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Norad

Review of the Embassy's Development Cooperation Portfolio:

Climate Change and Environment "Climate Proofing and Greening of the Portfolio"

The Royal Norwegian Embassy, Addis Abeba, Ethiopia

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FINAL REPORT

The Royal Norwegian Embassy,
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Climate Change and Environment

"Climate Proofing and Greening of the Portfolio"

6. November 2009

Norad

PREAMBLE

The Royal Norwegian Embassy in Addis Abeba (the Embassy) has requested the assistance from Norad to undertake a review of the Embassy's portfolio to identify possible ways and means of addressing/integrating appropriate climate change and environmental concerns in existing programs and projects supported by Norway. The Review was commissioned in response to the increased priority given to climate change and environment in Norwegian development cooperation policy. This Review is intended to contribute to "climate proofing" and a "greening" of the Embassy's portfolio.

The rationale for Norwegian development cooperation is to support Ethiopia's own effort to reduce poverty, as well as to contribute to the peaceful resolution of internal conflicts in the country. The Embassy has a clear focus on the following priority areas: Energy, Environment and Natural Resources/Climate, Governance/Budget Support, Gender, and Peace/-Reconciliation.

The Review Team was comprised of Hans Olav Ibrekk and Leif Tore Trædal, both Norad staff. The Team undertook a visit to Addis Abeba 22-26 September 2009. The review is based on desk studies, review of relevant literature and discussions with Embassy officials and counterparts in Ethiopia. The Team appreciates the assistance and hospitality given by the Embassy.

The Embassy submitted comments on the report to Norad 2. November 2009. Based on the received comments and suggestions the Review Team prepared the final report.

The Review Team has provided its independent recommendations and this does not indicate any commitment on behalf of the Embassy to provide additional funding. Based on the review the Embassy is expected to prepare a follow-up plan to be included in the annual business planning cycle.

6. November 2009

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LIST OF ABBREVIATIONS

AD	Appropriation Document
CAADP	Comprehensive Africa Agriculture Development Program
CCS	Carbon capture and sequestration/storage
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CO_2	Carbon dioxide
COMESA	Common Market for Eastern and Southern Africa
CSR	Corporate Social Responsibility
DCG	Dryland Coordination Group
DF	Development Fund
DNA	Designated National Authority
DRM	Disaster Risk Management
EMAO	Ethiopia Mine Action Office
EPA	Environmental Protection Authority
FAO	United Nations Food and Agricultural Organization
FCPF	Forest Carbon Partnership Facility
FOL	Fuel, oil and lubricant
GCM	Global Circulation Models
GDP	Gross Domestic Product
GHGs	Greenhouse gases
GIS	Geographical information system
GMO	Genetically modified organisms
HFA	Hyogo Framework of Action
ICRAF	World Agroforestry Center
IFPRI	International Food Policy Research Institute
IMAS	International Mine Action Standards
IPCC	Inter-Governmental Panel of Climate Change
ITCZ	Inter-Tropical Convergence Zone
MDG	Millennium Development Goal
MFA	Norwegian Ministry of Foreign Affairs
MoE	Ministry of Education
MoU	Memorandum of Understanding
MMD	Mine Detection Dogs
MRV	Monitoring, reporting and verification
MTR	Mid-Term Review
MW	Mega Watt
NAPA	National Adaptation Programme of Action
NDF	Norwegian Development Fund
NGO	Non-Governmental Organization
NMA	National Meteorological Agency
Norad	Norwegian Agency for Development Cooperation
NPA	Norwegian Peoples Aid
PASDEP	Plan for Accelerated and Sustainable Development to End Poverty
PD	Project document
PES	Payment for ecosystem services
PIN	Project Identification Note
REDD	Reducing emissions from deforestation and forest degradation
R-PIN	Readiness Project Identification Note
SLM	Sustainable land management
TOR	Terms of Reference
UDHR	Universal Declaration of Human Rights
UMB	Norwegian University of Life Sciences

UNCCD	United Nations Convention to Combat Desertification
UNFCCC	United Nations Framework Convention for Climate Change
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's' Fund

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

The Royal Norwegian Embassy in Addis Abeba (the Embassy) requested Norad to undertake a Review of the Embassy's portfolio to identify possible ways and means of addressing/integrating appropriate climate change and environmental concerns in existing programs and projects.

Ethiopia is one of the most vulnerable African countries to climate change. The country is affected by natural hazards such as periodic drought and tropical storms, as well as occasional floods and flash floods. Current climate variability is already imposing a significant challenge to Ethiopia by affecting food security, water and energy supply, poverty reduction and sustainable development efforts, as well as by causing natural resource degradation and natural disasters. Ethiopia has taken all formal steps to be actively engaged in climate change negotiations and to participate in carbon markets.

The Embassy's main contribution to addressing climate change, in addition to the planned support within clean energy, is the support to **natural resources management** with a focus on drylands issues, sustainable land management and in particular the UNCCD (United Nations Convention to Combat Desertification) agenda in the country. Sustainable Land Management (SLM) is a key component in the Ethiopian policy framework for confronting land degradation in the country. The Government of Ethiopia has made a formal decision to develop and implement a national framework for SLM, and has taken steps to establish an SLM platform at federal level to engage and align the contributions of all stakeholders in the country. Norway could contribute to scaling up SLM based on the UNCCD experiences and the key role Norway played as *chef de file* in the period from 2005-2007. In order to scale up SLM related activities it is recommended that the Embassy engages with other partners, e.g. the Comprehensive Africa Agriculture Development Program (CAADP), TerrAfrica, World Bank, United Nations Development Program (UNDP), and the Ministry of Agriculture in order to pool resources, and also consider a sector-wide approach to SLM. In this dialogue the Embassy could focus on experiences made with Conservation Agriculture (CA) in other parts of Africa. CA is climate-smart farming practices that can be win-win, improving rural livelihoods and mitigating and adapting to climate change.

The Embassy is supporting various programs implemented by the **Norwegian Development Fund** (NDF). These programs are considered highly relevant in helping farmers adapt to climate variability, increase food security, and in the long run also adapt to future consequences of climate change. In order to strengthen the environment and climate change aspects of the programs the Embassy in its dialogue could focus on improving documentation on the need for environmental assessments. NDF could specifically be encouraged to develop an environmental manual with specific guidelines on how such interventions should be undertaken. Furthermore, the Embassy could encourage NDF to consider including CA and agroforestry in their programs and to explore options for tapping into the carbon market through re-forestation and rural energy efficiency activities. Options for strengthening the cooperation with the Mekelle University to improve implementation of program activities could also be explored.

Through the **institutional cooperation program** between the Hawassa and Mekelle universities and the Norwegian University of Life Sciences (UMB) Ethiopia will be provided with knowledge and capacity to address key climate change issues, as well as raising awareness. In order to strengthen the environment and climate change aspects of the program the Embassy in its dialogue could focus on making climate change adaptation with a focus on current climate variability a key research topic, preferably based on a multi-disciplinary approach, and to ensure integration of relevant climate change issues in teaching curricula. The new centers supported through this support can be potential entry points for developing

multi-disciplinary research. Furthermore, relevant climate change mitigation research components such as alternative clean energy sources for rural areas could also be considered. Finally, the partners should be encouraged to engage actively in outreach activities as a means to raise awareness and to create educated and skilled climate change experts.

Many of broadly recognised rights will be significantly threatened by the impacts of climate change. Children and youth have a right to the highest attainable levels of health and education, to which water, sanitation and hygiene education are key. It should also be noted that youth are key agents of change since they effectively can introduce and reinforce positive hygienic behaviours and attitudes in their homes and communities. There is scope to include more strongly issues related to climate change and environment in the project ***Right Based Approach to Adolescent and Youth Development in Ethiopia*****.** The project could potentially help to enhance understanding and raise awareness on key climate change and environment related issues. The Embassy should in its dialogue highlight the Norwegian position on the right to access to water and sanitation and explore the possibilities of including hygiene related issues in the training and awareness raising activities undertaken through this project. This applies in particular to re-productive health and HIV/Aids components. Furthermore, a discussion should be initiated with the partners on the possibility of using complementary interventions and exploring synergies with other programs.

In the **demining** project the Embassy should ensure that implementing partners follow the International Mine Action Standards' (IMAS) Safety & Occupational Health standards and consider addressing the issue of lack of Ethiopian standards/requirements for demining operation in its policy dialogue.

In its **policy dialogue** with the Government of Ethiopia (GoE) the Embassy could consider to raise the following key issues as entry points to a larger discussion on climate change:

- Focus on adapting to existing climate variability;
- Impacts of and preparedness to address natural disasters; and
- Making the case for investing in environment and climate change through initiating joint analytical work.

To strengthen Ethiopia's response to environment and climate change, development partners could consider focusing on evidence-based advocacy by undertaking analytical studies on costs of environmental degradation, assessing cross sector impacts of climate change, especially in relation to existing climatic variability and natural disasters, and economic benefits of sustainable land management as a tool to influence the preparation of the upcoming national development strategy.

Finally, observations primarily related to follow-up and internal procedures are provided:

- The Embassy should more clearly document environmental and climate change related issues, including reductions in GHG emissions, in projects and programs supported by the Embassy and encourage their partners to do the same. There is also a need to clearly document to what extent environmental assessments have been undertaken (EIA) and how these are followed up. This is currently missing in most Appropriation documents (ADs);
- The Embassy should take steps to starting walking the talk – "doing our part towards a low carbon economy"! This can be done through the preparation of an internal "greening" of the Embassy plan with the view to reduce the environmental and GHG footprints of the Embassy's operation. The planning of a new Embassy building also offers an opportunity to build a 'climate and environmentally-friendly' building; and
- The Embassy should carefully review the recommendations provided in this report and, if deemed relevant, prepare a follow-up plan as part of the annual business planning.

1. MAINSTREAMING OF ENVIRONMENT AND CLIMATE PROOFING – APPROACH AND METHODOLOGY

1.1 Introduction

The Norwegian Action Plan for Environment in Development Cooperation was presented in June 2006. The Government's aim is for Norway to play a leading role in making environmental concerns an integral part of all development cooperation. The ultimate goal of Norway's efforts is for developing countries to acquire the capacity and competence necessary to safeguard their right to a clean environment and the ability to manage their natural resources in a sustainable manner. The action plan sets the direction for Norway's efforts for the next ten years.

All Norwegian Embassies are requested to increase their efforts on addressing climate change. Reporting on national developments will be an important task, as well as assessing continuously how Norway can assist in achieving set climate change targets and objectives. The role each partner country can play in climate change negotiations and providing support to activities that can move partner countries towards accepting long-term commitments will be of key importance.

The Ministry of Foreign Affairs (MFA) has instructed all Embassies to increase efforts to ensure mainstreaming of environment, climate change and gender and measures to combat corruption. Increased reporting on these issues is expected. Furthermore, impacts of climate change and 'climate proofing' should constitute an element of the overall policy dialogue with partner countries, including in the dialogue with multilateral organizations and non-governmental organizations (NGOs).

1.2 Climate Proofing

To address climate change, the design criteria for development projects must be based on probable future climate scenarios and expected impacts. Screening for climate risks represents a first step towards "**climate-proofing**" of development programs. The screening will help to identify not only programs at risk of climate change but also those that are not climate sensitive and do not, therefore, require further risk analysis.

The following questions will be considered as a starting point:

- How does current climate variability affect the program area? What are the impacts of this variability (floods, droughts)? What are the existing coping strategies used to deal with these impacts?
- What is the country's vulnerability and risks from climate change and extreme weather?
- What are the anticipated impacts of climate change in the program area?

Based on the questions above development programs will be classified into three categories:

- **Category 1 - High risk** – Full climate risk assessment required
    - Sensitive sectors: agriculture, water resources, energy, coastal development and management and other infrastructure (e.g. roads).
    - Development programs in high risk areas, e.g. coastal, river bank, dry land areas.
- **Category 2 – Partial or moderate risk** – Selective climate risk assessment required:

    - Development programs with strong components related to water and in risk areas (e.g. integrated rural development, agriculture, fisheries, water supply and sanitation).
- **Category 3 - Low/no risk** – No assessment required.
    - Includes development programs that are not affected in any significant way by climate, and not affecting external vulnerabilities, e.g. within health, education.
    - It should, however, be noted that these sector can be affected by indirect impacts of climate change (socio-economic change, migration, reduced food production, vector-borne diseases etc.) and can be used to enhance capacity and raise awareness on climate change.

1.3 Environmental Mainstreaming in the Context of the Embassy's Portfolio

Addressing/integrating environment implies 'mainstreaming' of environment in the Embassy's portfolio. **Environmental mainstreaming** refers to the integration of environmental policy considerations into core institutional thinking. Mainstreaming can help align policies, programs and operations with the long-term requirements of sustainable development, help modernize development policy content and procedures, and promote a pro-active approach rather than responding to impacts as they unfold. Mainstreaming covers both assessing scope for benefiting from environmental opportunities and avoiding negative impacts on the environment.

For the Embassy the integration of environment during programming serves two objectives:

1. To identify and avoid harmful direct and indirect environmental impacts of cooperation programs in the different sectors which can undermine sustainability and counteract achieving the development co-operation objectives of the program – "**do no harm**"; and
2. To recognize and realize opportunities for enhancing environmental conditions, thereby bringing additional benefits to development and economic activities and advancing environmental issues – "**do good**".

Combined this will contribute to a "**greening**" of the Embassy's portfolio.

In the Norwegian-supported development efforts the Embassy should actively promote "**do good**", in addition to "**do no harm**". This will be an effective contribution to Norway's commitment to ensure that people and the environment are not harmed as a result of its financing, reduces and manages risk - saves money and time, improves performance and ultimately reduces risks to the Embassy's reputation.

1.4 Policy Context – Ethiopia

Climate Change and Ethiopia

Ethiopia's climate is typically tropical in the south-eastern and north-eastern lowland regions, but much cooler in the large central highland regions of the country. Mean annual temperatures are around 15-20°C in these high altitude regions, whilst 25-30°C in the lowlands. Most of Ethiopia experiences one main wet season (called 'Kiremt') from mid-June to mid-September (up to 350mm per month in the wettest regions). Parts of northern and central Ethiopia also have a secondary wet season of sporadic, and considerably lesser, rainfall from February to May (called the 'Belg'). The southern regions of Ethiopia experience two distinct wet seasons - the March to May 'Belg' season is the main rainfall season yielding

100-200mm per month, followed by a lesser rainfall season in October to December called 'Bega' (around 100mm per month).

A wide range of natural hazards are present in Ethiopia, including drought, floods, landslides, human and animal diseases, pests, earthquakes, and urban and forest fires. Recurrent drought and floods in particular have the most severe impacts on people's lives in Ethiopia. The country's vulnerability to natural disasters is due to a number of inter-linked factors. These include dependence on rain-fed agriculture, under-development of water resources, land degradation, low economic development, and weak institutions[1].

Ethiopia has a long history of recurring drought; however, since the 1970s, the magnitude, frequency, and impacts of droughts have become more severe. Moreover, it is assumed that due to climate change and human-induced factors, the areas affected by drought and desertification are expanding in Ethiopia. Flash floods and seasonal river floods are becoming increasingly common due to deforestation, land degradation, increasing climate variability, and settlement patterns.

Ethiopia's climate is highly variable, and is projected to become more variable due to climate change, with the potential for increased frequency of extreme weather events including floods and droughts. According to the National Adaptation Programme of Action[2] (NAPA) there has been a warming trend in the annual minimum temperature over the past 55 years. It has been increasing by about 0.37 ^{0}C every ten years. The country has also experienced both dry and wet years over the same period. The trend analysis of annual rainfall shows that rainfall remained more or less constant when averaged over the whole country. Modeling indicates that average annual rainfall may increase particularly in the highlands, but also in the country as a whole (but with large intra-country differences).

Rural areas are very vulnerable to climate variability. The most vulnerable sectors to climate variability are agriculture, water, health, and energy. Smallholders dependent on rain-fed crop production and pastoralists in drought-prone areas are the most vulnerable rural livelihood systems. Approximately 85% of the population lives in rural areas and depends on the local natural resource base to meet their basic welfare needs. The relatively underdeveloped, semiarid, and arid regions of Afar and Somali have been historically vulnerable to unfavorable climatic conditions, which are being exacerbated by climate change. The Amhara and Oromia regions are characterized both by areas of good agricultural production in the highlands and midlands and by recurrent droughts mainly in the lowlands. The Tigray region, vulnerable to recurrent drought, is also vulnerable to climate change.

Ethiopia's Response to Climate Change Risks

Ethiopia signed the United Nations Framework Convention on Climate change (UNFCCC) in 1992 and ratified it in 1994. The national focal point on climate change is the National Meteorological Agency (NMA) under the Ministry of Water Resources. Ethiopia submitted its first national communication to the UNFCCC 16. October 2001.

Ethiopia has already put in place policies, strategies and programs that enhance the adaptive capacity and reduce the vulnerability of the country to climate variability and change. Such programs include Plan for Accelerated and Sustainable Development to End Poverty (PASDEP), Environmental Policy of Ethiopia, Agriculture and Rural Development Policy and Strategy, etc. Improved economic growth has been registered in the country over the past four years as a result of these policies, strategies and programs. However, the country

[1] World Bank, 2009. Draft Disaster Risk Management in Ethiopia. Country Note.

[2] National Meteorological Agency, 2007. Climate Change National Adaptation Programme of Action (NAPA) of Ethiopia.

needs financial and technological support and capacity building to fully implement these policies and strategies.

Ethiopia prepared its NAPA in 2007. Through the NAPA process, twenty priority project ideas are identified that address immediate climate change adaptation needs of the country. These projects broadly focus in the areas of human and institutional capacity building, improving natural resource management, enhancing irrigation agriculture and water harvesting, strengthening early warning systems and awareness raising.

The designated national authority (DNA) for the Clean Development Mechanism (CDM) is the Environmental Protection Authority (EPA). Although there are no registered CDM projects in Ethiopia, the country has considerable CDM potential, notably in the form of:

- Animal and human waste management (methane flaring and/or electricity generation);
- Urban landfill (methane flaring and/or electricity generation);
- Agricultural residues (e.g. co-generation using bagasse; use of coffee, floriculture, forest and other residues as feedstock in kilns and furnaces, or as feedstock in biodigesters);
- Renewable energy, notably mini-hydro and perhaps wind – particularly in an off-grid context as the Ethiopian grid is already very 'clean' (hydro-powered). Ethiopia's grid emits just 0.008 kgCO_2/kWh. However, it is also clear that because of increased demand and unstable electricity supply, diesel generators are being installed at an increasingly faster rate, both by companies and by private individuals, in order to meet demand at a relatively low capital cost and rapid installation time. Mixed use of energy sources would in consequence also lead to potentially significant differences in the grid emission factors. The potential for CDM within the energy sector in Ethiopia might therefore be higher than one would expect;
- Industrial fuel-switching – e.g. in peri-urban industries such as cement factories, paper & pulp mills, breweries, brick-making factories, etc.; and
- Afforestation/reforestation – e.g. to rehabilitate degraded land, to protect watershed catchments and for energy plantations.

Representatives from the Norwegian Ministry of Finance (CarbonNetural Norway) have recently visited Ethiopia to explore the possibility of purchasing emission reduction credits from projects in 'Ethiopia. A few CDM-projects were also identified and positively assessed by the representatives.

Ethiopia is not yet a signatory to the Hyogo Framework of Action (HFA) and has not established a national platform. A new Disaster Risk Management (DRM) Policy is under preparation. The new DRM policy is organized according to HFA priority areas. Becoming a signatory to HFA would demonstrate Ethiopia's commitment to the broad principles and strategies outlined in HFA.

The NMA currently has about 1,000 hydro-meteorological stations of various classes located throughout the country; however, information at the local level is seen as unreliable, and not captured in a way that would allow the community itself to use the data for early warning and forecasting, and for planning of crop-livestock systems. There is a need to provide capacity building for better and more reliable climate information at the local level through climate downscaling, expansion of hydro-meteorological stations, and support for new technologies.

2. ASSESSMENT OF THE EMBASSY'S PORTFOLIO

2.1 Introduction

The Embassy identified the following programs and projects to be reviewed, presented in the Table below:

PTA number and name	Agreement Partner
ETH-07/039 Institutional Cooperation Hawassa – Mekelle – UMB (2009 – 2013)	Norwegian University of Life Sciences (UMB), Hawassa University and Mekelle University
ETH-05/028 - UNICEF-UNFPA Joint Programme: Right Based Approach to Adolescent and Youth Development in Ethiopia	UNICEF and UNFPA
ETH – 07/041 Sustainable Agriculture in Tigray National Regional State 2009	Norwegian Development Fund (NDF)
ETH-06/039 Ethio-Norwegian UNCCD Program	Norwegian Development Fund (NDF)
ETH – 07/034 NPA – EMAO Humanitarian Mine Action 2008 – 2011	Norwegian People's Aid (NPA)

In the following, the main findings of the review of the various projects and programs are presented. For each program a short description of goals and activities are presented for information, existing climate change and environment-related activities included in the project are presented, assessment of climate change and environmental issues is undertaken and finally specific recommendations to the Embassy are provided.

It should be noted that the Review Team offers a menu of possible actions that the Embassy should consider strengthening the climate change and environmental component of the supported projects and programs. The Embassy and its Ethiopian partners need to carefully review the suggestions and decide on the appropriate course of action. Some of the recommendations can be easily addressed without significant resource implications. Other recommendations will have resource implications for the Embassy and need to be carefully assessed in the Embassy's follow-up plan to the Review.

2.2 ETH-07/039 Institutional Cooperation Hawassa – Mekelle – UMB (2009 – 2013)

Goals and Activities

The overall goal of the institutional cooperation is:

- Improved livelihood of the rural poor communities in the rift valley and the arid highlands of Ethiopia.

The Purposes of the program are:

- To strengthen quality of education (in teaching, research and consultancy and community service) through educational development and administrative support;
- To enhance development oriented research, dissemination of findings and university-industry linkages;
- To enhance training and research on community development, environmental management and gender issues; and
- To organize training programs for stakeholders to tune in their policies and programs in an environmentally friendly manner and give consultancy services in the area of environment and natural resource management law.

Climate Change and Environmental Issues Addressed in the Program/Project

Major components of the program are: development oriented research and dissemination of findings, natural resource management, strengthening the quality of higher education, establishment of institutes dealing with environment, gender and development at Hawassa and Mekelle Universities as well as environment and natural resources law centre at Mekelle University focusing on the legal protection of environment and natural resource management.

Climate change is identified as an external risk to the program. It is however unclear how this is considered as a risk to the program.

Assessment of Climate Change and Environmental Issues

This program is a highly relevant contribution to strengthen the technical capacity in Ethiopia to address climate change. According to Ethiopia's national communication to the UNFCCC there is limited climate change research capacity in the country. With the exception of limited activities at the Department of Geography of the Addis Ababa University, Ethiopian Agricultural Research Organization and the Arbaminchm Water Technology Institute, graduate and undergraduate courses/programs including research in Meteorology and Climatology are virtually absent in higher education and research institutions of the country. By strengthening the two universities, Hawassa and Mekelle, and focusing their research programs on issues related to climate change the project could effectively contribute to increase the research and higher education capacity in the country.

There is scope for strengthening the climate change profile in the program, especially to use climate change with a focus on climate variability as an entry point to encouraging multi-disciplinary research across departments and universities. The new institutes could effectively serve as entry points to strengthen multi-disciplinary research and to increase the focus on climate change in the cooperation. Ethiopia's NAPA can be used as a guide to identify key focus areas of research.

Through the project the Hawassa and Mekelle universities could consider to enhance national research capacity in the following areas, as identified in Ethiopia's national communication to the UNFCCC:

- Climate change vulnerability and adaptation assessment in key socio-economic sectors;
- Current climate variability particularly extreme climate events such as drought and flood and its coping mechanisms;
- Integrated assessment;
- Climate change detection and climate modelling;
- GHG inventory and mitigation analysis;
- Adaptation and mitigation cost analysis;
- Technology assessment, transfer and adoption; and
- Policy analysis.

The Ministry of Education (MoE) has also made efforts to introduce environmental education in the school curricula at various levels. Topics on climate change have been infused with subjects like geography, agriculture and biology. The teaching of environmental economics at the Department of Economics in the Addis Ababa University is also worth mentioning. Despite the above mentioned efforts the level of awareness about the environment in general and climate change in particular is still very low among most Ethiopians. Graduate and undergraduate courses/programs including research in climate change are not yet included in

the education system of relevant higher education and research institutions of the country. The project partners should work actively with the ministry and other institutions to develop the curricula.

Climate change is a new issue for most people. Entities dealing with climate change are faced with an outreach challenge – how to raise awareness and to create educated and skilled experts to handle climate change issues. The two universities should consider supporting this by including activities such as:

- Producing articles and conducting interviews through the mass media;
- Developing climate change web-site and networking;
- Organising a series of targeted workshops/seminars/ panel discussions;
- Preparing and widely disseminating information and teaching materials as well as fact sheets on climate change and potential impacts in Ethiopia;
- Launching climate change courses for teachers; and
- Providing short and long term training of national experts in the various aspects of climate change.

In the project documentation some environmental issues have not been adequately addressed. This applies particularly to no focus on the crucial importance of providing adequate sanitation and hygiene facilities, preferably with separate facilities for men and women. Furthermore, health and safety issues related to the operation of laboratories have not been addressed.

Both universities have become members of the Norwegian-based Dryland Coordination Group's (DCG) network. The Embassy has not been adequately informed of this and the partners should be requested to provide information on the cooperation with the DCG to ensure coordination of the support being provided through different Norwegian channels. Norad should also be requested to facilitate this exchange of information.

Finally, it should be noted that the Review Team does not find the design of the project and the logic behind the log-frame very clear. It is rather unclear how the various objectives will be reached and if the overall goal can be accomplished the way they are currently stated.

Climate Risk Assessment: 3 – Low

Conclusions and Recommendations

The project is considered highly relevant and will, subject to successful implementation, provide Ethiopia with knowledge and capacity to address key climate change issues, as well as raising awareness. In order to strengthen the environment and climate change aspects of the project the Embassy in its dialogue could focus on:

- *Initiating discussions with the partners on the possibility of making climate change adaptation with a focus on current climate variability a key research topic, preferably based on a multi-disciplinary approach, and to ensure integration of relevant climate change issues in teaching curricula. The new centers supported through the program can be potential entry points for developing multi-disciplinary research;*
- *Encouraging the partners to engage actively in outreach activities as a means to raise awareness and to create educated and skilled experts to handle climate change issues;*
- *Considering to include relevant climate change mitigation research components such as alternative clean energy sources for rural areas (e.g. improved cook stoves, biogas, solar panels, etc.);*
- *Ensuring that the universities have adequate water and sanitation facilities (separate facilities for women and men), e.g. Mekelle;*

- *Ensuring that the universities have adequate health and safety procedures in place for the operation of laboratories supported through this project;*
- *The universities and the NDF should be encouraged to explore potential synergies and exchange information to ensure a closer link between research and on-the-ground implementation;*
- *Encouraging the universities to consider installing climate friendly technologies at the university campuses, e.g. solar panels, solar water heaters, etc. in order to become more 'climate friendly'. This could also economically be worthwhile for the universities, bringing the costs of energy supply down;*
- *Requesting information from the universities on the cooperation with the DCG to ensure coordination of the support being provided through different Norwegian channels. Norad should also be requested to facilitate this exchange of information; and*
- *The project should be classified in PTA with Climate and Environment policy markers – code 1.*

2.3 Support to Sustainable Land Management

2.3.1 General Observations and Recommendations

Natural Resources Management and Food Security is one of the three key focus areas for the Embassy, with a particular focus on drylands issues, sustainable land management and the UNCCD (United Nations Convention to Combat Desertification) agenda in the country.

Communities living in drylands affected by desertification and land degradation are generally vulnerable to drought, and over the years, communities have developed coping mechanisms to deal with living in these environments. There are now indications that dryland areas will be particularly vulnerable to future consequences of climate change. In the absence of proper assistance in the forms of financial and technology transfers and capacity building among other needed international support, dryland communities are unlikely to cope when new and amplified hazards strike. Past experience with disasters of the kinds now expected to be commonplace suggests that the human and economic impacts will be tragic, unless response measures are in place to support rapid response and adaptation.

Adaptation measures in the drylands need to take into consideration three dynamics: an adaptation lag due to the learning curve; some but not all predictable risks may be averted; and the preparation for risks that cannot be anticipated. To minimize the learning curve and ensure long-term sustainability of the measures, the technologies applied must build on and strengthen the knowledge that communities possess already, specifically their current adaptation practices and mechanisms (usually referred to as coping mechanisms). However, these traditional mechanisms require modification in recognition of the fact that today's problems cannot be solved with technologies of yesterday. In preparing for the unpredictable risks, adaptation measures need to provide for rapid responses, including rescue efforts if necessary, as well as long-term solutions that cut across the livelihoods, ecosystems and social aspects of these communities.

Activities to strengthen climate adaptation among the poor can also not be separated from activities to tackle poverty. Adaptation activities must be conceived as part of a broader rural development strategy and proceed from an understanding of how low-income families make a living, how they perceive risk, and what social and political constraints they face.

The local and regional level is important for mainstreaming climate change for three key reasons. First, climate change impacts are manifested locally, affecting local livelihood activities, economic enterprises, health risks, etc. Second, vulnerability and adaptive capacity are determined by local conditions. Third, climate change activities are often best observed at

the local level. Decisions about livelihood strategies and investments can represent real-life demonstrations of adaptation. They also provide a basis for scaling up, revising and learning.

Agriculture is of key importance to Ethiopia's development. Most, if not all farming systems based on an annual cropping cycle involves dramatic changes to the natural environment and the farming systems in Ethiopia is in that regard not different from farming systems in other parts of the world. In addition to reducing yields, climate change will put increased pressure on farmers, pastoralists and other land managers to reduce GHG emissions and to adapt to a new climate.

Sustainable Land Management (SLM) is a key component in the Ethiopian policy framework for confronting land degradation in the country. SLM is defined as a knowledge-based procedure that helps integrate land, water, biodiversity, and environmental management (including input and output externalities) to meet rising food and fiber demands while sustaining ecosystem services and livelihoods. SLM is necessary to meet the requirements of a growing population. Improper land management can lead to land degradation and a significant reduction in the productive and service (biodiversity niches, hydrology, carbon sequestration) functions of watersheds and landscapes (World Bank definition). The Government of Ethiopia has made a formal decision to develop and implement a national framework for SLM, and has taken steps to establish an SLM platform at federal level to engage and align the contributions of all stakeholders in the country.

Norway could contribute to scaling up SLM based on the UNCCD experiences and the key role Norway played as chef de file in the period from 2005-2007. SLM has also been a key priority area for the Embassy for many years; however, due to the 2007 situation when the Embassy had to suspend some of its responsibilities, SLM and natural resources management as key priority field has not been followed-up as initially was the intention. The NDF UNCCD program is currently also the only component left of the Embassy's initial responsibilities as *chef de file* for UNCCD implementation in Ethiopia. Even though the NDF's program and activities are considered as very relevant both in terms of attaining sustainable land management in the program areas and in turn contribute to the national implementation of the UNCCD in Ethiopia, NDF's policy influence and capacities on this field is limited due to its size and its mandate as an NGO.

In order to scale up SLM related activities it is recommended that the Embassy re-engages with other partners, e.g. the CAADP, TerrAfrica, WB, UNDP, and the Ministry of Agriculture in order to pool resources, and also consider a sector-wide approach to SLM. The Embassy could potentially also take on a role as a facilitator in this scaling up. In this dialogue the Embassy could focus on experiences made with Conservation Agriculture (CA) in other parts of Africa. Experiences made from Norwegian support to CA in Zambia could be one possible entry point here. CA is seen as a part of the solution and includes a "package" of farming methods that collectively boost agricultural production by improving soil fertility, conserving soil moisture, reducing erosion, and focusing applications of soil supplements. CA is climate-smart farming practices that can be win-win, improving rural livelihoods and mitigating and adapting to climate change. These experiences could possibly also feed into parts the NDF dryland programs in Afar, Somali and Tigray.

Agroforestry is also a concept that could be explored in order to promote SLM and combat land degradation in dryland areas of Ethiopia. For example ICRAF could be approached in assisting with exploring the possibilities of also including agroforestry in the SLM plans in Ethiopia. The ICRAF connection could potentially also improve the analytical dimensions related to the practical implementation of agroforestry in the NDF programs.

Scaling up CA and agroforestry can be enhanced even further by supporting efforts to tap into the carbon market. Under the Kyoto Protocol countries can neither sell credits for carbon sequestration from agricultural activities, nor for avoided deforestation or forest degradation. If they could, it would fundamentally change farmers' and other land users' incentives. Carbon markets that include agriculture and integrate across the landscape could be one of the most important mechanisms to drive sustainable development in a world affected by climate change. For program activities related to reforestation (e.g. in the Tigray program), options for utilizing (different parts) the carbon market could specifically be explored. As Ethiopia has established a DNA for CDM, and have adopted an official forest definition, there could be possibilities for gaining credits from the CDM. However, considering the many bottlenecks for establishing CDM projects in the African context (and elsewhere) in general and for forestry (A/R) projects in particular, the voluntary carbon market would probably be a more likely option for the DF and its partner organizations.

The Team also does not see the rationale for why the UNCCD should be the overall objective of the Embassy's "Natural Resources Management and Food Security" component (and the NDF programs). UNCCD implementation should rather be seen as a co-benefit from achieving SLM and food security in the program areas. In moving forward the Embassy could therefore consider to focus on SLM as key component, and UNCCD compliance as a secondary one.

Conclusions and Recommendations

The Natural Resources Management and Food Security component is considered to be the most climate change adaptation relevant part of the portfolio, dealing with issues related to SLM and improved livelihood security. In the further efforts the Embassy could consider the following:

- *Retake a more active role on SLM at policy level in Ethiopia;*
- *Contribute to scaling up of SLM in Ethiopia, based on earlier experiences from SLM and the key role Norway played as chef de file for the UNCCD;*
- *Re-engaging with other partners (e.g. CAADP, World Bank, UNDP, CIDA, etc) in order to pool resources, and also consider a sector-wide approach to SLM;*
- *The Embassy could also consider taking a leading role in the establishment and running of such a donor network; and*
- *Consider downplaying UNCCD implementation at the advantage of SLM as the key framework for this part of the portfolio.*

In the following more specific complementary observations on the two programs (ETH-07/041 and ETH-06/039) are presented.

2.3.2 ETH – 07/041 Sustainable Agriculture in Tigray National Regional State 2009

Goals and Activities

The Goal of the Project is:

- Improved food security and livelihoods of chronically poor households and reduced vulnerability to disaster shocks

The Purposes of the Project

- Increase and diversify livelihood options and protect the household assets of chronically poor households in targeted watersheds;
- Improve the community asset base to protect and enhance resiliency and adaptation to climate change;
- Promote economic empowerment and access to decision-making of women mainly for female-headed households and landless youth;
- Enhance community and stakeholders' institutional knowledge and capabilities to deal with the causes of food insecurity and climate change dynamics; and
- Improve capacity and competency of the local partners for their overall sustainability and maintenance of staff for a longer period.

The project is implemented by the Norwegian Development Fund (NDF) in cooperation with local partners.

Climate Change and Environmental Issues Addressed in the Program/Project

The whole program can be considered as environment and climate change adaptation relevant, as the program is aiming at decreasing land degradation and promote reforestation in the project area. Nevertheless, environment has not been addressed in the project documentation as a cross-cutting issue, nor the need for environmental assessments in various relevant project components, such as for irrigation and river diversion activities.

Assessment of Climate Change and Environmental Issues

The NDF program aims at providing the target population of the program with opportunities to rapidly accumulate diverse assets as a strategy to withstand shocks. This will be achieved through objectives focused on protecting and enhancing livelihoods, local capacities and community resiliency and adaptation to climate change, through a cluster of sequenced activities designed to increase and diversify poor household agricultural productivity and incomes; enhance utilization and conservation of natural resources; stimulate market-led economic growth in smallholder agriculture; improve water resource security at the household and community level; enhance ownership and implementation capacity in pro-poor development programming at community and institutional levels; and strengthen social resiliency to shocks.

Climate change adaptation is also an included goal of the program. The NDF program in Tigray is considered highly relevant in relation to strengthening local communities' coping strategies for dealing current climate variability, which can also be considered as the most relevant way of strengthening people's capacities to deal with possible future consequences of climate change.

The program contains a number of activities that potentially may have a negative impact on the environment, including small scale irrigation, river diversions, and well construction. It is assumed that these activities are considered as being of such a scale and nature that in-depth environmental impact assessments (EIAs) are not needed. Nevertheless, these arguments have not been seen stated anywhere in the key program documents reviewed. Potential negative social effects of the reforestation and area enclosure activities are also not mentioned as potential risk factors of the project. Who will benefit and who will not? Could reforestation and area enclosures in any way have negative impacts on traditional land use practices?

Climate Risk Assessment: 1 – High

Conclusions and Recommendations

The project is considered as highly relevant in helping farmers adapt to climate variability, increase food security, and in the long run also adapt to future consequences of climate change. In order to strengthen the environment and climate change aspects of the project the Embassy in its dialogue could focus on:

- *The need for improved documentation on the need for environmental assessments in NDF activities. NDF could specifically be encouraged to develop an environmental manual with specific guidelines on how interventions should be undertaken in different contexts;*
- *Encouraging NDF to explore experiences from conservation agriculture and agroforestry in the project (e.g. Zambia and ICRAF), in order to even improve sustainability and livelihood security even further;*
- *Encouraging NDF to explore options for tapping into the carbon market through reforestation activities. As deforestation in rural areas of Africa and Ethiopia is closely linked to the need for fuel wood, options for introducing improved and more efficient stoves could be explored. This could probably easily be merged into many of the partner activities, in combination with necessary training for use and maintenance of the stoves. This could also open up for tapping into carbon markets; ;*
- *The options for using Mekelle University more strategically in order to improve implementation of program activities could also be explored;*
- *Component of "climate field school" seems to be a promising concept that could be further encouraged;*
- *The project should be classified in PTA with Climate and Environment policy markers – code 1.*
- *NDF and its partners could be encouraged to work more actively with so-called "early warning systems" in order to be even more prepared for droughts and other stress factors; and*
- *Exploring the possibilities of using REST's political position more strategically in NDF's policy work.*

2.3.3 ETH-06/039 Ethio-Norwegian UNCCD Program

Goals and Activities

The Ethio-Norwegian UNCCD (United Nations Convention to Combat Desertification) Program was designed to support the Embassy in its role as chef de file for UNCCD.

The goal of the Ethio-Norwegian UNCCD Program is stated as:

- Implementation of the United Nations Convention to Combat Desertification in Afar and Somali Regional States of Ethiopia.

The goal is followed by four objectives (purpose) derived from the UNCCD text and the National Framework for Investments in Sustainable Land Management:

1. Promote sustainable land management and improve pastoral livelihoods in the targeted woredas
2. Develop strategies for poverty eradication and food security, including the establishment of alternative livelihood projects and the development of pastoral markets with particular focus on women
3. Support the decentralization process, including the devolution of responsibility for management and decision-making to local authorities and the active participation of traditional institutions

4. Enhance the active participation of local communities, including women, with the support of NGOs and CBOs

The Embassy terminated its role as chef de file in 2007 and discontinued the partnership with EPA, the UNCCD agenda has transformed into a national framework for investments in SLM, and the long awaited UNDP program in Afar region (funded by Norway) has not materialized. Meanwhile, NDF has continued to develop its portfolio in Afar and Somali regions in accordance with the revised program summary attached to the contract agreement between the Embassy and NDF. Currently, NDF is working with 12 partners, 10 in Afar and 2 in the Somali region.

Climate Change and Environmental Issues Addressed in the Program/Project

The whole program can be considered highly environment relevant, with a key objective to promote sustainable land management practices in the program regions. Still, environment has not been addressed in the program as a cross-cutting issue. Neither has the need for environmental assessments in the various parts of the program.

A number of climate change related issues are addressed, albeit more as an add-on to the project rather than as a key design framework.

Assessment of Climate Change and Environmental Issues

The NDF UNCCD program is highly relevant in relation to strengthening local communities' coping strategies for dealing current climate variability, which can also be considered as the most relevant way of strengthening people's capacities to deal with possible future consequences of climate change. The team is still questioning whether the high number of partners carrying out different types of activities actually will add up, in order to just be more than a number of pilot projects on development of pastoral dryland areas.

On environment, the program contains a number of activities that potentially may have a negative impact on the environment, including small scale irrigation, river diversions, and well construction. The team assumes that these activities are considered as being of such a scale and nature that in-depth EIAs are not needed. Nevertheless, these arguments have not been seen stated anywhere in the key program documents reviewed. It is therefore recommended that the documentation part of environmental assessment in relation to the NDF program activities is strengthened.

According to a study[3] undertaken by IFPRI (International Food Policy Research Institute) soil and water conservation investments perform differently in different rainfall areas and regions of Ethiopia, which underscores the importance of careful geographical targeting when promoting and scaling up soil and water conservation technologies. The IFPRI study also finds that irrigation and use of improved seeds have insignificant risk-reducing effects in low-rainfall areas, suggesting that—as currently implemented—these interventions may not be appropriate adaptation strategies for these environments. Overall, the results show that soil and water conservation technologies have significant impacts on reducing production risk in Ethiopia and could be part of the country's climate-proofing strategy. However, results also show that one-size-fits-all recommendations are not appropriate given the differences in agroecology and other confounding factors. Therefore, promotion of adaptation strategies should be location specific and mindful of spatial and risk-related differences in Ethiopia. These are considerations that should be taken into consideration in the NDF activities.

[3] IFPRI, 2008. Soil and Water Conservation Technologies: A Buffer against Production Risk in the Face of Climate Change? Insights from the Nile Basin in Ethiopia. IFPRI Discussion Paper 00871.

Climate Risk Assessment: 1 – High

Conclusions and Recommendations

The project is considered as highly relevant in helping pastoralists and agropastoralists adapt to climate variability, increase food security, and in the long run also adapt to future consequences of climate change. In order to strengthen the environment and climate change aspects of the project the Embassy in its dialogue could focus on:

- *The need for improved documentation on the need for environmental assessments in DF activities. NDF could concretely be encouraged to develop an environmental manual with specific guidelines on how interventions should be undertaken in different contexts;*
- *Many of the UNCCD program components include introduction of agriculture as an alternative livelihood strategy for pastoralists. In order to improve the sustainability of this component, NDF could be encouraged to explore experiences from conservation agriculture (e.g. in Zambia);*
- *Enhancing the options for using Mekelle University more strategically in order to improve implementation of program activities;*
- *Component of "climate field school" seems to be a promising concept that could be further encouraged;*
- *NDF and its partners could be encouraged to work more actively with so-called "early warning systems" in order to be even more prepared for droughts and other crisis. Currently, NDF is using the principle of "drought cycle management" to address the drought risk factors of the program. The team can however not see that NDF takes advantage of any formal existing systems for early warning in the program areas, e.g. FAO;*
- *In the program NDF collaborates with local and international NGOs. NDF could be encouraged to bring up environmental and climate related issues relevant for the daily operation of the partners, e.g. waste management, use of climate friendly technologies (e.g. solar panels), deforestation around project camps, etc.;*
- *Upcoming mid-term review of the program should also have a strategic focus on how the program could be scaled up;*
- *The project should be classified in PTA with Climate and Environment policy markers – code 1.*
- *The January 2009 "Gender review" of the Embassy's portfolio stated that for the NDF UNCCD program, baseline values for gender and livelihood security also are useful for monitoring changes in climate change adaptation over time. The Embassy could further encourage DF to ensure that this is addressed in the program; and*
- *Emphasize that adaptation strategies should be location specific and mindful of spatial and risk-related differences in the program areas.*

2.4 ETH - 05/028 - UNICEF-UNFPA Joint Programme: Right Based Approach to Adolescent and Youth Development in Ethiopia

Goals and Activities

The overall goal of the project is:

- Vulnerable and marginalized adolescents and young people in selected regions of Ethiopia have the knowledge, skills and opportunities, as well as supportive social, economic, cultural and health structures, to pursue the protection, respect and fulfillment of their rights' to information, health and economic participation.

The following key objectives have been articulated:

- Co-ordinating and implementing partners, including youth run organizations, have technical and material capacity to effectively coordinate information and service delivery for adolescents and youth.;
- Parents and communities have the technical capacity to effectively respond to needs of adolescents and young people and to ensure a protective and social environment for their development, which includes protecting them against gender based violence and the violation of their reproductive rights;
- Adolescents and young people are able to claim their rights for reproductive health and HIV information and related services and actively participate in programs concerning them and the development of their communities;
- Young people, especially the most vulnerable including street children, domestic workers, sex workers, girls within marriage and students of higher learning institutions, have up-to-date information on and access to HIV/AIDS and sexual and reproductive health services;
- HIV/AIDS and sexual and reproductive health model service delivery points for adolescents and young people in pastoralist communities are developed and implemented;
- A conducive social and legal environment is developed for adolescents girls to protect them against gender-based violence and violation of their reproductive rights, including traditional practices such as early marriage, Female Genital Mutilation/Cutting and the culture of silence and denial around sexual abuse;
- Most vulnerable adolescents and young people, especially girls, are engaged in viable (locally doable) and sustainable livelihood schemes; and
- A participatory monitoring and evaluation system is in place, which enables close follow-up of the Programme and documentation and dissemination of best practices and lessons learned.

Climate Change and Environmental Issues Addressed in the Program/Project

Environment-related components are not included in the project and are not addressed in the reviewed project documentation.

Assessment of Climate Change and Environmental Issues

Many of broadly recognised rights contained in the Universal Declaration of Human Rights (UDHR) and other international instruments will be significantly threatened by the impacts of climate change. What is also clear is that the international standards and norms that these rights establish - for the protection of the right to life, to personal security, and to the basic necessities for life - clean water, food, shelter, minimum health care and so on – themselves provide guidance to decision makers on the substantive elements of legislative and policy responses to climate change.

The implementing partners, UNICEF and UNFPA, are very much at the early stages of developing their response to climate change. UNICEF does not have a climate change strategy, but are working towards a formalised document to express its position and approach to tackling the problem, particularly through programming and HQ support tools.

The project builds on a right-based approach. The Norwegian government works to secure all people the right to water and promote acceptance of the principle that water resources are a common good. This policy principle is clearly stated in the Norwegian Action Plan for Environment in Development Cooperation. This project does not directly address issues related to the water supply and sanitation, however, the project partners should be made aware of the Norwegian position on this issue.

Furthermore, children and youth have a right to the highest attainable levels of health and education, to which water, sanitation and hygiene education are key. It should also be noted that youth are key agents of change since they effectively can introduce and reinforce positive hygienic behaviours and attitudes in their homes and communities.

Young people's knowledge of water, environment and health is a largely untapped resource. The capacity of young people to live in harmony with nature and to manage and maintain local water, air and land resources effectively is absolutely vital. However, increasing children's and young people's environmental awareness is not enough. For them to become effective agents of change, avenues must exist for their knowledge to be translated into advocacy and action. Programmes that promote children's participation in local environmental initiatives that strengthen children's clubs and networks, and that provide a voice for children in local, national and global development processes are all ways to help realise the potential of children to shape their own world. The possibility of using some of the activities supported by this program to provide hygiene, water and sanitation and climate change related messages should be explored.

Rates of HIV/Aids infection are normally higher among adolescent girls than among boys. In such situations water, sanitation and hygiene is critically important to maintain personal hygiene to prevent diarrhoea and opportunistic infections, and to reduce workloads. Bringing safe, reliable water supplies closer to families affected by HIV/Aids (e.g. to centrally located school compounds) and providing hygiene education to those caring for the ill, promotes personal, domestic and food hygiene and can prevent further infection of the critically ill. The time and energy saved in water collection, often the burden of girls, as well as savings with fewer treatment fees, might be used to attend school.

Children and youth have specific vulnerabilities and needs which have to be addressed in risk reduction. Children possess capacities according to their stage of development which form the basis for their active participation in emergency response, preparedness and mitigation. A nurturing and supportive environment helps children cope with adverse situations, and contributes to building their resilience. Parents, school teachers, government and other duty bearers have to provide these supports to children. A school safety program has many benefits for linking the school to the family and community in disaster risk reduction.

The project contributes to reproductive health and addressed the issue of population increase indirectly. This could be a contribution to reducing the population growth in Ethiopia which also could have environmental and climate change impacts.

UNICEF implements complementary interventions, e.g. a Japanese-supported climate change program that are using environmental clubs in primary schools to convey climate change messages as a tool to raise awareness and enhance understanding. Furthermore, SIDA is supporting a green schools program. Possible synergies with these programs should be explored.

Climate Risk Assessment: 3 – Low

Conclusions and Recommendations

The project is considered relevant (from the review's perspective) and could potentially help to enhance understanding and raise awareness on key climate change and environment related issues. In order to explore possibilities to strengthen the environment and climate change aspects of the project the Embassy in its dialogue could focus on:

- *Highlighting the Norwegian position on the right to access to water and sanitation and explore the possibilities of including hygiene related issues in the training and awareness raising activities undertaken through this project. This applies in particular to reproductive health and HIV/Aids;*
- *Initiate a discussion with the partners on the possibility of complementary interventions and exploring synergies with other programs implemented by UNICEF and UNFPA, e.g. the Japanese-funded climate change program; and*
- *Since neither UNICEF nor UNFPA has put climate change high on their agenda environment and climate change-relevant issues should be discussed at AMs as a means to strengthen the focus on these issues in the operation of these UN agencies.*

2.5 ETH – 07/034 NPA – EMAO Humanitarian Mine Action 2008 - 2011

Goals and Activities

The long term objective of the project is:

- Landmines and explosive remnants of war are no longer an obstacle to development for impacted communities in Ethiopia.

During 2008 to 2011, Norwegian People's Aid (NPA) aims to consolidate the progress made during the first phase of the project in Ethiopia (2005-2007) by continuing to support Ethiopian Mine Action Office (EMAO) with strengthening and further developing:

- The Mine Detection Dogs (MMD) project (including the establishment of a puppy project);
- Technical Survey/ Rapid Response Teams methodology and field operations;
- The Mine Action Training Center at Entoto; and
- The EMAO management regarding planning, effective and efficient use of operational assets and information management.

The Mine Action Programme in Ethiopia carries out capacity-building of the national mine action institution, EMAO, rather than exclusively operational mine clearance. NPA is the agreement partner. NPA implements the activities in close co-operation with EMAO.

Climate Change and Environmental Issues Addressed in the Program/Project

No environmental or climate change issues have been highlighted in the reviewed project documentation, neither in the appraisal. Environment and possible environmental impacts of the project is not addressed.

The issue of the availability of locally produced dog food has been addressed. Due to the nutritional requirements it has proved difficult to procure locally produced dog food.

Assessment of Climate Change and Environmental Issues

Demining operations have the potential to damage the environment in which they are conducted. This damage not only includes the short-term effects caused by demolition activities, but long-term effects that may be caused by contamination of soil and water systems, removal of vegetation, disruption to watercourses or changes to soil structure. Demining operations may also damage the natural habitats of insects or wildlife and affect areas of historical or cultural significance.

The International Mine Action Standards (IMAS) have developed a specific standard related to Safety & Occupational Health - Protection of the Environment (IMAS 10.70) which are now the standards in force for all UN mine action operations. NPA is applying these standards as a minimum, and in some instances have higher standards. The Ethiopian government on the other had, does not have specific standards related to demining operation and the EPA has, so far, not been involved at all.

Of particular relevance to the environment for this project are the following issues:

- **Disposal of debris, rubble and wire**. Debris, rubble, wire and any other remains of obstacles removed from a demining worksite must be disposed of in accordance with local waste-management regulations and requirements of the national authority. When applicable, local communities should be consulted about such disposal.
- **Disposal of toxic and hazardous waste**. Toxic and hazardous waste are not normally found in landmines; however, asbestos chemicals and liquid propellants can be found in missiles and fusing systems. Other examples of toxic and hazardous waste include flammable substances, oily wastes, lubricants, fuel filters, batteries, medical waste, old medicine and other chemicals.
- **Degradation of air quality**. When demining organisations are conducting operations, they are to remain aware of the location of local communities, the prevailing wind conditions in the area and the ability of prevailing winds to carry smoke, dust and toxic fumes to local communities. Demining organisations must ensure that the impact on local communities of any degradation of air quality is minimised.
- **Burning of vegetation**. Burning of vegetation should be avoided, but when vegetation burning is necessary proper procedures and control measures should be applied.
- **Stockpile-destruction operations**. Stockpile destruction operations must be planned and conducted in a manner that minimises the impact to the environment.
- **Worksites and temporary accommodation facilities, including mobile MDD bases**. Protection of the environment must be considered in the site selection and layout of worksites and temporary accommodation facilities. The establishment and operation of worksites and temporary accommodation facilities must be carried out in a manner that minimises any contamination of the land or water systems (including ground water systems) and has minimal effect on flora and the natural habitats of insects or wildlife.
- **Fuel, oil and lubricant (FOL) areas.** Demining organisations must ensure that procedures are in place to contain and quickly clean up any FOL spills. Contaminated materials containing spilled FOL should be collected and disposed of at controlled landfills. Alternatively, the material should be disposed of at a specific site where leakage into the soil is prevented. Where it is necessary to establish fuel-storage facilities, precautions must be taken to ensure that FOL is stored safely and does not contaminate the soil or groundwater.
- **Completion of demining operations**. On completion of demining operations, all buildings, equipment, surplus materials, fencing (except that marking hazardous areas) and other such items must be removed. Toilets, soak pits and rubbish pits must be filled in, covered with soil and have their surfaces stabilised to prevent erosion and to allow natural regeneration of vegetation. As far as practicable, all disturbed areas should be restored to their original condition.
- **Transportation of hazardous materials**. During the transportation of any hazardous, toxic or flammable materials with the potential to damage the environment, precautions must be taken to ensure that risk is minimised.

Another issue which could be discussed is the mine clearance strategy – what areas to prioritize. Generally, land of significance for economic development and returnees are first cleared from mines. The issue of potential transmission of diseases from import of dogs

could also constitute an animal health problem; however, the dogs are screened in Europe (Germany) where the standards are extremely high. Veterinary services are provided in this project.

Climate Risk Assessment: 3 – Low

Conclusions and Recommendations

The Embassy should in its dialogue with the NPA and EMAO highlight the following key issues:

- *It is the responsibility of the demining organizations, e.g. NPA and EMAO, to ensure compliance with the International Mine Action Standards (IMAS) 10.70 Safety & Occupational Health - Protection of the environment, or higher internal standards;*
- *The project partners should be encouraged to document their own environmental management requirements in standard operating procedures or other relevant documents and ensure that all personnel are aware of the requirements;*
- *The Embassy should through its dialogue ensure that the protection of the environment is a factor in planning and conducting all demining operations. The Embassy could also consider addressing the issue of lack of Ethiopian standards/requirements for demining operation in its policy dialogue. Environmental issues should be an agenda item at the AM; and*
- *The project partners should maintain records of any significant environmental incidents and when an appropriate national authority has been established, inform this authority. Information on any such incidents should also be reported to the Embassy at the AM.*
- *Suggest introducing alternative energy sources for the training centre and the mobile units, e.g. solar panels and solar water heaters.*

3. FINAL OBSERVATIONS

During the visit the Team identified some key policy related issues which the Embassy should consider in its dialogue with the Government and development partners.

Policy Dialogue Issues

Climate change is moving up on the political agenda in Ethiopia, as well as regionally. This is partly manifested by the recent appointment of Ethiopia's Prime Minister as the spokes person for Africa on climate change and the emerging work on developing a common African climate change position. In its dialogue the Embassy could consider to raise the following key issues as entry points to a larger discussion on climate change:

- Focus on adapting to existing climate variability;
- Impacts of and preparedness to address natural disasters; and
- Making the case for investing in environment and climate change through initiating joint analytical work.

Current climate variability is already imposing a significant challenge to Ethiopia by affecting food security, water and energy supply, poverty reduction and sustainable development efforts, as well as by causing natural resource degradation and natural disasters. Droughts and floods are endemic in Ethiopia, with significant events every 3–5 years. Droughts destroy watersheds, farmlands, and pastures, contributing to land degradation and causing crops to fail and livestock to perish. During the 1984–5 drought, for example, GDP declined by 9.7 percent, agriculture output declined 21 percent, and gross domestic savings declined 58.6 percent. Drought can also severely undermine hydropower generation, Ethiopia's main source of electricity.

Ethiopia's extreme hydrological variability is echoed in its economic performance. The vast majority (80 percent) of Ethiopia's population subsists on rainfed agriculture, and thus their welfare and economic productivity are linked to the volatile rains. The correlation between rainfall and overall GDP is strong, as can be seen in the Figure below.

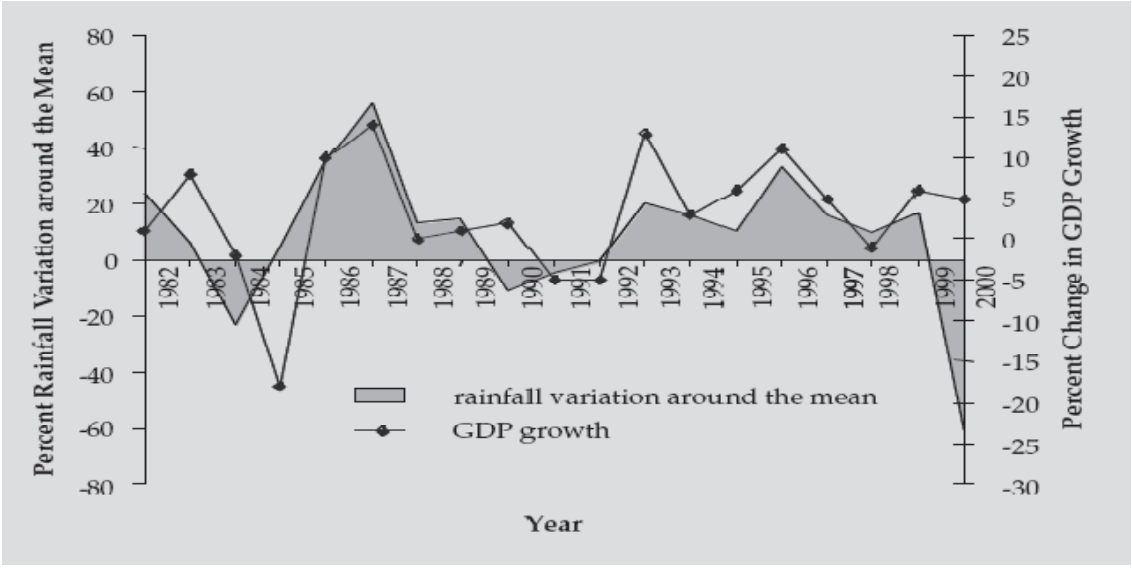

Figure: Rainfall variation around the mean and GDP growth: Source: World Bank.

According to modeling undertaken by the World Bank[4] hydrological variability costs the Ethiopian economy 38 percent of its potential growth rate and causes a 25 percent increase in poverty rates, clearly demonstrating the extraordinary impact of drought, and particularly variability, on the Ethiopian economy. A single drought event in a 12-year period—a very conservative estimate for Ethiopia—will decrease average GDP growth rates 7–10 percent. If historical levels of variability and the partial impacts of floods are incorporated, GDP growth rates fall 20–43 percent.

The annual costs of land degradation are estimated to be at least 2-3% of agricultural GDP. To put this in perspective, that means that land productivity would need to increase by more than 20% immediately to reverse the damage of the past 10 years. In addition, land productivity is declining as average per household landholdings is declining due to population pressure and limited uncultivated land.

The national level is critical for mainstreaming climate change responses. It is at this level that medium to long-term development and poverty reduction strategies and objectives are established, through national visions, national development plans and strategies. To strengthen Ethiopia's response on environment and climate change development partners could consider focusing on evidence-based advocacy by undertaking analytical studies on costs of environmental degradation, assessing cross sector impact of climate change, especially in relation to existing climatic variability and natural disasters, and economic benefits of sustainable land management. This will be an important part in 'making the case' for investing in environmental and climate change outcomes and expressing how such investments can assist mainstream development aims such as economic growth, with appropriate measures of cost, benefit and risk. Considerable economic and political skill is needed to produce strong macro-economic or micro-economic arguments for adjusting the use of environmental assets, and the necessary capacity takes time to mobilise and develop. The objective of this exercise should be to influence the preparation of the upcoming national development strategy and to make the case for mainstreaming environment and climate change. Work has commenced on the strategy and several working groups have been established, also addressing climate change. Through coordinated donor efforts several countries are moving in this direction, with a good example being Ghana and the emerging work in Mozambique.

Carefully Consider the Need for Environmental Assessment and Improve Documentation

The review has clearly demonstrated the scope for increased attention to assessing the potential environmental and social impacts of projects supported by the Embassy. Internally the Embassy should review its' own routines for documenting how environment and climate change are being addressed in the project cycle. In several ADs environment as a cross-cutting issue is not specifically addressed and the Team is of the opinion that several of the programs supported by the Embassy should have been subjected to, at least, a partial environmental assessment. This applies specifically to the sustainable land management projects where one farmer's individual action will not have serious impacts, however, combined all the suggested interventions could have impacts. Some of these projects also include small-scale infrastructure development, such as small-scale irrigation, water harvesting, river diversion, etc., where both social and environmental assessments would be relevant. This should not only focus on the 'do no harm' elements but also the 'do good' elements. In several of these programs it is stated that environmental improvements will occur, however, these are not assessed nor quantified.

[4] World Bank, 2006. Ethiopia. Managing Water Resources to Maximize Sustainable Growth. A World Bank Water Resources Assistance Strategy for Ethiopia.

More specifically, with the recent focus on clean energy the need to carefully assess the need for environmental assessment has become more urgent. Large hydro power projects are potentially corporate risk projects and in nearly all cases, the handling of environmental and social issues will be questioned. Therefore, the Embassy supported by Norad should ensure that appropriate environmental safeguards are applied to all projects and that all assessments are documented. Norad, as the main technical advisor to the Embassy needs to ensure that hydropower projects are assessed by a multidisciplinary team comprised of technical, environmental, including climate, and social experts.

Furthermore, the Embassy should ensure that reductions in GHG emissions as a result of Norwegian supported investments should be documented. This applies in particular to energy sector projects.

Reducing Emissions from Deforestation and Forest Degradation (REDD)

Ethiopia has submitted a R-PIN (Readiness project identification note) to the World Bank managed Forest Carbon Partnership Facility (FCPF). Norway is supporting the FCPF through the Norwegian Climate and Forest Initiative. The Embassy should closely monitor the REDD work in Ethiopia and provide regular progress reports to the Secretariat for the Climate and Forest Initiative.

Support to Developing Clean Development Mechanism (CDM) Projects

The legal and institutional setup for CDM is in place in Ethiopia. A DNA (EPA) has been established. Ethiopia has also adopted an official definition of forest (according to FAO-standards) which is a prerequisite for afforestation/reforestation (A/R) CDM projects. Currently, however, no CDM project has been approved in the country. Several projects are in the preparatory stage and representatives from the Norwegian Ministry of Finance has visited Ethiopia and engaged in discussions with project developers. The future of the carbon market is uncertain at the moment and it is expected that COP15 in Copenhagen will provide further clarification on the how the future carbon market will look like. It is however, widely expected that the CDM will continue, albeit in a modified manner.

Norad has established a support mechanism[5] to enable eligible entities (Project Developers) to prepare the necessary documentation for submission of CDM projects to the Designated National Authority (DNA) and the United Nations CDM Executive Board. Developing new CDM methodologies or adapting existing methodologies can also be supported. Through this mechanism Norad may provide partial funding, up to 50 %, of costs related to producing project documentation and costs related to the development of new CDM methodologies or adapting existing methodologies. Higher support levels will be considered for the development of new CDM methodologies. The Embassy is encouraged to direct interested project developers to Norad.

Walking the Green Talk

The Embassy should take steps to starting walking the talk – "*doing our part towards a low carbon economy*"! In the operation and daily chores, the Embassy can establish new routines which contribute to reducing their environmental footprints. The options are many and every individual can contribute to generating ideas – the fantasy sets the limits. Some ideas that could be considered are (the list is not exhaustive):

5 http://www.norad.no/Tilskudd+og+anbud/S%C3%B8k+tilskudd/N%C3%A6ringsliv/St%C3%B8tte+innenfor+CDM-ordningen

- Shift light bulbs to energy efficient LED bulbs;
- Establish routines for switching off lights and panel ovens when leaving offices or rooms, or install automatic switches;
- Allow a higher indoor temperature – limit the use of AC;
- Use solar power for water heating;
- Turning off computers and other appliances instead of using stand-by;
- When replacing electric appliances, find low energy-consumption appliances;
- Phase out the use of diesel generators – long term effort;
- Reuse and recycle paper;
- Print and copy on both sides of paper, and consider the need for printing and copying;
- Avoid unnecessary magazine subscriptions and own distribution of paper;
- Reuse of grey water for e.g. toilet flushing;
- Limit water use during washing and showering;
- Use more efficient irrigation system for the grass and garden – don't irrigate in the middle to the day (early morning and late afternoon, preferably during the night);
- Rainwater harvesting – increase infiltration of rainwater into the ground;
- Consider types of grass and plants reducing the need for water in the garden(s);
- Reduce waste or recycle/compost, separate all recyclable material from non-recyclable material;
- Safely dispose of batteries, light bulbs and other hazardous waste;
- Use ecological, natural and organic cleaning products;
- Consider the transport routines, type and use of vehicles, fuel types, etc..; and
- Inform and educate all staff about the Embassy's environmental commitments and spread the message to partners in Ethiopia.

In order to measure the effect and be able to document carbon neutrality, the Embassy should calculate their current energy and resource consumption based on data from water meters, electricity meters, gas meters, kilometers driven or liters of fuel consumed, and so forth. Using these data it is possible to estimate the emissions using conversion factors.

Carbon neutrality can also be achieved through offsets, e.g. support to NGO projects in the voluntary carbon market. Planting trees, e.g. during an Embassy retreat, is another way which in addition to offsetting emissions, can have a positive signal effect on public diplomacy, and build awareness and ownership to climate issues among the staff.

The Nordic Embassies in Brasilia has taken steps to reduce their footprints, the Embassy in Washington DC has prepared an environmental plan and the Embassy in New Delhi has engaged Statsbygg in a dialogue on how to reduce the environmental and climate footprints of the Embassy and the compound in the planned reconstruction. It should also be noted that other development partners have taken key steps in this regard, e.g. the World Bank has "greened" its headquarter in Washington DC.

Construction of New Embassy

The Embassy is in the process of purchasing property for a new Embassy building. This presents the opportunity for the Embassy to create a 'Green Embassy' and to use the Embassy actively to show case environmental and carbon friendly solutions and technologies.

In accordance with normal procedures, Statsbygg will be in charge of the design and will own the buildings, while the MFA will finance the operational costs. The Embassy should initiate discussions with Statsbygg regarding the possibility of building a 'green embassy'.

On this backdrop, the Team was invited to share their ideas on: 1) how to improve the Embassy's and the staff's practices in order to reduce their footprints; 2) possible solutions to be included in the designing of the new buildings in order to create a carbon/emission neutral embassy; and 3) strong arguments for Statsbygg/MFA to decide to build a Green Embassy.

The team is of the opinion that a carbon neutral embassy is possible to achieve. A host of available techniques and solutions are available.

Green building is the practice of increasing the efficiency with which buildings use resources — energy, water, and materials — while reducing building impacts on human health and the environment during the building's lifecycle, through better siting, design, construction, operation, maintenance, and removal. Green buildings are designed to reduce the overall impact of the built environment on human health and the natural environment by:

- Efficiently using energy, water, and other resources;
- Protecting occupant health and improving employee productivity; and
- Reducing waste, pollution and environmental degradation.

The related concepts of sustainable development and sustainability are integral to green building. Effective green building can lead to: 1) reduced operating costs by increasing productivity and using less energy and water; 2) improved public and occupant health due to improved indoor air quality; and 3) reduced environmental impacts by, for example, lessening storm water runoff and the heat island effect. Practitioners of green building often seek to achieve not only ecological but aesthetic harmony between a structure and its surrounding natural and built environment, although the appearance and style of sustainable buildings is not necessarily distinguishable from their less sustainable counterparts.

Green building brings together a vast array of practices and techniques to reduce and ultimately eliminate the impacts of buildings on the environment and human health. It often emphasizes taking advantage of renewable resources, e.g., using sunlight through passive solar, active solar, and photovoltaic techniques and using plants and trees through green roofs, rain gardens, and for reduction of rainwater run-off. Many other techniques, such as using packed gravel for parking lots instead of concrete or asphalt to enhance replenishment of ground water, are used as well. Effective green buildings are more than just a random collection of environmental friendly technologies, however, they require careful, systemic attention to the full life cycle impacts of the resources embodied in the building and to the resource consumption and pollution emissions over the building's complete life cycle.

A key issue related to climate change is the use of energy. Green buildings often include measures to reduce energy use. To increase the efficiency of the building envelope (the barrier between conditioned and unconditioned space), they may use high-efficiency windows and insulation in walls, ceilings, and floors. Another strategy, passive solar building design, is often implemented in low-energy homes. Designers orient windows and walls and place awnings, porches, and trees to shade windows and roofs during the summer while maximizing solar gain in the winter. In addition, effective window placement (day lighting) can provide more natural light and lessen the need for electric lighting during the day. Solar water heating further reduces energy loads. Finally, onsite generation of renewable energy through solar power, wind power, or biomass can significantly reduce the environmental impact of the building. Power generation is generally the most expensive feature to add to a building. It is possible to construct buildings that are net producers of energy.

To reduce the impact on wells or water treatment plants, several options exist. "Greywater", wastewater from sources such as dishwashing or washing machines, can be used for subsurface irrigation, or if treated, for non-potable purposes, e.g., to flush toilets and wash cars. Rainwater collectors are used for similar purposes.

Annex I

Terms of Reference

Ethiopia:
Climate Change Screening ('Climate Proofing') and Environment ('Greening of the Portfolio')

1. Purpose

The overall purpose of the assignment is fourfold:

- Undertake a **review** of selected projects and programs in the Embassy's portfolio in order to assess the climate sensitivity and vulnerability of the activities supported by the Embassy and to identify possible ways and means of addressing/integrating appropriate environmental concerns in the current agreements within present framework and budgets, and for possible future phases of the various programs.
- Provide Embassy staff with updated information regarding the implementation of the government's environmental action plan and relevant climate change activities through a **training** seminar.

2. Scope and Approach

The suggested scope and approach to the Review is as follows:

1. **Identification of development programs subject to review**. The Embassy identifies a representative selection of the portfolio of development programs to be reviewed covering all key sectors the Embassy is supporting. The selection should be discussed with the Review Team prior to finalization of the ToR for the Review. The following projects/programs should be reviewed:

PTA number and name	Agreement Partner
ETH-07/039 Institutional Cooperation Hawassa – Mekele – UMB (2009 – 2013)	Norwegian University of Life Sciences (UMB), Hawassa University and Mekelle University
ETH-05/028 - UNICEF-UNFPA Joint Programme: Right Based Approach to Adolescent and Youth Development in Ethiopia	UNICEF and UNFPA
ETH – 07/041 Sustainable Agriculture in Tigray National Regional State 2009	Norwegian Development Fund (NDF)
ETH-06/039 Ethio-Norwegian UNCCD Program	Norwegian Development Fund (NDF)
ETH – 07/034 NPA – EMAO Humanitarian Mine Action 2008 - 2011	Norwegian People's Aid (NPA)

2. **Desk review of available documents**. The Embassy will submit relevant program/project documents to the Review Team. The Review Team will undertake an initial desk study upon the visit to the country. Through the desk review the Team will identify key issues that subsequently should be discussed with Embassy staff and with representatives of cooperation partners in the country. The Review Team should discuss the Review with Norad's country team as well as the other 4K-topics (gender, anti-corruption and conflict sensitivity). The aim of this discussion is to solicit ideas from a wider group on relevant environment and climate change issues to be considered in the various programs and projects subject to the Review.

3. **Internal Training Seminar and Kick-off meeting with the Embassy**. The Team meets with the Embassy to assess the need for additional documents, meeting schedule and other practical matters. The Team should also meet with relevant Embassy staff responsible for the development programs subject to the review. The Internal Training Seminar should focus on [optional points for consideration]:
    a. Presentation of the implementation of the Norwegian Environmental Action Plan and key climate change issues (REDD, adaptation, mitigation, clean energy)
    b. Environmental Assessment of Development Cooperation Projects
    c. Presentation of 'Practical Guide – Climate Change Risk Management – Climate Proofing'

d. Clean Development Mechanism – presentation of Norad's funding instrument

The seminar will mainly be based on presentations and interactive discussions with Embassy staff. All staff members at the Embassy should preferably attend.

4. **Meetings with key stakeholders in the country**. The Embassy will organize meetings (about 2 hours for each meeting) with key stakeholders for each program/project subject to review. At the meeting the Team will be given information on the key activities in the development program, discuss on-going program/project activities of relevance to climate change and environment and discuss ideas and options for inclusion of new environment-related elements and to assess the climate change sensitivity and vulnerability. A meeting with the key entity responsible for climate change issues in the country should be organized.

   Through these meetings additional information on the selected development programs will be collected, updated information on the status of project implementation will be received and the preliminary findings of the Desk review discussed. Through these discussions the scope for 'do good' and 'do no harm' will be discussed. The 'do no harm' discussions will be based on the country's legal framework and the obligation to ensure that assessments of environmental and social impacts are carried out in connection with the use of Norwegian development cooperation funds. The 'do good' discussions will mainly be based on the Review Team's broad environmental knowledge and competence and ideas provided by representatives of cooperation partners.

   The Embassy should, preferably, participate in these discussions to create ownership, however, it is important to stress that this does not imply that the Embassy endorses ideas and suggestions made by the Review Team during these discussions.

5. **Drafting of report**. The Review Team will prepare a draft report, including a summary of key findings, upon departure. In addition to sections outlining the approach and methodology the report will present each development program subject to Review in the following manner:
   i) brief description of goals and activities;
   ii) climate change risk assessment;
   iii) environment-related activities included;
   iv) assessment of climate change impacts and scope of integration of environment; and
   v) recommendations.

   The report will as briefly address the other issues identified in the scope of work, i.e. input to the Indo-Norwegian energy, climate change and environment Strategy and the "greening of the Embassy".

6. **Wrap-up meeting with the Embassy.** The Review Team will meet with the Embassy and present the key findings, conclusions and recommendations.

7. **Preparation of Final Report.** The Team will forward draft report to the Embassy for approval. Norad will also undertake internal quality assurance of the report. Based on comments from the Embassy and Norad's internal quality review the final report will be prepared by the Team.

8. **Distribution of the Final Report**. The final report should be distributed to cooperation partners in the country, as well as to the Norwegian Ministry of Foreign Affairs.

3. Organization, Timetable, and Reporting

The Review is based on a one-week visit to the country by the Team (week x).

The Review Team will be comprised of experts who have a broad background in climate change and environmental issues, experience in climate proofing and mainstreaming of the environment, CDM, familiarity with the Norwegian environmental action plan and natural resources management in general and private sector experience.

The team will submit a final report in English and present a draft report, including a preliminary summary of key findings, conclusions and recommendations, upon departure.

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