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**Links Between Disaster Risk Reduction, Climate Change
Adaptation and Sustainable Development: The Case of The
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**LINKS BETWEEN DISASTER RISK
REDUCTION, CLIMATE CHANGE ADAPTATION
AND SUSTAINABLE DEVELOPMENT:
THE CASE OF THE GAMBIA**

**Discussion Paper prepared for the National Disaster Management Agency
Office of the Vice-President, Republic of the Gambia**

by

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I INTRODUCTION

Background and Purpose

This paper explores policy and institutional issues concerning disaster risk reduction¹ and climate change adaptation² in the Gambia. The paper also presents guidelines for policy formulation and the design of programmes and projects that can be implemented by the Gambian authorities, including with the cooperation of international and local development partners, to reduce risks and vulnerabilities to natural disasters and the effects of climate change.

The purpose of the paper is provide the basis for policy discussion regarding ways to integrate disaster risk management and adaptation to climate change, within the overall framework of national development and poverty reduction plans as outlined in the Gambia's Vision 2020. The paper is also intended to provide inputs towards the Gambia's contribution to both the **Second Session of the Global Platform for Disaster Risk Reduction (Geneva, June 2009)**, organized under the auspices of the United Nations International Strategy for Disaster Reduction of the United Nations (ISDR), and the **15th Conference of the Parties to the United Nations Framework Convention on Climate Change (Copenhagen, December 2009)**, which will adopt a successor to the Kyoto Protocol. The participation of the Gambia at these two important international meetings relating to environmental disaster provides an opportunity for the country to join other developing countries and the international community to mobilize support for the integration of risk and vulnerability reduction to disasters and climate extremes into

¹ Disaster risk reduction is conceptualized in the International Strategy for Disaster Reduction (ISDR), a United Nations global strategy, in terms of policies and practices that help protect nations and communities from the threats of disastrous events of both natural and anthropogenic origin, such as floods, droughts, earthquakes, etc., and to build a "culture of prevention" in society as part of sustainable development. [ISDR, *Global Platform Global Platform for Disaster Risk Reduction*. See also ISDR, *The Hyogo Framework for Action*]

² The scientific-oriented Intergovernmental Panel on Climate Change (IPCC) defines *climate change* as "a change in the state of the climate that can be identified...by changes in the mean and / or the variability of its properties that persists for an extended period, typically decades or longer." [IPCC, *Fourth Assessment Report, Working Group I, Glossary of Terms*]. The political and policy-oriented UNFCCC defines *climate change* as the change in climatic conditions that can be attributed "directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods" [UNFCCC, *Article 1, Definitions*].

contemporary development policies and programmes at national, regional and global levels.

The paper makes reference to the Gambia's more recent experiences of risks and vulnerabilities to hazards, such as droughts, floods, environmental degradation, locust infestations and epidemics and their impacts on sustainable development; the catastrophic effects of disasters on the lives of the population, their livelihoods and properties; and efforts by the authorities to manage disasters, to illustrate the need for links between disaster risks, the effects of climate change, and sustainable development at both the policy and operational level. On the basis of these experiences, and taking into account the challenge posed by inter-linked environmental problems to the country's development prospects, it is proposed that disaster risk reduction and climate change adaptation should be integrated *institutionally* and mainstreamed into national development and poverty reduction agendas. Such an integrated approach to the management of risk and vulnerability to environmental hazards should provide an effective and functional basis for promoting *proactive* and *sustainable* responses to disasters of natural and anthropogenic origin.

Location and National Circumstances

The Republic of the Gambia lies on both sides of the Gambia river, made up of a narrow strip of land about 400 km. long and 30 km. wide. About 2 million people occupy this relatively small land space, which makes the Gambia one of the most densely populated countries in Africa with about 150 persons per square km. The Gambia is a tropical country on the west coast of Africa and exposed to the Atlantic ocean; this geographical location contributes to a relatively high humidity the all year round. Average temperature is about 28 degrees Centigrade and average rainfall is about 870 millimeters per annum. The vegetation of the country varies from mangrove swamp on the coast and river banks to coastal rain forest and tropical dry forest inland.

A significant proportion of the Gambia is flat and low-lying terrain. The fact that the land area is almost entirely surrounded by water (the Gambia river and the Atlantic ocean),

increases the risk to the impact of floods and rise in water level. It is projected that a one metre rise in sea level could inundate about 100 square km. of low-level coastal plain, including the whole of the capital city of Banjul. The Gambia is also effectively part of the arid Sahel zone situated between the Sahara Desert and the coastal rain forest, which makes the country vulnerable to periodic droughts.

Over the past quarter of a century, the Gambia has been affected by a series of disasters with varying destructive impacts on life, livelihood, property and infrastructure. These disasters have included the serious drought of 1980 which affected about half of the country's population at the time; significant floods in 1999, 1996, 2001, 2007 and 2008; coastal storms in 2003, 2004 and 2008; an epidemic outbreak in 1997 which affected about a thousand people; and recurrence of locust infestations. Gambia's location and low-lying coastal population centres have made the country particularly vulnerable to seasonal flooding; there have been over 60 flood-related disasters in the various parts of the country since the year 2000.

II KEY CONCEPTUAL ISSUES

The Link between Disaster Risk and Climate Change

Disasters are not new to human experience. For a long time in human history, disasters were linked to natural hazards and regarded as 'act of God', and people resigned themselves to their fate. This perception underlines the strong emphasis that had been given in disaster management to *reactive* actions (i.e. responding to disaster), rather than to *proactive* policies and programmes (i.e. preparedness and prevention of disaster). More recently, the realization that disasters also arise from man-made hazards and human vulnerability has gained increased prominence on global and national development agendas. This has led to a wider conceptualization of disaster management, with more attention given to action to address factors that make societies and communities vulnerable to hazards in the first place. The linking of disaster with man-made events has been most pronounced in the context of climate change and its impacts. Increased

awareness about climate change has become the main driver of the increased urgency of disaster risk reduction efforts.

Disaster risk reduction and climate change have occupied separate policy spheres in the international arena, and usually also at national levels, despite the fact that the two are inter-linked and overlap at all levels. In recent years, there are encouraging signs of a convergence of the two the spheres: both the disaster risk and the climate change communities at the global level are now engaged in each others discussions, offering concepts and methods for integrating the two environmental concerns. Conceptually, there is a need to *link disaster management strategies and programmes with climate change adaptation decisions and actions*. Operationally, this can be done through the *integration* of the two inter-linked spheres of environmental and human development interest within the common framework of national development policy and planning. In a resource-poor and least developed country like the Gambia, it is also equally important to recognize the link between human vulnerability to the risk of climate change-related disasters, on the one hand, and poverty conditions, on the other. Hence, the need to *incorporate poverty reduction measures into both disaster risk reduction and climate change adaptation efforts in an integrated manner*.

It can be argued, strictly speaking, that natural hazards by themselves do not cause disasters. It is the combination of exposure, vulnerability and ill-preparedness of nations and communities to deal or cope with hazard events that results in disasters. For example, the effects of an earthquake of similar seismic implosion on life and property could be vastly different between a community that is well prepared and secured in terms of the nature and structure of buildings and emergency capacity, on the one hand, and one that is ill prepared and poorly equipped, on the other. Similarly, coastal communities that are safeguarded by provision flood walls and levies are likely to be less affected by rising water levels than those that are less protected. A key consideration in disaster risk reduction, therefore, concerns the abilities of nations and communities to cope with existing levels of hazards and risks of exposure to disasters.

The link between climate change and disaster risk can be established through two main pathways:

- (1) through weather extremes and hazardous climatic conditions; and
- (2) through increases in the vulnerability of people and communities to the effects of climate change.

Disaster risk reduction and preparedness systems should therefore pay attention to the increase in hazards expected to arise from climate extremes / global warming, as well as human vulnerability to climate change-related risks such as infectious diseases, water shortages, food insecurity, population displacement and forced migration and ecosystem degradation. Through these pathways and impacts, climate change-related disasters can undo decades of development efforts and reduce gains in poverty reduction.

Conceptually, disaster risk reduction (DRR) is the framework of strategies, policies and practical elements that are required for the purpose of reducing human vulnerabilities and minimizing disaster risks in a society, in order to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazard events. In this regard, DRR should be addressed as a *cross-cutting and development issue*. When linked with climate change adaptation, the process of DRR can be a complex one, consisting of political, institutional, technical, financial and participatory issues, among others.

Linking DRR with climate change and development therefore requires the existence of *integrated mechanisms at national level* to coordinate multi-sectoral policy issues and action programmes; to ensure that strategies and policies are communicated to and acted upon at the local/community level; and to disseminate information and report on progress to the population, international development partners and the UN and international community. It may be necessary to develop and strengthen existing national institutions and mechanisms, in order to build capacities for boosting resilience to natural and man-made hazards.

Integrating Disaster Risk Reduction in Poverty Reduction

Disasters and climate extremes are combining with other development-related challenges, such as food insecurity, fragile environmental conditions, conflict, high unemployment and rapid urbanization, to further increase the vulnerability of the poor and marginalized populations to risks and reduce their capacity to cope with disasters. The devastating impact of natural and man-made hazards on the poor can destroy their ability to sustain a livelihood of any sort. The Gambia, as a country that is exposed to environmental risks and one of the UN-designated least developed countries, is faced with such a dilemma. It is therefore important to link disaster risk reduction with poverty reduction strategies and programmes in the Gambia. Sustaining and protecting livelihoods of the poor and marginalized in a situation of disaster is an effective way to help tackle poverty. This reinforces the link between activities that reduce disaster risks with poverty reduction initiatives – a link which is vital for the achievement of sustainable development goals, such as the Millennium Development Goals (MDGs), at national and community levels. Gambia's capacity to manage risks and disasters, to respond effectively and quickly when disasters strike, and to contribute to post-disaster rehabilitation efforts should be reinforced, so as to ensure the ability to analyze and address the link with poverty and to take advantage of the opportunity that exist in the disaster management process to have a positive impact on poverty reduction.

Gender Perspectives in Disaster Management

In many developing societies, such as the Gambia, women make a sizeable and disproportionate contribution to livelihoods both in the household and the community. This contribution is in terms of their labour inputs, organizational skills and other components of human resource capacity which are used to secure food, water, and energy for cooking, etc. Natural and man-made hazards put women and their inherent resource capacity at risk. When disasters disrupt the functioning of societies and communities, and devastate homes and family lives, significant losses occur with respect to the resources used by women to support livelihoods. Women's roles and responsibilities in households and communities, and as custodian of vital natural resources required to sustain livelihoods, put them in an advantageous position to develop strategies for managing and

adapting to disasters and climate extremes at households and community levels. Yet in many developing country settings, women are still marginalized and excluded from participating in development planning decision-making processes, especially at the community level where the impact of environmental factors are direct and greatest. When recognized and supported, women can contribute effectively to disaster preparedness and response efforts at the community and national levels. Without the participation of women, and their valuable experiences of natural resource management, disaster risk reduction and climate change adaptation initiatives and strategies will not be meaningful with respect to the entire community and nation in developing countries.

The Challenge for Resource-poor and Least Developed Countries

A resource-poor country like the Gambia could be disproportionately affected by disasters the current and future effects of climate change, because of intrinsic vulnerabilities to hazards and comparatively low capacities for implementing risk reduction measures. Furthermore, in such a setting, major disaster events, whether hydrological, meteorological or climatic in nature, could have catastrophic effects in terms of economic losses and humanitarian tragedies. Losses and the costs of reconstruction and resettlement of people in financial terms could account for a sizeable proportion of or even exceed the total national income of the country.³ The already precarious situation of resource-poor and least developed countries could be further compounded by the problems of widespread poverty in the population, which increase vulnerability, weaken institutions and reduce effectiveness for responding to the impacts of climate change and natural disasters.

Given, as mentioned above, the complexity of the process of DRR when linked with climate change adaptation and sustainable development, the process of disaster management will require coordination of national efforts involving a variety of stakeholders (e.g. various government sectors, representatives of civil society including academic institutions, the private sector, the media, etc.) and policy-making at a very high level of government. The allocation of the responsibility national disaster

³ Losses incurred by the small Caribbean island of Grenada due to Hurricane Ivan in 2004 were estimated at nearly US \$1 billion or more than double its GDP.

management to the Office of the Vice-President in the case of the Gambia aptly illustrates this point.

III DISASTER AND CLIMATE RISK REDUCTION IN THE GAMBIA

Existing National Policy and Institutional Context

The Gambian Government has given more attention, in terms of raising public awareness, political commitment and national policy and action, to disaster and climate risk management than many other African countries. This might have to do, in part, with the fact that the country's geographical location and human settlement patterns put at greater risk to environmental hazards than many other countries in the region. But, at the same time, the level of commitment and efforts by the Government to put in place institutional structures and arrangements and mobilize people and resources to address disaster risks and climate change effects are noteworthy, particularly given the limited resources of the country. Responsibility for disaster risk reduction is entrusted to the Office the Vice-President, which gives the process a 'heavy weight' status in the machinery of government and underlines the importance attached to disaster management and preparedness in national development. The pivot of the disaster management system in the Gambia is the **National Disaster Management Council (NDMC)**, which is chaired by H.E. the Vice-President, Dr. Ajaratou Isatou Njie-Saidy, and which coordinates disaster management activities across sectors at national level. Membership of the Council includes the Secretaries of State (Ministers) of all the major sectors (finance and planning, health, forestry and the environment, education, agriculture, etc.). The Council is serviced by a technical secretariat, the **National Disaster Management Agency (NDMA)** which is located within the Office of the Vice-President and headed by an Executive Director. The location of the disaster management programme in such a high office of state, and the personal involvement of the Vice-President herself in the execution of the programme, is an indication of the Government's determination to deal with disaster management as a development imperative and priority.

The NDMA places a high priority on preparedness and prevention, rather than just on post-disaster rescue, relief and rehabilitation activities. Furthermore, the Government approaches disaster management as a people-centred process and, in this context, has made provision for NGOs and civil society organizations at national and community levels to contribute effectively to disaster management in the Gambia. In addition, the policy and practice of national disaster management in the Gambia are grounded on relevant international and regional conventions and protocols, some of which the Gambia is a signatory. Every effort is made by the Government to harmonize key elements of national legal and policy framework with international standards and practices. Both the '*National Disaster Management Policy*' (April 2008) and the '*Strategic Action Plan, 2008-2011*', developed and executed under the auspices of the NDMA, have demonstrated an acute awareness by the government of the need to institutionalize disaster risk reduction approaches and strategies as important components of overall national development planning in line with Government's 'Vision 2020'.

The risk and recurrence of disaster events in the Gambia underline the importance and attention attached by the Government and its international development partners to disaster management in development planning. In this regard, priority is placed on disaster prevention and preparedness as the fulcrum of disaster risk reduction. In the broader context of the National Disaster Management Programme, investments in disaster prevention should be seen as savings in expenditure on future disaster relief and rehabilitation. The National Disaster Management Policy of the Gambia therefore promotes disaster prevention culture through access to knowledge and information both in the formal and non-formal educational systems, as well as through the activities of community-based organizations.

International Context

The realization by the Gambia that its people and economy are vulnerable and at risk to both natural and man-made hazards, with potentially high human and financial cost implications, has led the Government to embrace various disaster risk reduction initiatives within the UN system and the international community. At the UN, the

Gambia supports the **International Strategy for Disaster Reduction (ISDR)**, which was launched in 2000 following the adoption of UN General Assembly resolution which marked the culmination of the International Decade for National Disaster Reduction in the 1990s. The launching of the ISDR coincided with the adoption of the Millennium Development Goals (MDGs) at the UN Millennium Summit, and both instruments are regarded as complementary insofar as reduction in disaster risk and vulnerability to hazards is regarded as a requisite for the eradication of extreme poverty as called in the MDGs.

The Gambia sees itself as a part of the coalition of governments, UN agencies, regional organizations, NGOs and civil society organizations which make up the ISDR system. The Gambia recognizes the ISDR as the main organ within the UN system for promoting disaster risk reduction and for working with member states to reduce disaster losses in lives and in social, economic and environmental assets on nations and communities. The ISDR was at the centre of the UN World Conference on Disaster Reduction which was held in Kobe, Japan, in 2005, and which adopted the *Hyogo Framework for Action 2005-2015*. The Hyogo Framework presents guidelines to reduce vulnerabilities to environmental hazards and outlines the means to assist national efforts towards greater resilience to hazards that threaten development gains. Cognizance has been taken by the Gambian Government of the provisions of the Hyogo Framework in the formulation of the country's National Disaster Management Programme, including and the 'National Policy' and the 'Strategic Action Plan, 2008-2011'. *The Gambia's continued involvement in the ISDR system will help to ensure that disaster risk reduction remains a national and local priority in the country's quest for sustainable development, as well as provide assurance regarding access to technical and material resources to support a strong institutional basis for implementing the policies and strategies of the country's National Disaster Management Programme.*

The **Global Platform for Disaster Risk Reduction (GPDRR)** is the main global forum through which stakeholders of the ISDR partnership system meet and discuss progress and challenges in the implementation of the Hyogo Framework for Action. The first

Session of GPDRR was held in Geneva in June 2007. *The second session will take place in Geneva, 16-19 June 2009, and the Gambia will be attending and represented by a delegation led by H.E. the Vice-President.* This event has been preceded by the launching of the first *Global Assessment Report on Disaster Risk Reduction* in Bahrain on 17 May 2009. The 200-page Global Assessment Report is a collective effort of the ISDR partnership, which, in addition to the ISDR secretariat, includes the UNDP, World Bank, UNEP, WMO, WHO, UNESCO, IPCC, UNFCCC and regional inter-governmental and technical institutions, etc. The Government of the Gambia will make use of this report and other ISDR-sponsored publications to obtain insights into best practices worldwide and how to replicate lessons from these as appropriate. *The Gambia's participation at the second GPDRR will provide an opportunity for the country to share experience on disaster risk reduction and management approaches and strategies, and to obtain guidance and assistance within the framework of the ISDR system toward the implementation of the Hyogo Framework for Action.*

Integrating Climate Change Adaptation with Disaster Risk Management

Both disaster risk reduction and climate change initiatives in the Gambia are focused on development impacts in terms of policy and practice. Key challenges in both disaster management and climate change adaptation in the country relate to making adjustments in all sectors to reduce vulnerability and risk to hazards and to mitigate current impacts. These challenges also reflect the urgent need for and the commitment of the Government to continued improvement in the lives of the poorest segments of the population, in accordance with the aim of achieving the Millennium Development Goals. The agendas of both climate change and disaster management in the Gambia are in common linked with poverty reduction and the quest for sustainable development overall.⁴ *There is thus a strong case for integrating climate change adaptation activities within the overall framework of the multi-sectoral National Disaster Management Programme that is located in and coordinated by the Office of the Vice-President.* The composition of the

⁴ See Department of State for Forestry and the Environment, *Climate Change in the Gambia* (Banjul, not dated) ; Office of the Vice-President, State House, *National Disaster Management Policy, The Government of the Republic of the Gambia* (Banjul, April 2008) and idem., *National Disaster Management Programme: Strategic Action Plan 2008-2011* (Banjul, April 2008)

National Disaster Management Council, as already stated, includes the Secretaries of State Secretaries of Forestry and the Environment (which handles climate change issues), Finance and Economic Affairs, Local Government and Lands, Health and Social Welfare, Agriculture, Defence, and Interior – as well as representatives of civil society and the private sector at local and community levels. The NDMC is thus an appropriate institutional arrangement for incorporating climate change with disaster management.

IV RECOMMENDATIONS

The following points are proposed as recommendations for the Office of the Vice President to consider. They are aimed at policy-makers and relevant institutions concerned with disaster management, climate change and development.

1. Within the existing institutional framework of the National Disaster Management Council, chaired by H.E. the Vice-President, the national policy and activities outlined in the *National Disaster Management Programme, Strategic Action Plan, 2008-2011*, should be reviewed in the light of the need and practicality for incorporating issues of climate change adaptation. If necessary, a *new* council reflecting this combination of disaster management and climate change adaptation could be established; a possible name for this new council could be: ‘**National Disaster and Climate Risk Management Council**’. At the same time, the technical capacity of the National Disaster Management Agency (renamed the ‘**National Disaster and Climate Risk Management Agency**’), which is of the Council, should be strengthened to enable it to address ‘disaster management’ in the context of a wider conceptualization that includes climate change hazards and impact on bio-diversity and the ecosystem. The Department of Forestry and the Environment, which is presently handling climate change adaptation, should have an important role in the implementation of the reconstituted National Disaster and Climate Risk Management Agency. An expansion of the mandate of the national disaster management institution to include climate change adaptation, as suggested above, would imply that the institutional relationship between the present National Disaster Management Council and the National Environment Council should be clarified and streamlined to avoid overlaps and duplications.

2. The Gambia should finalise its a multi-stakeholder ***National Platform for Disaster Risk Reduction (NPDRR)*** within the framework of its National Disaster Management Programme, based on the guidelines for NPDRR provided by the ISDR Secretariat. This National Platform should serve as the national mechanism for awareness creation and advocacy of disaster and climate risk reduction at all levels (national and local within the country, and regional and international outside the country). The National Platform will serve to reinforce the coordination and policy analysis roles of the National Disaster Climate Risk Management Council chaired by H.E. the Vice-President, and also to facilitate the integration of disaster and climate change issues into sustainable development strategies and policies envisaged in Vision 2020, as well as into multilateral and bilateral aid policies and programmes.

3. The existing national ‘Early Warning System’ (EWS) used by the Government for providing advance signals of impending disaster events and hazards should be reviewed and upgraded, and its capacity should be strengthened to include ability to analyze regional and global situations and trends and the potential implications for the country. The scope of the EWS should be broadened in operational terms to address the root causes of disasters by linking ‘warning’ with ‘response’, within the overall framework of the proposed integrated national disaster and climate risk management; the system could then be renamed: ***‘Early Warning and Response System’*** (EWRS). The EWRS should also fulfill awareness-raising function as part of risk reduction and as an essential element of strategies and programmes for adaptation and development. The capacity for the EWRS should be expanded to cover periodic *evaluation* of policy and programme implementation [and lessons learned], if this is not already provided for. The EWRS should focus beyond the risks of disaster and climate change to include also the *potential opportunities* created by disaster management and climate change adaptation for achieving longer-term sustainable development.