



Review of the Embassy's Development Cooperation Portfolio:

Climate Change and Environment “Climate
Proofing and Greening of the Portfolio”

The Royal Norwegian Embassy, Managua, Nicaragua

Norwegian Agency for Development Cooperation

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Responsibility for the contents and presentation of findings and recommendations rests with the study team.
The views and opinions expressed in the report do not necessarily correspond with those of Norad.

DRAFT REPORT

The Royal Norwegian Embassy, Managua, Nicaragua



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Climate Change and Environment

“Climate Proofing and Greening of the Portfolio”

10. February 2010



PREAMBLE¹

The Royal Norwegian Embassy in Managua (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 Nicaragua's own effort to improve living conditions of its population in line with the priorities and goal of the National Human Development Plan (Plan Nacional de Desarrollo Humano – PNDH) and the UN Millennium Development Goals (MDGs). The Embassy's portfolio has a clear focus on the following priority areas:

- Sustainable Use of Natural Resources and the Environment;
- Renewable Energy;
- Good Governance; and
- Human Rights, with special attention to Women's Rights.

The Review Team was comprised of Hans Olav Ibrek and Evelyn Hoen, both Norad staff. The Team undertook a visit to Managua 24 – 30 January 2010. The review is based on desk studies, review of relevant literature and discussions with Embassy officials and counterparts in Nicaragua. The Team appreciates the assistance and hospitality given by the Embassy.

Norad submitted the draft report to the Embassy on 2. February 2010 and received the Embassy's comments on 8. February 2010. 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.

10. February 2010

¹ Source of map on front page: World Bank.

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LIST OF ABBREVIATIONS

AD	Appropriation Document
AFOLU	Agriculture, Forestry and Land Use
ALMA	Managuas Municipal Government
AM	Annual Meeting
AMUSCLAM	Association of Municipalities for the Southern Watershed of Lake Managua
CA	Conservation agriculture
CABEI	Central American Bank for Economic Integration
CATIE	Tropical Agricultural Research and Higher Education Center, Costa Rica
CCS	Carbon capture and sequestration/storage
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CO ₂	Carbon dioxide
CPAP	Action Plan of the country program (UNDP)
DNA	Designated National Authority
DRM	Disaster Risk Management
EIA	Environmental impact assessment
ENSO	El Niño Southern Oscillation
FAO	United Nations Food and Agricultural Organization
FCPF	Forest Carbon Partnership Facility
GCM	Global Circulation Models
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHGs	Greenhouse gases
GIS	Geographical information system
GMO	Genetically modified organisms
HFA	Hyogo Framework of Action
HIVOS	Humanist Institute for Development Cooperation
IDB	Inter-American Development Bank
IIDH	Instituto Interamericano de Derechos Humanos
INAFOR	Nicaraguan Forest Authority (Instituto Nacional Forestal)
INIDE	National Institute of Information for Development
IPCC	Inter-Governmental Panel of Climate Change
ITCZ	Inter-Tropical Convergence Zone
LCGP	Low carbon growth plans
MAGFOR	Ministry of Agriculture and Forests (Ministerio Agropecuario y Forestal)
MARENA	Ministry of the Environment and Natural Resources (Ministerio del Ambiente y los Recursos Naturales)
MAP	Mesoamerican Agroenvironmental Programme
MDG	Millennium Development Goal
MEM	Ministry of Energy and Mines
MFA	Norwegian Ministry of Foreign Affairs
MoE	Ministry of Education
MoU	Memorandum of Understanding
MRV	Monitoring, reporting and verification
MTR	Mid-Term Review
MW	Mega Watt
NAPA	National Adaptation Programme of Action
NGO	Non-Governmental Organization
Norad	Norwegian Agency for Development Cooperation
NPV	Net present value

PD	Project document
PES	Payment for ecosystem services
PNDH	National Human Development Plan (Plan Nacional de Desarrollo Humano)
RAAN	Northern Atlantic Autonomous Region
R-PIN	Readiness Project Identification Note
PNDH	National Human Development Plan
REDD	Reducing emissions from deforestation and forest degradation
R-PIN	Readiness Project Identification Note
SEA	Strategic environmental assessment
SEN	National Statistical System
SICA	Central American Integration System
SLM	Sustainable Land Management
TOR	Terms of Reference
UDHR	Universal Declaration of Human Rights
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

The Royal Norwegian Embassy in Managua (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.

Nicaragua is one of the most vulnerable Central American countries to natural disasters and climate change and is in the process of developing national strategies to address the challenge of climate change. Climate change scenarios indicate that the mean annual temperature will increase by 2 °C by 2090, the number of hot days will increase substantially while the projections of rainfall do not show a consistent direction of change but most scenarios indicate reduction in rainfall. Nicaragua receives support from the Forest Carbon Partnership Facility (FCPF) to prepare a national REDD strategy (reducing emissions from deforestation and forest degradation).

The Embassy supports development cooperation activities within four sectors and projects within all these sectors were included in the review.

Within **sustainable use of natural resources and the environment** the Embassy supports regional programs as well as national programs. Significant changes in climatic conditions will affect the use of natural resources in Central America. Agriculture, forestry, and fisheries are all sensitive to climate. Agriculture is of key importance to Nicaragua's development. In addition to reducing yields, climate change will put pressure on farmers and other land managers to reduce GHG emissions. Through the Tropical Agricultural Research and Higher Education Center (CATIE) the Embassy supports sustainable land management (SLM). SLM is seen as a part of the solution and include 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. SLM is climate-smart farming practices that can be win-win, improving rural livelihoods and mitigating and adapting to climate change. The CATIE-implemented program is clearly relevant both as a contribution to adaptation and to mitigation, however, a key challenge is to scale up the program and to ensure national policy relevance. Only 6,000 farmers are included in the program and efforts should be made to scale up through the active use of farmers organizations in the participating countries.

The Lake Managua project will make an important contribution to reducing soil erosion, strengthening environmental management and raising awareness. Discussions to frame the land and spatial planning component in a low carbon growth context to minimize future carbon emissions related to the development of the municipalities should be initiated. The ongoing fisheries cooperation offers possibilities to improve coordination between environmental and fisheries authorities, to strengthen the environmental management capacity within the fisheries sector, to develop a national environmental monitoring program through the cooperation between petroleum, fisheries and environmental authorities and to improve the knowledge how climate change will affect the marine resources in Nicaragua.

The **energy sector** is a main source of emissions of GHGs and hydro power projects can also be affected by climate change through reduced rainfall, changes in weather variability, reduced average stream flow, increased floods, increased evapotranspiration, storms and cyclones, etc. In the further development of the energy sector the challenges is to enhance environmental performance of energy supply and framing energy sector planning in a climate change framework. The small-scale hydropower program supported by the Embassy is clearly "do good" in terms of reductions in fossil fuel use, reduced use of biomass, reduced emissions of GHGs and improved indoor air quality. Emission reductions will be in the order

of 83,000 tons of CO₂ over a period of ten years. Climate change as a risk element is addressed. Furthermore, the project will support adaptation to climate change through the watershed and natural disaster components. The program could be eligible for carbon finance through the CDM.

Within the **governance** area there is scope to address to corruption in key natural resource sectors. Nicaragua is in the process of developing a REDD strategy and illegal logging is a major cause of deforestation. Efforts to reduce illegal logging and corruption in the forest sector could therefore provide a valuable contribution to the REDD efforts in Nicaragua.

There exists broad agreement that climate change has generally negative effects on the realization of **human rights**, and in particular the rights of **women**. Climate change poses a direct threat to a wide range of universally recognized human rights, such as the rights to life, food, adequate housing or water. Human rights standards and principles should inform and strengthen policymaking in the area of climate change, promoting policy coherence and sustainable outcomes. The human rights framework draws attention to the importance of aligning climate change policies and measures with overall human rights objectives, including through assessing possible effects of such policies and measures on human rights. As climate change will inevitably affect the enjoyment of human rights, safeguarding of human rights should be a key consideration in efforts to address the impact of climate change. The Embassy could request partners to initiate research on the links between human rights and climate change in a Central American context and address the specific vulnerabilities of key groups. Women are especially exposed to climate change-related risks due to existing gender discrimination, inequality and inhibiting gender roles. It is established that women, particularly elderly women and girls, are affected more severely and are more at risk during all phases of weather-related disasters: risk preparedness, warning communication and response, social and economic impacts, recovery and reconstruction.

The reviewed portfolio demonstrates clearly the scope for and possibilities to increase the focus on climate change. Based on the review it can also be concluded that the objective of climate change mitigation or climate change adaptation is not explicitly promoted in activity documentation. Through a more concerted focus on taking climate change risks into consideration in the design and planning of activities the climate change focus will be strengthened. Overall, the Embassy's development cooperation portfolio supports both mitigation (clean energy) and adaptation to climate change in a balanced manner

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 encourage partners to always explore the carbon market for possible additional finance. Most energy projects will be eligible for finance from the Clean Development Mechanism (CDM);
- 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; 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:

- What is the country's vulnerability and risks from climate change and extreme weather?
- 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 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 A - 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 B – 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 C - 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 – Nicaragua

Climate Change and Nicaragua²

Nicaragua is located in the tropics, 11-16° North of the Equator, where there is little seasonal variation in temperature, but distinct 'wet' and 'dry' seasons. Mean air temperature is around 25 to 27°C in the coastal and lowland regions throughout whilst the cooler Central Highlands experience temperatures around 21-25°C. Seasonal rainfall in Nicaragua is controlled largely by the Pacific and Atlantic monsoons and the position of the Inter-Tropical Convergence

² Source: UNDP Climate Change Country Profile (<http://country-profiles.geog.ox.ac.uk>)

Zone (ITCZ), which interact to cause a distinct 'wet' season between May and October. In this 'wet' season the country receives on average, around 250-300mm rainfall per month but this varies considerably between Eastern (~250-500mm) and Western regions (~150-250mm). A dry period called the '*Canicular*', interrupts the wet season during the second half of July and first half of August.

The coastlines of Nicaragua are also vulnerable to tropical cyclones and hurricanes from both the Atlantic and Pacific oceans from July through to October. Heavy rainfall accompanying these storms contributes a significant fraction towards the high wet-season rainfall totals. In the dry season the whole country receives considerably less rainfall –100-200mm per month in the East and less than 100mm in the West.

The length and intensity of the wet season in Nicaragua can vary considerably from one year to the next. The most well documented cause of inter-annual variations in climate in Central America is the El Niño Southern Oscillation (ENSO) and its interactions with the monsoon system. El Niño events bring relatively warm and dry conditions between June and August, whilst La Niña events bring colder and wetter conditions at that time of year.

Nicaragua is located in the center of the Meso-American Biological Corridor, classified worldwide as a region of mega-diversity. The factors that benefit Nicaraguan biodiversity are topography, climate, and a complex geo-morphological, and biological and cultural history, all embodied in the National Protected Areas System.

Recent climate trends observed can be categorized as follows:

- Mean annual temperature has increased by 0.9°C since 1960, a rate of around 0.2°C per decade. A similar rate of increase is observed in all seasons;
- The frequency of hot days and hot nights has increased significantly since 1960 in every season;
- The average number of 'hot' days per year in Nicaragua has increased by 60 (an additional 16.4% of days) between 1960 and 2003. The average number of 'hot' nights per year increased by 43 (an additional 11.7% of nights) between 1960 and 2003;
- The frequency of 'cold' days and nights has decreased significantly in all seasons since 1960;
- Mean annual rainfall has declined within the last 15 years. This is mainly due to lower wet season rainfalls. The average trend over the observed period since 1960 is a decrease of 5-6% of average total rainfall per decade. Despite the observed decreasing trend in total rainfall, the proportion of rainfall that occurs in 'heavy' events has increased since 1960 by 2.2 per decade, on average, since 1960; and
- The observed maximum 1- and 5-day rainfalls have also shown significantly increasing trends since 1960. The annual maximum 1-day (5-day) rainfall has increased by 8mm (14mm) per decade, on average, since 1961. Increasing trends in these extremes are seen in both wet season and dry season rainfall.

Global circulation model (GCM) projections of future climate indicate the following long-term changes:

- The mean annual temperature is projected to increase by 0.6 to 2.7°C by the 2060s, and 1.2 to 4.5 degrees by the 2090s. The range of projections by the 2090s under any one emissions scenario is around 2°C;
- The projected rate of warming is similar in all seasons, but more rapid in the north-east of the country;
- All projections indicate substantial increases in the frequency of days and nights that are considered 'hot' in current climate;

- All projections indicate substantial decreases in the frequency of days and nights that are considered 'cold' in current climate;
- Projections of mean annual rainfall do not show a consistent direction of change, but the median values are consistently negative for all seasons and emissions scenarios. Projections vary between -63% and +16% by the 2090s, with median values of -8 to -21%;
- The proportion of total rainfall that falls in heavy events does not show a consistent direction of change;
- Maximum 1- and 5-day rainfalls do not show a consistent trend in projections of future climate, and the range of changes indicated across projections from different models span a wide range of both positive and negative changes; and
- Rainfall intensity is expected to decrease. Runoff (precipitation minus evapotranspiration), a measure of water availability, is projected to decrease.

Nicaragua's Response to Climate Change Risks

Nicaragua signed the United Nations Framework Convention on Climate change (UNFCCC) 09 May 1992 at the World Summit on Sustainable Development and ratified it 29 September 1995. The national focal point on climate change is the National Commission of Climate Change (Ministerial Resolution No 014.99). Nicaragua submitted its first national communication to the UNFCCC in March 2001.³

Nicaragua's total GHG-emissions were 66 Mt/CO₂e in 2000. Emissions per capita is less than 1 tons per year, significantly lower than the regional average in Latin America.

Nicaragua at present is in the process of a consultation on the National Strategy for Climate Change, as well as participating in the elaboration of the Regional Strategy on Climate Change of SICA (Central American Integration System) countries. The National Commission of Climate Change has identified six strategic areas to reduce emissions of GHGs:

- Waste and manure management;
- Sustainable buildings;
- Sustainable energy;
- Sustainable transport;
- Forest policy and sinks; and
- Innovation.

Although Nicaragua is prone to natural disasters, including floods, droughts, earthquakes, volcanic eruptions, and hurricanes, it continues to have a limited capacity to respond to and recover from these disasters.

Nicaragua has submitted a Readiness Plan Idea Note (R-PIN) to the World Bank-managed Forest Carbon Partnership Facility (FCPF). The most recent data compiled by the Food and Agriculture Organization of the United Nations (FAO) estimate that 42.7% of Nicaragua's land is covered by forest, with an annual change rate of 70,000 ha in 2000- 2005. A survey known as the Nicaraguan Forest Assessment, conducted in 2000, confirmed that 47.35% of the country's forests had disappeared over the last 50 years. The estimated rate of deforestation in the country is 1.16 percent per year on forest cover, during the 1983 to 2000 pe-

³ Source: República de Nicaragua, 2001: Primera Comunicación Nacional Ante la Convención. Marco de las Naciones Unidas sobre Cambio Climático, Managua, marzo, p. 21-22, <http://unfccc.int/resource/docs/natc/nicnc1.pdf>
http://unfccc.int/files/essential_background/convention/status_of_ratification/application/pdf/unfccc_ratification_20091016.pdf

riod with ranges between 80,221 and 66,466 ha of forest lost annually. Nicaragua has a national campaign for tree planting.

Nicaragua has 8 approved Clean Development Mechanism (CDM) projects (biomass, geothermal, hydro, waste, reforestation and wind). The Designated National Authority (DNA) for CDM is Ministerio del Ambiente y los Recursos Naturales (MARENA).

Nicaragua has not yet prepared a national adaptation program of action (NAPA). MARENA, as the lead agency, is in the process of preparing a national adaptation plan. Regional adaptation plans have been made and there are several ongoing adaptation-relevant programs in the country supported by various donors.

Nicaragua is a signatory of many agreements on natural resources, including the Convention on Biological Diversity and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). All this appears to indicate the existence of some political will to manage natural resources in a responsible and sustainable manner. Unfortunately, in reality this has not been the case. Nicaragua continues to face serious problems in the management of its forests. One of these problems is illegal logging.

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
NIC-2272 NIC-07/008 Support to Fisheries Administration	INPESCA
NIC-2294 NIC-06/006 Programme support (Democratic governance and citizen security, with emphasis on access to justice for women victims of violence; and Equity and economic development)	UNDP
NIC-2289 NIC-07/004 Common Fund for Gender Equity and Sexual & Reproductive Rights – Phase I	HIVOS (the Humanist Institute for Development Cooperation)
NIC-2308 NIC-09/014 Development of small hydro-electric plants for productive use in off-grid zones	UNDP, Ministry of Energy and Mines
NIC-2264 NIC-09/006 "Joint Donor Anti-corruption Trust Fund"	Nicaraguan Ministry of Foreign Affairs. Implementing partners: 1) Prosecutor General's Office, 2) National Police, 3) Public Ministry (Ministerio Público), 4) Office of Public Ethics, 5) Financial Analysis Committee of the National Council against Drugs, placed in the Ministry of Interior (Ministerio de Gobernación) and 6) A coordination unit (placed in the Prosecutor General's Office)
CAM-2665 CAM-08/007 Human Rights from a Poverty Perspective – IIDH	IIDH (Interamerican Institute of Human Rights)
CAM-2665, CAM-08/015 Promotion of human rights of women and young people	Puntos de Encuentro
NIC-2291 NIC-08/001 Strengthening of institutional capacities for environmental management and territorial planning, of local governments in the Sub-Basin III of Lake Managua	Association of Municipalities for the Southern Watershed of Lake Managua (AMUSCLAM) – Includes 5 municipalities (Managua, Nindirí, Ticuantepe, Masaya and La Concepción)
CAM-2647 CAM-07/012 Mesoamerican Agroenvironmental Programme (MAP)	Tropical Agricultural Research and Higher Education Center (CATIE), Costa Rica

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 to strengthen the climate change and environmental component of the supported projects and programs. The Embassy and its Nicaraguan 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.

The climate risk is assessed for all projects according to the general guidance given in "Practical Guide: Assessment of Environmental and Social Sustainability and Climate Change Risk Assessment ('Climate Proofing')":

- Category A: Full climate risk assessment should be undertaken;
- Category B: Partial climate risk assessment should be undertaken; and
- Category C: No need for climate risk assessment.

2.2 Sustainable Use of Natural Resources and the Environment

2.2.1 General Comments and Suggestions

Significant changes in climatic conditions will affect the use of natural resources in Central America. Agriculture, forestry, and fisheries are all sensitive to climate. More frequent and more intense extreme weather events and droughts, rising sea levels, and increasing irregularities in rainy season patterns are already having immediate impacts on natural resources, biodiversity, food production, incidence of food emergencies, livelihood assets and opportunities and human health, in both rural and urban areas.

The local 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.

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 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.

Sustainable Land Management (SLM) is a key component in the policy framework for confronting land degradation in the region. SLM is defined as a knowledge-based procedure that helps integrate land, water, biodiversity, and environmental management 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.

Agriculture is of key importance to Nicaragua's development. In addition to reducing yields, climate change will put pressure on farmers and other land managers to reduce GHG emissions. SLM is seen as a part of the solution and include 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. SLM is climate-smart farming practices that can be win-win, improving rural livelihoods and mitigating and adapting to climate change. Carbon sequestration in agriculture is a relatively inexpensive and efficient response to climate change. One reason for this is that many agricultural techniques that improve carbon sequestration also increase agricultural yields and revenues.

Scaling up SLM can be enhanced by supporting efforts to tap into the carbon market. Under the Kyoto Protocol countries cannot sell credits for carbon sequestration from agricultural activities. Nor for avoiding either 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.

Reducing emissions from deforestation and forest degradation (REDD) also offers an opportunity for Latin American countries to tap into the carbon market, either today through the informal market, or, subject to an agreement in Mexico, a future formal market. REDD reve-

nues should to the extent possible be channeled to those providing carbon services, e.g. local landholders. Through the FCPF several countries in the region are receiving support to prepare national REDD plans and strategies, including setting up the required monitoring, reporting and verification (MRV) framework.

2.2.2 CAM-2647 CAM-07/012 Mesoamerican Agroenvironmental Program (MAP)

Goals and Activities

The overall goal is:

- Mesoamerican societies use sustainable land management (SLM) strategies that provide ecosystem goods and services that reduce rural poverty.

The purpose is that:

- Local, national and regional organizations implement SLM technological innovations, policies and programmes.

The program is divided into three principal thematic areas: i) adaptation to climate change, ii) markets and value chains, and iii) ecosystem services. The program has the following key outputs:

- Rural families and farmers organizations in Mesoamerican priority zones adopt sustainable production and natural resource management practices and are integrated into value chains;
- Local governments implement effective environmental and governance mechanisms;
- National organizations and decision makers use the production technologies and natural resource management experiences generated by the MAP;
- Mesoamerican organizations and decision makers use the knowledge, tools and recommendations from the MAP; and
- CATIE enhances its capacities to collaborate with and support local, national and regional partners in designing and implementing effective strategies and policies

The program is implemented by the Tropical Agricultural Research and Higher Education Center (CATIE), based in Costa Rica.

Climate Change and Environmental Issues Addressed in the Program/Project

The program is environment relevant and includes activities relevant to climate change mitigation and adaptation. Climate change is, however, not explicitly included in the various objective statements.

The PD clearly explains that *adaptation to climate change* is the justification for implementing this program. Further, that National Governments and regional organizations have identified *adaptation to climate change* as a top priority for Mesoamerica. Unfortunately, this is not at all mentioned in the Embassy's AD.

MAP is an inter-sectorial, multi-partner knowledge and innovation platform using a livelihoods approach. It is based on the lessons learned from the Integrated Pest Management Program (MIP-CATIE) financed by Norad (1989-2004). The program will be implemented throughout the Mesoamerican region, though greater emphasis will be given to Nicaragua, Honduras and Guatemala, because of the greater needs in these countries.

The program's main focus is on improving small farmers' assets and livelihoods and thereby their capacity to adapt to climate change. Training of small farmers in SLM is a key instrument for achieving the goal. Improved knowledge of SLM will strengthen the farmers' resilience and capacity to adapt and modify their livelihood strategies.

The activities in the MAP will not only contribute to adaptation, but also to mitigation (reduced emissions and/or capture of GHGs). The MAP has several components which contribute to reduced GHG emissions: sustainable land management, reduced use of chemical fertilizers through IPM as well as an agro-forestry component. The Program will explore the development of CDM and REDD schemes to provide additional income to farmers for providing ecosystem services through a payment for ecosystem services model (PES).

Assessment of Climate Change and Environmental Issues

The MAP is highly relevant in terms of both adaptation to and mitigation of climate change. The relationships between land degradation, SLM and climate change are *complex* and multidirectional. Climate change effects on land management and land degradation are i.e.:

- Climate change and variability can contribute to land degradation by making current land management practices unsustainable (e.g. through increased rainfall/flooding) or through inducing more rapid conversion of land into unsustainable land management practices; and
- Climate change may offer new opportunities for sustainable land management by enhancing rainfall or growing periods in some places or through creating markets that might pay farmers for improved sustainable land management practices.

Effects of land degradation/SLM on climate change impacts:

- Land degradation increases vulnerability of people to climate variability and change, by restricting the range of viable rural enterprises, reducing average agricultural productivity and incomes, increasing production vulnerability, and reducing local resource asset levels, thus undermining people's ability to adapt to climate change; and
- Sustainable land management can reduce vulnerability to climate change and increase people's ability to adapt and in many cases can contribute to climate change mitigation through improved carbon sequestration and reduced GHG emissions.

Thus, SLM offers opportunities for enhancing the adaptation capacity of communities and for mitigating the effects of climate change. Many practices can simultaneously achieve both adaptation and mitigation goals, especially those which increase soil organic carbon. Principles of diversification (especially for adaptation) and revegetation (especially for mitigation) are critical in applying SLM practices under climate change.

Although CATIE is a highly professional academic institution in terms of the technical aspects of the program, there are challenges that should be pursued in the dialogue with CATIE.

- There are still unresolved issues in the MAP in terms of organization and integration of the many elements and projects of the programme. CATIE has yet to integrate all the elements of the program into one 'package' to be offered to the farmers;
- MRV needs to be strengthened. CATIE will present the operational plan for 2010 in February 2010. This is a good opportunity for the Embassy to follow up on the issue of a more elaborate MRV-system and to include climate change relevant indicators;
- The Embassy should continue following up the issue of weak leadership and MAP coordination of the different projects which is of critical important for the success of

- the program. The Embassy should consider to hire technical assistance when necessary to give due attention to this issue with CATIE;
- It is urgent to scale up the program, which should reach a considerably larger number of farmers than the 6000 mentioned in the PD. The target group is much too low in view of the program's goal as well as budget of NOK 125 million.
 - One way of scaling up for CATIE would be to explore the possibility of entering into partnership with farmers' organizations (e.g. UNAG/ 'Campesino a Campesino' in Nicaragua) which have a comprehensive network, instead of limiting the collaboration to national public agricultural extension services.
 - The issue of scaling up is closely linked to another issue: CATIE's capacity of advocacy and communication of results to relevant regional and national decision-makers. The Embassy should maintain dialogue with CATIE about the progress in this respect and request a communication strategy for the integration of the lessons learned in the MAP into national and regional environmental and agricultural policies;
 - CATIE is at the forefront in developing models for how to meet climate change in rural areas and deserves every support to succeed. The dissemination of results as well as replication in other regions/continents (south-south cooperation) should be on the Embassy's agenda with CATIE;
 - The possibility of strengthening research collaboration and exchange of lessons learned between CATIE and Norwegian researchers and institutions should be explored. Such collaboration may be conducive to wider dissemination of lessons learned;
 - The Embassy is supporting two agricultural projects in Nicaragua, implemented by ADDAC on the Pacific Coast and FADCANIC on the Atlantic Coast, which have a similar approach as CATIE's MAP. The link between CATIE and these NGOs should be strengthened for mutual benefit, scaling up and exchange of experiences; and
 - CATIE has not yet developed a gender policy and strategy of implementation. This issue had been raised with CATIE for some time now. Mainstreaming gender into the MAP program is of high priority for the Norwegian support. The Embassy in collaboration with SIDA should continue the dialogue with CATIE to strengthen CATIE's attention to gender issues. This is particularly important since CATIE has partnership with governments all over Central America.

Climate Risk Assessment: B – Partial climate risk assessment.

Conclusions and Recommendations

The project is considered highly relevant as an adaptation and mitigation project. In its dialogue with CATIE the Embassy could focus on:

- *The program's relevance to climate change should be reflected in the program goal (upcoming MTR offers opportunity for adjustment), in future PDs and highlighted in progress reports;*
- *CATIE should put in place a MRV system, including reduction of GHG emissions;*
- *CATIE should scale up the MAP and link up with farmers' organizations which have a comprehensive outreach network. CATIE should also be linked up with ADDAC, FADCANIC and UNAG for mutual exchange of best practice in Nicaragua;*
- *CATIE should present a strategy for advocacy and communication of best practice for the integration of the lessons learned in the MAP into national and regional policies;*
- *Explore options to access additional finance to the project through the use of the formal CDM (A/R project) and voluntary carbon market within the agroforestry component;*

- *Explore further options to strengthen payment for ecosystem services in part of the program;*
- *The Embassy should together with CATIE explore the possibility of strengthening research collaboration with Norwegian institutions. Norad would be prepared to assist in this process; and*
- *The project should be classified in PTA with Climate and Environment policy markers – code 1.*

2.2.3 NIC-2291 NIC-08/001 Strengthening of Institutional Capacities for Environmental Management and Territorial Planning, of Local Governments in the Sub-Basin III of Lake Managua

Goals and Activities

The overall goal of the project is “to contribute to the sustainable management of the Sub-basin III of Lake Managua, strengthening the environmental local management and spatial planning capacities of the 5 municipalities located in the Sub-basin III, with holistic approach to social and environmental benefits”.

The project consists of three components:

- I. Building of local government capacity for environmental management;
- II. Reduction and control of soil erosion; and
- III. Environmental land planning and spatial planning.

The three major expected results are: i) increase of water infiltration; ii) reduction of erosion; and iii) increase of water level of aquifers. The project will assure profitable results for the producers.

The project is implemented by the Association of five Municipal Governments encompassed in the Southern Watershed of Lake Managua (Managua, Nindirí, La Concepción, El Crucero and Ticuantepe (AMUSCLAM)). The executive unit is situated in the Municipal Government of Managua (ALMA), providing technical assistance to all the five municipalities.

Climate Change and Environmental Issues Addressed in the Program/Project

The project is environment relevant and comprises key elements of relevance to climate change, although climate change was not the main reason for the planning of the project.

The project forms part of a wider management program of the watersheds/sub-basins around Lake Managua. The sub-basin III of the South Watershed of Lake Managua includes 60% of the aquifers providing drinking water to Managua, the capital of Nicaragua. The area contains vital socio-economic infrastructure (the national airport, hospitals, educational centres, industries and large settlements). Due to weak local management, increasing urbanization and deforestation, soil erosion has accelerated environmental degradation, exposing the area to serious landslides and flood risks.

Focus is on land use planning and environmentally and socio-economically sustainable natural resource management with community participation. The project has identified the most critical areas in the sub-basin where sustainable agro-forestry and land management practices have been introduced. These actions are reinforced by awareness raising through extensive information campaigns, through education centers, civil organizations and the economic sector.

The project will benefit from the guide developed by the MARENA “Environmental Education Guide for an integrated watershed management”, and from active collaboration and coordination with the Ministry of Education.

Assessment of Climate Change and Environmental Issues

The project is relevant to mitigation as well as adaptation to climate change. More than half of the project budget is reserved for reforestation.

Integration of trees into farms, grazing lands, and other production landscapes helps to promote social, economic, cultural, ecological and environmental benefits. Agricultural ecosystems can be further improved through agroforestry to ensure environmental restoration, greater farm productivity, and realization of ecological services, including climate change mitigation and adaptation for improved rural livelihoods.

Agroforestry should be a key component in climate change mitigation measures. Large scale agroforestry offers a mechanism for reversing the effects of deforestation and forest degradation. Agroforestry also offers a range of co-benefits, such as improvements to the local environment, health benefits locally, energy security through second generation biofuels, more productive agriculture, conservation of agro-biodiversity, and employment. There is a need to identify, evaluate and estimate these co-benefits so that decisions can be made on a more enlightened basis.

The project will promote among the local producers comprehensive strategic actions, combining sustainable agricultural production (best farming), and reforestation/ environmental conservation practices. The project will induce a significant change from the existing inappropriate land use, into its natural and optimal use, considering the economic dynamics of each territory. It will develop demonstration sustainable agroforestry plots using local crops such as coffee, pineapple, pithaya, and basic grains. The project will assure profitable results for the producers.

By the implementation of SLM the project will contribute to the prevention of disasters caused by flooding. Improved productive practices and reforestation will control and mitigate the level of sediments and landslides due to increasingly extreme weather conditions.

The water conservation practices and reforestation are also relevant to mitigate/minimize the climate change effects. It will also improve the water quality and raise the level of aquifers. Considering that in addition to population growth, global climate change is expected to exert a major influence on future water demand, it will reduce current and future conflicts over water supply.

A healthier environment coupled with improved economical conditions will contribute to better health and wellbeing of the population and strengthen their capacity to adapt to shocks and changes due to climate change.

Awareness raising will increase the population’s responsibility and influence individual behavior towards contributing to reduce global warming. Special attention in the project is given to the involvement of women who are the most vulnerable to shocks like natural disasters. MARENA’s education guide should be reviewed to strengthen the focus on climate change and natural disasters.

The project has established a monitoring system to measure the effects on the environment and socio-economic conditions and the inclusion of climate change relevant indicators should be considered.

The development challenge facing the communities around Lake Managua is to accelerate or maintain robust economic growth despite the future disproportionate impacts of climate change and to grasp the opportunities to achieve additional benefits from investments in a low-carbon and climate resilient economy. The environmental and spatial planning component should preferably address future climate change. This could be framed around the development of low carbon growth plans (LCGP). LCGP is a strategic plan to assist the municipalities in shifting its development path to a low carbon and climate resilient economy and achieve sustainable development. It is based on the socio-economic and development priorities of the municipalities. It has a long-term component that includes a strategic vision and a short and medium term component that shows which specific actions will be undertaken to get on a low carbon, climate resilient or 'climate compatible' pathway.

The project could also potentially attract additional finance from the CDM, most notably through afforestation and reforestation (A/R) projects and increased use of voluntary carbon markets and carbon mitigation funds to test and demonstrate methodologies for a wider range of AFOLU (Agriculture, Forestry and Land Use) activities.

Climate Risk Assessment: B – Partial climate risk assessment

Conclusions and Recommendations

The project is considered highly relevant as an adaptation and mitigation project. In its dialogue with AMUSCLAM the Embassy could focus on:

- *The program's relevance to climate change should be reflected in the program goal (upcoming MTR offers opportunity for adjustment), in future PDs and highlighted in progress reports;*
- *Explore options to access additional finance to the project through the use of the formal CDM (A/R project) and voluntary carbon market;*
- *Climate Change should be included as an issue in the various training programs undertaken and MARENA's education guide should be reviewed to assess the need to strengthen climate change and issues related to natural disasters;*
- *Carry out an (partial) EIA to document the positive (and negative) environmental effects/risks of the program;*
- *Initiate discussion to frame the land and spatial planning component in a low carbon growth context to minimize future carbon emissions related to the development of the municipalities;*
- *Establish quantitative data of reduction of GHG emissions;*
- *Include reduction of GHG emissions as one of the indicators in the monitoring system;*
- *The project should be classified in PTA with Climate and Environment policy markers – code 1.*

2.2.4 NIC-2272 NIC-07/008 Support to Fisheries Administration

Goals and Activities

The overall goal is to assist the Government in achieving sustainable use of aquatic resources and viable economic growth of the private sector. The purpose is to contribute to develop Government institutions with capacity and competence for research based fisheries management.

Specific objectives are:

- An integrated fisheries public administration with improved capacity for planning, policy design and implementation;
- To enable INPESCA to provide qualified and timely scientific advice on the state of the major aquatic resources, and on related relevant management measures, including catch baseline studies on the natural living aquatic resources;
- To strengthen the capacity for fisheries research and management through an exchange of staff program with relevant institutions, and tailored short team training programs; and
- A fishery sector program sensitive to issues of gender, indigenous people, environment and nutrition.

The project is implemented by INPESCA (Instituto Nacional de PESCA). Currently, the project is suspended due to allegations of corruption.

Climate Change and Environmental Issues Addressed in the Program/Project

The program is environment and natural resources management relevant. Environment is included as a cross-cutting issue and includes activities related to an environmental training and awareness raising process that was aimed at different actors from the fisheries sector. Support is provided to establish an Environmental Management Unit within INPESCA.

Climate change is not specifically addressed in the project documentation.

Assessment of Climate Change and Environmental Issues

Climate change affects aquatic ecosystems and their fishery productivity. Fisheries and aquaculture are also threatened by the secondary effects of warming: changes in ocean currents, precipitation that affects lake levels and river flows, and increasing storminess and extreme floods and droughts. This makes living near water and catching or farming fish more hazardous than it is already.

Greater climate variability and uncertainty complicate the task of governing fisheries and expanding aquaculture sustainably. Fish can provide opportunities to adapt to climate change by, for example, integrating aquaculture and agriculture, which can help farmers cope with drought while boosting profits and household nutrition.

Fisheries and aquaculture need specific adaptation and mitigation measures that: 1) improve the management of fisheries and aquaculture and the integrity of aquatic ecosystems; 2) respond to the opportunities and threats to food and livelihood security due to climate change impacts, and 3) help the fisheries and aquaculture sector reduce GHG emissions.

Coastal ecosystems that support fisheries also help protect communities from the impacts of natural hazards and disasters. Mangroves create barriers to destructive waves from storms and hold sediments in place within their root systems, reducing coastal erosion. The further expansion of shrimp farms in Nicaragua is a significant threat to mangrove forests. Healthy coral reefs, sea grass beds and wetlands provide similar benefits. Climate change imperils the structure and function of these already stressed ecosystems.

There is an urgent need to strengthen monitoring of marine resources in Nicaragua, including catches on the Atlantic Coast, to improve knowledge about available resources. This could also form the basis for a more comprehensive environmental and marine monitoring program in Nicaragua. This should preferably be coordinated with neighbouring countries, possibly through a regional approach. The Embassy is also supporting activities related to the petroleum sector. Through INPESCA the Embassy could facilitate cooperation between authorities responsible for the oil-fish-environment nexus with the aim of developing a com-

prehensive national monitoring program for Nicaragua's marine waters. INPESCA undertakes monitoring of fish stocks but lacks equipment and research vessels to undertake monitoring of coastal waters.

INPESCA has received training on some climate change relevant issues through the regional fisheries organization OSPESCA (headquartered in El Salvador). Key additional actions that could be considered in subsequent phases of the fisheries cooperation to strengthen the climate change dimensions are:

- Implement comprehensive and integrated ecosystem approaches to managing coasts and oceans, fisheries, aquaculture, disaster risk reduction and climate change adaptation;
- Fill critical gaps in knowledge to assess the vulnerability of aquatic ecosystems, fisheries and aquaculture to climate change. Build 'local' ocean-climate models and strengthen knowledge of aquatic ecosystem dynamics and biochemical cycles such as ocean carbon and nitrogen cycle;
- Strengthen human and institutional capacity to identify the risks of climate change to coastal communities and fishing industries, and implement adaptation and mitigation measures;
- Move to environmentally-friendly and fuel efficient fishing capacity;
- Raise awareness that healthy and productive ecosystems, which arise from well managed fisheries and aquaculture, and careful use of catchments and coastal zones, are a cross-sectoral responsibility;
- Integrate and 'climate-proof' aquaculture with other sectors; and
- Undertake vulnerability and risk assessments at the local level.

The MTR of the project⁴ also indicates that cross-cutting issues are 'tacked on' to the project rather than being an integral element. There is scope to strengthen the environmental component of the project through expanding training programs and ensuring that the environment-related activities are in line with the recently approved National Fisheries and Aquaculture Plan for 2010.

The project could also include activities aimed at ensuring that critical habitats required for completing life cycles (e.g., mangroves, coral reefs and estuaries), migratory routes and water quality are also included in an integrated management framework. However, this is the mandate of MARENA and not INPESCA. Consequently, it is crucial that INPESCA coordinate such initiatives with MARENA. Sustainable management of tropical fisheries in a country like Nicaragua has a limited chance of being effective unless management of environmental functions (charged to MARENA) is integrated into the overall fishery management framework. INPESCA has established an environmental unit, currently staffed with one person. It should be considered to include a component and activities that could help improve the coordination and cooperation between INPESCA and MARENA and to strengthen the environmental unit through future Norwegian support.

Climate Risk Assessment: B – Partial climate risk assessment

⁴ Pacific Rim Consultants, 2008. Mid-Term Review of Norwegian Assistance to the Fisheries Sector in Nicaragua.

Conclusions and Recommendations

The support to the fisheries sector is considered highly relevant and some of the activities included support the implementation of the environmental action plan. The Embassy has considerable opportunities to engage in an active dialogue with INPESCA through the discussions on the follow-up of the MTR and the AM:

- *Initiate discussions with INPESCA how the scope of the environmental cross-cutting element could be expanded to focus more efforts on climate change relevant issues;*
- *The Embassy should initiate discussions with INPESCA how management of environmental functions (charged to MARENA) is integrated into the overall fishery management framework in Nicaragua. This could potentially lead to strengthened cooperation between INPESCA and MARENA and subsequently there might be a need to strengthen the environmental component of this project;*
- *Initiate discussions on how INPESCA's Environmental Management Unit could be strengthened;*
- *Explore the possibilities of strengthening monitoring of marine resources in Nicaragua, including catches on Atlantic Coast, to improve knowledge about available resources, through a regional approach. Through INPESCA the Embassy could facilitate cooperation between authorities responsible for the oil-fish-environment nexus with the aim of developing a comprehensive national monitoring program for Nicaragua's marine waters; and*
- *The project should be classified in PTA with Climate and Environment policy markers – code 1.*

2.3 Renewable Energy

2.3.1 General Comments and Suggestions

Increased investment in low-carbon technology, improved energy efficiency and increased use of renewable energy are of key importance in addressing the climate and energy access nexus. Energy is essential for both social and economic development. Providing better access to reliable energy services at prices that are affordable to poor people is crucial to achieving the MDGs. Simple, decentralized solutions will play an important role.

In the area of energy the Norwegian Action Plan for Environment in Development Cooperation⁵ gives priority to:

- Providing assistance for energy resource mapping, analyses of energy use, development of regulatory frameworks and system design with respect to the most promising renewable sources of energy;
- Supporting development and use of renewable energy, including biomass, wind and solar energy; reflecting recent technological developments;
- Supporting development of small power plants in conjunction with solutions that address water supplies, flood mitigation and agricultural irrigation;
- Supporting measures designed to improve energy efficiency; and
- Supporting measures to reduce the negative health effects resulting from the use of biomass for household energy purposes.

Aligning the increasing energy portfolio in Nicaragua with the action plan could be based on a four-pronged set of objectives:

⁵ Ministry of Foreign Affairs, 2006. "Norwegian action plan for environment in development cooperation."

- Supporting widening access to energy services as a means of supporting development overall. Improving and extending access to energy services, especially those generated from electricity and household fuels, is one of the most urgent tasks that lie ahead in Nicaragua since more than 30% of the population do not have access to electricity;
- Enhancing environmental performance of energy supply and consumption and framing energy sector planning in a climate change framework. This would imply including assessment of the climate change impacts of the use of various energy sources and undertaking cost-benefit analysis as a basis for selection of the most appropriate source of energy;
- Mobilizing financial resources to expand energy investments and services through the active use of the carbon market, e.g. CDM. More efforts could also be considered to actively involve NGOs and private sector in mobilizing resources for investments and providing energy services. NGOs could play a critical role in raising awareness and educating people in the use of alternative energy sources; however, there are currently few NGOs in Nicaragua with experience from the renewable energy sector. Several Norwegian investors have expressed an interest in investing in the energy sector in Nicaragua; and
- Linking energy planning to goals and priorities in other sectors and sustaining political commitment to sound energy sector management and governance. This commitment is a prerequisite for a well-performing energy sector equipped to address pressing economic, social and environmental needs.

Aligning the energy portfolio around these objectives would also be in line with the clean energy platform and action plan.

Further support to the energy sector should also more proactively take into account key cross-cutting dimensions that are important to Norway politically – climate change, environment, gender, good governance, anti-corruption and promotion of private sector. These issues have in general tended to be largely overlooked during the planning and implementation of power sector interventions (reference to the “Evaluation of Norwegian Power-Related Assistance”).

2.3.2 NIC-2308 NIC-09/014 Development of Small Hydro-Electric Plants for Productive Use in Off-grid Zones

Goals and Activities

The overall goal of the project is to contribute to reducing the levels of poverty in the rural communities in the Northern Atlantic Autonomous Region (RAAN) and the Central Region of Nicaragua.

The project will have three main components. The first component includes construction of 10 hydropower plants and 30 micro-turbines, including pre-investment studies. Extension of the power grid for already existing power plants will also be invested in. It is estimated that the investments in the plants and micro-turbines will benefit a total of 48 000 inhabitants and that the total installed capacity will be 2.4 MW. The second component will focus on strengthening local capacities to manage the watersheds, as well as capacities to set up and manage local electricity companies. Finally, the last component will focus on strengthening of the capacities of the Ministry of Energy and Mines (MEM) as well as monitoring and evaluation of the programme.

The project will be implemented by the MEM and the funds will be channeled through the United Nations Development Programme (UNDP).

Climate Change and Environmental Issues Addressed in the Program/Project

The program includes specific environment related activities, including capacity building and training in environment and watershed management. There is also a component targeting natural disaster prevention and mitigation.

The program is clearly “do good” in terms of reductions in fossil fuel use, reduced use of biomass, reduced emissions of GHGs and improved indoor air quality. MEM has calculated that the potential emission reductions are 83,000 tons of CO₂ over a period of ten years. Climate change as a risk element is addressed. Furthermore, the project will support adaptation to climate change through the watershed and natural disaster components.

The first phase of the program was supported by Switzerland, the World Bank, Global Environment Facility (GEF), Inter-American Development Bank and the Central American Bank for Economic Integration (CABEI). Therefore the implementation of the program has been subject to environmental assessments in compliance with the environmental safeguards of these organizations. Nicaraguan law does not require an environmental impact assessment of small scale hydropower plants (required for plants above 5MW). MARENA undertakes an environmental review of the plants and grants an environmental license to each project. MEM has an environmental unit which works closely with MARENA.

Assessment of Climate Change and Environmental Issues

The energy sector is a main source of emissions of GHGs and hydro power projects can also be affected by climate change through reduced rainfall, changes in weather variability, reduced average stream flow, increased floods, increased evapotranspiration, storms and cyclones, etc. Climate change is therefore an issue of key concern to the energy sector and energy sector planning should include the assessment of climate change impacts, both from a mitigation and adaptation point of view.

The program documents address the potential climate change risks associated with the program. Understanding of climate change risks will depend on the quality of local scale climate modelling, which may not be very well developed for the region. Hydro power projects without reservoir storage will have little capacity to “manage” the hydrological resource. The output of the hydro power plants could also be affected by demands on water use from other sectors, including other water resource project developments, development of water-reliant land uses e.g. agriculture or industrial, population growth, and likely requirements for environmental flow releases to the downstream environment.

MEM has assessed the issues of potentially increased hydrological risk due to expected climate change, increased risk of natural disasters (floods and droughts), landslides and erosion from the upstream catchment area for each hydro power project. The project includes support to watershed management which will be a contribution to adaptation. In implementation of this activity it will be important to ensure that at the catchment level, cooperation with local communities and regulatory authorities to improve catchment management practices are initiated. Furthermore, this should include specific catchment controls on road construction, agriculture or other land uses, use of vegetative cover, catchment terracing, upstream check structures and catchment reforestation. Watershed committees are being established and these receive training in environment and watershed management. This training could also include awareness raising on climate change relevant issues, e.g. changes in rainfall patterns and temperature, adaptation measures and small-scale mitigation measures.

The program could be eligible for carbon finance through the CDM. Through the development of a programmatic CDM the whole program could be eligible for support. UNDP could

be requested to explore this possibility in cooperation with MEM. Norad has established a support mechanism⁶ to enable eligible entities (Project Developers) to prepare the necessary documentation for submission of CDM projects

The program has clear “do good” components. However, the “do no harm” aspects are not adequately documented in the AD. Furthermore, the program could develop an environmental manual covering the construction of small hydro power and micro turbines as well as grid connections and associated road construction. This will ensure that all installations meet environmental requirements.

There is a need to provide additional training in operation and maintenance to the operators of the small-scale hydropower plants. This could potentially be included as a component in an institutional cooperation program. Norway has considerable experience in developing and operating small-scale hydropower plants.

Climate Risk Assessment: B – Partial climate risk assessment at the program level.

Conclusions and Recommendations

The project is considered highly relevant as a mitigation project and providing access to energy services to unserved populations. Adaptation to climate change is also supported through the program. The program complies with environmental safeguards of international organizations, as well as national regulations. In order to strengthen the focus on climate change and environment the Embassy could consider the following actions:

- *In the further dialogue with MEM the issue of climate change and possible impacts on the energy sector should be put on the agenda. Potential hydropower projects should be screened to strengthen resilience to climate change in project design, as/if necessary;*
- *The Embassy should ensure that the AD includes specific references to environmental assessments undertaken, the existence of environmental manuals and estimated reductions in GHG emissions of electrification projects;*
- *Environmental management should be reported as a regular item in all status reporting and be a regular item in all status and AMs;*
- *Design specifications for the further development of hydro power and distribution systems should take climate change and natural disasters into account;*
- *MEM should be requested to document the specific environmental guidelines used in the project;*
- *The total CDM potential for the program should also be assessed and possibilities for obtaining additional finance through the CDM could be explored. UNDP could potentially assist in undertaking this. Norad could provide support to prepare necessary project documentation;*
- *If further cooperation is planned within the sector training in operation and maintenance (O&M) of small-scale hydropower plants could be included; and*
- *The project should be classified in PTA with Climate and Environment policy markers – code 1.*

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

2.4 Good Governance

2.4.1 General Comments and Suggestions

Governance is about the processes by which public policy decisions are made and implemented. It is the result of interactions, relationships and networks between the different sectors (government, public sector, private sector and civil society) and involves decisions, negotiation, and different power relations between stakeholders to determine who gets what, when and how. Addressing the climate challenge will also require changes in the way governments operate. Climate policy touches on the mandate of many government agencies, yet belongs to none. For both mitigation and adaptation, many needed actions require a long-term perspective that goes well beyond those of any elected administration. Participation, particularly by civil society, is also essential.

Governance is contextual. While it is possible to identify principles and concepts that are universal the individual circumstances of a country dictate unique constraints and opportunities for achieving good governance. By supporting efforts to strengthen and improve governance countries will be in a better position to take necessary action. When climate changes, and when the actual impacts are felt resources will be wasted without a proper governance system.

2.4.2 NIC-2294 NIC-06/006 Programme Support - Democratic Governance and Citizen Security, with Emphasis on Access to Justice for Women Victims of Violence; and Equity and Economic Development

Goals and Activities

UNDP's CPAP (Action Plan of the country program) for Nicaragua defines four thematic areas of action:

1. Democratic governance and citizen security;
2. Equity and economic development;
3. Environment, energy and risk management; and
4. Sustainable development of the Caribbean Coast.

Although the CPAP does not explicitly state one overall objective, UNDP seeks to support the Nicaraguan Government's efforts for sustainable human development and to reach the MDGs⁷. Expected results have been established for each one of the thematic areas in the CPAP. The CPAP also details products and indicators for each area.

The following projects/programs are currently included in the areas of interest for Norway:

- Strengthening of Democratic Institutions Program (PFID). UNDP's partners: the National Assembly, political parties;
- Strengthening of National Institute of Information for Development (INIDE) and the National Statistical System (SEN); and
- Initiatives regarding violence against women in Nicaragua.

The project will be implemented by UNDP.

⁷ http://www.undp.org.ni/pnud_nicaragua

Climate Change and Environmental Issues Addressed in the Program/Project

Training of young leaders includes environmental issues.

Assessment of Climate Change and Environmental Issues

The component strengthening of democratic institutions includes training and sensitization of National Assembly members and young leaders in political parties. Environment is included as an element in the training and climate change relevant issues should also be included. The Embassy could discuss this issue with UNDP with a view to include climate change and environment specifically on the agenda in the yearly meetings with National Assembly members and in the training of young leaders.

Nicaragua needs to strengthen management of natural resources and this should be based on adequate data on the status of natural resources. Increased attention should be on establishing a sound baseline for environmental and natural resources reporting in Nicaragua. There is also a need to strengthen the climate change relevant data. If possible, future data collection efforts should be based on the need to provide information to relevant bodies, e.g. national communication to the UNFCCC and for preparation of updated NAPAs. Furthermore, there is a need to collect more detailed data on natural disasters.

Environmental factors and externalities are not taken into account in Nicaragua's budget process. One possible way forward is to introduce Green Budgeting which aims to identify, formulate and introduce appropriate economic instruments to achieve environmental goals and promote sustainable development. Through INIDE the efficiency of market-based instruments could be explored and the macro-economic impact of the different fiscal interventions could be investigated, if this is considered important. Norway has considerable experience in this regard.

In the long-term drought, flooding, and rising sea levels could displace people in Nicaragua. And if the predictions of declining agricultural productivity come true, farmers will to an increasing extent abandon rural areas in search of new livelihoods, often in the urban slums. It defies credulity that these upheavals will take place without triggering new conflicts and worsening old ones. As new arrivals crowd into congested urban areas, unemployment, crime, and violence will be on the rise. Rural areas are also likely to experience increasing conflicts rooted in natural resource scarcity. As the planet warms and changes, terrestrial and marine ecosystems are undergoing change and for every change in economically valuable resource systems, there is a possibility of conflict over resource access. Although localized rural conflicts often go unnoticed and undocumented, they can be lethal and damaging to property and social capital. Such conflicts are often fuelled by shrinking resources depleted by population growth, environmental degradation, poverty, and, increasingly, aggravated by climate changes.

Regarding violence against women it should be noted that women are especially exposed to climate change-related risks due to existing gender discrimination, inequality and inhibiting gender roles. It is established that women, particularly elderly women and girls, are affected more severely and are more at risk during all phases of weather-related disasters: risk preparedness, warning communication and response, social and economic impacts, recovery and reconstruction. Women are susceptible to gender-based violence during natural disasters and during migration, and girls are more likely to drop out of school when households come under additional stress. Rural women are particularly affected by effects on agriculture and deteriorating living conditions in rural areas. Vulnerability is exacerbated by factors such as unequal rights to property, exclusion from decision-making and difficulties in accessing information and financial services.

Women in shelters could also receive training on hygiene, water supply and sanitation, food security and nutrition, as well as potential livelihood activities. Since they most often are accompanied with children this also offers a possibility of sensitizing children on these issues. Children and women are effective agents of changes in families and in communities.

Climate Risk Assessment: C – No need for climate risk assessment

Conclusions and Recommendations

The project is considered relevant as a potential tool to enhance knowledge and raise awareness on climate change and environmental issues in the National Assembly and among young leaders, as well as to contribute to reduction of gender-based violence. In the discussion with UNDP and partners the Embassy could:

- *Discuss with UNDP to include climate change and environmental issues on the agenda in the annual meetings with the National Assembly and in training of young political leaders;*
- *Consider if there is scope to expand the work on national statistics to include environmental and natural resources data and reporting activities. The Norwegian Statistical Bureau (SSB) has significant expertise on issues related to natural resources accounting and green budgeting which, if there is an expressed interest, could be used to develop further cooperation;*
- *Women are susceptible to gender-based violence during natural disasters and during migration. The Embassy could therefore initiate a discussion with relevant organization involved in disaster preparedness on specific measures how women can be better protected during natural disasters; and*
- *Consider to include training on livelihood opportunities, hygiene practices and nutrition, targeted at women and children in shelters as a means to strengthen women's independence.*

2.4.3 NIC-2264 NIC-09/006 “Joint Donor Anti-Corruption Trust Fund”

Goals and Activities

The overall goal is to: “Contribute to strengthen the state of rights, governance and the development of the country through the reduction of the corruption at all levels”. The immediate objective is to: “Reduce the corruption in the country”.

The five recipient institutions will focus their efforts in three areas:

1. Systemic, solid and aligned policies, strategies and anti-corruption actions and supporting legal norms and framework that facilitates and promotes prevention, investigation, indictment and penal action;
2. Strengthening of the professional and institutional capacities for the prevention, investigation, indictment and penal action; and
3. Citizen participation in the prevention and control of corruption (awareness raising, network of citizen accusation offices, strengthening of values, democratization of the access to information, population informed about the causes and consequences of corruption for the development of the country and regarding the mechanisms to combat corruption and exercise their rights, control and social audit both at the central and municipal level, etc..

The project will be implemented by: 1) Prosecutor General's Office; 2) National Police; 3) Public Ministry (Ministerio Público); 4) Office of Public Ethics; 5) Financial Analysis Commit-

tee of the National Council against Drugs, placed in the Ministry of Interior (Ministerio de Gobernación); and 6) A co-ordination unit (placed in the Prosecutor General's Office).

Climate Change and Environmental Issues Addressed in the Program/Project

No direct reference in the PD to climate change and environmental issues.

Assessment of Climate Change and Environmental Issues

Since Nicaragua will receive support to prepare a national REDD strategy corruption in the forest sector could be a potential area of relevance to the climate change agenda. Corruption in the forest sector is connected to different forms of crime and illegal logging. The forest sector has the potential to improve its economic performance and increase state revenues. The realisation of these opportunities depends critically on the governance of the forest sector and the ways in which forests are utilised. Corruption is directly linked to illegal and unsustainable logging, a problem that causes significant environmental damage in terms of erosion and reduced water quality, loss of biodiversity and challenges for communities that are settled in natural forests.

Therefore it could be considered to include the forest sector and key forest agencies in the anti-corruption efforts supported through the fund. Nicaragua does not have substantial forest resources in a global context, but they cover a substantial part of the national territory (about 40%). Their direct relevance to the national economy is modest. However, they are key resources for the livelihoods of numerous forest dwellers and indigenous peoples of Nicaragua. When a formal REDD compliance market will be established Nicaragua could potentially be eligible to receive large REDD-funds.

Illegal logging of forests continues to be one of the major causes of deforestation and forest degradation. The data on this matter are inaccurate and therefore must be improved as part of implementing the REDD strategy. However, studies conducted in 2000 and 2003 indicate that illegal logging can cover up to 60% of the volumes of felling approved and registered by the INAFOR⁸. Studies by the World Bank indicates that the illegal felling of timber varies around the 30,000-35,000 m³ in hardwood timber and between 110,000 and 135,000 cubic metres at coniferous woods. The same study estimated that tax losses coming from illegal logging cost the government of Nicaragua between US\$ 4 and 8 millions a year. Since illegal logging is a major cause of deforestation Nicaragua needs to address illegal logging in a concerted manner to improve the prospects of receiving large REDD funds.

Key activities to strengthen governance in forestry and institutional aspects of the sector include:

- Design of systems for verifying the legality of forest products to identify legal and illegal felling of forests;
- Promoting transparency in forestry from forest ownership and its legal backing, including addressing land titling issues;
- Enhancing the capacity to respond to demands for regulation and control of logging;
- inter-institutional coordination measures to improve governance and reduce forest crime; and
- Strengthening capacities to implement the forest incentive mechanisms defined in forest policy.

⁸ Readiness Project Identification Note, Republic of Nicaragua, 2008. Submitted to the Forest Carbon Partnership Facility (FCPF).

In practical terms it could be considered to include the judiciary and Nicaraguan law enforcement agencies, such as the Environmental Public Prosecutor and the Attorney General's Office for the Environment, in the project. Illegal activities in the country need to be addressed as a matter of urgency. Lack of control and sanctions has led to a climate of impunity that illegal operators take advantage of. Some of the main legal instruments are obsolete and should be reviewed. Improvements in the legal framework should be capitalised on. The new Special Law for Crimes against the Environment and Natural Resources provides a clear opportunity to improve forest management and punish those who breach the law.

As part of the project corruption perception surveys are being undertaken. These could potentially include issues related to illegal and corrupt practices in the forest sector.

Climate Risk Assessment: C – No need for climate risk assessment

Conclusions and Recommendations

The project could potentially focus on natural resource sectors of key importance to Nicaragua. A focus on the forest sector will be of relevance to the further development of REDD in Nicaragua:

- *Consider to include issues related to corruption and illegal logging in forest management in Nicaragua to support the development of a national REDD strategy;*
- *Consider to include support to the Environmental Public Prosecutor and the Attorney General's Office for the Environment to strengthen their capacity to combat illegal logging; and*
- *Consider to include issues related to illegal and corrupt practices in the forest sector as part of corruption perception surveys.*

2.5 Human Rights – Women's Rights

2.5.1 General Comments and Suggestions

There exists broad agreement that climate change has generally negative effects on the realization of human rights. Climate change poses a direct threat to a wide range of universally recognized human rights, such as the right to a dignified life, health, food, adequate housing or water. Procedural human rights, including access to information or justice and participation in decision-making processes may also become increasingly relevant in a context of climate change, particularly for those being affected by it.

Human rights standards and principles should inform and strengthen policymaking in the area of climate change, promoting policy coherence and sustainable outcomes. The human rights framework draws attention to the importance of aligning climate change policies and measures with overall human rights objectives, including through assessing possible effects of such policies and measures on human rights.

Moreover, looking at climate change vulnerability and adaptive capacity in human rights terms highlights the importance of analysing power relationships, addressing underlying causes of inequality and discrimination, and gives particular attention to marginalized and vulnerable members of society. The human rights framework seeks to empower individuals and underlines the critical importance of effective participation of individuals and communities in decision-making processes affecting their lives.

Equally, human rights standards underline the need to prioritize access of all persons to at least basic levels of economic, social and cultural rights, such as access to basic medical care, essential drugs and to compulsory primary education free of charge.

As climate change will inevitably affect the enjoyment of human rights, safeguarding of human rights should be a key consideration in efforts to address the impact of climate change. International human rights law imposes several obligations on States that are relevant to addressing human vulnerabilities to climate change. These include the obligation to provide better housing, located away from hazardous zones; improved access to sanitation, safe-drinking water and healthcare; access to adequate food; effective participation in planning and decision-making; accountability; as well as access to information and justice.

Governments will find it harder to meet these obligations, as resources are taken up by demands to meet the environmental challenges and risks posed by climate change. This is all the more the reason to integrate the human rights dimension into strategic thinking about mitigation and adaptation to climate change for optimal investment of resources in the long run.

2.5.2 NIC-2289 NIC-07/004 Common Fund for Gender Equity and Sexual and Reproductive Rights – Phase I

Goals and Activities

The general objective for the phase I is to contribute to the advancement of gender equality and full recognition and exercise of sexual and reproductive rights of the Nicaraguan population.

Gender equality and equity, as well as sexual and reproductive rights are the two priority areas for this phase. Within these two priority areas, the focus will be in prevention of gender based violence, prevention of HIV/Aids (including HIV testing), and supporting sexual diversity groups.

The specific objectives are: 1) Promotion and defense of gender equity and equality by the organized citizens; and 2) Defense of sexual and reproductive rights by the organized citizens. Seven expected results have been set based on these specific objectives.

The project is implemented by the Humanist Institute for Development Cooperation (HIVOS).

Climate Change and Environmental Issues Addressed in the Program/Project

No direct reference to environmental issues or climate change in the project documentation reviewed.

Assessment of Climate Change and Environmental Issues

Norway is the lead donor and could in its dialogue with HIVOS and through the Coordinating Committee (CC) for the program consider to put environmental and climate change relevant issues on the agenda for discussion. By initiating a discussion awareness could be raised and potentially the partners could jointly identify and agree to include relevant elements. Suggestions are provided below. Furthermore, it could be considered to include environment and climate change as a review criterion in the operational regulations of the fund. Through this NGOs applying for support could also be exposed to the issues.

Women are especially exposed to climate change-related risks due to existing gender discrimination, inequality and inhibiting gender roles. It is established that women, particularly elderly women and girls, are affected more severely and are more at risk during all phases of weather-related disasters: risk preparedness, warning communication and response, social and economic impacts, recovery and reconstruction. The death rate of women is markedly

higher than that of men during natural disasters (often linked to reasons such as: women are more likely to be looking after children, to be wearing clothes which inhibit movement and are less likely to be able to swim). This is particularly the case in disaster-affected societies in which the socio-economic status of women is low.

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. Moreover, food security and access to proper nutrition is of special importance for people living with HIV/aids. Due to illness and stigma they can face difficulties in getting enough food, and proper nutrition protects against opportunistic infections and is necessary for ARV-treatment to be effective.

The project contributes to reproductive health and address the issue of population increase indirectly. Attention to demographic factors, including fertility rates, population growth rates, urbanization and encroachment of populations into ecologically marginal areas, will strengthen understanding of vulnerability and approaches to adaptation. Sexual and reproductive health and rights and family planning have significant implications for future population dynamics, particularly for the poor who already have higher population density, and are susceptible to or unable to cope with the adverse impacts of climate change. In addition to be a contribution to gender equality and women's health, this could be a contribution to reducing the population growth in Nicaragua which also could have environmental and climate change impacts.

Strong evidence exists showing that demographic change is closely associated with GHG emissions, and that population dynamics will play a key role in attempts to mitigate and adapt to the effects of changes in the climate system in the future. It is clear that analyzing the compositional change of populations, specifically the age composition, the distribution of people in urban and rural areas, and household size and composition, is very important for understanding future needs and potential for mitigating carbon emissions and climate change.

Climate Risk Assessment: C – No need for climate risk assessment

Conclusions and Recommendations

Through the dialogue with the implementing organization HIVOS and the CC the Embassy could consider to:

- *Initiate a discussion in the CC on the potential relevance of climate change and environment-related issues for the promotion of gender equity, and sexual and reproductive rights;*
- *Initiate a discussion with HIVOS on the possibility of including environment and climate change as a review criterion when assessing applications for support;*
- *Focus on the key importance of including hygiene and nutrition education in HIV/Aids programs; and*
- *Initiate a discussion with relevant partners on the role sexual and reproductive rights and health, and access to family planning could potentially play in assessments of demographic change since this is closely associated with GHG emissions, and the role of population dynamics in attempts to mitigate and adapt to the effects of changes in the climate system in the future.*

2.5.3 CAM-2665 CAM-08/007 Human Rights from a Poverty Perspective – IIDH

Goals and Activities

The overall goal is to promote political, legal and educational consensus in the Inter-American system, the States and its institutions, civil society and the academia for the consideration and impact on the situation and consequences of poverty, from a comprehensive and inclusive human rights perspective.

The specific objectives are:

- I. To generate extensive research and debate from the four sets of rights and the three cross-cutting axes prioritized in the work of IIDH, allowing all the actors in the social spectrum to participate and articulate their perspective;
- II. To implement advocacy strategies, from an Inter-American and multi-sectoral vision, which allows building an integral approach to poverty consistent with the defense of human rights and democracy;
- III. To constitute human rights education as a fundamental element that contributes to raise awareness of poverty as a cause and consequence of human rights violation; and
- IV. (Process Objective) Adjust the structure and capacities of IIDH to guarantee of the implementation of the Strategic Framework 2008-2010 and ensure the impact of the institutional work.

The project is implemented by the Inter-American Institute of Human Rights (IIDH).

Climate Change and Environmental Issues Addressed in the Program/Project

No direct reference in the Project Document to climate change and environmental issues.

Assessment of Climate Change and Environmental Issues

Poverty is a denial of human rights. Human rights refer to rights that are inherent to the person and belong equally to all human beings. Their realisation has to be carried out as a participatory, accountable and transparent process, implying equality in decision-making. Human rights instruments – such as the Universal Declaration of Human Rights (UDHR) – provide a coherent framework for practical action – at the international, national and sub-national levels – to reduce poverty.

The human rights-based approach to poverty reduction espouses the principles of universality and indivisibility, empowerment and transparency, accountability and participation. It addresses the multi-dimensional nature of poverty beyond the lack of income. Poor people cannot be treated as if they constitute a homogeneous group, or as if discrimination occurs indiscriminately.

A human rights perspective shifts the focus more directly to individuals and to the effect of climate change on their lives. IIDH could be encouraged to focus research and education efforts on exploring the links between human rights (economic, social and cultural rights) and climate change in a Latin American context.

A focus on human rights also means that the views of those who will be disproportionately affected by climate change – the poor, vulnerable and marginalized - must have to be taken into account in responses devised to address the causes and consequences of global warming. IIDH could focus research efforts on assessing the climate change vulnerability of differ-

ent vulnerable groups, e.g. indigenous people, and how a human rights based approach could be used to identify adaptation and mitigation actions.

The notion of participation is at the centre of a human rights-based approach to poverty reduction. The poor must be considered as the principal actors of development; they can no longer be seen as passive recipients; they are strategic partners rather than target groups. Human rights change in a fundamental way the relationship between service providers and service recipients, and between claim-holders and duty-bearers. Initially, research could be concentrated on issues related to the right to water and sanitation which is a priority area for the Norwegian government (reference to the environmental action plan for development co-operation). The right to water and sanitation is an important element of economic, social and cultural rights. Migration due to climate change could also be considered as a research topic.

Climate Risk Assessment: C – No need for climate risk assessment

Conclusions and Recommendations

The project could potentially be a major contribution to improve the regional knowledge on the links between human rights and climate change. The Embassy in its' cooperation with IIDH could:

- *Include the issue of climate change and human rights on the agenda of the AM to raise awareness and to discuss potential areas of further work;*
- *IIDH could be requested to initiate research on the links between human rights and climate change in a Central American context and the specific vulnerabilities of key groups. Part of this work could encompass analyzing power relationships, addressing underlying causes of inequality and discrimination, and give particular attention to marginalized and vulnerable members of society; and*
- *Initiate work on the status of and implication of the right to water and sanitation for poor people in Central America. The right to water and sanitation is an important element of economic, social and cultural rights.*

2.5.4 CAM-2665 CAM-08/015 Promotion of Human Rights of Women and Young People

Goals and Activities

The overall goal is to promote and strengthen the defense of the rights of women and the collective action of the women movement, and to encourage a social context more favorable in order to enable and enhance the capacity of adult and young women to take control over their bodies and participate in the decision-making spaces that affect their everyday life.

The specific objectives are:

- To strengthen a favorable public opinion for the promotion and defense of the rights and autonomy of young and adult women in Central America; and
- To strengthen the capacities of women and mixed groups and organizations in Central America for the identification, critical reflection, encouragement of individual and collective action and the promotion of the autonomy and young and adult women rights.

The project is implemented by the NGO Puntos de Encuentro.

Climate Change and Environmental Issues Addressed in the Program/Project

No direct reference in the PD to climate change and environmental issues.

Assessment of Climate Change and Environmental Issues

Existing vulnerabilities are exacerbated by the effects of climate change. Groups such as children, youth, women, the elderly and persons with disabilities are often particularly vulnerable to the adverse effects of climate change on the enjoyment of their human rights. The application of a human rights approach in preventing and responding to the effects of climate change serves to empower individuals and groups, who should be perceived as active agents of change and not as passive victims.

Climate change will exacerbate existing health risks and undermine support structures that protect children from harm. Overall, the health burden of climate change will primarily be borne by children and youth. For example, extreme weather events and increased water stress already constitute leading causes of malnutrition and infant and child mortality and morbidity. Likewise, increased stress on livelihoods will make it more difficult for children to attend school. Girls will be particularly affected as traditional household chores, such as collecting firewood and water, require more time and energy when supplies are scarce. Moreover, like women, children have a higher mortality rate as a result of weather-related disasters.

Participation in decision-making is of key importance in efforts to tackle climate change. For example, adequate and meaningful consultation with affected persons should precede decisions to relocate people away from hazardous zones. Under the UDHR, States parties shall promote and facilitate “public participation in addressing climate change and its effects and developing adequate responses”. The right to participation in decision-making is implied in article 25 of the International Covenant on Civil and Political Rights which guarantees the right to “take part in the conduct of public affairs”. Equally, the United Nations Declaration on the Rights of Indigenous Peoples states that States shall consult and cooperate with indigenous peoples “to obtain their free, prior and informed consent” before adopting measures that may affect them. The Convention on the Rights of the Child in article 12 enshrines the right of children to express their views freely in all matters affecting them.

Youth are central actors in promoting behaviour change required to mitigate the effects of global warming. Youth’s knowledge and awareness of climate change also influence wider households and community actions. Education on environmental matters among youth is crucial and various initiatives at national and international levels seek to engage young people as actors in the climate change agenda. Puntos de Encuentro prepares TV-series and the possibility of including environmental and climate change relevant issues, as appropriate, in the TV-series should be explored.

Furthermore, 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.

Youth have specific vulnerabilities and needs which have to be addressed in risk reduction. Youth 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 youth cope with adverse situations, and contributes to building their resilience. Parents, school teachers, government and other duty bearers have to provide these supports to youth. A school safety program has many benefits for linking the school to the family and community in disaster risk reduction.

Climate Risk Assessment: C – No need for climate risk assessment

Conclusions and Recommendations

The project could be an important contribution to raising the awareness on climate change among women and youth. In its dialogue with Puntos de Encuentro the Embassy could:

- *Explore the possibility of including environmental and climate change relevant issues, as appropriate, in the TV-series prepared by Puntos de Encuentro;*
- *Consider to use schools actively to promote hygiene, water and sanitation messages, as well as good environmental practices, and to raise awareness on climate change issues;*
- *Explore the possibilities of providing women and youth with specific training to tackle natural disasters. Women and youth have a higher mortality rate as a result of weather-related disasters. A school safety program to link the school to the family and community as a means to raise awareness on disaster risk reduction could also be explored; and*
- *Promote active participation in decision making processes through providing training to women and mixed groups organizations.*

3. FINAL OBSERVATIONS

During the visit the Team identified some key issues which the Embassy should consider:

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 there is no discussion on the need for environmental assessment. In several cases environmental analyses have been prepared but this is not reflected in the AD. An environmental assessment 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.

More specifically, with the recent focus on clean energy the need to carefully assess the need for environmental assessment has become more urgent. 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 and increasingly within agriculture.

Reducing Emissions from Deforestation and Forest Degradation (REDD)

Nicaragua has submitted an 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 Nicaragua and provide regular progress reports to the Secretariat for the Climate and Forest Initiative.

Nicaragua forms part of one of the most important tropical forest formations north of the Amazon Basin. As a whole, the Central American region has major trans-boundary forest formations and Nicaragua is part of a number of multi-country initiatives to manage forest resources, including the Meso-American Biological Corridor and the joint Nicaraguan and Honduran Corazon project which includes the Bosawas Biosphere Reserve, among others. All Central American countries are in the process of preparing REDD strategies and it is important to ensure close coordination and cooperation among the countries to ensure a regional approach to REDD as a means to avoid leakage.

Consider the Carbon Market as a Source of Additional Finance

The Embassy should encourage partners to always explore the carbon market for possible additional finance. Most energy projects will be eligible for CDM. Norad has established a support mechanism⁹ to enable eligible entities (Project Developers) to prepare the neces-

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

sary 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):

- 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 Nicaragua.

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.

Terms of Reference

Nicaragua: 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
NIC-2272 NIC-07/008 Support to Fisheries Administration	INPESCA
NIC-2294 NIC-06/006 Programme support (Democratic governance and citizen security, with emphasis on access to justice for women victims of violence; and Equity and economic development)	UNDP
NIC-2289 NIC-07/004 Common Fund for Gender Equity and Sexual & Reproductive Rights – Phase I	HIVOS (the Humanist Institute for Development Cooperation)
NIC-2308 NIC-09/014 Development of small hydro-electric plants for productive use in off-grid zones	UNDP, Ministry of Energy and Mines
NIC-2264 NIC-09/006 "Joint Donor Anti-corruption Trust Fund"	Nicaraguan Ministry of Foreign Affairs. Implementing partners: 1) Prosecutor General's Office, 2) National Police, 3) Public Ministry (Ministerio Público), 4) Office of Public Ethics, 5) Financial Analysis Committee of the National Council against Drugs, placed in the Ministry of Interior (Ministerio de Gobernación) and 6) A co-ordination unit (placed in the Prosecutor General's Office)
CAM-2665 CAM-08/007 Human Rights from a Poverty Perspective – IIDH	IIDH (Interamerican Institute of Human Rights)
CAM-2665, CAM-08/015 Promotion of human rights of women and young people	Puntos de Encuentro
NIC-2291 NIC-08/001 Strengthening of institutional capacities for environmental management and territorial planning, of local governments in the Sub-Basin III of Lake Managua	Association of Municipalities for the Southern Watershed of Lake Managua (AMUSCLAM) – Includes 5 municipalities (Managua, Nindirí, Ticuantepe, Masaya and La Concepción)
CAM-2647 CAM-07/012 Mesoamerican Agroenvironmental Programme (MAP)	Tropical Agricultural Research and Higher Education Center (CATIE), Costa Rica
NIC-2272 NIC-07/008 Support to Fisheries Administration	INPESCA
NIC-2294 NIC-06/006 Programme support (Democrat-	UNDP

ic governance and citizen security, with emphasis on access to justice for women victims of violence; and Equity and economic development)	
NIC-2289 NIC-07/004 Common Fund for Gender Equity and Sexual & Reproductive Rights – Phase I	HIVOS (the Humanist Institute for Development Cooperation)
NIC-2308 NIC-09/014 Development of small hydro-electric plants for productive use in off-grid zones	UNDP, Ministry of Energy and Mines

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 could focus on [optional points for consideration]:
- Presentation of the implementation of the Norwegian Environmental Action Plan and key climate change issues (REDD, adaptation, mitigation, clean energy)
 - Environmental Assessment of Development Cooperation Projects
 - Presentation of 'Practical Guide – Climate Change Risk Management – Climate Proofing'
 - 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:
- brief description of goals and activities;
 - climate change risk assessment;
 - environment-related activities included;
 - assessment of climate change impacts and scope of integration of environment; and
 - 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.

Norad

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