



PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: FULL SIZED PROJECT

THE LEAST DEVELOPED COUNTRIES FUND (LDCF) ¹

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Submission date: July30, 2008

GEFSEC PROJECT ID²:

GEF AGENCY PROJECT ID:

COUNTRY: The Gambia

PROJECT TITLE: Strengthening of The Gambia's Climate Change Early Warning Systems

GEF AGENCY(IES): UNEP

OTHER EXECUTING PARTNER(S): DEPARTMENT OF STATE FOR FISHERIES, WATER RESOURCES & NATIONAL ASSEMBLY MATTERS

GEF FOCAL AREA: Climate Change LDCF

INDICATIVE CALENDAR	
Milestones	Expected Dates
Work Program (for LDCF FSP)	N/A
CEO Endorsement/Approval	Jan 2009
GEF Agency Approval	Feb 2009
Implementation Start	Feb 2009
Mid-term Review (if planned)	Nov 2010
Implementation Completion	Oct 2011

A. PROJECT FRAMEWORK (Expand the table as necessary)

Project Objective: This project seeks to implement The Gambia's second top priority as identified in its National Adaptation Programme of Action (NAPA). The objective is to reduce vulnerability to climate changes through enhanced capacity for science-based decision making and planning for affected populations to respond to climate change through a strengthened early warning and informational mechanisms.

Project Components	Type**	Expected Outcomes	Expected Outputs	Indicative LDCF/SC CF Financing*		Indicative Co-financing*		Total (\$)
				(\$)	%	(\$)	%	
Climate change information, monitoring and early warning systems	STA, TA	Strengthened capacity of hydro-meteorological networks to predict climate change events and risk factors	- National network is strengthened to provide vital inputs for climate monitoring, prediction and generation of adequate data for climate impacts' assessment at appropriate geographical scales. - Training needs for operating the system are identified and a training plan is implemented - System in place to couple climate and socio-economic assessments for more relevant predictions	320,000	41	450,000	59	770,000
2. Climate change information dissemination and communication to end users	STA, TA	Improved efficiency of climate information dissemination /delivery to end-users	-Identification of appropriate and effective channels for the communication of relevant climate information -Demonstration for effective communication and response strategies to warnings are implemented - Lessons learned are collected from pilots and used to improve systems (adaptive management)	335,000	53	300,000	47	635,000

¹ This template is for the use of LDCF projects and SCCF Adaptation projects only. For other SCCF projects under Technology Transfer, Sectors and Economic Diversification windows, other templates will be provided.

² Project ID number will be assigned initially by GEFSEC. If PIF has been submitted earlier, use the same ID number as PIF.

3. Institutional capacity for climate change policies and protocols.	STA, TA	Increased capacity of relevant institutions (ministries, local NGOs, extension workers) to respond effectively and in a timely manner to climate change warnings and to put in place preventative planning	- Relevant policies are reviewed for climate sensitivity and policy process is identified - Policy revisions are undertaken and implementation plans developed - A functional policy response system is developed to encourage preventative planning and decision making in response to early warnings and climate change trends - Training and awareness raising of above stakeholders - Establishment of a public-private platform for risk management to engage private sector in climate proofing	155,000	41	250,000	59	405,000
4. Project management				85,000	50	85,000	50	170,000
5. Mid-term and Final Evaluation				40,000	100			40,000
Total project costs				930,000	100	1,085,000		2,015,000

* List the \$ by project components. The percentage is the share of LDCF/SCCF and Co-financing respectively to the total amount for the component. ** TA = Technical Assistance; STA = Scientific & technical analysis.

B. INDICATIVE FINANCING PLAN SUMMARY FOR THE PROJECT (\$)

	Project Preparation *	Project	Agency Fee	Total
LCDF Grant	30,000	930,000	96,000	1,056,000
Co-financing	50,000	1,085,000		1,135,000
Total	80,000	2,015,000	96,000	2,191,000

Please include the previously approved PDFs and planned request for new PPG, if any.

C. INDICATIVE CO-FINANCING FOR THE PROJECT (including project preparation*) BY SOURCE AND BY NAME (in parentheses) if available, (\$)

Sources of Co-financing	Type of Co-financing	Amount
Project Government Contribution	In-kind	600,000
GEF Agency(ies)	UNEP	10,000
Bilateral Aid Agency(ies)	TBD	100,000
Multilateral Agency(ies)	TBD	
Private Sector	TBD	
NGO	TBD	200,000
Others	TBD	225,000
Total co-financing		1,135,000

* Indicate the amount of project preparation included in the columns.

PART II: PROJECT JUSTIFICATION

A. STATE THE ISSUE, HOW THE PROJECT SEEKS TO ADDRESS IT, AND THE EXPECTED ADAPTATION BENEFITS TO BE DELIVERED:

This project seeks to implement The Gambia's second top priority as identified in its National Adaptation Programme of Action (NAPA). The objective is to reduce vulnerability to climate changes through enhanced capacity of decision makers and affected populations to respond to climate change through a strengthened early warning and informational mechanism.

The fact that Gambian climate characteristics have changed in the last six decades is now beyond debate. Observed climate changes and variability in The Gambia are being expressed through a negative trend in rainfall since the late 1960s, and, persisting into the present, has placed tremendous pressure on natural resources and ecosystems. Observations have also shown changes to spatial patterns and temporal changes in rainfall in the last sixty years, including increased frequency of heavy rainfall above 50 mm/day, and a record number of lowest and highest rainfall years. Most of The Gambia is vulnerable to flooding. Trends in minimum temperature measured at Yundum and Basse, show respectively increases of 0.67 and 0.40 degree Celsius per decade in the average minimum monthly temperatures. Heat and high humidity threats are expected to increase.

The capacity to reduce disaster risk is recognized in the Bali Action Plan as an important adaptation to climate change. The internationally agreed Hyogo Framework for Action provides more specific guidance and identifies a number of priority measures for reducing risk; among these, establishment of early warning and climate information systems stand out as a priority in The Gambia. Globally, experience has shown that early warning can be a highly effective tool for saving lives and property in natural hazard events. Although the frequency of disasters has noticeably increased over the last fifty years, death tolls from disasters have declined, in large part owing to early warning systems and associated preparedness and response systems³. Early warning systems and allied climate information systems provide the basis for ensuring the sound technical information on hazard risk and vulnerability is conveyed in a timely, usable manner to the parties who need to take action. Strengthening climate change information systems ensures that institutions are better able to cope with the increased variability associated with climate change.

In The Gambia, in addition to early warning for extreme events, the need for strengthening these by integrating climate change information applications has been clearly identified. Climate information ranging from seasonal forecasts to longer term climate change projections need to be coupled with baseline social, ecological and economic information that indicate vulnerabilities in key sectors. Climate information is required for instance to monitor and respond to climate influenced diseases and health problems, design drainage infrastructure and support land-use planning. (Seasonal forecasts can be used to assist farmers to anticipate adverse climate conditions prior to the onset of planting seasons).

Effective people-centered and climate change adjusted early warning systems, require 1) Risk Knowledge, 2) Monitoring and warning services, 3) Dissemination and communication 4) Response capability. The Gambia's capacity gaps are apparent in each of these areas. In addition, the development of early warning systems and risk reduction measures are supported by the establishment of inter-sectoral mechanisms at the national and sub national level. Efforts are underway around the world to establish nationally owned risk reduction platforms as recommended by the UN Secretary General and the Hyogo Framework for Action on various tools. In the Gambia the policy baseline, 'The Gambia's Contingency Planning and Disaster Preparedness Strategy'⁴ does not adequately address these consequences of climate change, which this project will seek to address by introducing climate change information systems and broadening the stakeholder base to include those most affected by climate change..

The project approach then will be to strengthen the foundations for effectively monitoring, communicating and responding to climate related risks. This will address both urgent and immediate needs for addressing climate variability as well as longer-term capacities to respond to future climate changes. The project is structured around three components which address the four elements of effective people-centered early warning systems (Risk Knowledge, Monitoring and warning services, Dissemination and communication and Response

³ Report to the secretary general) <http://www.unisdr.org/ppew/info-resources/ewc3/Global-Survey-of-Early-Warning-Systems.pdf>

⁴ Njie, 1997

capability). A strengthened national disaster reduction coordinating mechanism is expected to play a key role in the development of the system and future risk reduction efforts that will be required supporting adaptation to climate change.

Component 1. Climate change information, monitoring and early warning systems

Without the GEF project: The existing networks in hydrology and meteorology operate basic equipment providing the existing historical records but inadequate for constant early warning and national geographical coverage. The incremental cost upgrading the capacity of the various networks is not large but important to avoid data gaps and which if continued for a long time, would render previous records useless, due to the lengthy period without records. Means of conducting regular inspections and maintenance on the equipment as well as for data verification and collection constitute an urgent necessity. Data on vulnerability and potential climate change impacts is currently not systematically used and managed. Under the CILSS⁵ AGRHYMET Programme, significant efforts were made to collect and analyze data from agriculture (both crops & animals), status of water resources, weather and hazards in a bid to provide decision-makers with advance information on risks to food security. Due to resource constraints this activity has not had the desired effect for quite sometime. This project will reactivate this useful component with links to regional centres in the region such as the Centre AGRHYMET..

Currently there is also an acute shortage of middle and senior level professionals, capable of transforming data in hydrology and meteorology into products that are useable by the local communities, whose livelihoods depend mainly on climate sensitive activities and the engineering and land use planning agencies making decisions that could reduce vulnerability. With increasing climate variability and climate change, the availability of senior level professionals constitute a major requirement for the weather and climate professions to contribute effectively to efforts to adapt to the impacts of climate change. Although the monitoring and analysis capacity is weak, The Gambia intends on maintaining the service (weather data generation, analysis, storage and use in formulating products and warnings in real time) once the capacity is established.

The GEF Intervention: The GEF additionality will build on the existing networks and expertise and will also address the additional needs in data collection specific to climate change, putting particular attention on climate related disasters and on strengthening the capacity for socio-economic analysis of climate change risk. This will include training senior-level hydrological and meteorological personnel to develop the skill sets necessary for data analysis and transformation into early warning information. Trained personnel will act as trainers for mid and entry level professionals internally to organisations or through educational institutions.

The main challenges which this project will seek to address include: Upgrading the capacity of networks; maintaining archives, including quality control and digitization of historical data; obtaining systematic social and environmental data for vulnerability analysis; Securing institutional mandates for collection and analysis of vulnerability data.

Component 2. Climate change information dissemination and communication to end-users/communities

Without the GEF project: A UN commissioned report in 2006 identified a number of gaps in early warning systems which are concurrent in The Gambia. These include information communication and response capabilities as well as the scientific and data foundations of early warning systems, weak in almost all of sub-Saharan Africa in particular. Perhaps the most important reason for people failing to heed warnings is that the

⁵ Committee Permanent Inter-Etats de Lutte Contre la Secheresse

warnings do not address their values, interests and needs. Messages are often not sufficiently targeted to the users and do not reflect an understanding of the decisions stakeholders need to make to respond to the warning. Individuals may perceive the warning as irrelevant or find it impossible to heed, for example because they are reluctant to abandon the assets upon which livelihoods depend, such as livestock, or that have personal importance, such as belongings. Furthermore, most warnings are delivered to the whole population through the media and are not tailored to the needs of individual groups⁶.

The GEF Intervention: Professionals in weather, climate and hydrology would learn to produce information products to meet the planning and operational needs of the various user groups in the country and to ensure that urgent warning information goes the “last-mile” to reach all vulnerable populations in a timely manner. Partnership with the various national and regional technical institutions involved in socio-economic development, including Community Based Organizations such as the National Farmer's Platform, Fishing Associations in landing sites, etc. would ensure that climate information would reach the local communities and used as a development tool.

Capacity building sessions on the production and interpretation of weather, climate and hydrological information would be held with the various user-groups (sector of activity) in order to ensure understanding and use of the information. Appropriate and effective means of disseminating the various information products to the various user-groups would be developed and implemented.

Implementation of a number of demonstration activities would also be designed to identify best practices in risk communication and use and be used to improve on the design of information and early warning protocols. This component will essentially focus on improving the response capacities of end users to respond to information on climate change as a preventative measure.

Component 3. Institutional capacity for climate change policies and protocols.

Without the GEF project: Without this project, climate change trends may be observed generally but without proper communication, this knowledge will not translate into timely reactions by affected parties or appropriate planning. Further, analytical information such as this must necessarily be translated into policy relevant advice in order to be effective and this capacity is currently lacking.

The current system in place is ineffective because warnings depend on their timely and effective dissemination to all at risk, particularly through operational telecommunication systems but also through non-technical social networks. The latter are very important in poor communities that lack technological communications. Effective dissemination requires the establishment of a chain of command in advance in order to manage warning issuance and dissemination and ensure that the information provided can be understood by those who need it and reaches all locations affected in the country. This project will address the institutional capacity required for improved management of climate change information systems. Currently, there exists no systematic use of climate change vulnerability information in developing policies and their implementation plans. This can inadvertently increase vulnerability.

Infrastructure and planning will continue to use old design factors or over design without the availability of risk assessments. Risk assessment will need to be an ongoing activity as experience and better information accrue. Maladaptive practices will continue and vulnerability will increase, putting investments at risk as well as human livelihoods and personal safety. The project will establish a public private platform for coordination between the private sector and government bodies to ensure improved planning and policy observations.

The GEF Intervention: The project will reinforce existing regulations, laws as well as build institutional capacity to manage climate risks and factor these in to planning and zoning decisions. The additionality of the

⁶ UN-ISDR, 2006. Global Survey of Early Warning Systems.

GEF project will be to improve the capacity to apply knowledge of climate change to various user groups to catalyse changes in maladaptive policies and practices.

This will be achieved through a number of steps: Relevant policies will be reviewed for climate sensitivity and their revisions developed to factor in climate change adaptation needs. This will include encouraging greater preventative planning and policy level decision making to pro-actively reduce vulnerability. This component will be related to those above to ensure coherence between government policies, community needs and links between science and policy. This will be accompanied by training and awareness raising of above stakeholders and the establishment of a public-private platform for risk management to engage private sector in climate proofing.

B. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH NATIONAL PRIORITIES/PLANS:

Current government efforts are highly geared towards eradicating poverty and achieving the Millennium Development Goals. The outcomes of these efforts are significantly influenced by the state of the climate, as most human endeavours rely on the climate resource. Additionally, the lack of consideration of climate change in current national planning, which can be attributed to knowledge gaps (absence of required datasets in relevant sectors) on the impacts of climate on socio-economic development, would be addressed.

Ten priority projects were presented in The Gambia's NAPA and endorsed by the National Government at the level of Secretary of State. A fairly innovative approach was taken in that a number of cross-cutting objectives for each project were identified. Each project will consider:

- Impairment of ecosystem goods and services
- Amplification of adverse effects of climate change by human factors
- Food security and sustainable livelihoods
- Poverty reduction and equity
- Technology acquisition, innovation, and diffusion
- Infrastructure design
- Inadequate strategies for dealing with moving target (incremental effects of climate change).

It was decided that the NAPA projects should therefore build a set of adaptive capacity building measures including:

- 1) Public awareness building on climate change, development, and livelihood issues;
- 2) Enhancement of technical and managerial capacities of implementing agencies, beneficiaries (artisans, technicians, engineers, civil society organizations) and extension workers;
- 3) Participatory planning and implementation;
- 4) Planning for provision, construction and upgrading of physical assets essential to the reduction of sectoral vulnerabilities;
- 5) Awareness of new/alternative technologies and production methods; and
- 6) Institutional re-alignments and mainstreaming of adaptation.

C. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH LDCF/SCCF ELIGIBILITY CRITERIA AND PRIORITIES:

This project is developed in line with the LDC Expert Group guidelines, and fits within the framework of the Programming Paper for Funding the Implementation of NAPAs approved by the GEF Council.

The project conforms to the three principles of the LDCF: a) Country-drivenness: the project is in line with

- a) the goals and needs of the Department of Water Resources, the technical departments of the National Agricultural Development Agency responsible for Agricultural Services, Planning, Livestock Services, as well as the National Environment Agency and Local Government Authorities, as described in the above section;
- b) implementing NAPA priorities: The Gambia has finished its report on National Adaptation Programmes of Action to climate change, "NAPA", in conformity with the guidelines prepared by the Least Developed Countries Groups of Experts (LEG) and adopted by the November 2001 Assembly of the Conference of

Parties to the United Nations Framework Convention on Climate Change (Decision 28/CP.7). This project seeks to implement the second priority identified as urgent and immediate needs; and

- c) supporting a learning-by-doing approach: the project will use the pilot projects to demonstrate improved response mechanisms to climate change warning and will emphasise training and learning in each component. This will include generating evidence on the cost effectiveness of building institutional adaptive capacity as is proposed in this project. This will develop the case for policy and budgetary adjustment to ensure greater sustainability. The project is designed to complement other ongoing and planned projects and programmes without duplicating them and to build on the existing systems in place.

D. OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES:

A number of climate scenarios and methodologies were also tested through the UNEP GEF project for the Assessment of Impacts and Adaptation to Climate Change (AIACC) project. Lessons, tools, and climate predictions will be drawn from a number of the regional assessments recently completed including:

- Development of Regional Climate Change Scenarios for Sub-Saharan Africa
- Assessing Global and Regional Climate Change Scenarios for West Africa
- Capacity Building in Analytical Tools for Estimating and Comparing Costs and Benefits of Adaptation Projects in Africa

In 2005 and 2006, a flurry of activities related to early warning systems were developed in response to the Asian tsunami though climate scientists have been promoting their necessity for years. This project will seek linkages and to draw from the experience of other programs such as the UNISDR and its International Early Warning Programme through UNEP's Disaster Reduction Division.

Further, the UN Inter-Agency Task Force for Disaster Reduction (IATF/DR), at its 11th session, May 2005, established a Working Group of agencies working in this area. The Working Group was co-chaired by the World Meteorological Organization (WMO) and the Office for the Coordination of Humanitarian Affairs of the United Nations Secretariat (OCHA) and included the International Telecommunication Union (ITU), the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), the United Nations Educational, Scientific and Cultural Organisation (UNESCO), the United Nations Human Settlements Programme (UN-HABITAT), the United Nations Institute for Training and Research (UNITAR), the United Nations University Institute for Environment and Security (UNU-EHS), the Asian Disaster Preparedness Center (ADPC), the IGAD Climate Prediction and Applications Centre (ICPAC), the Global Fire Monitoring Center (GFMC), and the International Federation of Red Cross and Red Crescent Societies (IFRC). Synergies through this working group will be sought.

E. DESCRIBE ADDITIONAL COST REASONING: Without the GEF intervention, climate change would continue to be an elusive challenge in the minds of the majority of local communities and even decision-makers. Efforts must therefore be deployed to provide the opportunity to harness the climate resource and to reduce the risks associated with its negative impacts.

Cost effectiveness was a criteria used in identifying priorities during the NAPA preparation process which ensures this quality in this priority project. Further, the priority was selected because of its far reaching and catalytic role in effecting changes in a number of sectors. The project will be building on the existing infrastructure and systems in place but will enhance it and adapt it to the needs posed by an increasingly erratic and unpredictable climate.

The additionality for each project component has been described in section A above and will be further elaborated during the project preparation phase.

F. INDICATE THE RISK THAT MIGHT PREVENT THE PROJECT OBJECTIVE(S) FROM BEING ACHIEVED AND OUTLINE RISK MITIGATION MEASURES:

Risk 1. Warning services are limited because there are no formal institutional structures with requisite political authority to issue warnings. This situation is partly due to limited understanding of the true nature of early warning and reluctance of governments to grant the political authority that goes with warning responsibility. Warning communication often fails as a result of weak inter-personal and inter-agency relationships, including between early warning services and response units and other sectors. There is often a disconnection between key technical agencies and the authorities for effective exchange of technical information and hazard warnings. This reflects a lack of clarity regarding the role played by each agency in the chain of warning dissemination. Agencies may fail to issue warnings when necessary thus losing public trust and leading to lack of response by the public.

The executing agency has the mandate on climate early warning systems and has in the past established strong partnerships with the technical departments under the Ministries responsible for agriculture and national planning to ensure adequate buy-in. This collaboration would be further strengthened during the project implementation phase.

Risk 2. The project implementation would require actors at the various levels in the country, both within and outside government and therefore efficient coordination, coupled with the need for responsiveness on the part of all actors at the appropriate time would be highly necessary.

Adequate sensitization of the various stakeholders involved coupled with appropriate support from the policy level would significantly reduce the above risk.

Risk 3. Knowledge on the weather, climate and status of water resources requires inputs beyond national boundaries and the use of remote sensing outputs, which are beyond the control of the national authorities. With appropriate funding, avenues other than the WMO GTS for obtaining data would be explored and climate monitoring at national level would be strengthened.

Risk 4. Although extreme climate events such as drought, flooding and windstorms are not new to communities, providing the magnitudes of the events will prove challenging. Possible means of overcoming this challenge might be to use 'now-casting' during critical weather periods.

Risk 5. Poor interpretation and use of climate products by end-users should be expected as both the information providers and users struggle to contain the various challenges in this undertaking. Feedback fora, would help reduce the number and duration of such events.

G. DESCRIBE, IF POSSIBLE, THE EXPECTED COST-EFFECTIVENESS OF THE PROJECT:

This project will generate data/information on the state of the climate system and encourage the impacted sectors to also generate data, particularly with regard to the interaction of the climate with the sector. The results would provide the required data sets for accurate and relevant climate impact studies as well as enrich the national climate database, used for purposes of monitoring climate change. The project builds on UNEP implemented adaptation activities in the region (AIACC) including the impact scenarios and science capacity building in the region.

Also, plans to harness the opportunities from the climate system would certainly provide economic benefits to the stakeholders in the user-sector of focus. Risks posed by climate hazards would also be minimized and all of these constitute significant economic gains arising from the implementation of this project. Planning land use to avoid inundation and designing drainage and water flow systems to manage floods are highly cost effective in comparison to damage recovery and repair of systems after the fact.

H. JUSTIFY THE COMPARATIVE ADVANTAGE OF GEF AGENCY:

This programme is proposed under the framework of the UNEP/GEF adaptation strategy for the Least Developed Countries Fund (February 2007) and subsequent pipeline discussions. This project is also

consistent with UNEP's comparative advantage as identified through the GEF Council paper on the subject. Climate change and disaster risk reduction are two of the priorities identified as UNEP's priorities in the coming years. Under UNEP's Medium Term Strategy the Climate Change Adaptation expected accomplishments include the generation of relevant science for improved decision making and planning, which is aligned to the objectives of this project.

The science and technical analysis aspects in regards to the early warning system and the interpretation of climate projections into risk factors are activities that are of particular interest to UNEP through the Division of Early warning and Assessment (DEWA). Through DEWA, UNEP can link to its activities at the IPCC, to the Global Climate Observing Systems (GCOS), to the World Meteorological Organization as well as the Environmental Outlook for Africa. Also, a second phase of AIACC recently approved will also provide updated assessment work that this project could build on. Further, a joint UNEP/UNDP partnership program currently funded by the Danish government is developing information, data and capacity for mainstreaming climate change adaptation into development planning. This NAPA follow-up project will draw on lessons learned from this program.

The project will benefit from UNEP's partnership with the UN- International Strategy for Disaster Reduction (UN ISDR) networks to encourage learning and build on existing systems. UN ISDR will be brought on as a partner to emphasize the project's focus on urgent and immediate needs, which is the objective of the NAPA process.


PART III: APPROVAL/ENDORSEMENT BY OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT(S) ON BEHALF OF THE GOVERNMENT:

(Please attach the [country endorsement letter\(s\)](#) or [regional endorsement letter\(s\)](#) with this template).

<i>Momodou B. Sarr</i> <i>Executive Director</i> <i>GEF Focal Point</i>	Date: 6 June 2008
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B. AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies and procedures and meets the LDCF/SCCF criteria for project identification and preparation.	
 Maryam Niamir-Fuller GEF Agency Coordinator Director, UNEP Division of GEF Coordination	Liza Leclerc Liza.Leclerc@unep.org +254 20 7623113 Project Contact Person
July 30, 2008	