

Brief Description

Lesotho faces serious economic and social Climate Change (CC) related challenges and has been identified as one of those countries most vulnerable to CC worldwide. Increases in peak temperatures and precipitation events and in their seasonal and long term variability would result in droughts, floods and both cold and heat stress risks. CC is expected to impact on human health and energy access through multiple pathways. It would result in reduced agricultural production through a shift and potential shortening of the growing period, cause malnutrition and thus affect child growth. The proposed project seeks to ensure that climate change risks are addressed under the following AAP Global Project outputs;

- (1) strengthening institutional and human resource capacities,
- (2) improving policies and implementing measures, including specific pilot activities assisting communities in developing CCA Strategies and Action Plans and developing robust responses in energy and health sectors,
- (3) developing an innovative, sustainable financing, and
- (4) implementing knowledge management and information dissemination activities on national and international levels.

Improved adaptive capacities in the health and energy sectors will help Lesotho to reduce or reverse expected economic and development losses that would occur without adaptation.

Programme Period: 2 Years
 Key Result Area (Strategic Plan): H:Environment and Sustainable Development: Promoting adaptation to climate change
 PIMS ID: 4310
 Atlas Award ID: 00058985 (LSO10)
 Atlas Project ID: 00073508 (LSO10)
 Start date: 2010
 End Date 2011
 PAC Meeting Date
 Management Arrangements NEX (national)

| | |
|----------------------------|---------------|
| Total resources required | USD 3,050,000 |
| Total allocated resources: | |
| • Regular | |
| • Other: | |
| o Japan | USD 2,975,000 |
| o Donor | _____ |
| o Donor | _____ |
| o Government | USD 75,000 |
| Unfunded budget: | |
| In-kind Contributions | _____ |

Agreed by (Government): PS – Ministry of Finance and Development Planning

Name: Mr. Mosito Khethisa: Signature *Khosi Kethie*

Agreed by (Government): PS – Ministry of Natural Resources

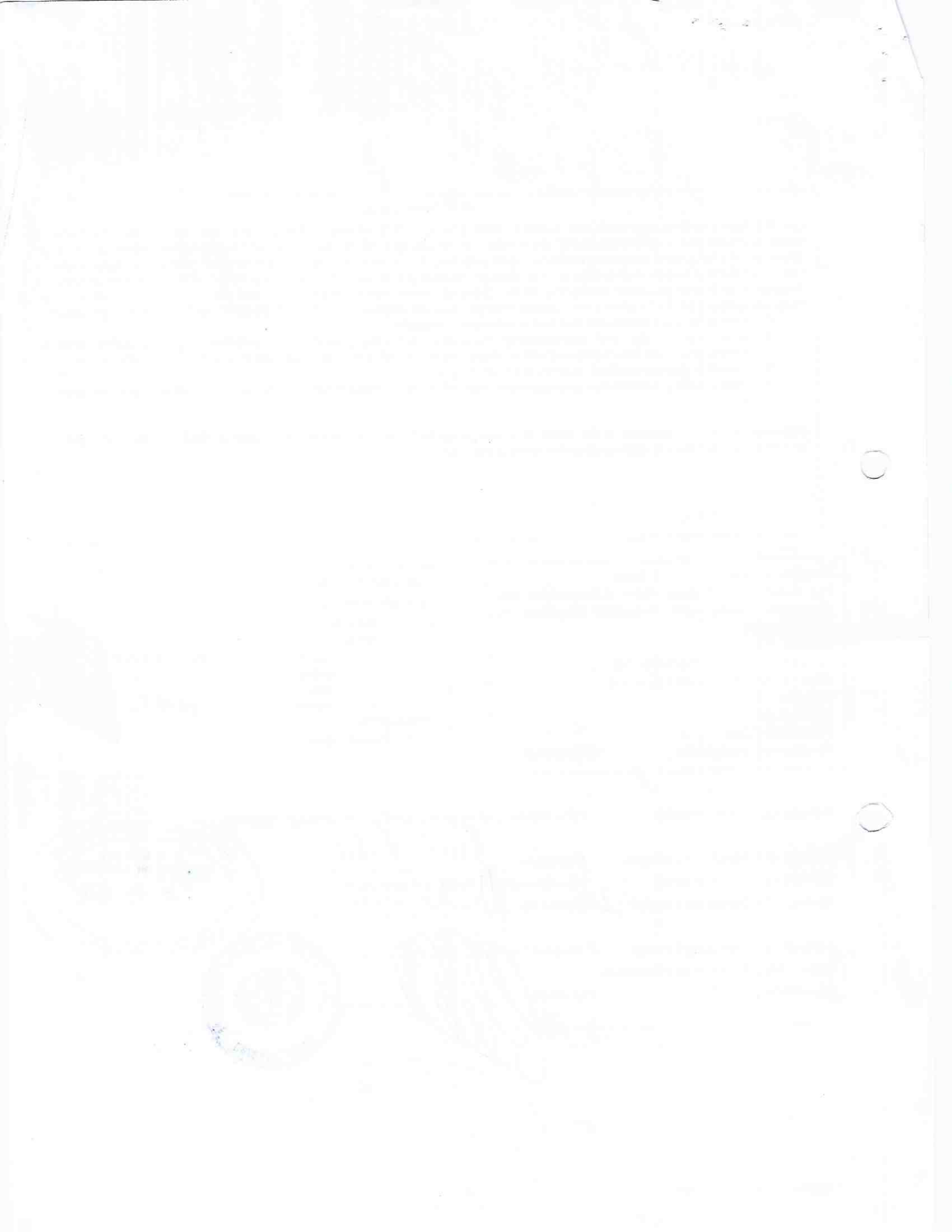
Name: Mr. Bataung Leleka: Signature *[Signature]*

Agreed by (Executing Entity): Resident Representative

Name: Ms. Eziakonwa-Onochie

Agreed by (UNDP): Signature *[Signature]*





Africa Adaptation Programme – Lesotho Project

| | |
|--------------------------------|--|
| Project Title | Supporting Integrated and Comprehensive Approaches to Climate Change Adaptation in Lesotho |
| UNDAF Outcome(s): | National Institutions able to implement sustainable pro poor economic development, environmental management and household food security policies and strategies with special focus on vulnerable groups including women, young men and women and the disabled |
| Expected CP Outcome(s): | Government, local institutions and communities are able to develop and implement climate change adaptation strategies |
| Project Objective | By the end of the project, participating individuals, institutions and communities will have the technical knowledge, skills, information and resources to plan for and implement effective and timely climate change responses. |
| Expected Output(s): | <ol style="list-style-type: none">1. Leadership capacities and institutional frameworks to manage climate change risks and opportunities in an integrated manner, including a decentralised approach, at the local and national levels are strengthened.2. Climate-resilient policies and measures in energy and health sectors implemented and community-based adaptation action promoted.3. Financing options to meet national adaptation costs, including PPP and private participation, expanded at the local and national levels are developed.4. Knowledge on adjusting national and sub-national development processes to fully incorporate climate change risks is increased and opportunities thus generated are shared across all levels. |
| Implementing Agencies: | Ministry of Natural Resources |

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List of acronyms

| | |
|-----------------|--|
| AAF | Africa Adaptation Fund |
| AAP | Africa Adaptation Programme |
| ALM | Adaptation Learning Mechanism |
| AMSL | Above Mean Sea Level |
| CBA | Community Based Adaptation |
| CBOs | Community Based Organisations |
| CC | Climate Change |
| CCA | Climate Change Adaptation |
| CDE | Centre for Development enterprise |
| CDM | Clean Development Mechanism |
| COP | Conference of Parties |
| CPD | Country Programme Document |
| DOE | Department of Energy |
| EDM | Electricidade de Mocambique |
| EHD | Environmental Health Division |
| ESKOM | Electricity Supply Commission |
| FAO-QN | Food and Agriculture Organisation / Questnet |
| FIT | Feed-in Tariffs |
| GCM | Global Climate Model |
| GDFL | Geophysical Fluid Dynamics Laboratory |
| GEF | Global Environmental Facility |
| GFATM | Global Fund to Fight Aids, Tuberculosis and Malaria |
| GHG | Greenhouse Gases |
| GOL | Government of Lesotho |
| GWh | Gegawatt hour |
| HCWH | Health Care Without Harm |
| HECC | Health and Energy Climate Change |
| HECCA | Health and Energy Climate Change adaptation |
| HIV/AIDS | Human Immuno Virus/ Acquired Immune Disease Syndrome |
| IFF | Investment Financial Flows |
| IPP | Independent Power Provider |
| LDCs | Least Developed Countries |
| LDCF | Least Developed Countries Fund |
| LEA | Lesotho Electricity Authority |
| LPG | Liquid Petroleum Gas |
| M&E | Monitoring and Evaluation |
| MCA | Millennium Challenge Account |
| MDGs | Millennium Development Goals |
| MFDP | Ministry of Finance and Development Planning |
| MGYSR | Ministry of Gender, Youth, Sports and Recreation |
| Mm ³ | Million Cubic Metres |
| MNR | Ministry of Natural Resources |

| | |
|--------|---|
| MOET | Ministry of Education and Training |
| MOHSW | Ministry of Health and Social Welfare |
| MTEC | Ministry of Tourism, Environment and Culture |
| MTEF | Midterm Expenditure Framework |
| MTFF | Midterm Fiscal Framework |
| MW | Megawatts |
| NAPA | National Adaptation Programme of Action |
| NCCC | National Climate Change Committee |
| NDF | National Development Framework |
| NDP | National Development Plan |
| NEX | National Execution |
| NGOs | Non-Governmental Organisations |
| PIH | Partners in Health |
| PPP | Public Private Partnership |
| PRSP | Poverty Reduction Strategy Paper |
| PSC | Private Sector Committee |
| PV | Photo Voltaic |
| RE | Renewable Energy |
| REBRE | Renewable Energy-Based Rural Electrification |
| REFIT | Renewable Energy Feed-in Tariffs |
| SA | South Africa |
| SAPP | Southern African Power Pool |
| SELF | Solar Energy Lighting Fund |
| SGP | Small Grant Programme |
| SWOT | Strengths, Weaknesses, Opportunities and Threats |
| TJ | Terrajoule |
| TORs | Terms of Reference |
| UEA | Unified Extension Approach |
| UK | United Kingdom |
| UNDAF | United Nations Development Assistance Framework |
| UNDP | United Nations Development Programme |
| UNEP | United Nations Environment Programme |
| UNFCCC | United Nations Framework Convention on Climate Change |
| USA | United States of America |
| WHO | World Health Organisation |

1. Situation analysis

1.1 Problem and root causes

Climate change risk

Lesotho as a nation is vulnerable to climate change as result of its location and its high dependence on economic activities that depend on the fragile environmental capital. Lesotho's climate is characterised by summer rainfall and cold, dry winters. Predictions from several global circulation models (GCM)¹ for the years, 2030, 2050 and 2075 derived from climate change (CC) scenarios suggest that there will be warmer future climatic conditions with lower precipitation in the spring and summer seasons, higher precipitation in winter and gradually increasing precipitation in autumn. This will result in a shift in precipitation patterns such that seasonal rains that currently occur in summer could set in later in autumn. The effect of this could be serious on the agro-ecological conditions as the growing season will be pushed forward or shortened (Ministry of Natural Resources, 2000). Notwithstanding, the increase of precipitation in winter suggests increased frontal systems activity which is characterised by heavy snowfall occurrences and ravaging winds associated with destruction of property, livestock and loss of human lives. In general it is predicted that there will be an increase of extreme events of floods, droughts and snowfall (Ministry of Natural Resources, 2000).

Analyses of meteorological data from 19th into 20th century indicate an occurrence of drought with a quasi-periodicity of nine in ten years up to 1978. During the subsequent years, 1979 – 1996 Lesotho experienced the highest incidence of droughts over nearly the past 200 years. Droughts have implications on food security, health and threaten the hydro-power production among others. Figure 1 depicts percentage rainfall departure from the normal in the Botha-Bothe district (more details including two other districts of Mhales' hoek and Mokhotlong are presented in Annex section 7.5). With climate change, this situation is anticipated to worsen (Ministry of Natural Resources, 2000).

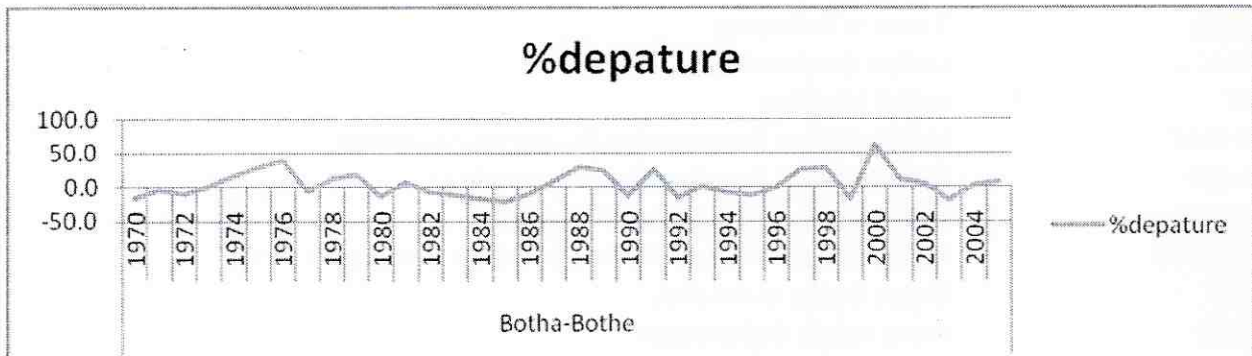


Figure 1. Rainfall departures from normal for Botha-Bothe

The project concepts are broad in many areas due to the limited time available for the project development. This also highlights uncertainty regarding specific vulnerability and therefore the need for strengthened information systems supporting responses across the spectrum from long term planning to increased climatically induced emergency response requirement. This proposal seeks to address this uncertainty by assisting in putting these systems in place and strengthening those already in place. More specific climatic details in particular will be developed in the inception phase where possible.

The following sectors are among those assessed for climate change vulnerability and adaptation in Lesotho; water, rangelands, forestry, agriculture, soils, health and energy. During the preparation of the National Adaptation Programme of Action (NAPA) however, only a limited selection of priority adaptation

¹ United Kingdom Meteorological Office High Resolution model (UKHI), Canadian Climate Centre model (CCC), USA Geophysical Fluid Dynamics Laboratory model (GFDL), USA Oregon State University model (OSU), the Goddard Institute for Space Studies model (GISS), United Kingdom Meteorological Office Hadley Centre Transient model (UKTR)

options was possible based on communities' consultations recommendations. NAPA is focusing on projects that will improve agriculture, institutional capacity building and policy reform to integrate CC, improvement of early warning system, improvement of village water supply in drought prone areas, management and reclamation of degraded lands, conservation and rehabilitation of wetlands and promotion of food processing and preservation technologies (Ministry of Natural Resources, 2007). A project which is a combination of two NAPA projects, "Improvement of early warning system to reduce impacts of climate change and capacity building to integrate climate change into development plans", is in the process of being implemented. This is a Least Developed Countries Fund (LDCF) project that is planned to be completed in 2012. Within the adaptation options considered as well as the adaptation projects proposed, the health and energy sectors are not explicitly addressed as per project prioritisation of options on account of financial constraints. The energy and the health sectors of the economy in Lesotho are threatened by climate change risks to such a degree that if not addressed, are likely to nullify any efforts for adaptation in the prioritised sectors. The purpose of this proposal is to complement NAPA by addressing CCA requirements in these sectors.

The total GHG emissions for the LDCs are relatively small. However, these countries are extremely vulnerable to adverse impacts of CC because of low capacity for adaptation. Lesotho is among the 49 countries that the Marrakech Accords identified as poor and eligible for help through a special LDCF created by the international community to help the countries adapt to CC. For these countries CCA is a must because of their economic conditions. A major challenge for LDCs is to develop their NAPAs such that they mainstream CCA into their national policies (Hug, Rahman, Konate, Sokona & Reid, 2003). Lesotho's approach to CC adaptation is development oriented. The adaptation should be incorporated into the long-term development goals of the country in line with the National Development Framework (NDF) and MDGs (Ministry of Natural Resources, 1994; 2000; Hug et al., 2003). For this reason, the proposed responses for Lesotho to CC in all sectors of the economy are adaptation measures. Specifically, this proposal is focused on developing the necessary information base for CCA in energy and health sectors.

Climate change vulnerability and adaptation in the energy sector

It is estimated that 60% of households in Lesotho use biomass for cooking and that 95% use paraffin or candle for lighting (Ministry of Natural Resources, 2000). Dire economic conditions of the rural people have contributed to over-harvesting of fuelwood resources with the result that the land is becoming devoid of natural trees and shrubs. A directly visible environmental consequence of biomass harvesting is that of land degradation throughout the country. Currently, about only 15% of the households have access to electricity; 91% of which are from the urban areas. The Government of Lesotho plans to increase the electrification of households to about 35% by 2020. Both the national Vision 2020, the Poverty Reduction Strategy Paper (PRSP) and the current NDF present four community priority needs, namely: (i) employment creation; (ii) infrastructure development; (iii) food security; and (iv) rural development. Accessibility to reliable energy supply is pivotal to the achievement of these goals (Government of Lesotho-UNDP, 2006). Table 1 shows the energy balance for Lesotho in 2007. According the Southern African Power Pool report (2008), a five year electricity energy forecast for Lesotho is about 630 GWh, while the demand in 2007 was 510 GWh. Biomass satisfies 72% (31 PJ) of the total primary energy supply (43 PJ). The impact of biomass harvesting on the environment can be reduced by introducing renewable energy sources in the form of solar thermal power and ensuring sustainable biomass use.

Table 1 Lesotho energy balance in 2007

| Coal | LPG | Kerosene | Petrol | Diesel | Biomass | Electricity | Total | Quantity |
|-------|-----|----------|--------|--------|---------|-------------|--------|----------|
| 1 827 | 479 | 1 846 | 3 810 | 2 355 | 30 929 | 1 828 | 43 073 | TJ |
| 4 | 1 | 4 | 9 | 5 | 72 | 4 | 100 | % |

Modified from DOE (2007).

Biomass in Lesotho is used to meet the majority of the energy requirements for thermal needs included heating and cooking. Consequently rural households will continue to harvest biomass contributing to land degradation which may be exacerbated by CC. It is not known whether fuelwood harvesting and CC are resulting in reduced standing biomass in Lesotho. Based on the significant reliance on biomass (72%) as in the national energy balance shown in Table 1, reduced access to biomass would present a pronounced vulnerability from an energy perspective. A primary response measure is to put information systems in place to track trends in biomass production and consumption and their impacts more closely.

The steep and mountainous topography together with activities such as overgrazing and over cultivation have exposed the land to degradation including erosion and nutrient loss. The quality of the rangelands has deteriorated over the years affecting the quality of livestock. Prolonged droughts result in poor agricultural production that affect human and livestock quality as well as amount of biomass for household energy. Efforts by the Ministry of Forestry and Land Reclamation to rehabilitate land by planting trees and grass have to face the reality of a volatile environment due to climate change.

About 90% of Lesotho's electricity is supplied by the 72MW 'Muela hydropower plant (LEA, 2009). During peak periods, the demand is as much as 120 MW. Additional electricity, particularly in winter, is imported from ESKOM in South Africa as well as from Electricidade de Mocambique (EDM) from Mozambique (Ministry of Natural Resources, 2002; Maloti, 2009). The predictions of the GCM simulations up to 2075 for water indicate decreased surface runoff when compared to the normal historical data. The runoff response (mm/day) by the year 2075 during the normal flow years gives an increase of 0.04 mm/day, for low flow years an increase of 0.006mm/day; while for the high flow years the difference between the observed and the GFDL model is -0.08mm/day which, therefore, reduces the runoff response by 29.2mm/year. That is, the available water resources of 5400 Mm³ will decrease to 4504 Mm³ (Ministry of Natural Resources, 2000; *ibid*, unpublished).

Given the potential for extreme events of drought associated with climate change, a great variability in the amount of water in rivers that supply 'Muela dam will affect its reliability as a power source. During times of drought, river flows will be low and there will be low power production. It is therefore important that Lesotho adapts to the potential risk of hydropower shortage by diversifying its electricity generation mix by developing other forms of electricity generation. Although electricity currently contributes only 4% to the total national energy supply, electrification rates are increasing, electricity is critical for commercial and industrial sectors and the over reliance on hydro electricity sources in the electricity mix has impacts on the balance of payments². The initial National Communication to COP to UNFCCC recommends energy conservation strategies and adoption of renewable energy for the situation of Lesotho (Ministry of Natural Resource, 2000).

Use of solar power as an adaptive measure

The potential use for renewable energy sources such as solar could directly substitute thermal energy demand currently met by biomass. Technologies of interest include solar cooking, improved building design for passive solar heating and solar water heating. Generally switching to so-called modern fuels such as Liquid Petroleum Gas (LPG) is expected, and improved distribution chains for such fuels are also considered a suitable response measure for biomass decline vulnerability. Solar PV technology continues to develop in Lesotho, in particular through rural, off-grid electrification. Solar thermal power, similarly, has the potential to make substantial contribution to household cooking and heating energy requirements.

With the projected prolonged droughts and high temperatures, Lesotho should exploit the opportunities offered by the increased amount of radiation. The solar energy should be harnessed and utilized both to

² Power from Muela hydro power station is currently exported to South Africa at approximately a third of the price at which Coal-fired power is purchased from the South African utility. The worldwide trend is the converse, i.e. for power from hydro generation to be priced as a more valuable commodity as that from fossil fuelled generators. In South Africa the proposed Feed-in Tariff rate for hydro power is 4 times that from the current average sale price of the predominantly Coal-based electricity mix. Leadership in the negotiation of power contracts is paramount for Lesotho. South Africa is currently facing an electricity supply shortage with added value being placed on an additional supply capacity. Solar thermal electricity generation is a particularly promising technology for diversifying the electricity supply mix and in addressing the vulnerability to the potential impacts of climate change on the supply of electricity from hydro resources.

complement the hydropower that is threatened by CC and to supplement thermal energy demands threatened by reduced access to biomass. A publicly available map of solar radiation intensity and solar energy potential for Lesotho would aid in accelerating investment in solar thermal electricity generation in particular.

In order to address the major energy requirement of the rural households the proposal is for baseline studies and piloting of the technology. Adoption of solar thermal power as CCA is crucial for the rural communities to whom the national electricity grid is not accessible. Benefits that will accrue from use of this clean energy will include: (i) natural rehabilitation of the environment due to reduced use of biomass; (ii) reduction of indoor pollution and hence improved health; and (iii) the improvement of the socio-economic status of the rural people.

Use of wind power as an adaptive measure

A comprehensive pre-feasibility study on the potential for using wind power to generate electricity has been undertaken in three sites, Lets'eng-la-Terae, Sani Top and Quthing (Ministry of Foreign Affairs and Ministry of Natural Resources, 2002). The analysis of the one year measurement results showed potential of electricity generated from wind at Letseng-la-Terae (commercial-scale electricity generation in the order of hundreds of Megawatts) and Sani Top (hybrid community electricity generation (DME, South Africa, 2008)) In 2008, the Government of Lesotho and NetGroup signed a memorandum of understanding (MOU) for an additional feasibility study at Letseng-la-Terae focusing on a longer time period. The NetGroup is in the process of establishing a wind farm at Lets'eng-la-Terae proposed for commissioning in 2011. It is noted that the three sites that were studied are not sufficient to facilitate determination of Lesotho's total potential for the use of wind for energy production. Furthermore, a national coverage of monitoring stations is necessary for the development of a national wind atlas. Two major concerns related to generation of electricity using wind farms are their economic viability and environmental impact. Cymru (2004) shows that the cost of wind energy has fallen in recent years and is currently close to being competitive with conventional energy sources. The author argues that the cost of the environmental and health damage of fossil fuels and nuclear energy is huge and subsidies to these are far greater than to wind energy. Notwithstanding, grid connected renewable energy is observed to be the fastest growing sector in the global energy market. For example, South Africa targets a production of 10 000 GWh of renewable energy by 2013 while Kenya plans to create the biggest wind farm with a total production of 3600 MWh by 2012 (NERSA, 2009; AE, 2009). South Africa is considering introducing Feed-in Tariffs (FIT) aimed at covering the cost of generation plus acceptable profit to encourage private investment by developers (Gipe, 2009). Implications of FIT should be explored for Lesotho.

The introduction of wind and solar and access by rural poor to these should be considered in the context of electrical rather than energy arguments more generally given the relatively insignificant contribution of electricity to TPES in the country. However, the services provided, such as vaccine cold chain integrity, education and formal economic access through extended productively lit hours access to telecommunications, in remote areas extend well beyond the actual units of energy provided. Distributed renewable energy wind and solar thermal pilot project and pilot project site identification included under output 2 will compliment the off-grid activities (REBRE) already in place and currently receiving UN support. They are deserving of recognition as providing significant opportunity for improved adaptive capacity. The continually emerging theme for sustainability of off-grid projects is (partial) private sector ownership of service delivery and a move away from capital towards production subsidies and market based solutions. The Lets'eng Wind Farm feasibility study has been completed and the estimated capacity of the plant will be 25 MW. Similarly the Mononts'a pumped storage scheme reconnaissance study has been completed. The estimated capacity for this plant, of regional significance to increasing energy security and resilience to CC is 1000 MW.

Poor rural people will get access to subsidised electrical energy services through initiatives such as EBRE and its extension through Public Private Partnerships. Continued access to energy for thermal requirements (heating and cooking) will be through sustainable biomass resource use and management and the extension of distribution networks for commercial thermal energy carriers such as LPG precipitated by linking these to the REBRE distribution networks established.

The pre-feasibility report on wind power in Lesotho presents three factors that make wind energy a suitable adaptation option for Lesotho:

- Climate change
 - Wind power promotes clean energy that creates opportunity for emission trading hence it is financially more viable. Numerous international companies have already approached the Lesotho Government with the view of exploiting the emission trading financial mechanism. Capacity is needed in the energy sector, CC community and business sector on the effective use of this financing option.
- Electricity price
 - It is expected that regional prices for electricity will increase resulting in competitive prices with wind generated power. In South Africa, Eskom was granted a year-on-year 27.5% price increase instead of a 60% that is required to make the prices cost-reflective in 2008. In Lesotho, there has been a price increase of 9.1% for households for 2009/10 (Lesova, 2008; LEA, 2009).
- Wind energy development technology
 - The technology, especially in Africa, is in its infancy and Lesotho can play a crucial role in its development. Unlike in some areas where wind farms are located onshore, nearshore and offshore, Lesotho is landlocked, mountainous and far from the sea. New challenges that are typical of inland countries will have to be overcome, which will enrich knowledge about the technology.

For Lesotho, wind power together with solar power are necessary adaptation measures to supplement the hydropower whose potential is threatened by CC. Development of wind power based on sound baseline information will be a very important adaptive developmental vehicle for Lesotho. The contribution of this technology will not only be in terms of providing energy, but will impact the economy in terms of direct and indirect employment generation.

Climate change vulnerability and adaptation baseline in the health sector

Human beings are exposed to health effects from climate change through changing weather patterns (for example, more intense and frequent extreme events) and indirectly through changes in water, air, food quality and quantity, ecosystems, agriculture, and economy. At this early stage the effects are small but are projected to progressively increase in all countries and regions (IPCC, 2007). Heat and heat waves are projected to increase in severity and frequency with increasing global mean temperatures. Studies in urban areas show an association between increases in mortality and increases in heat, measured by maximum or minimum temperature, heat index, and sometimes, other weather conditions. Health effects associated with exposure to extreme and prolonged heat appear to be related to environmental temperatures above those to which the population is accustomed (McGeehin and Mirabelli, 2001). The World Health Organization recently estimated that 34% of all childhood illness in the world (compared to 24% of all age illness) and 36% of deaths in children under age 14 are due to modifiable environmental factors. The challenge is however determining how climate change influences or determines human health with knowledge that social, cultural, economic conditions play a major role also. It is however known that at least five out of the top ten infectious disease killers globally, from malaria to dengue to diarrhoea, are closely related to environmental factors, such as water availability and climate conditions (Campbell-Lendrum, 2005)

Scientific evidence is growing and consistent that the impacts of climate change on human health are anticipated most devastating since climate change itself is a gradual process and its effects on human health are mostly indirect, not easily quantified and their manifestation are complex. The effects won't be felt proportionately across the globe because vulnerability is a function of existing physical, social and economic conditions. In addition to mitigation actions aimed at reducing green house gases, urgent investments in adaptation measures including tailor-made measures such as information and knowledge transfer are necessary to provide a strong background for longer-term mitigation measures. Health risks from climate change include those directly from increases in extreme weather events (heat-waves, floods, cyclones, storm-surges and droughts) and those due to an increase in pollens, spores and moulds. Air quality is further threatened via at least three mechanisms: heat-driven increases in ground-level ozone, energy production that results in increases in particulates and other fossil fuel-related air pollutants and

changes in aeroallergens (McGeehin and Mirabelli, 2001). Other risks will be from indirect means such as increase and or shift in the distribution of vector-borne, water-borne diseases and food-borne infections. More indirect ones will come from decreased food production and associated malnutrition. Weak social and economic stability, inadequate health information and facilities, limited access to and availability of resources and information such as early warning systems, and the less capacity to respond make poor rural Lesotho communities very vulnerable to health risks from climate change. In Lesotho, there will be direct impact on health as the result of increased temperature, floods as well as low temperatures due to unprecedented heavy snowfalls. Effective adaptation to climate change impacts to human health should be centred on capacity building, information gathering and dissemination and infrastructure development.

It has been generally believed that Lesotho is free from many climate-related diseases that are common in tropical countries because of the high altitude and severe winter temperatures experienced by the country. Studies indicate a rise in incidences of malaria in the highlands of Kenya, Uganda, Rwanda and Burundi where malaria carrying mosquitoes were not known to survive due to low temperatures. Presence of malaria in these areas is attributed to CC (Cullinan, 2008). Recent observations within the health sector indicate that there is a high potential for a rise of climate change-induced diseases. Currently there is no systematic monitoring of diseases in relation to CC in Lesotho. Without appropriate monitoring systems, the actual impact of climate change on health in Lesotho cannot be determined. Nevertheless, it has been noted that dry, hot conditions experienced in spring and summer show increasing trends of respiratory tract infections like tuberculosis, and waterborne diseases like typhoid and dysenteries in the country (Ministry of Natural Resources, 2000). Furthermore, without a monitoring system it cannot be said with certainty whether the malaria transmitting mosquitoes are not already available in Lesotho. In the neighbouring South Africa the distribution of malaria is mainly along the areas that are below 1000 m amsl in Limpopo, Mpumalanga and the northern parts of Kwa-Zulu Natal. Analysis of a 10 year distribution of Malaria cases in South Africa show a shift in the Malaria belt northwards, with more cases in Limpopo than Kwazulu-Natal (Olwoch, unpublished data/maps) with anticipation that other provinces could be affected by the spread of malaria under climate change conditions. As an enclave in South Africa, Lesotho, in particular the lowlands are vulnerable to the disease (Department of Health, 2008; Department of Environment and Tourism, 2009). Re-emergence of diseases such as bubonic plague transmitted by rat fleas in some parts of the country, and the re-appearance of anthrax both in livestock and humans during the 2007 drought are strong indicators that an extensive monitoring system of climate change-associated diseases as well as pilot projects for intervention are necessary. During droughts, rodents migrate from the wild and infest people's dwellings in search for food. There is currently a proliferation of rats in inhabited areas both urban and rural and hence a high risk for the spread of bubonic plague. Table 2 shows a historic record of bubonic plague in Lesotho (WHO/CDS/CSR/EDC/, 1999). The recent re-emergence is a matter of serious concern. Some parts of Lesotho and a few other countries in Africa are known to be natural foci for the plague. It is important for Lesotho that these areas are identified and subjected to a surveillance and eradication programme.

Table 2. Comparative history of plague in Lesotho and Africa

| Year | 1954 | 1955 | 1967 | 1968 | 1969 | 1972 | 1975 |
|------------|---------|---------|------|------|------|------|------|
| Lesotho | | | | | | | |
| No. cases | 8 | 2 | 3 | 108 | 2 | 8 | 8 |
| No. deaths | Unknown | Unknown | 2 | 46 | 0 | 2 | 8 |
| Africa | | | | | | | |
| No. cases | 110 | 79 | 22 | 284 | 147 | 128 | 147 |
| No. deaths | Unknown | Unknown | 8 | 84 | 34 | 41 | 41 |

Source: modified from (WHO/CDS/CSR/EDC/, 1999).

It is proposed that monitoring strategies for environmental disease vectors be developed within Environmental Health Division (EHD) of MOHSW as an adaptation intervention for the health sector. These strategies should address the potential risks for diseases such as bubonic plague, malaria and bilharzia. The cyclic droughts in Lesotho are accompanied by water-borne diseases such as cholera and dysenteries due to use of contaminated stagnant water in some villages. These diseases are further aggravated by low hygiene standards in the collection and storage of potable water. Household hygiene

monitoring with specific reference to potable water needs to be carried out. MOHSW has a limited capacity for laboratory analyses for environmentally related diseases or risks. Institutions in South Africa are usually contracted for this task. However a major disadvantage with this arrangement is that, both the timing for availability of results and trustworthiness of quality of specimens before analysis cannot be controlled. Therefore, the capacity that is required for the MOHSW includes among others, development of a research unit, analytical laboratory and associated staff within the Disease Control Division.

Development of institutional, individual and systematic capacities in Lesotho

Recognition of climate change risks and opportunities is very rudimentary in Lesotho such that although this is a cross-cutting issue, there are no specific policies aimed to address it. The NAPA proposed a number of adaptations projects that will be the initial step to pilot approaches to CCA with the view of also addressing institutional, individual and systematic issues derived from the national development agenda. There is a dire need to develop institutional, individual and systematic capacities in CC and CCA in the Health and Energy sectors at both technical and decision-making levels. This is demonstrated by the current level of unresponsiveness to these issues. There is also a need to develop an approach to financing CCA in these sectors with respect to issues like PPP, financing options such as emissions trading and relevant legislation. Additionally, current financial and regulatory instruments need to be reviewed with a view to strengthening them to provide clearer guidelines for creating an enabling and well managed policy framework with respect to health and energy CC issues (broader CCA policy issues will be addressed in NAPA in conjunction with UNEP). At the moment, capacities both at institutional and individual levels are very limited. Institutional capacity will be addressed by the NAPA project "Improvement of early warning system to reduce impacts of climate change and capacity building to integrated climate change into development plans". At the individual level it is critical that alternative, innovative and sustainable income generating mechanisms are developed and implemented to enable communities to purchase RE products. This will also contribute to the achievement of outputs in the UNDAF and the NDF.

Meeting national and energy adaptation costs

Although climate change is a cross-cutting issue, recognition of risks and opportunities related to the issue is very rudimentary in Lesotho. Consequently, planning and budgeting at the individual and institutional levels do not include any systemic considerations for it as yet. There is an urgent need to develop financing options to meet CCA costs.

Motivating and inspiring conscious CC responses

The level of recognition of CC risks and opportunities is determined largely and in the first instance by the level of awareness of the issue. It is critical that mechanism are established that will help generate and share knowledge on adjusting national and sub-national development processes to incorporate CC risks and opportunities across all levels. It is equally important that the messages will be shared in a manner that will motivate and inspire people into resilience and responsiveness. In particular the rural/remote population be incorporated/included with this proposal through the proposed GIS-based biomass baseline work which are expected to have fundamental impacts on the way sustainable use and sustained rural livelihoods including traditional and other biomass use and management are approached.

Enhancement of on-going work in CCA in Lesotho

A few projects related to CCA have just been implemented or are at the proposal stage. The Lesotho Renewable Energy-Based Rural Electrification Project is being implemented as a pilot in three districts of Lesotho. The project is co-financed by Government of Lesotho and GEF through UNDP. The GEF funded NAPA project "Improvement of early warning system to reduce impacts of climate change and capacity building to integrate climate change into development plans" is being implemented through UNEP by GOL. The Millennium Challenge Account has a programme of rehabilitation of all the rural clinics in the country. Solar PV is considered as a source of energy in all the rural clinics which are far away from the national grid. The Lesotho Government through the DOE is in discussion with the Japanese Government with regard to a CC project under the framework of CoolEarth. There are also a number of small community projects that will be funded through GEF-Small Grant Programme, coordinated by UNDP that attempt to address CCA whose proposals are being evaluated for financing.

1.2 Proposed response

To address the identified problems and root causes related to CC and CCA in Lesotho, a number of responses are proposed for implementation in view of the four expected project outputs as outlined at the beginning of the document. These adaptation alternative scenarios include the following:

Output 1. Leadership capacities and institutional frameworks to manage climate change risks/opportunities in an integrated manner at the local and national level strengthened, including a decentralised approach.

Under this output, the project would assess current needs and identify future CCA management needs in health and energy sectors with the view that NAPA projects will focus on the other sectors. In tandem with the NAPA project currently being implemented through UNEP, and through leadership, management and team building modules incorporated into specific technical CCA-relevant and health/energy related training and development, the project will strengthen individual and team capacities at both technical and management levels. It would then develop models for enhancing institutional frameworks to close the gap and address these needs based on best available-information, particularly learning from already existing multi-stakeholder National Committee on Climate Change (NCCC). It would improve the existing NCCC model by strategic planning of NCCC roles, mandates and responsibilities, or introduce a complete reform or new approach if necessary. Through training and knowledge sharing, the project would then build the capacity of relevant GOL Departments to manage PPP issues effectively, including negotiating the partnerships and using best practices. The intention would be to strengthen the capacity of the GoL to be able to develop, manage and monitor PPP ensuring that the people of Lesotho get an equitable deal Streamlined with the GoL Service Delivery Agenday (previously the Public Sector Improvement and Reform Programme (PSIRP)), four key components of this output will be:

- i) assistance to decentralise CCA management and develop district approaches to CCA and establishment of district CCA management hubs for health and energy sectors through District Councils and relevant Municipalities;
- ii) assistance to institutionalise an integrated approach to CCA management at all levels;
- iii) assistance to strengthen the national level CCA management structure within Government; and
- iv) assistance in the participation of communities and other stakeholders to ensure social integration, ownership and sustainability.

The project would also advocate and lobby for the creation of energy positions in the District Council structures. Thus overcoming institutional barriers as identified in the Renewable Energy-based Rural Electrification³ (REBRE) and the National Development Framework (NDF). During the project the most appropriate institutional arrangement will be sought. The project would continue to enhance understanding and capacity to manage CCA at all levels. Through leadership, management and team-building modules incorporated into specific CCA-relevant training and development, the project will also strengthen individual and team capacities at both technical and management levels. In addition the project will assist and support technical training institutes in the development of RE curriculum. The project would also develop a programme for social integration that involves women, youth and children using participatory approaches that recognise them as critical players and development agents in their communities now and in the future. In this the project will foster synergistic partnerships with the MOET, MGYSR, MTEC and Civil Society institutions. The Lesotho African Adaptation Project will be linked to on-the-ground and ongoing projects. Partnerships with these projects and initiatives will be sought during the inception phase

Output 2. Climate-resilient policies and measures in energy and health sectors implemented and community-based adaptation action promoted.

³ Lesotho Renewable Energy Based Rural Electrification where households in the rural areas in the three Mountain districts are provided with solar PV. This project is expected to be implemented over a five year period. Seven hundred and fifty (750) households have so far been provided with solar PV.

In Lesotho, climate change affects major economic sectors, namely: water, environment, agriculture, forestry, energy, health and rangelands. The major limitations in the current policy developments and legislative frameworks are that issues of climate change have not been accorded the necessary prominence despite the fact that all the economic sectors are vulnerable to instabilities induced by climate change. The national capacity self assessment process has identified the need to address policy and legislative gaps and/or discrepancies. Thus, within the NAPA, a specific project will facilitate awareness raising, policy review and developments including research elements in the various stakeholder sectors. For this reason, this project will not address the regional AAP programme's expected output 1 of "Dynamic, long term planning mechanisms to manage the inherent uncertainties of climate change introduced", as outlined but rather will focus on policy reforms and measures in the energy and health sectors to compliment the NAPA follow-up project⁴. However, in conjunction with NAPA follow-up project, the project will leverage the advocacy for consideration of CC/CCA as a cross-cutting policy issue during the development of the National Development Plan 2011/2012 which is likely to run until 2015/2016. Policy reforms are particularly urgent with regard to land tenure in view of the international companies investing in wind farms for energy generation. Legislation related to leasing of land and company licensing have to be accommodating and yet not perilous to the country. The output will also review status of biomass and hydro-power legislations. Energy legislation should encompass diversification as dependency on one source of energy can be suicidal. Furthermore, this output will avail up-to-date national baselines data on Lesotho's renewable energy (wind and solar) potential, and baselines on health to be used in developing strategies to cope with CC induced risks. Under this output, the project would allocate resources to Lesotho Meteorological Services, (LMS), and the Department of Energy, (DOE) of the Ministry of Natural Resources (MONR), and the EHD in the MOHSW to install a comprehensive network of monitoring systems in their respective fields (measuring stations for radiation intensity and wind speed for energy assessment as well as mosquito and rodents surveys, and household hygienic monitoring under health). Concurrently with the collection of this baseline data, there will be adaptation pilot projects undertaken together with communities at selected sites. In addition there will be joint energy and health pilot within the framework of "partners in health clinics. Baseline data in energy will for example in the case of DOE, inform the department on appropriate locations with potential for wind power and solar thermal power generation as CCA and generic long term interventions. In the case of EHD, generated information would facilitate establishment of long term adaptation strategies and implementation of other specific CCA measures.

Women, youth, and gender equality issues have been integrated into the proposed programme. Distributed renewable energy options for electrical needs will support devolution of decision making in a more equitable fashion and power to shift focus to the disenfranchised. The health part of this proposal study has a community involvement component. The disease monitoring site will be in a selected community and training and demonstrations will be done there. Furthermore demonstration of the hygienic household water storage buckets will also be located in the community members. It is the aim of the proposal to also increase community capacity in different aspects related to the project. Women and youth groups will be involved and details of the engagement will be developed during the inception phase.

Output 3. Financing options to meet national health and energy adaptation costs, including Private Public Partnerships and private participation, expanded at the local and national levels.

In support of the diagnostic work carried out and the adaptation measures in output 2, the project would determine the potential for financial and regulatory instruments to provide incentives for CCA. The project would assist government to identify and mobilise donors on this issue in the health and energy sectors

⁴ This proposal goes beyond what is proposed in NAPA. Specifically NAPA will address projects that will improve agriculture, institutional capacity building and policy reform to integrate CC, improvement of early warning system, improvement of village water supply in drought prone areas, management and reclamation of degraded lands, conservation and rehabilitation of wetlands and promotion of food processing and preservation technologies. This proposal will focus on Health and Energy that were not a focus of NAPA. Also the GIS based disease information and monitoring system advocated for in this proposal is an advancement of what existed before and a positive contribution of this project if funded. Such a database and diseases information system is an important base for understanding and determining diseases behaviour in a changing environment

and integrate donor financing into their management platforms. With support from GEF SGP, World Bank PSC Project, CDE and others, the project would provide greater opportunity for Private Public Partnerships (PPP), already supported by the REBRE, to create sustainable CCA financing mechanisms in view of rising electricity prices. In addition, the project would work for the introduction of Renewable Energy Feed-In Tariffs (REFIT) in Lesotho to cover generation costs and a reasonable profit and thus encourage private investments into RE. The project would also heighten exploration of possibilities of export into the region where the rising prices are actually linked to a current crisis in energy. To achieve health and energy co-benefits, the project would tap from partnerships such as those of Partners in Health (PIH) and Solar Energy Lighting Fund (SELF), as invoked in Rwanda, GEF and others. The project would solicit funding for baseline data collection, both in health and energy, setting up of a health laboratory and solar and wind pilot projects. To enable communities to access renewable energy products, the project would explore the potential of network marketing as an innovative and sustainable income generating mechanism, especially for vulnerable communities, thus also providing relief for biomass sources, and enjoying the wellness benefits of network marketing products (exploiting, for instance, the existing FAO-QN partnership). This would have a multiplier effect of biomass restoration, curbing soil erosion, rehabilitating wetlands thus enhancing water retention and quality with attendant health benefits, and recovering the ecological aesthetics with desirable impacts on eco-tourism. The project would develop a financing strategy, including guidelines for carbon trading, that take into account the potential of the private sector to participate in and finance CCA and possible benefits to Lesotho and its private partners, taking cue especially from the ongoing preparations of Net Group SA to establish a 25 MW (scaling up to 40 MW) wind farm planned for commissioning in 2011 in the Lets'eng-la-Terae area; and identify how DOE and EHD budgets would need to be adjusted. The project will develop strategies to raise funds for the training of pools of local technicians who will help install and maintain installations and distribution equipment in local areas. Initial funds identified are incomes from international adaptation funds (in particular the AAF) and revenues from environmental payment mechanisms such as carbon sequestration credits, the conditions of which need to be studied in order to guide licensing of IPPs.

Output 4. Knowledge on adjusting national and sub-national development processes to fully incorporate climate change risks/opportunities generated and shared across all levels.

At the country level, the project will address the two facets of knowledge management: i) Knowledge gathering throughout the implementation period of the project and beyond via the learning-in-action approach; and ii) information sharing for different target groups. The project will develop and implement an innovative strategy to reach the community level, schools, and other stakeholder groups through exchange visits, participatory workshop processes, multiple communication channels and multi-media approaches. In line with output 3, information stemming from research and studies generated, among others, under this project will be communicated in a way that will readily influence policy formulation or reform. The project will thus integrate this as part of its implementation strategy. For this purpose and for international benefit, the project will develop a dedicated web hub to be housed at an appropriate location as determined under output 3. Relevant strategic conversations around health energy CCA (HECCA) issues and knowledge not covered under the NAPA will take place through a variety of communication channels including, among others international conferences and over the cyberspace. Investments in knowledge sharing will contribute significantly to curbing economic and development losses that would be likely under a business as usual scenario. This output will also contribute to the UNDP Adaptation Learning Mechanism (ALM), contribute to its content, community of practitioners and promote its use in Lesotho by, among others, filtering the lessons learned into the NAPA.

1.3 Barriers to proposed response

The project envisions a Lesotho in which government, civil society institutions, institutions of learning, the private sector and communities would be well informed about climate change and its likely and forecast impacts on the economy and livelihoods. In this way, the people of Lesotho will be provided with information on alternative approaches and technologies to increase resilience. This will generate the appropriate knowledge, skills and attitudes to identify, develop and implement adaptive and new

measures, technologies, methods and strategies. For this to happen, an increasing proportion of the population would need to have access to finance and the necessary technical support. The project envisions citizens and organisations that are enabled and empowered to anticipate and act responsively to climate change; government that anticipates and is able to respond to climate change risks and opportunities, and a dynamic, flexible and entrepreneurial private sector that responds innovatively to anticipated and realised (climate) changes. A Lesotho in which information relevant to stakeholder needs flows timely and appropriately thus enabling effective decision-making by all affected parties. Several barriers, detailed below, pose challenges to the realisation of this vision.

The first challenge has to do with institutional arrangements and institutional and systemic capacity for CCA. CC is a cross-cutting, high-impact phenomenon. A critical barrier has to do with the extent to which CC influences our thinking and is integrated, among others, into the national development plans. The PRSP and current National Development Framework mention little about CC. It will be critical that this project lobbies strongly for CC and CCA to be explicit integral parts of all future National Development Plans (NDPs) in conjunction with NAPA. Equally important are: the selection of the most appropriate location and strengthening of the coordinating entity, strengthening of stakeholder-institutions, their collaboration mechanisms and processes; the selection of the appropriate management team with the necessary strengths and commitment to the achievement of the project outputs and outcomes; the appropriate rewards for achieving project outputs and outcomes; appropriate supervision of the project, including its monitoring and evaluation; commitment of key stakeholders to the project outputs and outcomes and the level of their participation in project implementation. In respect of location, the project would use action-in-learning approaches (see output 3). In respect of capacity, the project will use and build on the impetus of its development process to inculcate an integrated approach to CCA; and develop and achieve outcomes for building institutional and systemic capacity.

The second barrier is financial resources to implement CCA. To transcend the barrier the project will: streamline Health and Energy Climate Change Adaptation HECCA with existing GOL programmes; and the UNDAF, including the GFTAM; explore and enhance private public partnerships, including streamlining the World Bank supported PSC Project; tap into existing funding sources – e.g. CDM, GEF, MDP; explore possibilities of synergies with other sectors' CCA programmes; explore possibilities for introducing a downstream levy on all water consumers as an incentive for rehabilitating and protecting wetlands for improved water quality downstream; and exploit the possibilities offered by the growing network marketing industry for income generation. The use of PPPs to overcome financial barriers to implementation will be pursued. A project proposal titled 'The Improvement of Early Warning System to Reduce Impacts of Climate Change and Capacity Building to Integrate Climate Change into Development Plans' is being developed. Among other things the project seeks to build the country's capacity to formulate and implement effective adaptation responses to climate change. It will also develop a policy framework to support planning for national adaptation to climate change. This will enable mainstreaming of climate change issues into national policy development debates and legislative frameworks by building capacity at both institutional and systemic levels to bring climate change as a factor in national planning. This would have far greater impacts in terms of achieving adaptation benefits by leveraging the resources of all ministries and, by ensuring that vulnerability is not inadvertently being increased through poor planning choices and policies. Activities under this project will complement those that will be carried out by the project "Supporting integrated and comprehensive approaches to climate change adaptation in Lesotho". Poverty aspects will not hinder the project, seeking to manage to operate effectively despite the poverty and relatively low capacity of the population to implement projects like this.

The third barrier is effective communication and team approach. The project will institutionalise effective communication and team approach to planning and implementation through programmes aimed at achieving social integration and integrated management approaches as project outcomes as in output 3.

The fourth barrier is level of awareness on impact of CC in people's livelihoods. There is a need to initiate awareness campaigns including curricula on CCA and also piggyback on initiative of Department of Environment to disseminate CC information at district level using District Environment Officers. Piloting thermal solar and wind energy farms for generation of space-heating and cooking energy to inform long-term interventions better and provide anecdotal evidence will boost campaign effectiveness.

The fifth barrier is the willingness of Local Government to to delegate resources down to the local level. In this case MoNR delegating some staff (much like the extension workers in Agriculture). Delegation of these resources is required for inclusion of energy positions in local structures and finance for their operation. A significant amount of lobbying will have to be done to achieve this in an attempt to build needed local capacity for HECCA. The concept of Local Government is new to Lesotho and is still in its formative stage and hence faces a number of challenges. Political stability and maturity is necessary to establish a fully functional decentralization of power. It is the intention that evidence of government commitment to these principles will be sought and documented through this Lesotho AAP project.

Barriers have not been developed at the output level as part of the proposal, these will be refined during the inception phase

1.4 Underlying principles

During the planning processes of the AAP country projects elsewhere in Africa, it was found that it was helpful to formulate underlying principles for country projects especially in view of project implementation. The following principles will underlie the project strategy of Lesotho, formulated in the following section, and will need to be adhered to in implementation.

1. Alignment of the individual's talents and strengths with the task at hand – project outputs and outcomes – induce passion and will enhance commitment to the task. The selection process for project management should include a search for relevant strengths needed for effective project implementation.
2. Commensurate rewards reinforce the significance and importance of the task at hand and are likely to lead to effective service delivery. Outcomes-based reward systems should be developed and integrated into the human resource management programmes of the project to enhance effectiveness of delivery.
3. Financial responsibility builds ownership in the AAP: resources should be given to the Ministries impacted by climate change to develop impacts and options analysis for CCA (financial resources will be distributed in line with the selected project mechanisms, in Lesotho an NEX arrangement).
4. Chaired by the LMS, the Dedicated support team provides the following key functions:
 - i. standard setting (i.e. helping the Ministries to develop TORs for the work);
 - ii. convenors of Ministries and multi-stakeholder platforms (i.e. bringing stakeholders including Ministries together to understand cross-sectoral linkages and implications for policy);
 - iii. synthesising information from sectoral studies, pilot projects and feeding such information back into multi-stakeholder processes;
 - iv. coordinating the knowledge management component;
 - v. providing or soliciting technical advice, as needed for the implementation of various project components;
 - vi. project M & E and reporting.
5. Economic evidence is the foundation for the programme (i.e. what will adaptation cost? How will it be paid for? E.g. fiscal or regulatory instruments, adjustments in sectoral budgets, or other), as will be addressed through targeted activities as laid out in output 4.
6. Demonstration activities should be geared towards generating adaptation learning, with a policy relevant focus, and be catalytic to enable replication. Lessons learnt from ongoing CCA pilot projects will be integrated into the AAP and will contribute to build the national adaptation knowledge base. Demonstrations can be implemented by or with a wide range of partners, and should include CBOs, NGOs, and other private and public partners. Local communities are the key beneficiaries of the project.
7. Technical expertise/competency should be build within the civil service, rather than relying on consultants to do the work. Where outside expertise is required, strong mechanisms for internalisation of knowledge generated must be put into place. Skills

need to be transferred into the Ministries through training and knowledge sharing. It is important that any consultant facilitated work will be adopted within the commissioning entity and partner institutions, including the private sector partners. The use of multi-stakeholder briefings and trainings is promoted. It may be useful that the consultant involved in the development of the project proposal is involved in the supervision, monitoring and evaluation of the project in order to maximise achievement of project outputs and outcomes and the transfer of knowledge and skills.

2. Strategy

It is noted that CC and in particular adaptation, are not yet integral parts of the current UNDAF and CPD. However the proposed interventions directly address UNDAF Outcome 3 "National Institutions able to implement sustainable pro-poor economic development, environmental management and household food security policies and strategies with special focus on vulnerable groups including women, young men and women and the disabled". Without adaptation the intended UNDAF outcome cannot be achieved. Outputs under outcome 3 include

- (i) assurance that national institutions are able to promote and foster sustainable, pro-poor economic growth;
- (ii) assurance that national institutions are able to increase agricultural productivity and household food security;
- (iii) assurance that national institutions have capacity to plan utilize and manage natural resources including human settlements in a sustainable manner;
- (iv) development of national intuitions capacity to implement effective and sustainable disaster risk reduction strategies;
- (v) assurance that central government, local institutions and communities are able to develop and implement climate change adaptation and mitigation strategies.

The proposed AAP Lesotho Project has formulated Activity Results that will directly contribute to attaining these outputs. It is observed that more recent UNDP Strategic Plan has been amended to include a stronger climate change and adaptation focus. The National Development Framework (NDF) which is an interim plan for 2009-2011 when a National Development Plan (NDP) should be re-instituted is not forthcoming on issues of CC. The AAP Lesotho Project together with NAPA should be vehicles to enshrine CC/CCA as a cross cutting issue in the proposed NDP. Based on the overall development framework of Lesotho, the project design for this project is detailed in the following.

The project objective is "by the end of the project, participating individuals, institutions and communities will have the technical knowledge, skills, information and resources to plan for and implement effective and timely climate change responses".

These will complement and allow for implementation of national strategies e.g. Vision 20/20 and NDF.

Output 1: Leadership capacities and institutional frameworks to manage climate change risks/opportunities in an integrated manner at the local and national level strengthened, including a decentralised approach.”

Activity Result 1: Strengthened leadership and institutional capacities of national government and local authorities in addressing climate change risks and opportunities.

Actions:

- Transform the current Health and Energy Climate Change Steering Committee to constitute the Dedicated support team and include other relevant stakeholders.
- Assess current HECCA management needs and identify future HECCA management needs in Lesotho.
- Support staff capacity development within the CC units to effectively coordinate Lesotho's CC and the needs of the project, responses and conversion of new opportunities derived from the international carbon trading market, such as CDMs after the formation of the NDA
- Specifically support the DOE, LMS, MOHSW, and to a lesser extent MFD and other relevant ministries and stakeholders, in CCA capacity, including through staff training, financial support for staffing with a view to integrating the staff (technical staff from monitoring stations and pilots) into government service at the end of the project; and office equipment.
- Advocate and lobby for creation of energy staff positions within District Councils structures and their inclusion in Council budgets.
- Strengthen or redesign dedicated units within Central Government and Local Authorities to coordinate national and district health/energy climate change strategic activities, including management of PPP issues, and mainstream CC into national policy and planning framework
- Lobby for secondment of appropriate staff from GOL into the HECCA Project Management Team to ensure post-project sustainability⁵.
- Establish the new strengths-based project management team and offices using contemporary human resource management practices, including principles 1 and 2 (see Underlying Principles above) as guide in the recruitment, selection and rewarding of candidates, in line with the NDF and the next NDP.
- Assist and support Schools and Technical Training Institutions in the development of appropriate RE curricula.
- Develop a social integration programme in selected community specifically for women, youth and children.

Indicator 1: Dedicated national and district CCA coordinating units strengthened to include health/energy components, respectively, within central government and affected municipalities that effectively facilitate coordination of national and district HECCA frameworks. (Structure and impact)

Indicator 2: Number of Ministries and other institutions working actively within the CC frameworks. (Coverage)

Activity Result 2: Strengthened, and if necessary reformed, national and district multi-stakeholder CCA coordination platforms.

⁵ Various parts of the project are sustainable; however, more information is needed before an evaluation of the sustainability of the project is possible. In particular the information systems which the project will seek to put in place if successful are an example. Conversely, these systems need to be in place to provide the very information upon which a sustainability assessment can be founded. Long term economic sustainability of the activities and initiatives is integral to successful adaptation response measures. More specific sustainability assessment metrics and issues will be addressed in the inception phase.

Actions:

- Undertake assessment of current coordination NCCC; perform a SWOT analysis and develop strategy for best CC platforms that include health/energy components based on lessons learnt.
- Lobby for CC platform's vision, mandate, roles, responsibilities, as well as operational modalities, including sustainable financing mechanisms, and membership to include health/energy issues based on Lesotho CC risks and opportunities needs.
- Operationalise "renewed" CC coordination entity with online, dynamic information sharing hub (Output 4 AR 1), including training in management of PPP issues, and initiate and institute a regular HECC / HECCA forum.
- Pilot a CC/CCA magazine/bulletin highlighting national efforts and disseminating regional/global efforts or contribute to the NAPA magazine/bulletin, if it exists.
- Develop relevant models for district mechanisms for each of the ten (10) districts based on NCCC experiences and other district networks and experiences including Participatory Poverty Assessments and Strategic Community Conversations as in NAPA.
- Set up district platforms based in municipalities and support their operations in consultation with stakeholders.
- Train and develop HECCA multi-stakeholder groups in relevant leadership and management skills
- Assist district platforms to develop work plans with a strong focus on outreach and community action.
- Include M & E and lay foundation for long-term adaptive planning or reshaping of the platform or include in the NAPA M & E.

Indicator 1: Effective operational multi-stakeholder coordination platform that include health/energy issues in their agenda. (Structure/Sustainability/Impact)

Indicator 2: Number of operational District multi-stakeholder coordination platforms that include health/energy issues in their agenda. (Sustainability / Coverage).

Activity Result 3: Strengthened leadership and technical capacities of service providers (e.g. NAPA support organisations, CBOs, Women and Youth organisations and others) at national, district and local levels to assist communities in addressing health /energy climate change risks and opportunities.

Actions:

- Assist communities in selected project areas and stream line with NAPA activities and other initiatives to develop local level HECCA strategies and action plans.
- Facilitate for service providers to respond to local level needs in terms of CC risks and to capitalise on potential opportunities and incentives arising from CC through: information dissemination, training and other incentives, ensuring that the end user is reached through extension services, in line with the Unified Extension Approach (UEA).

Indicator 1: Number of service providers that received training and incentives. (Sustainability)

Indicator 2: Percentage representation of service providers active in the various areas of the project in Lesotho. (Coverage)

Activity Result 4: Women and Youth action programmes that enhance overall community outreach on health / energy climate change adaptation implemented.

Actions:

- Strengthen and develop the concept of women and youth as nuclei of development action and change agents throughout Lesotho.
- Address gender aspects of women and youth in programming.

- Implement women and youth action concept on a pilot basis, establish them as learning experiences and document lessons learnt for potential up-scaling.
- Hold or contribute to Lesotho CC women and youth conferences and other targeted women and youth activities.
- Support scholarships or awards for “Renewable Energy in Schools/Tertiary Education Science Fairs” (tangible technology demonstration) linked to CC and CCA.
- Develop community HECCA toolkits and strengthen community outreach element, e.g. through The Big Issue, Facebook, Twitter, Participatory or Warehouse Theatre, Morija Arts and Culture Festival, other women and youth-relevant platforms.
- Include women/youth M & E plan/s for women/youth programme/s; and establish baselines of awareness and commitment to action.

Indicator 1: Number of women/youth activities implemented per district. (Coverage)

Indicator 2: Change in percentage of women/youth that are/feel that they are knowledgeable about HECC and HECCA. (Impact)

Indicator 3: Number of other community members informed through women/youth action programmes. (Impact)

Output 2. Climate-resilient policies and measures in energy and health sectors implemented and community-based adaptation action promoted.

Activity Result 1: Energy and Health sectors CCA policies and baselines for adaptation action in place

Actions:

- In conjunction with NAPA create a forum for integrating CC/CCA in the next NDP
- Support development of appropriate policies and legislation framework to address bottlenecks related to land leasing and licensing for private investors in energy development. Specifically, this is the kind of output where focussed support from international experience in these matters, applied in a locally relevant and diplomatically sensitive fashion can capitalise on the nascent but growing private sector investment groundswell. Details of engagement/activities will be developed during the inception phase.
- Support review and update (develop where absent) policy on biomass and hydro-power.
- Establish a baseline assessment for solar thermal, wind power potential in Lesotho in order to facilitate the development of wind atlas including existing knowledge and infrastructure.
- Develop/strengthen an environmental health analysis laboratory
- Develop an environmental health information and disease monitoring system (GIS based) specifically for plague, malaria and bilharzia.
- Provide baseline on climate change and human health relationships including existing knowledge and infrastructure

Indicator 1: *Integration of CCA in NDP and acted upon (impact)*

Indicator 2: *Energy development investment policies that safeguard national interests (impact)*

Indicator 3: *Availability of data for developing CCA interventions in both energy and health sectors (coverage/impact)*

Indicator 4: *Existence of an environmental/disease monitoring system*

Activity Result 2: Capacity to effectively address energy and health issues developed through pilot projects

Actions:

- Develop the following pilot projects alongside capacity development activities to demonstrate potential of Renewable Energy to increase energy and economic adaptive capacity⁶
- Solar energy:
 - During the identification of the national solar thermal monitoring network stations, appropriate pilot sites should be selected in conjunction with participating communities. A comparative advantage of solar thermal generation over PV as CCA measures can assist in developing concept for long-term CCA planning and measures
 - Develop joint pilot projects together with health sector in establishing partners in health clinics
- Wind energy:
 - With the inclusion of the already three existing measuring stations at Sani Pass, Letseng la Terai and Quthing, the network should be increased such that there will be a possibility to develop a wind atlas. Wind monitoring masts will be installed on selected sites. Two or more years of wind monitoring provide more reliable results that will allow better estimation of

⁶ Diversification of energy from hydro-power and imported fossil fuel-based electricity to other forms of clean energy will offer a cushion during unfavourable hydrologic cycle episodes. One of the proposed pilot projects is to establish solar thermal generators for selected rural health centres/clinics. This undertaking will be a combined effort between health and energy stakeholders (EHD and DOE). DOE will also promote energy efficient building architecture. These efforts will enhance the capacity of communities to adapt to climate change impacts. Generally, if livelihoods improve people have an economic buffer against climate change.

energy production with reduced investment risks. Based on results from such analyses appropriate sites for development of wind farms as adaptation measures will be determined. The amount of electricity that will be generated will assist in developing concept for long-term CCA planning and measures

- Wind and solar energy:
 - Incorporation of gender sensitive planning and programming is important; the impact of household energy policies and measures are likely to have gender specific impacts, which should be addressed through gender specific CCA measures
 - On a pilot basis implement and test such measures; document, communicate and upscale as requested/needed

- Sanitation & health:
 - Develop a CBA pilot project alongside the domestic hygiene status monitoring (potable water).
 - Establish an environmental health and disease monitoring system
 - Establish mosquito and snails monitoring sites
 - Establish bubonic plague monitoring network
 - Strengthen environmental health analysis laboratory
 - Establish site monitoring environmental degradation, conflicts and injury
 - Monitor effect of use of biomass on health
 - Include gender sensitive planning and programming in relation to pilot study as sanitation and health are engendered sectors
 - Dissemination and awareness raising activities carried in conjunction with NAPA

- Include M&E component and up-scaling plan; link to Output 4

Indicator 1: % availability of data for future planning (coverage)

Indicator 2: % change of investments into appropriate sanitation systems (Impact)

Indicator 3: % adoption of hygienic household water storage buckets (coverage/impact)

Indicator 4: % Number of plague foci under control

Output 3: Financing options to meet national health and energy adaptation costs, including Private Public Partnerships and private participation, have been expanded at the local and national levels

Activity Result 1: Strengthened financial development framework on CC risks and opportunities established in Lesotho

Actions:

- Integrate the results of policy research carried out under Output 2 AR 1, together with other available research such as the IFF analysis into the assessment of the potential for fiscal and regulatory instruments to provide incentives for HECCA.
- Baseline Research on the financial value of adaptation
- Motivate for an incentive for private companies that integrated adaptation policy and practice in their operations
- Support capacity development activities towards establishment of the National Designated Authority to take advantage of the financial opportunities it will provide through CDMs and others
- Support the development of a financing strategy that takes into account the potential for the private sector to augment the MTFE and finance HECCA, how national budgets would need to change as envisaged in the NDF, the expected income from international adaptation funds (in particular the AAF) and revenues from environmental payment mechanisms such as carbon sequestration credits.
- Through the NDF guidelines mainstream HECCA to facilitate HECCA inclusion in the MTEF; and thus ensure leveraging of appropriate sector investments.
- Mainstream the Private Sector Competitiveness Project to stage HECCA and Renewable Energy Investment Promotions including forums.

Indicator 1: Percentage change of financial resources allocated to dealing with CC risks and opportunities country-wide. (Impact)

Indicator 2: Percentage change of number of innovative market-based, fiscal and regulatory instruments designed and tested taking into account gender issues and concerns of the marginalised and most vulnerable. (Sustainability/Coverage)

Indicator 3: Number of private-public partnerships and private investments in HECCA projects. (Coverage)

Indicator 4: Number of CDM projects proposals submitted and approved (impact)

Activity Result 2: Innovative and sustainable CBA financing mechanisms in place for meaningful community actions in Lesotho.

Actions:

- Develop concept of long-term financing including through endowment funds, and mainstreaming HECCA as key risk and opportunity to microfinance. In particular, develop a financing strategy that will help communities, especially the most vulnerable, with sustainable income generation mechanisms to purchase alternative and renewable energy products by exploring the potential of risk-proof network marketing systems, and streamline with PRS/NDF, the coming NDP, MCA and UNDAF. Carry out assessment of options.
- Strengthen and initiate partnerships with e.g. GEF, PIH, SELF and other donors to respond to HECCA challenges
- Establish a study on CC risks and opportunities to microfinance in Lesotho.
- Solicit and contribute financial resources to piloting CBA type of support to communities implementing HECCA toolkits, including introducing a down-stream levy on all water

consumers to provide incentive for wetlands rehabilitation and protection for improved water quality downstream.

- Explore network marketing, especially the FAO-Questnet partnership to establish the process for opening businesses for vulnerable households to generate incomes for purchasing renewable energy products and generally improving their livelihoods. (See Annex 3)
- Streamline with the National Development Framework (NDF) to mobilise donors – World Bank, GEF, MCA, Action Aid and others – to finance the establishment of a revolving fund for the establishment of Questnet businesses or alternative risk-free and sustainable income generating mechanisms for vulnerable households.

Indicator 1: Amount of financial resource allocated for implementation of community HECCA strategies and action plans through CBA. (Impact)

Indicator 2: Number of sustainable income generating mechanisms introduced and vulnerable households participating. (Coverage / Impact)

Indicator 3: Number of community level projects that demonstrate tangible HECCA benefits. (Impact/Coverage)

Activity Result 3: The private sector invests in or partners with the public sector in response to HECCA opportunities

Actions

- Create a framework for PPP and private participation in HECCA opportunities and link to HECCA community toolkits which aid communities in developing local level community HECCA strategies, action plans and priority interventions.
- build capacity for identifying PPP opportunities, establishment (including negotiation), management and monitoring of PPPs
- creation of a private sector investment framework
- Explore possibilities for introduction of REFIT
- Design and carry out HECCA Investment Promotions, including holding HECCA investment Forums

Indicator 1: Types, quantities and distribution of promotion materials; and attendances at promotion events. (Coverage)

Indicator 2: Number of HECCA-related PPPs and IPPs. (Impact)

Output 4: Knowledge on adjusting national and sub-national development

processes to fully incorporate climate change risks and opportunities generated and shared across all levels

Activity Result 1: Key stakeholders generate, gather, document and disseminate CC and HECCA knowledge across all levels and influence policy and programmatic responses for adaptation in priority sectors at local, national and international levels.

Actions:

- Develop an M & E framework which includes the key HECCA policy and practices questions that will be investigated e.g. costs of expected CC impacts, HECCA strategies, methods and activities, benefits of HECCA etc.
- Document case and pilot approaches on HECCA systematically and in an accessible format, e.g. on line portal, magazine/bulletin.
- Focus on the translation into and communication of relevant research and study information into content and language aimed at influencing policy formulation.
- Synthesise case studies effectively and draw out lessons learnt and best practices for wider application, and link to NAPA and UNDP ALM.
- Design, set up and develop mechanism for sustainable maintenance of a web-based knowledge platform.
- Contribute to national and international community of practitioners through science communication platforms such as attendance at meetings conferences and other platforms including peer reviewed paper contributions in Lesotho, regionally and internationally, especially through the NAPA.
- Promote an evolving bi-annual conference event in Lesotho with different situation-based themes each year (initially linked with the women/youth conference).
- Use toolkit for cross-learning.
- Communicate findings of all Activity Results via the national coordinating process to raise awareness and motivate all stakeholders into positive action.

Indicator 1: Data on costs and benefits of adaptation. (Impact/Coverage)

Indicator 2: Percentage change of frequency of usage of web portal. (Impact/Coverage)

Indicator 3: Number of lessons learnt and innovations replicated elsewhere in Africa through AAP partner and adaptation learning network. (Replicability)

Indicator 4: Number of meetings/conferences and papers presented (impact)

Inception phase of project to determine project implementation arrangements

A variety of Activity Results can only be achieved with the direct involvement of health and energy sectors together with the identified stakeholders. To create ownership and buy-in and give these sectors a stake, financial resources for project activity implementation will be made directly available to them. During a three months inception phase explicit partnership and performance contracts will be drawn up, funds will be made available to DOE and EHD to conduct CC risk and vulnerability analysis, develop CC resilient sector policies and implement such.

Comparative advantage

UNDP has a strong capacity building and policy development focus in all its operations. The AAP Lesotho project formulates priorities pertaining to these institutional focal areas. In Lesotho UNDP has a strong environmental portfolio, and, together with the international component of the AAP can provide relevant technical guidance to the project implementation. Through its strong partnership approach, UNDP can leverage additional support and collaboration with other development partners, esp. within the UN family. Additionally, through a strong Country Office, project management can be supported through competent and efficient project assurance.

3. Results and resources framework

| |
|--|
| <p>Intended Outcome as stated in the Country Programme Results and Resource Framework:</p> <p>UNDAF: Outcome 3.</p> <p>National Institutions able to implement sustainable pro poor economic development, environmental management and household food security policies and strategies with special focus on vulnerable groups including women, young men and women and the disabled</p> <p>Government, local institutions and communities are able to develop and implement climate change adaptation strategies</p> |
| <p>Outcome indicators as stated in the Country Programme Results and Resources Framework, including baseline and targets:</p> <p>Country Programme Outcome: Policies and institutional capacity strengthened to improve natural resources and environmental management</p> <p>Country Programme Output: Policies and frameworks developed and implemented on global conventions, JSIA, Poverty Reduction Strategy, climate change for sustainable development</p> |
| <p>Applicable Key Result Area (from 2008-11 Strategic Plan): Promote climate change adaptation</p> |
| <p>Partnership Strategy: The Ministry of Natural Resources as the Implementing Partner will provide oversight for the project. The Ministry of Finance and Development Planning, as the coordinating agency and main counterpart for UNDP will provide overall strategic national planning direction. In addition to providing implementation finance UNDP will ensure that the project is implemented according to the corporate guidelines and the UNDAF and also coordinate the interventions of UN Agencies as well as support mobilization of additional resources</p> |
| <p>Project title and ID (ATLAS IDs): Award 00058985, Project 00073508 (LSO10)</p> |
| <p>Applicable Key Result Area (from 2008-11 Strategic Plan): Promote climate change adaptation</p> |

| Output, Objective, Baseline, Targets | Activity results and actions | Means of verification | | | Responsible parties | Inputs |
|---|--|--|--------------------------|-----------------------------|---------------------|-----------------------------|
| | | Quality indicator | Activity results level | | | |
| | | | Quality methods | Assessment time | | |
| <p>Output 1: Leadership capacities and institutional frameworks to manage climate change risks/opportunities in an integrated manner at the local and national level strengthened, including a decentralised approach.</p> <p>Objective: Lesotho has competent leadership and comprehensive institutional frameworks to manage climate change risks/opportunities.</p> <p>Baseline: Leadership competencies and institutional frameworks not well adapted to manage climate change risks/opportunities</p> | <p>Activity Result 1.1: Strengthened leadership and institutional capacities of national government and municipalities in addressing climate change risks and opportunities.</p> | | | | | |
| <p>Target 2011: Plans for skills and knowledge acquisition and adjustment of institutional frameworks developed</p> | <p>Action 1.1.1 Assess and identify HECCA needs</p> | <p>AR 1.1 Indicator 1: Dedicated national and district CCA coordinating units established, respectively, within central government and affected municipalities that effectively facilitate coordination of national and district CCA frameworks. (Structure and impact)</p> | Inventory report; Survey | First year of project; EoP* | MONR, MOHSW, PMT, | PMT staff |
| <p>Target 2012: New skills and knowledge are being used and adjusted frameworks are operational</p> | <p>Action 1.1.2 Support HECCA capacity development in various ministries</p> | <p>AR.1.1 Indicator 2: Number of Ministries and other institutions working actively within the CC frameworks that include health/energy components.</p> | Survey | EoP | PMT, NCCC, UNDP. | Office and rental equipment |

| Output, Objective, Baseline, Targets | Activity results and actions | Means of verification | | | Responsible parties | Inputs |
|--------------------------------------|---|---------------------------------|------------------------|-----------------|--|--|
| | | Quality indicator (Coverage) | Activity results level | | | |
| | | | Quality methods | Assessment time | | |
| | Action 1.1.3 Advocate for creation of HECCA positions | | | | PMT, NCCC, Relevant line ministries, District Councils | Vehicle |
| | Action 1.1.4 Strengthen HECCA units | | | | PMT, Consultants, UNDP | Office consumables |
| | Action 1.1.5 Establish project management team | | | | PMT, NCCC, MONR, UNDP | Capacity development materials |
| | Action 1.1.6 Support staff capacity development | | | | PMT, UNDP, Consultants | PMT staff, office and rental equipment, Vehicle, Office consumables, Capacity development materials, Conferences, Consulting services, M&E Budget. |

⁷ This baseline information was not available at the time of writing, and will therefore be decided during the inception phase.

| Output, Objective, Baseline, Targets | Activity results and actions | Means of verification | | | Responsible parties | Inputs |
|--------------------------------------|---|---|---|-------------------------------|--|--|
| | | Activity results level | | | | |
| | | Quality indicator | Quality methods | Assessment time | | |
| | <p>Action 1.1.7 Support Technical Training Institutions</p> <p>Action 1.1.8 Develop social integration programmes</p> | | | | <p>MONR, MOHSW, PMT</p> <p>District Councils, UNDP, Consultants, Communities</p> | <p>Conferences, Consulting services, M&E Budget.</p> <p>Consulting services, M&E Budget.</p> |
| | <p>Activity Result 1.2: Strengthened, and if necessary reformed, national and district multi-stakeholder CCA coordination platforms that include health/energy components.</p> | | | | | |
| | Action 1.2.1 Assess current coordination NCCC | AR 1.2 Indicator 1: Number of participants trained in adaptive planning and management (Sustainability) | Workshop report; Project Progress Reports | Each workshop event; annually | | |
| | Action 1.2.2 Develop CC platform's vision, mandate, roles, responsibilities and operational modalities | AR 1.2 Indicator 2: Number of contingency plans developed in context of project (Coverage) | Project Progress Reports | PIR frequency | | |
| | Action 1.2.3 Operationalise "renewed" CC coordinating entity | | | | | |
| | Action 1.2.4 Pilot CC / HECCA magazine / bulletin | | | | | |
| | Action 1.2.5 Develop models for district | | | | | |

| Output, Objective, Baseline, Targets | Activity results and actions | Means of verification | | | Responsible parties | Inputs |
|--------------------------------------|--|--|--------------------------|------------------|---------------------|--------|
| | | Activity results level | | Assessment time | | |
| | | Quality indicator | Quality methods | | | |
| | mechanisms | | | | | |
| | Action 1.2.6 Set up district platforms and support their operations | | | | | |
| | Action 1.2.7 Assist district platforms to develop work plans | | | | | |
| | Action 1.2.8 Lay foundation for long-term planning, including E & M | | | | | |
| | Action 1.2.9 Mainstream HIV/AIDS and NDF and develop model | | | | | |
| | <p>Activity Result 1.3: Strengthened leadership and technical capacities of service providers (e.g. NAPA support organisations, CBOs, Women and Youth organisations and others) at national, district and local levels to assist communities in addressing health/energy climate change risks and opportunities</p> | | | | | |
| | Action 1.3.1 Assist communities to develop HECCA strategies and action plans | AR 1.3 Indicator 1: Budget allocated to operate information centres (Sustainability) | Project Progress Reports | Annually; EoP | | |
| | Action 1.3.2 Facilitate for service provider responsiveness | AR 1.3 Indicator 2: Number of information centres operational (Coverage) | Project Progress Reports | Annually; EoP | | |

| Output, Objective, Baseline, Targets | Activity results and actions | Means of verification | | | Responsible parties | Inputs |
|--|--|---|------------------------|-----------------|---------------------|--------|
| | | Quality indicator | Activity results level | | | |
| | | | Quality methods | Assessment time | | |
| Activity Result 1.4: Women and Youth action programmes that enhance overall community outreach on health/energy climate change adaptation implemented | | | | | | |
| Action 1.4.1 Develop women and youth development action | AR 1.4 Indicator 1: Number of women/youth activities implemented per district (coverage). | Workshop reports, media reports, project progress reports | Annually | | | |
| Action 1.4.2 Address gender aspects | AR 1.4 Indicator 2: Change in % of women/youth that are /feel that they are knowledgeable about CC and HCCA impact | | | | | |
| Action 1.4.3 Implement women and youth action concept | AR 1.4 Indicator 3: Number of other community members informed through women/youth action programmes. (Impact) | | | | | |
| Action 1.4.4 Hold Lesotho women and youth CC conference/s | | | | | | |
| Action 1.4.5 Support scholarships | | | | | | |
| Action 1.4.6 Strengthen community outreach | | | | | | |
| Action 1.4.7 Include M&E | | | | | | |

| Output, Objective, Baseline, Targets | Activity results and actions | Means of verification | | | Responsible parties | Inputs |
|---|--|--|--|-------------------------------|---|--|
| | | Quality indicator | Quality methods | Assessment time | | |
| | | | | | | |
| <p>Output 2: Climate-resilient policies and measures in energy and health sectors implemented and community-based adaptation action promoted</p> <p>Objective: Lesotho has in place climate-resilient policies and measures in energy and health sectors</p> <p>Baseline: Lesotho has few or no climate-resilient policies or measures in place in energy and health sectors</p> <p>Target 2011: At least 4 baseline studies with associated pilot measures (see Activity Results) planned and operationalised</p> <p>Target 2012: Lessons learnt from at least 4 baseline studies with associated pilot measures documented and plans for upscaling in place (integrated into longterm CCA adaptive planning context)</p> | <p>Activity Result 2.1:</p> <p>Energy and Health sectors CCA policies and baselines for adaptation action in place</p> <p>Action 2.1.1: In conjunction with NAPA create a forum for integrating CCA in the next NDP</p> <p>Action 2.1.2: Support development of appropriate policies and legislation framework to address bottlenecks related to land leasing and licensing for private investors in energy development.</p> <p>Action 2.1.3: Review and update (develop where absent) legislation on biomass and hydro-power.</p> <p>Action 2.1.4: Perform a baseline assessment of solar thermal, wind power potential in Lesotho in order to facilitate the development of wind atlas including existing knowledge and infrastructure</p> | <p>AR 2.1 Indicator 1: Integration of CCA in NDP and acted upon (impact)</p> <p>AR 2.1 Indicator 2: Energy development investment policies that safeguard national interests (impact)</p> <p>AR 2.1 Indicator 3: Availability of data for developing CCA interventions (coverage/impact) in both energy and health sectors</p> <p>AR 2.1 Indicator 4: Existence of a GIS based environmental/disease monitoring and information system</p> | <p>Project Progress Report</p> <p>Policy review report; Project Progress Report; Survey,</p> | <p>EoP</p> <p>Annual; EoP</p> | <p>MONR, MOHSW</p> <p>PMT</p> <p>NCCC</p> <p>Relevant line Ministries</p> | <p>Monitoring stations and pilot projects staff</p> <p>Office space equipment</p> <p>Transport</p> <p>Office consumables</p> |

| Output, Objective, Baseline, Targets | Activity results and actions | Means of verification | | | Responsible parties | Inputs |
|--------------------------------------|---|------------------------|-----------------|-----------------|--|---|
| | | Activity results level | | | | |
| | | Quality indicator | Quality methods | Assessment time | | |
| | <p>Action 2.1.5 Perform a baseline assessment of climate change and human health relationships including existing knowledge and infrastructure</p> <p>Action 2.1.6: Support updating or establishment of an environmental health analysis laboratory to provide an effective support to the disease monitoring system and measures</p> <p>Action 2.1.7: Develop a GIS based Disease monitoring and information system specifically for plague, malaria and bilharzias</p> | | | | <p>District Councils</p> <p>Partner Institutions</p> <p>UNDP, consultants, communities</p> | <p>Capacity development (incl. Materials)</p> <p>Conferences</p> <p>Consulting services, operational expenses, M&E budget</p> |

| Activity Result 2.2: Capacity to effectively address energy and health issues developed through pilot projects | | | |
|---|---|-------------------------|--------------|
| Action 2.2.1: Develop solar thermal generation and healthy hospitals (green) pilot projects (both energy and health sectors in cooperation as a CBA) | AR 2.2 Indicator 1: Availability of data for future planning (coverage) | | |
| Action 2.2.2: Develop capacity for communities and technical staff to demonstrate potential of Renewable Energy to increase energy and | AR 2.2 Indicator 2: % change of investments into appropriate sanitation systems (Impact) | Project Progress Report | PMT |
| | | | MONIR, MOHSW |

| Output, Objective, Baseline, Targets | Activity results and actions | Means of verification | | | Responsible parties | Inputs |
|---|--|--|-----------------|-----------------|---|--------|
| | | Quality indicator | Quality methods | Assessment time | | |
| | | | | | | |
| | economic adaptive capacity | | | | | |
| | Action 2.2.3: GIS based assessment of biomass | AR 2.2 Indicator 3: % adoption of hygienic household water storage buckets (coverage/impact) ⁸ | | | Relevant line Ministries, District councils | |
| | Action 2.2.4: Develop a CBO pilot project alongside the domestic hygiene status monitoring (potable water) . | AR 2.2 Indicator 4: % Number of plague foci under control | | | MONR, Consultants | |
| | Action 2.2.5 Establish site monitoring for environmental degradation, conflicts and injury | | | | Partner Institutions | |
| | Action 2.2.6: Monitor effect of use of biomass on health | | | | MONR, Consultants | |
| <p>Output 3: Financing options to meet national adaptation costs expanded at local, national, sub-regional and regional levels</p> <p>Baseline: Lesotho relies exclusively on the public budget to meet national adaptation costs</p> <p>Objective: Lesotho has a variety of options to meet national adaptation costs</p> | | | | | | |
| <p>Activity Result 3.1:</p> <p>Strengthened financial development framework on CC risks and opportunities established in Lesotho</p> | | | | | | |

⁸ Water and sanitation baseline information is provided in Annex 6

| Output, Objective, Baseline, Targets | Activity results and actions | Means of verification | | | | Responsible parties | Inputs |
|---|--|--|---|-----------------|-----------------|---------------------|--------|
| | | Activity results level | | Assessment time | Quality methods | | |
| | | Quality indicator | Quality indicator | | | | |
| <p>Target 2011: Investment framework established and financial plans for adaptation needs drafted.</p> <p>Target 2012: At least one alternative sustainable source of finance available; and at least one innovative and sustainable income generation mechanism in place</p> | <p>Action 3.1.1 Integrate results of policy research</p> <p>Action 3.1.2 Develop financing strategy</p> | <p>AR 3.1 Indicator 1: Percentage change of financial resources allocated to dealing with CC risks and opportunities country-wide. (Impact)</p> <p>AR 3.1 Indicator 2: Percentage change of number of innovative market-based, fiscal and regulatory instruments designed and tested taking into account gender issues and concerns of the marginalised and most vulnerable. (Sustainability/Coverage)</p> | <p>Annual report</p> <p>Progress Interim and annual project reports</p> | Quarterly | | | |
| | <p>Action 3.1.3 Lobby for establishment of authority to deal with financing and investment issues</p> <p>Action 3.1.4 Facilitate inclusion of HECCA financial needs in MTEF</p> <p>Action 3.1.5 Stage HECCA and R.E. Investment Promotions</p> | <p>AR 3.1 Indicator 3: Number of private-public partnerships and private investments in HECCA projects. (Coverage)</p> | Annual report | | | | |
| <p>Activity Result 3.2: Innovative and sustainable CBA financing mechanisms in place for meaningful community actions throughout Lesotho</p> | | | | | | | |

| Output, Objective, Baseline, Targets | Activity results and actions | Means of verification | | | | Responsible parties | Inputs |
|--|--|------------------------|-----------------|--------------------|------------------------------|---------------------|--------|
| | | Activity results level | | | Assessment time | | |
| | | Quality indicator | Quality methods | Quality methods | | | |
| Action 3.2.1 Develop concept of long-term financing | AR 3.2 Indicator 1: Amount of financial resource allocated for implementation of HECCA strategies and action plans through CBO. | | | Random spot checks | MFDP, PMT, IFF, MONR, MOHSW, | | |
| Action 3.2.2 Strengthen and develop partnerships | AR 3.2 Indicator 2: Number of sustainable income generating mechanisms introduced and vulnerable households participating. (Coverage / Impact) | | | Annually | | | |
| Action 3.2.3 CC risks and opportunities study | AR 3.2 Indicator 3: Number of community level projects that demonstrate tangible HECCA benefits. (Impact/Coverage) | | | | | | |
| Action 3.2.4 Solicit and contribute financial resources for implementing HECCA toolkit | | | | | | | |
| Action 3.2.5 Establish revolving fund to finance income generating mechanisms. | | | | | | | |
| Activity Result 3.3: The private sector invests in or partners with the public sector in response to HECCA opportunities | | | | | | | |

| Output, Objective, Baseline, Targets | Activity results and actions | Means of verification | | | | Responsible parties | Inputs |
|--|--|--|-----------------|-------------------|-----------------------------|---------------------|--------|
| | | Activity results level | | | Assessment time | | |
| | | Quality indicator | Quality methods | Quality indicator | | | |
| | <p>Action 3.3.1 instigate for creation of a private sector investment framework</p> <p>Action 3.3.2 Introduction of REFIT</p> | <p>AR 3.3 Indicator 1: Types, quantities and distribution of promotion materials; attendances at promotion events. (Coverage)</p> <p>AR 3.3 Indicator 2: Number of HECCA-related PPPs and IPPs. (Impact)</p> | | | MONR, MOHSW, MFDP, PMT, | | |
| <p>Output 4: Knowledge on adjusting national and sub-national development processes to fully incorporate health and energy climate change risks and opportunities generated and shared across all levels</p> <p>Objective: Extent to which knowledge on adjusting national development processes to fully incorporate health / energy climate change risks / opportunities is shared</p> <p>Baseline: Lesotho is mainly working alone</p> | <p>Activity Result 4.1:</p> <p>Key stakeholders generate, gather, document and disseminate CC and HECCA knowledge across all levels and influence policy and programmatic responses for adaptation in priority sectors at local, national and international levels.</p> | | | | | | |
| <p>Target 2011: Mechanisms for Lesotho to participate in AAP exchange platform established</p> | <p>Action 4.1.1 Develop M & E</p> | <p>AR 4.1 Indicator 1: Data on costs and benefits of adaptation. (Impact/Coverage)</p> | | | MONR, MOHSW, PMT, Partners, | | |

| Output, Objective, Baseline, Targets | Activity results and actions | Means of verification | | | Responsible parties | Inputs |
|--|---|---|--------------------|-----------------|--------------------------|--|
| | | Activity results level | | Assessment time | | |
| | | Quality indicator | Quality methods | | | |
| Target 2012: Lesotho actively contributes lessons learnt from the Lesotho HECCA project and actively integrates lessons learnt from other AAP experiences | Action 4.1.2 Document case and pilot approaches on HECCA | AR 4.1 Indicator 2: Percentage change of frequency of usage of web portal. (Impact/Coverage) | Web portal reports | EoP | MONR | |
| | Action 4.1.3 Communicate research and study information in policy relevant content and language | AR 4.1 Indicator 3: Number of lessons learnt and innovations replicated elsewhere in Africa through AAP partner and adaptation learning network. (Replicability) | | Beyond EoP | PMT | Consulting services |
| | Action 4.1.4 Synthesise case studies | | | | NCCC | |
| | Action 4.1.5 Develop mechanism for maintenance of web-based knowledge platform | | | | MFDP | Awareness and motivation campaigns |
| | Action 4.1.6 Contribute to community of practitioners | | | | Relevant line Ministries | |
| | Action 4.1.7 Hold Bi-annual conference | | | | District Councils | Web portal development and technical maintenance |
| | Action 4.1.8 Use toolkit for cross-learning | | | | International AAP, UNDP | |
| | Action 4.1.9 Communicate findings of all HECCA results, raise awareness and motivate into positive action | | | | UNDP | |

*EoP = End of Project

4. Annual Work Plan 2010

| Expected Outputs and baseline indicators including annual targets | Planned Activities | Timeframe 2010 | | | | Responsible Party | Planned Budget | | Amount (USD) | GoL (USD) | Total (USD) |
|---|---|----------------|----|----|----|-------------------------------------|----------------|--------------------|--------------|-----------|-------------|
| | | Q1 | Q2 | Q3 | Q4 | | Funding Source | Budget Description | | | |
| Annual cost: | | | | | | | | 1,557,350 | 43,584 | 1,600,934 | |
| Output 1: | | | | | | | | 187,000 | 35,809 | 222,809 | |
| | | | | | | | | 10,100 | 1,790 | 11,890 | |
| | Activity Result 1: Strengthened leadership and institutional capacities of national government and municipalities in addressing climate change risks and opportunities. | | | | | MONR | AAP | | | | |
| Leadership capacities and institutional frameworks to manage climate change risks and opportunities in an integrated manner at the local national levels strengthened | | | | | | | | 42,000 | | 42,000 | |
| Baseline: Leadership competencies and institutional frameworks not well adapted to manage health / energy climate change risks / opportunities | Action 1.1.1 Assess and identify HECCA needs | | | | | NCCC related platform, stakeholders | | | 26,525 | 26,525 | |
| | | | | | | | Vehicle | | | | |
| | | | | | | | | 10,000 | | 10,000 | |

| Expected Outputs and baseline indicators including annual targets | Planned Activities | Timeframe 2010 | | | | Responsible Party | Planned Budget | | Amount (USD) | GoL (USD) | Total (USD) |
|--|---|----------------|----|----|----|-------------------|--|--------------------|--------------|-----------|-------------|
| | | Q1 | Q2 | Q3 | Q4 | | Funding Source | Budget Description | | | |
| Indicators: Lesotho has dynamic leadership and comprehensive institutional frameworks to manage health climate change risks/opportunities | Action 1.1.2 Support HECCA capacity development in various ministries | | | | | | Office consumables | 10,000 | 6,631 | 16,631 | |
| | Action 1.1.3 Advocate for creation of HECCA positions | | | | | | Capacity development (incl. Materials) | | | | |
| Target 2011 | Action 1.1.4 Strengthen HECCA units | | | | | | Conferences | 45,000 | | 45,000 | |
| -Plans for how to adjust institutional frameworks developed | Action 1.1.5 Establish project management team | | | | | | Consulting services | 15,000 | | 15,000 | |
| Target 2012 | Action 1.1.6 Support staff capacity development | | | | | | Operational expenses | 10,000 | 2,653 | 12,653 | |
| -Adjusted institutional frameworks operational | Action 1.1.7 Support Technical Institutions | | | | | | | | | | |
| Related outcome: CP | Action 1.1.8 Develop social integration programmes | | | | | | | | | | |
| | | | | | | | | | | | |
| | Activity Result 2: Strengthened, and if necessary reformed, national and district multi-stakeholder HECCA coordination platforms. | | | | | | | | | | |
| | Action 1.2.1 Assess current coordination NCCC | | | | | | | | | | |

| Expected Outputs and baseline indicators including annual targets | Planned Activities | Timeframe 2010 | | | | Responsible Party | Planned Budget | | Amount (USD) | GoL (USD) | Total (USD) |
|---|---|----------------|----|----|----|--|----------------|--------------------|--------------|-----------|-------------|
| | | Q1 | Q2 | Q3 | Q4 | | Funding Source | Budget Description | | | |
| | Action 1.2.2 Develop CC platform's vision, mandate, roles, responsibilities and operational modalities | | | | | | | | | | |
| | Action 1.2.3 Operationalise "renewed" CC coordinating entity | | | | | | | 20,000 | | 20,000 | |
| | Action 1.2.4 Pilot CC / HECCA magazine / bulletin | | | | | MONR, PMT, Stakeholders, District Councils | | | | | |
| | Action 1.2.5 Develop models for district mechanisms | | | | | | | | | | |
| | Action 1.2.6 Set up district platforms and support their operations | | | | | | | | | | |
| | Action 1.2.7 Assist district platforms to develop work plans | | | | | | | | | | |
| | Action 1.2.8 Lay foundation for long-term planning, including E & M | | | | | | | | | | |
| | Action 1.2.9 Mainstream HIV/AIDS and NDF and develop model | | | | | | | | | | |
| | Activity Result 3: | | | | | | | | | | |
| | Strengthened leadership and technical capacities of service providers (e.g. NAPA support organisations, CBOs, Women and Youth organisations and others) at national, district and local levels to assist communities in addressing climate change risks and opportunities | | | | | | | | | | |

| Expected Outputs and baseline indicators including annual targets | Planned Activities | Timeframe 2010 | | | | Responsible Party | Planned Budget | | Amount (USD) | GoL (USD) | Total (USD) |
|---|---|----------------|----|----|----|--|--|--------------------|--------------|-----------|-------------|
| | | Q1 | Q2 | Q3 | Q4 | | Funding Source | Budget Description | | | |
| | Action 1.3.1 Assist communities to develop HECCA strategies and action plans | | | | | | | | | | |
| | Action 1.3.2 Facilitate for service provider responsiveness | | | | | | Consulting services, production of materials, training, | 15,000 | | 15,000 | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | Activity Result 4: Women and Youth action programmes that enhance overall community outreach on climate change adaptation implemented | | | | | | | | | | |
| | Action 1.4.1 Develop women and youth development action | | | | | | | | | | |
| | Action 1.4.2 Address gender aspects | | | | | PMT, NCCC, NGOs, CBOs, Service providers | Consulting services, women and youth actions, women/youth conferences, scholarships, community outreach, M & E | 20,000 | | 20,000 | |
| | Action 1.4.3 Implement women and youth action concept | | | | | | | | | | |
| | Action 1.4.4 Hold Lesotho women and youth CC conference/s | | | | | | | | | | |
| | Action 1.4.5 Support scholarships | | | | | AAP | | | | | |
| | Action 1.4.6 Strengthen community outreach | | | | | | | | | | |
| | Action 1.4.7 Include M&E | | | | | | | | | | |

| Expected Outputs and baseline indicators including annual targets | Planned Activities | Timeframe 2010 | | | | Responsible Party | Planned Budget | | Amount (USD) | GoL (USD) | Total (USD) |
|---|--|----------------|----|----|----|--------------------------|--|--------------------|--------------|-----------|-------------|
| | | Q1 | Q2 | Q3 | Q4 | | Funding Source | Budget Description | | | |
| <i>Indicators:</i> | Action 2.1.4: Perform a baseline assessment of solar thermal, wind power potential in Lesotho in order to facilitate the development of wind atlas including existing knowledge and infrastructure | | | | | Relevant line Ministries | Capacity development (incl. Materials) | 278,000 | | 278,000 | |
| Lesotho has in place climate-resilient policies and measures in energy and health sectors | Action 2.1.5 Perform a baseline assessment of climate change and human health relationships including existing knowledge and infrastructure | | | | | District Councils | Conferences | 20,000 | | 20,000 | |
| | Action 2.1.6: Support updating or establishment of an environmental health analysis laboratory to provide an effective support to the disease monitoring system and measures | | | | | Partner Institutions | Consulting services | | | | |
| <i>Targets 2010:</i> | Action 2.1.7: Develop a GIS based Disease monitoring and information system specifically for plague, malaria and bilharzias | | | | | Private Sector | Operational expenses | 20,000 | | 20,000 | |
| - Inception phase determines consultative procedures and agreements with key partners | | | | | | Donors | | | | | |
| | | | | | | International AAP | | | | | |
| | | | | | | UNDP | | | | | |
| | | | | | | Consultants | | | | | |

| Expected Outputs and baseline indicators including annual targets | Planned Activities | Timeframe 2010 | | | | Responsible Party | Planned Budget | | Amount (USD) | GoL (USD) | Total (USD) |
|---|---|----------------|----|----|----|--|----------------|--------------------|--------------|-----------|-------------|
| | | Q1 | Q2 | Q3 | Q4 | | Funding Source | Budget Description | | | |
| | Activity Result 2: Capacity to effectively address energy and health issues developed through pilot projects | | | | | Communities MONR, MOHSW, PMT, District Councils, Consultants, UNDP | AAP | | | | |
| | Action 2.2.1: Develop solar thermal generation and healthy hospitals (green) pilot projects (both energy and health sectors in cooperation as a CBA) | | | | | | | 40,000 | | 40,000 | |
| | Action 2.2.2: Develop capacity for communities and technical staff to demonstrate potential of Renewable Energy to increase energy and economic adaptive capacity | | | | | | | 10,000 | | 10,000 | |
| | Action 2.2.3: GIS based assessment of biomass | | | | | | | 20,000 | | 20,000 | |
| | Action 2.2.4: Develop a CBA pilot project alongside the domestic hygiene status monitoring (potable water) | | | | | | | 5,000 | | 5,000 | |
| | Action 2.2.5: Establish site monitoring environmental degradation, conflicts and injury | | | | | | | 4,000 | | 4,000 | |
| | Action 2.2.6: Monitor effect of use of biomass on health | | | | | | | 12,000 | | 12,000 | |
| | | | | | | | | 24,000 | | 24,000 | |
| | | | | | | | | 6,000 | 5,985 | 11,985 | |
| | | | | | | | | 400,000 | | 400,000 | |
| | | | | | | | | 180,000 | | 180,000 | |

| Expected Outputs and baseline indicators including annual targets | Planned Activities | Timeframe 2010 | | | | Responsible Party | Planned Budget | | Amount (USD) | GoL (USD) | Total (USD) |
|---|--|----------------|----|----|----|------------------------------|--|--------------------|--------------|---------------|-------------|
| | | Q1 | Q2 | Q3 | Q4 | | Funding Source | Budget Description | | | |
| | | | | | | | Hygiene monitoring CBA | 80,000 | | 80,000 | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| Output 3 | | | | | | | Total output cost: | 78,000 | | 78,000 | |
| | | | | | | | M & E budget | 3,900 | | 3,900 | |
| Output 3: Financing options to meet national adaptation costs expanded at local, national, sub-regional and regional levels | Activity Result 1: Strengthened financial development framework on CC risks and opportunities established in Lesotho | | | | | MFDP, PMT, IFF, MONR, MOHSW, | | | | | |
| Baseline: Lesotho relies exclusively on the public budget to meet national adaptation costs | | | | | | | | | | | |
| | Action 3.1.1 Integrate results of policy research | | | | | | Consulting services | 25,000 | | 25,000 | |
| Indicators: Lesotho has a variety of options to meet national adaptation costs | Action 3.1.2 Develop financing strategy | | | | | | Operational expenses | | | | |
| | Action 3.1.3 Lobby for establishment of authority to deal with financing and investment issues | | | | | | | 15,000 | | 15,000 | |
| Target 2011 | Action 3.1.4 Facilitate inclusion of HECCA financial needs in MTEF | | | | | | Materials and activities CBA grants and research | 8,000 | | 8,000 | |
| | | | | | | | | 20,000 | | 20,000 | |

| Expected Outputs and baseline indicators including annual targets | Planned Activities | Timeframe 2010 | | | | Responsible Party | Planned Budget | | Amount (USD) | GoL (USD) | Total (USD) |
|--|--|----------------|----|----|----|----------------------------|----------------|-----------------------|--------------|-----------|-------------|
| | | Q1 | Q2 | Q3 | Q4 | | Funding Source | Budget Description | | | |
| Investment framework established and financial plans for adaptation needs drafted. | Action 3.1.5 Stage HECCA and R.E. Investment Promotions | | | | | | | Investment promotions | | 10,000 | 10,000 |
| Target 2012 | | | | | | | | | | | |
| At least one alternative sustainable source of finance available; and at least one innovative and sustainable income generation mechanism in place | <u>Activity Result 2:</u> | | | | | | | | | | |
| | Innovative and sustainable CBA financing mechanisms in place for meaningful community actions throughout Lesotho | | | | | | | | | | |
| | Action 3.2.1 Develop concept of long-term financing | | | | | MONR, MOHSW PMT, Partners, | | | | | |
| Related outcome: | Action 3.2.2 Strengthen and develop partnerships | | | | | | | AAP and other sources | | | |
| | Action 3.2.3 CC risks and opportunities study | | | | | | | | | | |
| | Action 3.2.4 Solicit and contribute financial resources for implementing HECCA toolkit | | | | | | | | | | |

| Expected Outputs and baseline indicators including annual targets | Planned Activities | Timeframe 2010 | | | | Responsible Party | Planned Budget | | Amount (USD) | GoL (USD) | Total (USD) |
|--|--|----------------|----|----|----|---|---|--------------------|--------------|---------------|-------------|
| | | Q1 | Q2 | Q3 | Q4 | | Funding Source | Budget Description | | | |
| | Action 3.2.5 Establish revolving fund to finance income generating mechanisms. | | | | | | | | | | |
| | Activity Result 3: The private sector invests in or partners with the public sector in response to HECCA opportunities | | | | | | | | | | |
| | Action 3.3.1 instigate for creation of a private sector investment framework | | | | | | Consulting services, operational expenses | | | | |
| | Action 3.3.2 Introduction of REFIT | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | MONR, MOHSW, MFDP, PMT, | | | | | |
| | | | | | | AAP, World Bank, CDE, | | | | | |
| Output 4 | | | | | | | | 63,000 | | 63,000 | |
| | | | | | | | | 3,400 | | 3,400 | |
| | | | | | | | | | | | |
| Output 4: Knowledge on adjusting national and sub-national development processes to fully incorporate health /energy climate change risks and opportunities generated and shared across all levels | Activity Result 1: Key stakeholders generate, gather, document and disseminate CC and CCA knowledge across all levels and influence policy and programmatic responses for adaptation in priority sectors at local, national and international levels. | | | | | MONR, MOHSW, MCST, PMT, District Councils, Stakeholders | | | | | |
| | Action 4.1.1 Develop M & E | | | | | | Consultancy services | 35,000 | | 35,000 | |

| Expected Outputs and baseline indicators including annual targets | Planned Activities | Timeframe 2010 | | | | Responsible Party | Planned Budget | | Amount (USD) | GoL (USD) | Total (USD) |
|---|---|----------------|----|----|----|-------------------|----------------|--------------------|--------------|-----------|-------------|
| | | Q1 | Q2 | Q3 | Q4 | | Funding Source | Budget Description | | | |
| Baseline: | Action 4.1.2 Document case and pilot approaches on CCA | | | | | | | 8,000 | | 8,000 | |
| is working largely in isolation | Action 4.1.3 Communicate research and study information in policy relevant content and language | | | | | | | 8,000 | | 8,000 | |
| | Action 4.1.4 Synthesise case studies | | | | | | | 12,000 | | 12,000 | |
| | Action 4.1.5 Develop mechanism for maintenance of web-based knowledge platform | | | | | | | | | | |
| Indicators: Extent to which knowledge on adjusting national development processes to fully incorporate health / energy climate change risks / opportunities is shared | Action 4.1.6 Contribute to community of practitioners | | | | | | | | | | |
| | Action 4.1.7 Hold Bi-annual conference | | | | | | | | | | |
| Target 2011 | Action 4.1.8 Use toolkit for cross-learning | | | | | | | | | | |
| Mechanisms for Lesotho to participate in AAP exchange platform established | Action 4.1.9 Communicate findings of all CCA results, raise awareness and motivate into positive action | | | | | | | | | | |
| Target 2012 | | | | | | | | | | | |

| Expected Outputs and baseline indicators including annual targets | Planned Activities | Timeframe 2010 | | | | Responsible Party | Planned Budget | | Amount (USD) | GoL (USD) | Total (USD) |
|---|--------------------|----------------|----|----|----|-------------------|----------------|--------------------|--------------|-----------|-------------|
| | | Q1 | Q2 | Q3 | Q4 | | Funding Source | Budget Description | | | |
| Lesotho actively contributes lessons learnt from the Lesotho HECCA project and integrates lessons learnt from other AAP experiences | | | | | | | AAP | | | | |

2011

| Expected Outputs and baseline indicators including annual targets | Planned Activities | Timeframe 2011 | | | | Responsible Party | Planned Budget | | Amount (USD) | GoL (USD) | Total (USD) |
|---|--|----------------|----|----|----|-------------------|----------------|--------------------|--------------|-----------|-------------|
| | | Q1 | Q2 | Q3 | Q4 | | Funding Source | Budget Description | | | |
| Annual cost: | | | | | | | | 1,417,650 | 31,416 | 1,449,066 | |
| Output 1: | | | | | | | | 229,050 | 29,920 | 258,970 | |
| | Activity Result 1: Strengthened leadership and institutional capacities of national government and municipalities in addressing climate change risks and opportunities. | | | | | MONR | | 12,600 | 1,496 | 14,096 | |
| | Leadership capacities and institutional frameworks to manage climate change risks and opportunities in an integrated manner at the local national levels strengthened | | | | | | | 62,050 | | 62,050 | |
| | Baseline: Leadership competencies and Institutional frameworks not well adapted to manage health / energy climate change risks / opportunities | | | | | | | | 19,894 | 19,894 | |
| | Indicators: Lesotho has dynamic leadership and comprehensive institutional frameworks to | | | | | | | | | | |
| | Action 1.1.1 Assess and identify HECCA needs | | | | | | | | | | |
| | Action 1.1.2 Support capacity development in various ministries | | | | | | | | | | |
| | | | | | | | | 10,000 | 7,162 | 17,162 | |

| Expected Outputs and baseline indicators including annual targets | Planned Activities | Timeframe 2011 | | | | Responsible Party | Planned Budget | | Amount (USD) | GoL (USD) | Total (USD) |
|---|--|----------------|----|----|----|-------------------|--|----------------------------|--------------|------------------|-------------|
| | | Q1 | Q2 | Q3 | Q4 | | Funding Source | Budget Description | | | |
| manage health /energy climate change risks/opportunities | | | | | | | | | | | |
| Target 2011 | Action 1.1.3 Advocate for creation of HECCA positions Action1.1.4 Strengthen HECCA units Action1.1.5 Establish project management team | | | | | | Capacity development (incl. Materials) Conferences Consulting services | 40,000 40,000 20,000 | | 40,000 20,000 | |
| -Plans for how to adjust institutional frameworks developed | | | | | | | | | | | |
| Target 2012 | Action1.1.6 Support staff capacity development Action1.1.7 Support Technical Training Institutions Action 1.1.8 Develop social integration programmes | | | | | | Operational expenses | 10,000 | 2,865 | 12,865 | |
| -Adjusted institutional frameworks operational | | | | | | | | | | | |
| Related outcome: CP | | | | | | | | | | | |
| | Activity Result 2: Strengthened, and if necessary reformed, national and district multi-stakeholder HECCA coordination platforms. Action 1.2.1 Assess current coordination NCCC Action 1.2.2 Develop CC platform's vision, mandate, roles, responsibilities and operational modalities | | | | | | | | | | |

| Expected Outputs and baseline indicators including annual targets | Planned Activities | Timeframe 2011 | | | | Responsible Party | Planned Budget | | Amount (USD) | GoL (USD) | Total (USD) |
|---|--|----------------|----|----|----|--|----------------|--------------------|--------------|-----------|-------------|
| | | Q1 | Q2 | Q3 | Q4 | | Funding Source | Budget Description | | | |
| | Action 1.2.3 Operationalise "renewed" CC coordinating entity | | | | | | | 25,000 | | 25,000 | |
| | Action 1.2.4 Pilot CC / HECCA magazine / bulletin | | | | | MONR, PMT, Stakeholders, District Councils | | | | | |
| | Action 1.2.5 Develop models for district mechanisms | | | | | | | | | | |
| | Action 1.2.6 Set up district platforms and support their operations | | | | | | | | | | |
| | Action 1.2.7 Assist district platforms to develop work plans | | | | | | AAP | | | | |
| | Action 1.2.8 Lay foundation for long-term planning, including E & M | | | | | | | | | | |
| | Action 1.2.9 Mainstream HIV/AIDS and NDF and develop model | | | | | | | | | | |
| | Activity Result 3: | | | | | | | | | | |
| | Strengthened leadership and technical capacities of service providers (e.g. NAPA support organisations, CBOs, Women and Youth organisations and others) at national, district and local levels to assist communities in addressing climate change risks and opp. | | | | | | | | | | |
| | Action 1.3.1 Assist communities to develop HECCA strategies and action plans | | | | | | | | | | |

| Expected Outputs and baseline indicators including annual targets | Planned Activities | Timeframe 2011 | | | | Responsible Party | Planned Budget | | Amount (USD) | GoL (USD) | Total (USD) |
|---|---|----------------|----|----|----|--|--|--------------------|--------------|-----------|-------------|
| | | Q1 | Q2 | Q3 | Q4 | | Funding Source | Budget Description | | | |
| | Action 1.3.2 Facilitate for service provider responsiveness | | | | | | | 42,000 | | 42,000 | |
| | Activity Result 4: Women and Youth action programmes that enhance overall community outreach on climate change adaptation implemented | | | | | | | | | | |
| | Action 1.4.1 Develop women and youth development action | | | | | | | | | | |
| | Action 1.4.2 Address gender aspects | | | | | PMT, NCCC, NGOs, CBOs, Service providers | Consulting services, women and youth actions, women/youth conferences, scholarships, community outreach, M & E | 20,000 | | 20,000 | |
| | Action 1.4.3 Implement women and youth action concept | | | | | | | | | | |
| | Action 1.4.4 Hold Lesotho women and youth CC conference/s | | | | | | | | | | |
| | Action 1.4.5 Support scholarships | | | | | | | | | | |
| | Action 1.4.6 Strengthen community outreach | | | | | | | | | | |
| | Action 1.4.7 Include M&E | | | | | | | | | | |
| | | | | | | PMT with NCCC and partners | | | | | |
| Output 2: | | | | | | | Total output cost: | 904,000 | | 904,000 | |
| | | | | | | | M & E budget | 45,200 | | 45,200 | |

| Expected Outputs and baseline indicators including annual targets | Planned Activities | Timeframe 2011 | | | | Responsible Party | Planned Budget | | Amount (USD) | GoL (USD) | Total (USD) |
|---|--|----------------|----|----|----|---------------------|--|--------------------|--------------|-----------|-------------|
| | | Q1 | Q2 | Q3 | Q4 | | Funding Source | Budget Description | | | |
| Output 2: | Activity Result 1: Energy and Health sectors CCA policies and baselines for adaptation action in place | | | | | MONR | | | | | |
| Climate-resilient policies and measures in energy and health sectors implemented and community-based adaptation action promoted | Action 2.1.1: In conjunction with NAPA create a forum for integrating CCA in the next NDP | | | | | PMT | Monitoring staff | 30,000 | | 30,000 | |
| Baseline: | Action 2.1.2: Support development of appropriate policies and legislation framework to address bottlenecks related to land leasing and licensing for private investors in energy development. | | | | | NCCC | Office equipment | 10,000 | | 10,000 | |
| Lesotho has few or no climate-resilient policies or measures in place in energy and health sectors | Action 2.1.3: Review and update (develop where absent) legislation on biomass and hydro-power. | | | | | MFDP | Transport | 10,000 | | 10,000 | |
| Indicators: | Action 2.1.4: Perform a baseline assessment of solar thermal, wind power potential in Lesotho in order to facilitate the development of wind atlas including existing knowledge and infrastructure | | | | | Relevant Ministries | Office consumables | 5,000 | | 5,000 | |
| | | | | | | | Capacity development (incl. Materials) | 8,000 | | 8,000 | |

| Expected Outputs and baseline indicators including annual targets | Planned Activities | Timeframe 2011 | | | | Responsible Party | Planned Budget | | Amount (USD) | GoL (USD) | Total (USD) |
|---|--|----------------|----|----|----|--|----------------|----------------------|--------------|-----------|-------------|
| | | Q1 | Q2 | Q3 | Q4 | | Funding Source | Budget Description | | | |
| Lesotho has in place climate-resilient policies and measures in energy and health sectors | Action 2.1.5 Perform a baseline assessment of climate change and human health relationships including existing knowledge and infrastructure | | | | | District Councils | | Conferences | | 20,000 | 20,000 |
| | Action 2.1.6: Support updating or establishment of an environmental health analysis laboratory to provide an effective support to the disease monitoring system and measures | | | | | Partner Institutions | | Consulting services | | | 40,000 |
| <i>Targets 2010:</i> | Action 2.1.7: Develop a GIS based Disease monitoring and information system specifically for plague, malaria and bilharzias | | | | | Private Sector | | Operational expenses | | | |
| - Inception phase determines consultative and agreements with key partners | | | | | | Donors | | M & E budget | | | |
| | | | | | | International AAP | | | | | |
| | | | | | | UNDP | | | | | |
| | | | | | | Consultants | | | | | |
| | | | | | | Communities | | | | | |
| | Activity Result 2: Capacity to effectively address energy and health issues developed through pilot projects | | | | | MONR, MOHSW, PMT, District Councils, Consultants, UNDP | AAP | Pilot project staff | | 40,000 | 40,000 |
| | | | | | | | | Office equipment | | 10,000 | 10,000 |

| Expected Outputs and baseline indicators including annual targets | Planned Activities | Timeframe 2011 | | | | Responsible Party | Planned Budget | | Amount (USD) | GoL (USD) | Total (USD) |
|---|---|----------------|----|----|----|-------------------|--|--------------------|--------------|-----------|-------------|
| | | Q1 | Q2 | Q3 | Q4 | | Funding Source | Budget Description | | | |
| | Action 2.2.1: Develop solar thermal generation and healthy hospitals (green) pilot projects (both energy and health sectors in cooperation as a CBA) | | | | | | Transport | 20,000 | | 20,000 | |
| | Action 2.2.2: Develop capacity for communities and technical staff to demonstrate potential of Renewable Energy to increase energy and economic adaptive capacity | | | | | | Office consumables | 5,000 | | 5,000 | |
| | Action 2.2.3: GIS based assessment of biomass | | | | | | Capacity development (incl. Materials) | 4,000 | | 4,000 | |
| | Action 2.2.4: Develop a CBA pilot project alongside the domestic hygiene status monitoring (potable water) . | | | | | | Conferences | | | | |
| | Action 2.2.5: Establish site monitoring environmental degradation, conflicts and injury | | | | | | Consulting services | 12,000 | | 12,000 | |
| | Action 2.2.6: Monitor effect of use of biomass on health | | | | | | Operational expenses | 24,000 | | 24,000 | |
| | | | | | | | Pilot projects | 6,000 | | 6,000 | |
| | | | | | | | GIS Assessment | 400,000 | | 400,000 | |
| | | | | | | | Hygiene status monitoring CBA | 180,000 | | 180,000 | |
| | | | | | | | Total output cost: | 80,000 | | 80,000 | |
| Output 3 | | | | | | | M & E budget | 138,000 | | 138,000 | |
| | | | | | | | | 6,900 | | 6,900 | |

| Expected Outputs and baseline indicators including annual targets | Planned Activities | Timeframe 2011 | | | | Responsible Party | Planned Budget | | Amount (USD) | GoL (USD) | Total (USD) |
|---|---|----------------|----|----|----|------------------------------|--|--------------------|--------------|------------------|-------------|
| | | Q1 | Q2 | Q3 | Q4 | | Funding Source | Budget Description | | | |
| Output 3: Financing options to meet national adaptation costs expanded at local, national, regional and regional levels | Activity Result 1: Strengthened financial framework on CC risks and opportunities established in Lesotho | | | | | MFDP, PMT, IFF, MONR, MOHSW, | | | | | |
| Baseline: Lesotho relies exclusively on the public budget to meet national adaptation costs | | | | | | | | | | | |
| Indicators: Lesotho has a variety of options to meet national adaptation costs | Action 3.1.1 Integrate results of policy research Action 3.1.2 Develop financing strategy | | | | | | Consulting services Operational expenses | 25,000 15,000 | | 25,000 15,000 | |
| Target 2011 | Action 3.1.3 Lobby for establishment of authority to deal with financing and investment issues Action 3.1.4 Facilitate inclusion of HECCA financial needs in MTEF Action 3.1.5 Stage HECCA and R.E. Investment Promotions | | | | | | Materials and activities CBA grants and research Investment promotions | 8,000 80,000 | | 8,000 80,000 | |
| Investment framework established and financial plans for adaptation needs drafted. | | | | | | | | | | | |
| Target 2012 | | | | | | | | 10,000 | | 10,000 | |

| Expected Outputs and baseline indicators including annual targets | Planned Activities | Timeframe 2011 | | | | Responsible Party | Planned Budget | | Amount (USD) | GoL (USD) | Total (USD) |
|--|--|----------------|----|----|----|----------------------------|-----------------------|--------------------|--------------|-----------|-------------|
| | | Q1 | Q2 | Q3 | Q4 | | Funding Source | Budget Description | | | |
| At least one alternative sustainable source of finance available; and at least one innovative and sustainable income generation mechanism in place | <u>Activity Result 2:</u> | | | | | | | | | | |
| | Innovative and sustainable CBA financing mechanisms in place for meaningful community actions throughout Lesotho | | | | | | | | | | |
| | Action 3.2.1 Develop concept of long-term financing | | | | | MONR, MOHSW PMT, Partners, | | | | | |
| Related outcome: CP | Action 3.2.2 Strengthen and develop partnerships | | | | | | AAP and other sources | | | | |
| | Action 3.2.3 CC risks and opportunities study | | | | | | | | | | |
| | Action 3.2.4 Solicit and contribute financial resources for implementing HECCA toolkit | | | | | | | | | | |
| | Action 3.2.5 Establish revolving fund to finance income generating mechanisms. | | | | | | | | | | |
| | <u>Activity Result 3:</u> | | | | | | | | | | |
| | The private sector invests in or partners with the public sector in response | | | | | | | | | | |

| Expected Outputs and baseline indicators including annual targets | Planned Activities | Timeframe 2011 | | | | Responsible Party | Planned Budget | | Amount (USD) | GoL (USD) | Total (USD) |
|---|--|----------------|----|----|----|---|---|--------------------|--------------|---------------|-------------|
| | | Q1 | Q2 | Q3 | Q4 | | Funding Source | Budget Description | | | |
| | to HECCA opportunities | | | | | | | | | | |
| | Action 3.3.1 instigate for creation of a private sector investment framework | | | | | | Consulting services, operational expenses | | | | |
| | Action 3.3.2 Introduction of REFIT | | | | | | | | | | |
| | | | | | | MONR, MOHSW, MFD, PMT, | AAP, World Bank, CDE, | | | | |
| Output 4 | | | | | | | Total output cost: | 78,000 | | 78,000 | |
| | | | | | | | M & E budget | 3,900 | | 3,900 | |
| Output 4: Knowledge on adjusting national and sub-national development processes to fully incorporate health /energy climate change risks and opportunities generated and shared across all levels | Activity Result 1: Key stakeholders generate, gather, document and disseminate CC and CCA knowledge across all levels and influence policy and programmatic responses for adaptation in priority sectors at local, national and international levels. | | | | | MONR, MOHSW, MCST, PMT, District Councils, Stakeholders | | | | | |
| | Action 4.1.1 Develop M & E | | | | | | Consultancy services | 50,000 | | 50,000 | |
| Baseline: | Action 4.1.2 Document case and pilot approaches on CCA | | | | | | Web portal develop and maintain conferences | 8,000 | | 8,000 | |
| Lesotho working largely in isolation | Action 4.1.3 Communicate research and study information in policy relevant content and language | | | | | | | 8,000 | | 8,000 | |
| | Action 4.1.4 Synthesise case studies | | | | | | awareness and motivation campaigns | 12,000 | | 12,000 | |
| | Action 4.1.5 Develop for mechanism | | | | | | | | | | |

| Expected Outputs and baseline indicators including annual targets | Planned Activities | Timeframe 2011 | | | | Responsible Party | Planned Budget | | Amount (USD) | GoL (USD) | Total (USD) |
|---|---|----------------|----|----|----|-------------------|----------------|--------------------|--------------|-----------|-------------|
| | | Q1 | Q2 | Q3 | Q4 | | Funding Source | Budget Description | | | |
| | maintenance of web-based knowledge platform | | | | | | | | | | |
| Indicators: Extent to which knowledge on adjusting national development processes to fully incorporate health / energy climate / change risks / opportunities is shared | Action 4.1.6 Contribute to community of practitioners | | | | | | | | | | |
| | Action 4.1.7 Hold Bi-annual conference | | | | | | | | | | |
| Target 2011 | Action 4.1.8 Use toolkit for cross-learning | | | | | | | | | | |
| Mechanisms for Lesotho to participate in AAP exchange platform established | Action 4.1.9 Communicate findings of all CCA results, raise awareness and motivate into positive action | | | | | | | | | | |
| Target 2012 | | | | | | | | | | | |
| Lesotho actively contributes lessons learnt from the Lesotho HECCA project and actively integrates lessons learnt from other AAP experiences | | | | | | | AAP | | | | |

5. Management arrangements

The Project execution is by the Ministry of Natural Resources. Implementation oversight will be by UNDP.

In the preparation of the project document various Government departments that are key stakeholders were involved. The directors of the following departments made inputs to the proposal: Primary Health and Care, Ministry of Health and Social Welfare, Lesotho Meteorological Services, Ministry of Natural Resources, Department of Energy, Ministry of Natural Resources. Other government departments that were involved include the Department of Waters and the National Environment Secretariat.

Day-to-day management

The overall management responsibility lies with the Project Manager and his/her support team. The Dedicated support team is responsible for project planning, implementation, financial management and M&E (see detailed TORs in Annex 2). The team includes dedicated technical representatives each from the EHD, LMS, DOE and the Project Finance Manager to ensure that critical technical aspects of the project are addressed adequately.

The dedicated support team will be integrated with the NAPA within the Ministry of Natural Resources.

Project oversight

The Project Board has the highest project oversight, with Senior Managers from the Ministry of Natural Resources (LMS and DOE), Ministry of Health and Social Welfare (Environmental Health Division), Ministry of Finance and Development Planning, Ministry of Tourism, Environment and Culture and UNDP guiding and appraising project implementation. The Project Manager reports to the Director of Meteorology.

Technical, policy and programmatic guidance

The Health and Energy National Climate Change Committee (HENCCC), in its current and future design, takes over the technical steering functions of the project. It contributes to technical, policy and programmatic guidance of the project.

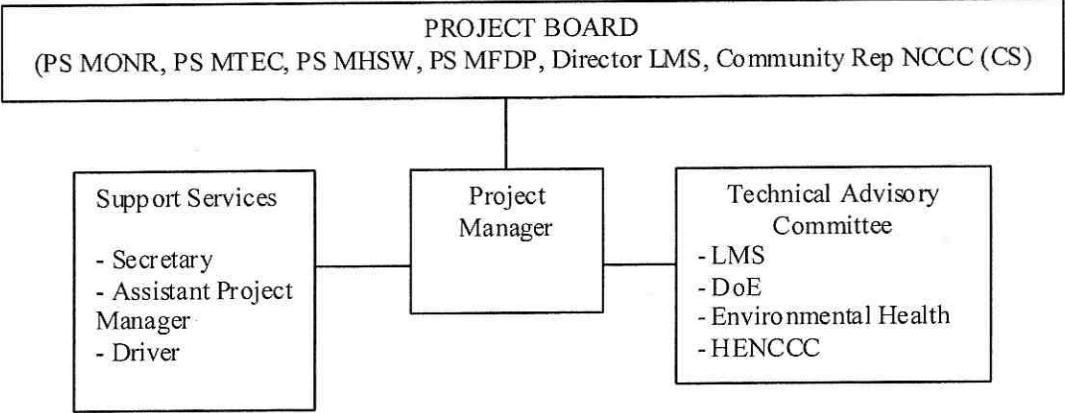
Project assurance

The UNDP Country Office, through its Head of Environment, is responsible for project assurance and ensures that financing, reporting and M&E are duly implemented. Project assurance includes monitoring visits and "spot check" for project implementation.

Implementation arrangements

The Dedicated Support Team will coordinate project implementation with line Ministries and other important partners forming implementation teams per project output as necessary. Contracts will be entered into with implementing partners and resources will be allocated for such work to partner institutions.

Below is the organization structure depicting relationships and accounting responsibilities.



6. Monitoring Framework and Evaluation

Global/Regional-Level

This national project forms part of a selected number of national projects supported by UNDP under a targeted programme of support, entitled "the Africa Adaptation Programme". In this regard, monitoring will be undertaken within the broader context of learning and creating a platform for documenting and creating a platform for experience sharing.

National-Level

In accordance with the programming policies and procedures outlined in the UNDP User Guide, the Programme will be monitored at the national levels through the following:

Within the annual cycle

- On a quarterly basis, a quality assessment shall record progress towards the completion of key results, based on quality criteria and methods captured in the Quality Management table below.
- An issue Log shall be activated in Atlas and updated by the Programme Manager/National Programme Managers to facilitate tracking and response of potential problems or requests for change.
- Based on the initial risk analysis submitted, a Risk Log shall be activated in Atlas and regularly updated by reviewing the external environment that may affect the project implementation.
- Based on the above information recorded in Atlas, a Project Progress Report (PPR) shall be submitted by the programme Manager to the Project Board and the National Project Managers and by the National Project Managers to the National Project Boards through Project Assurance, using the standard report format available in the Executive Snapshot.
- A Project Lesson-Learned Log shall be activated and regularly updated to ensure on-going learning and adaptation within the organisation, and to facilitate the preparation of the Lessons-learned Report at the end of the project.
- A Monitoring Schedule Plan shall be activated in Atlas and updated to track key management actions/events.

LEARNING AND KNOWLEDGE SHARING

Results from the project will be communicated within and beyond the project intervention zone through a number of existing information sharing networks and forums. In addition:

- i. The project will participate as relevant and appropriate, in UNDP-GEF sponsored networks organised for senior personnel working on projects that share common characteristics. The **Adaptation Learning Mechanism (ALM)** will function as key electronic platform to capture project learning and adaptation impacts generated by the project. The ALM lessons learned template (to be made available by RTA) will be adapted for use by the project. To support this goal, adaptation-related activities from the project will contribute knowledge to the ALM, such as the following:
 - Best practices in integrating adaptation into national and local development policy, and project design and implementation mechanisms.
 - Lessons learned on removing the most common barriers to adaptation, with special attention to the roles of local partners, international partners, UNDP and GEF in designing and implementing projects.
 - The conditions for success (or failure), including replication and scaling up.
- ii. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks which may be of benefit to project implementation through lessons learned.

- iii. The project will identify, analyse and share lessons learned that might be beneficial in the design and implementation of similar future projects. Identification and analysis of lessons learned is an ongoing process, and the need to communicate such lessons as one of the projects central contributions is a requirement to be delivered not frequently than every 12 months. UNDP-GEF shall provide a format and assist the project team in categorizing, documenting and reporting on lessons learned. To this end a percentage of project resources will need to be allocated for these activities.

Annually

- Annual Review Report. An Annual Review Report shall be prepared by the Programme Manager and shared with the Project Board and by the National Project Managers and shared with the Nation Project Board. As minimum requirement, the Annual Review Report shall consist of the Atlas standard format for the Quarterly Progress Report (QPR) covering the whole year with updated information for each above element of the QPR as a summary of the results achieved against pre-defined annual targets at the output level.
- Annual Project Report. Based on the above report, an annual project review shall be conducted during the fourth quarter of the year, or soon after, to assess the performance of the project and appraise the Annual Work Plan (AWP) for the following year. In the last year this review will be a final assessment. The national review is driven by the Project Board and may involve other stakeholders as required. It shall focus on the extent to which progress is being made towards outputs, and that these remain aligned to appropriate outcome(s). The regional review is driven by the Project Board.

7. Annexes

7.1 Annex 1. Risk log

| # | Description | Date Identified | Type | Impact & Probability (1-5) | Countermeasures / Mngt response | Owner | Submitted, updated by | Last Update | Status |
|---|---|-----------------|-------------|----------------------------|--|-------|-----------------------|-------------|--------|
| | <u>Static/inflexible/non-responsive Govt management responses</u> | | Operational | | <p>1. Create political will for change by supporting line ministries to conduct their own policy research and require them to come together to discuss integrated policy making.</p> <p>2. Create ownership of CC in the Min of Finance, to drive line ministries to action.</p> <p>3. Develop public awareness and support for adaptation through work to raise awareness and gather local level knowledge on adaptation.</p> | | | | |
| | <u>Government commitment and political will:</u> Lack of government commitment and political will to adequately address CC risks | Dec 2009 | Political | P = 2 I = 4 | Strong ownership component for various line Ministries, Regional Councils, and Municipalities; project components to be directly implemented by them; members of national and regional platforms; targeted high-level decision | | | | |

| # | Description | Date Identified | Type | Impact & Probability (1-5) | Countermeasures / Mngt response | Owner | Submitted, updated by | Last Update | Status |
|----|---|-----------------|-------------|----------------------------|--|-------|-----------------------|-------------|--------|
| 3 | Project Management: Technical capacities not adequate for managing complex and large project; both management and technical inputs at the same time | Dec 2009 | Operational | P = 4 I = 5 | makers raising awareness actions included in project design Include ongoing international Technical Advisor position in project design; extensive training activities included in design | | | | |
| 4. | Unwillingness to share information in Govt | | Operational | | Create multiple execution leads in Govt and require that all these come together to discuss integrated policy with regards to adaptation in Lesotho. | | | | |
| 2 | External economic factors: Exchange rate fluctuations | Dec 2009 | Financial | P = 4 I = 5 | Contingency of US\$ 300 000 to be included in budget; detailed budgeting process during preparatory phase | | | | |
| 3 | Government commitment and political will: Lack of government commitment and political will to adequately address CC risks | Dec 2009 | Political | P = 2 I = 4 | Strong ownership component for various line Ministries, Regional Councils, and Municipalities; project components to be directly implemented by them; members of national and regional platforms; targeted high-level decision | | | | |

| # | Description | Date Identified | Type | Impact & Probability (1-5) | Countermeasures / Mngt response | Owner | Submitted, updated by | Last Update | Status |
|---|---|-----------------|--------------------|----------------------------|---|-------|-----------------------|-------------|--------|
| | | | | | makers raising awareness included in project design | | | | |
| 4 | Natural Disasters – esp. flooding: May disrupt project work for other national priorities | Dec 2009 | Environmental | P = 3 I = 3 | Engage with issue as CCA related; focus on other project priorities | | | | |
| 5 | HIV/Aids: Impacts on succession planning as well as success of building adaptive capacities | Dec 2009 | Organisation/Other | P = 4 I = 3 | Include succession planning in project implementation arrangements during inception phase | | | | |

7.2 Annex 2. Key Roles and Responsibilities

Project Manager

- Supervise project staff
- Plan the activities of the project and monitor progress against the initial quality criteria.
- Mobilize goods and services to initiate activities, including drafting TORs and work specifications;
- Monitor events as determined in the Project Monitoring Schedule Plan, and update the plan as required;
- Manage requests for the provision of financial resources by UNDP, using advance of funds, direct payments, or reimbursement using the FACE (Fund Authorization and Certificate of Expenditures);
- Monitor financial resources and accounting to ensure accuracy and reliability of financial reports;
- Prepare and submit financial reports to UNDP on a quarterly basis;
- Manage and monitor the project risks initially identified and submit new risks to the Project Board for consideration and decision on possible actions if required; update the status of these risks by maintaining the Project Risks Log;
- Manage issues and requests for change by maintaining an Issues Log;
- Prepare the Project Progress Report (progress against planned activities, update on Risks and Issues, expenditures) and submit the report to the Project Board and Project Assurance;
- Prepare the Annual Review Report, and submit the report to the Project Board and Project Assurance;
- Prepare Annual Performance Report (APR)/Project Implementation Review (PIR) and submit to Project Board and Project Assurance;
- Prepare the AWP for the following year, as well as Quarterly Plans as may be required;
- Update the Atlas Project Management module if external access is made available.

Project Board

- Provide overall guidance and direction to the project, ensuring that it remains within any specified constraints.
- Address project issues as raised by the Project Manager.
- Provide guidance and agree on possible countermeasures/management actions to address specific risks.
- Agree on Project Manager's tolerances as required.
- Review the Project Progress Report and provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans.
- Review Combined Delivery Reports (CDR) prior to certification by implementing Partner.
- Appraise the Project Annual Review Report, make recommendations for the next AWP, and inform the relevant Multi-Stakeholder Implementation Teams about the results of the review.
- Provide ad-hoc direction and advice for exception situations when project manager's tolerances are exceeded.
- Assess and decide on project changes through revisions.

Health and Energy National Climate Change Committee (HENCCC):

The HENCCC will be constituted of the current project development steering body plus representatives of relevant NGOs, CBOs, participating private sector and the affected communities. The work of the HENCCC will be integrated with that of the NCCC⁹ when the latter is operational.

- The committee will sit four times in each year of the project implementation to
- Endorse major project documents
- Periodically review reports prepared by the Multi-Stakeholder Implementation Teams.
- Formulate recommendations for successful implementation of project activities by the Multi-Stakeholder Implementation Teams.
- Review draft National Adaptation Plan of Action on Health/Energy-related Climate Change.
- In order to ascertain consistency in the implementation of climate change programme in Lesotho the HENCCC will be the permanent body that will exist beyond the duration of the project to oversee follow up activities.
- The Secretariat for HENCCC will be the implementing agency for the project which is the Lesotho Meteorological Services (LMS).
- The National Focal Point of the United Nations Framework Convention on Climate Change, who is the Director of LMS or his delegated representative, will be the HENCC Chairperson

Senior Supplier: Usually a **UNDP representative** is the Senior Supplier, representing the interests of the parties concerned which provide funding and/or technical experience to the project. S/he will provide guidance regarding technical feasibility and support to the project.

Executive: The Principal Secretary Ministry of Natural Resources. Represents project ownership and chairs the Project Board.

Direct Beneficiaries: Representatives of Agencies Involved with Project Implementation.

Project Assurance:

- Ensures that funds are made available to the project.
- Ensures that risks and issues are properly managed, and that the logs in Atlas are regularly updated.
- Ensures that critical project information is monitored and updated in Atlas, using the Activity Quality Assessment page in particular.
- Ensures that the Project Progress Reports are prepared and submitted in time, and according to standards in terms of format and content quality.
- Ensures that financial reports are submitted to UNDP in time, and that CDRs are prepared and submitted to the Project Board in time.
- Perform oversight activities, such as periodic monitoring and "spot checks".
- Ensure that the Project Data Quality Dashboard remains green.

Project Support:

⁹ The multi-stakeholder national climate change committee as conceived to consist of senior members of specific government ministries/departments directly dealing with climate change issues under the coordination of climate change office of the Lesotho Meteorological Services. The following ministries are key to NCCC: Ministry of Agriculture and Food Security, Ministry of Natural Resources (DOE, DWA, LMS), National Environment Secretariat, Environmental Health Division, and Ministry of Finance and Development Planning; focal points of the UN Conventions; academic and research institutions (Lesotho Agricultural Research and National University of Lesotho); and representation of the NGOs.

- Sets up and maintains project files.
- Collects project related information data.
- Updates plans.
- Administers Project Board meetings.
- Establishes document control systems and procedures.
- Compiles, duplicates and distributes all project reports.
- Assists in the financial management tasks under the responsibility of the Project Manager.
- Reviews technical reports.
- Monitors and supports technical activities carried out by responsible parties.
- UNDP Programme Manager (UNDP Resident Representative or delegated authority):
- Approves and signs the Annual Work Plan (AWP) for the following year.
- Approves budget for the first year in Atlas.
- Implementing Partner (authorised personnel with delegated authority):
- Approves and signs the Annual Work Plan (AWP) for the following year.
- Approves and signs (certifies) the Combined Delivery Report (CDR) at the end of the year.
- Signs the Financial Report (FR) or the Funding Authorization and Certificate of Expenditures (FACE).

7.3 Annex 3 Network marketing research rationale

Annex 3 comprises two extracts from books of two financial experts who have researched into network marketing.

Annex 3 a

Extracts from Quain B. (2005). *Overcoming Time Poverty: How to Achieve More by Working Less*. Wales Publishing Company.

Definition: POPPER (Plenty of Partners Producing Enormous Rewards) – These are businesses that are set up already and involve other people. They range from ... to networking businesses, which are multi-level distribution companies.

POPPERS involve people in the *distribution* of existing products in an organized business. Generally, POPPERS, whether they are direct selling companies or network marketing companies, have training programmes, support systems and promotional materials...

Network Marketing

These companies use a unique system to move products and services to their customers. Individual business owners buy products for personal use and also sell products to customers. They can make money, just like direct sellers, but networkers have an added profit opportunity. They can recruit others to do the same thing, help train them, support them and earn profits and bonuses based on the volume that moves through their "network" or system.

POPPERS ... are networks of independent business people who are helping established manufacturers get their products into the hands of customers.

What are the benefits of being a POPPER? Most POPPERS deal with established businesses and brands. They have quality products that everyone needs. And it is not necessary to hold inventory, bill customers, do accounting, and so forth. These companies handle all that for the individual business owner.

... You are not depending on the work of one person when you create a network. Instead, you make money by helping other people make money.

Network companies, as the name implies, provide a terrific opportunity to make new friends and form strong relationships. You can "retire" and still be a viable, valuable part of the system.

Most importantly, a networking company gives you the best opportunity to establish equity! Income-producing equity will give you the free time you want and the money to enjoy it.

... if you are looking for a life changing business (*an adaptation business, our addition*), ..., if you want support from a well established company and people who want you to succeed, then get into a POPPER!

Comment

- i) For us the book title could actually translate into: "**Overcoming Time Poverty: How to Achieve More by Using Biomass Less and Halting Land Degradation**". This will be so because with the income from the risk-free and sustainable network marketing businesses, vulnerable communities would be able to purchase renewable energy products. Thus eliminating destructive use of biomass and eliminating the need to till the vulnerable soil for grain. Thus effectively adapting and resiliently responding to energy climate change risks and opportunities. Vulnerable communities would also be able supplement their nutrition through the use of wellness products available through the network marketing company, be able to purchase others, enhance their

own food security and be better able to pay for their medical expenses when necessary. Thus improving their livelihoods and wellness and again, effectively adapting and responding to health climate change risks and opportunities in resilient ways.

- ii) Helping vulnerable communities to open network marketing businesses will be an innovative cross-cutting strategy with benefits spanning poverty “elimination”, employment creation, the agriculture and the environment sectors.
- iii) Questnet, a long time partner of the FAO (see, for instance, www-qi-ltd.com and <http://qnn.quest.net/issue3/news.htm>) is a leading network marketing company which uses the 5th Phase of Network Marketing, that is, which has eliminated the drawbacks of earlier Network Marketing Phases of:
 - Gender, even Age Bias
 - Maintaining Inventories
 - Billing Customers
 - Doing Accounting for the Business & Paper Work
 - Repeat Purchases
 - Multi Level Marketing
 - Logistics
 - Low Compensation for High Effort
 - Quota Systems
 - Time Limits
 - Geographic Boundaries. (Official Questnet Compensation System document)

Annex 3 b

Extracts from Kiyosaki R.T. (2001). Business School – For People Who Like Helping People. Momentum Media.

Instead of building a network marketing business, I spent millions of dollars, and sometimes lost millions of dollars, building old-style type of business. While I do not regret my journey of learning how to build an old-world type of business from scratch, I can now faithfully say to you that Building a network marketing business makes more sense for most people – especially if you do not have millions of dollars to build an old-style type of business or hundreds of thousands of dollars to buy a famous franchise. Simply put, a network marketing business, with its low cost of entry and great training programs, is a far better idea – it is an idea whose time has come. The network marketing business is exploding worldwide. All you have to do is open your mind and you will see it. You cannot see it with your eyes because there is very little to see. There are no golden arches or green mermaids beckoning you to come into their place of business. The business of network marketing has exploded throughout the world and few people can see it.

Although the business has grown immensely, now is the time to get into the network marketing business. ... because the world has finally awakened to the idea that the Industrial Age is over and we are officially entering the Information Age. .. Network marketing businesses are truly Information Age franchises simply because they run almost solely on information rather than on land, factories and employees.

... Today, people need new ideas and systems where they can find the financial security (*sustainable income, our addition*) our parents once had. One answer is network marketing. The more people wake up – and many are after the September 11th terrorist attack and the stock

market crash (*more must with the continuing climate change and current global economic situation, our contextualization*) – the more people will realize that network marketing is a new answer for a world with less security (*a Lesotho with increasing vulnerability owing to unique climate change risks, our contextualization*). Network marketing gives millions of people throughout the world the opportunity to take control of their lives and their financial future. That is why the network marketing industry will continue to grow, even though old-world thinkers fail to see it growing.

Comment

With 95% of new business start-ups dying in the first year and more deaths of the remainder in ensuing years, no other income generating mechanism promises less risk or better sustainability, especially given Lesotho circumstances caused by climate change, as elaborated under the situation analysis.

7.4 Annex 4: Capacity Assessment: Results of capacity assessment of implementing Partner

Ministry of Natural Resources

| Project Title | | Health and Energy Climate Change Adaptation in Lesotho | |
|--|--|---|----------|
| Name of the Institution | | Ministry of Natural Resources | |
| Date of assessment | | 23 October 2009 | |
| INDICATOR | AREAS FOR ASSESSMENT | APPLICABLE DOCUMENTS/TOOLS | COMMENTS |
| PART I – REFERENCES AND PRELIMINARY CHECKS | | | |
| 1.1 History and Compliance with International Resolutions/Standards | | | |
| 1.1.1 History | | | |
| 1.1.2 United Nations Security Council 1267 | Is the institution listed in any reference list? | | |
| 1.1.3 Certification | Is the institution already certified through international standards? | ISO, Project Management standard, other standards | |
| PART II. ASSESSING NATIONAL INSTITUTION CAPACITY FOR PROJECT MANAGEMENT | | | |
| 2.1 Managerial Capacity | | | |
| Ability to plan, monitor and coordinate activities | | | |
| Planning, Monitoring & Evaluation | <p>Does the institution produce clear, internally consistent proposals and intervention frameworks, including detailed workplans?</p> <p>Does the institution hold regular programme or project review meetings?</p> <p>Are there measurable outputs/deliverables in the defined project plans?</p> <p>Was the institution previously exposed to UNDP RBM approach/methodology or equivalent in other donor agencies?</p> | <p>Well-designed project and programme documents</p> <p>Action Plans/Work plans</p> <p>Log frame or equivalent</p> <p>Project reports</p> <p>Evaluation reports</p> <p>Indicators available in project plans</p> <p>Lessons-Learned reports</p> | |

| | | | |
|--|--|--|----------------------------|
| 2.1.2 Reporting and performance track record | <p>Does the institution monitor progress against well defined indicator and targets, and evaluate its programme/project achievements?</p> <p>Does the institution report to its stakeholders on a regular basis?</p> | <p>Reports to donors and other stakeholders</p> <p>Reporting system</p> | |
| 2.2 Technical Capacity | | | |
| 2.2.1 Specialization | <p>Does the institution have the technical skills required?</p> <p>Does the institution have the knowledge needed?</p> <p>Does the institution keep informed about the latest techniques/ competencies/policies/trends in its area of expertise?</p> <p>Does the institution have the skills and competencies that complement those of UNDP?</p> | <p>Publications on activities, specific issues, analytical articles, policies</p> <p>Reports from participation in international, regional, national or local meetings and conferences</p> <p>Tools and methodologies</p> <p>Evaluations and assessments</p> | N/A |
| 2.2.2 Ability to monitor the technical aspects of the project. | <p>Does the institution have access to relevant information/resources and experience?</p> <p>Does the institution have useful contacts and networks?</p> <p>Does the institution know how to get baseline data, develop indicators?</p> <p>Does it apply effective approaches to reach its</p> | <p>Evaluations and Assessments</p> <p>Methodologies/training materials</p> <p>Use of toolkits, indicators and benchmarks/capacity-development tools</p> <p>Databases</p> | N/A most of the assessment |

| | | | |
|-----------------------|---|---|--|
| | targets (i.e participatory methods)? | | |
| 2.2.3 Human Resources | <p>Does the institution staff possess adequate expertise and experience?</p> <p>Does the institution use local capacities (financial/human/other resources)?</p> <p>What is the institution capacity to coordinate between its main office and decentralized entities/branches (if relevant)?</p> <p>Have staff been trained on project management methodology?</p> | <p>Profile of staff, including expertise and professional experience</p> <p>Staff turnover</p> <p>Chart of assignments of roles and functions</p> <p>Reports on technical experience from national or international agencies for operations and capacity-building</p> <p>Individual certification on project management such as PRINCE2</p> | |

PART III. ASSESSING NATIONAL INSTITUTION CAPACITY FOR ADMINISTRATIVE AND FINANCIAL MANAGEMENT

3.1 Administrative capacity

Ability to provide adequate logistical support and infrastructure

| | | | |
|---|--|---|--|
| 3.1.1 Ability to manage and maintain infrastructure and equipment | <p>Does the institution possess logistical infrastructure and equipment?</p> <p>Can the institution manage and maintain equipment?</p> | <p>Adequate logistical infrastructure: office facilities and space, basic equipment, utilities</p> <p>Office, regional and HQ.</p> <p>Computer capability</p> | |
|---|--|---|--|

| | | | |
|--|---|--|--|
| | | and library materials | |
| | | Proper equipment for area of specialization inventory to track property and cost | |
| 3.1.2 Ability to procure goods services and works on a transparent and competitive basis. | <p>Does the institution have the ability to procure goods, services and works on a transparent and competitive basis?</p> <p>Does the institution have standard contracts or access to legal counsel to ensure that contracts meet performance standards, protect UNDP and the institution's interests and are enforceable?</p> <p>Does the institution have the authority to enter into contracts?</p> | <p>Standard contracts</p> <p>Examples of how procurement is done</p> <p>Written procedures for identifying the appropriate vendor, obtaining the best price, and issuing commitments</p> | |
| 3.1.3 Ability to recruit and manage the best-qualified personnel on a transparent and competitive basis. | <p>Is the institution able to staff the project and enter into contract with personnel?</p> <p>Does the institution use written job descriptions for consultants or experts?</p> | <p>Standard contracts</p> <p>Job descriptions</p> | |
| <p>3.2 Financial Capacity <i>Ability to ensure appropriate management of funds</i></p> | | | |
| 3.2.1 Financial management and funding resources | <p>Is there a regular budget cycle?</p> <p>Does the institution produce programme and project budgets?</p> | <p>Operating budgets and financial reports</p> <p>List of core and non-core donors and years of funding</p> <p>Written procedures ensuring clear records for payable,</p> | |

| | | | |
|------------------------------------|---|--|--|
| | <p>What is the maximum amount of money the institution has managed?</p> <p>Does the institution ensure physical security of advances, cash and records?</p> <p>Does the institution disburse funds in a timely and effective manner?</p> <p>Does the institution have procedures on authority, responsibility, monitoring and accountability of handling funds?</p> <p>Does the institution have a record of financial stability and reliability?</p> | <p>receivables, stock and inventory</p> <p>Reporting system that tracks all commitments and expenditures against budgets by line</p> | |
| 3.2.2. Accounting System | <p>Does the institution keep good, accurate and informative accounts?</p> <p>Does the institution have the ability to ensure proper financial recording and reporting?</p> | <p>A bank account or bank statements</p> <p>Audited financial statements</p> <p>Good, accurate and informative accounting system</p> <p>Written procedures for processing payments to control the risks through segregation of duties, and transaction recording and reporting</p> | |
| 3.2.3. Knowledge of UNDP financial | <p>Does the institution have staff familiar with Atlas through External Access?</p> | <p>External access provided</p> | |

| | | | |
|--------|--|--|--|
| system | | | |
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The following information is provided for your information. This information is not intended to be used as a substitute for professional advice. The information is provided for your information only and is not intended to be used as a substitute for professional advice.

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7.5 Annex 5 Rainfall departure for two districts in Lesotho

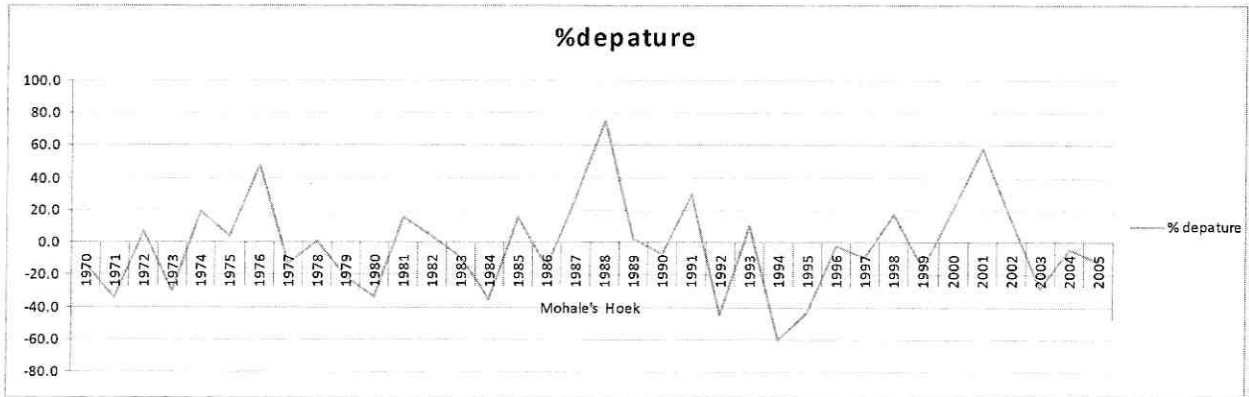


Figure 8.1 Percentage rainfall departure for Mohale's hoek

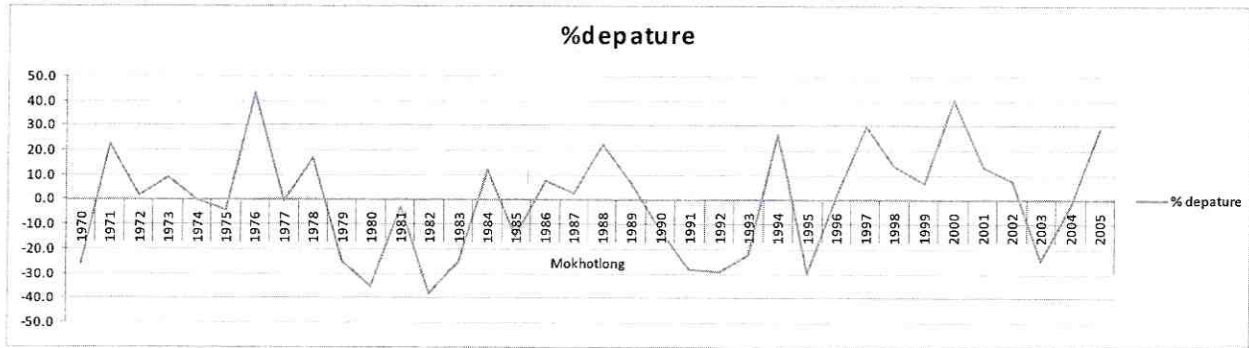


Figure 8.2 Percentage rainfall departure for Mokhotlong

7.6 Percent Population by Source of Drinking Water and Sanitation Facility, 2004

| Source/Facility | Urban Population | Rural Population | Total Population |
|---------------------------------|------------------|------------------|------------------|
| Source of Drinking Water | | | |
| Piped-yard | 68.4 | 3.1 | 18.6 |
| Public tap | 22.0 | 50.0 | 43.3 |
| Protected well | 4.9 | 15.7 | 13.1 |
| Unprotected sources | 4.2 | 31.1 | 24.7 |
| Other | 0.4 | 0.2 | 0.3 |
| All sources | 99.9 | 100.1 | 100 |
| Toilet Facility | | | |
| Water-borne toilet | 7.7 | 0.2 | 2.0 |
| Traditional pit latrine | 44.4 | 29.7 | 33.2 |
| VIP | 40.7 | 15.7 | 21.6 |
| None | 7.1 | 54.4 | 43.2 |
| Missing | 0.1 | 0.1 | 0.1 |
| Total | 100.0 | 100.0 | 100.0 |

Source: Ministry of Health and Social Welfare, Bureau of Statistics, and ORC Macro (Nov. 2005) Lesotho: Demographic and Health Survey 2004

Furthermore the following information, awaiting verification at the time of writing, in 2008

- 1,500 water testing vials and 16,500 drinking water buckets were secured and distributed to various districts
- A water quality surveillance software was purchased
- 12 health inspectors and 34 health assistants were trained on the use of the water quality surveillance software