in small scale irrigation systems improved | <p>Map of soil suitability and land use for agricultural activities produced</p> <p>At least ten fields where sustainable conservation agriculture practices adopted by end of programme</p> <p>Two small scale irrigation systems where improvements implemented and 50 farmers trained on use of efficient irrigation system</p> <p>Renewable energy use for irrigation purposes implemented in at least two sites</p> | <p>Maps available with potential agricultural areas identified and soil characterization</p> <p>Visit the fields and demonstration fields</p> <p>Visit the fields and observe operability</p> <p>Percentage of farmers using conservation agriculture best practices</p> <p>Visits to fields</p> <p>Training materials</p> | <p>Visit fields</p> <p>Talk to communities/ associations</p> <p>Manuals</p> <p>Reports of the field visits including photographs</p> <p>Visit farms to see how many farmers applying best practices</p> <p>Progress reporting</p> <p>Feasibility studies</p> | <p>FAO, WFP</p> <p>MINAG, Provincial and District Agricultural Service</p> | <p>Communities' reticence to adopt conservation agriculture practices</p> <p>Untimely scheduling of irrigation schemes may affect productivity</p> <p>Availability of renewable energy sources</p> |
| OUTPUT 4.7: Prospects of biogas generation and composting using waste manure as coping mechanisms to climate change determined | <p>Inventory of solid waste management and mapping along the Limpopo River</p> <p>At least five demonstration sites using waste management</p> <p>Number of training sessions on waste management, manure compost and bio-digestion systems</p> | <p>Reports of inventory of solid waste management and feasibility studies</p> <p>Tested waste management prototypes</p> <p>Training session reports including lists of participants</p> | <p>Semester progress reports and feasibility studies reports</p> <p>Visit the demonstration prototypes</p> | <p>UNIDO, FAO, UNEP, UN-HABITAT</p> <p>MICOA, MINAG, Provincial and District authorities</p> | <p>Availability of material and labour</p> <p>Collaboration from relevant authorities and stakeholders</p> |

| Expected Results (UNDAF CP Outcomes and Outputs; and JP Outcomes and Outputs) | Indicators (including baselines* and targets) | Means of Verification (MOV) | Collection methods (with indicative time frame & frequency) | Responsible Agency(ies) and Implementing Partners | Risks and Assumptions |
|--|--|---|--|--|--|
| JP OUTCOME 5: Communities' livelihoods options diversified | Use of alternative/renewable energy for production purposes | Adaptive options tested and in use | Semester progress reporting and site visits | UN-HABITAT, UNDP, UNEP, FAO, WFP | Methodology accepted and used by local communities |
| OUTPUT 5.1: Options for livelihoods diversification identified | Document on generic livelihood diversification options completed and sustainable livelihood options identified Three communities provided with knowledge and skills on sustainable livelihood options | Results of feasibility studies available Report on options adapted | Documents including feasibility studies Visit communities | FAO, WFP, UNEP MICOA, INGC, local communities, district authorities | Options not feasible |
| OUTPUT 5.2: Inventory and feasibility assessment of potential renewable energy sources carried out | Existing and feasible energy renewable sources documented At least five pilot demonstration sites using renewable energy sources per year | Reports and feasibility studies Visit pilot demonstration units | Semester progress reports and site visits | UNIDO, UN-HABITAT, FAO, UNEP MICOA, ME, INGC. Local communities, CSOs, District authorities | Weak institutional capabilities to support programme |
| | Train 50 persons on the use and management of renewable energy technologies | Manuals produced Reports of training sessions including lists of participants | Quarterly progress reports | UN-HABITAT, UNIDO MICOA, ME, INGC. Local communities, CSOs, District authorities | Collaboration from relevant authorities and stakeholders |
| | Improved stoves introduced in 5 communities | Tested stove prototypes Visit the communities | Semester progress reporting | UN-HABITAT, UNIDO, WFP | Availability of material and labour |
| OUTPUT 5.3: Animal husbandry grazing and veterinary service coverage improved | At least ten basic cattle infrastructures built | Visit the sites to confirm existence and operability | Semester and progress reports | FAO MINAG, District authorities, local communities | Large grazing lands make it difficult to establish a good network of infrastructures |
| | Livestock mortality reduced by 25% to 50% by end of programme | Statistics for livestock mortality ex-ante and post programme | Veterinary controls and reports | FAO MINAG, District authorities, local communities | Dispersed animals may not get vaccinated |
| | At least four training workshops conducted during the project | Training session reports Manuals produced | Copies of reports | FAO MINAG, District authorities, local communities | |
| OUTPUT 5.4: Agro-processing and marketing activities developed | Establishment of meat processing facility (slaughter house) Refrigeration system installed At least three training sessions conducted on food processing covering 100 people | Visit to confirm existence and operability Training session reports and materials produced | Semester progress reporting Copies of reports | FAO, UNIDO MINAG, UEM, Provincial government, District authorities | Limited or not available energy for slaughter house and refrigeration Small number of animals to be slaughtered |

| Expected Results (UNDAF CP Outcomes and Outputs; and JP Outcomes and Outputs) | Indicators (including baselines* and targets) | Means of Verification (MOV) | Collection methods (with indicative time frame & frequency) | Responsible Agency(ies) and Implementing Partners | Risks and Assumptions |
|--|---|---|---|--|-----------------------------------|
| OUTPUT 5.5: Use of animal traction promoted to encourage land preparation and transport | At least 200 farmers introduced in the use of animal traction | Visit farmers to observe use of animal traction | Observation and reports of visits | FAO MINAG, Provincial government, District authorities | Target number of farmers too high |

ANNEX IV:

Joint Programme Segregated Budget Total (USD)

| Category | FAO | UNEP | UN HABITAT | UNIDO | UNDP | WFP | Total Cost (USD) |
|---------------------------|------------------|------------------|------------------|------------------|----------------|----------------|------------------|
| 1. Personnel & Management | 784,281 | 416,000 | 185,000 | 257,870 | 262,500 | 75,000 | 1,980,651 |
| 2. Contracts | 875,000 | 379,000 | 481,000 | 114,490 | 107,500 | 50,000 | 2,006,990 |
| 3. Training | 284,206 | 294,000 | 190,000 | 71,690 | 69,500 | 35,000 | 944,396 |
| 4. Transport | 148,384 | 44,000 | 0 | 0 | 0 | 0 | 192,384 |
| 5. Supplies & Commodities | 45,001 | 24,250 | 40,000 | 52,430 | 75,000 | 25,000 | 261,681 |
| 6. Equipment | 180,000 | 31,750 | 122,000 | 433,350 | 15,000 | 25,000 | 807,100 |
| 7. Travel | 146,129 | 145,000 | 98,000 | 71,155 | 117,000 | 50,000 | 627,284 |
| 8. Miscellaneous | 72,000 | 16,000 | 64,000 | 19,014 | 53,500 | 15,000 | 239,514 |
| Grand Total | 2,535,001 | 1,350,000 | 1,180,000 | 1,019,999 | 700,000 | 275,000 | 7,060,000 |
| AOS/GMS (7%)(*) | 177,450 | 94,500 | 82,600 | 71,400 | 49,000 | 19,250 | 494,200 |

(*) Represents maximum AOS/GMS costs that can be charged by the Participating UN Agencies in the Programme against their specific budget.