United Nations System
Chief Executives Board for Coordination

Advancing work on adaptation to climate change
A UN system perspective

Policy Brief

Summary

- Adaptation is the foremost priority for the poorest nations, which have contributed the least to the emergence of climate change but suffer from limited adaptive capacity and are generally situated in areas most susceptible to climate impacts.

- Vulnerable countries and peoples, as well as the poorest segments of populations within all nations, are the ones most in need of urgent, targeted and effective adaptation action to save lives, livelihoods and life-supporting systems.

- Empowering individuals, communities and countries to cope with climate change impacts, in particular strengthening the adaptive capacity of the poorest, must go hand-in-hand with progress towards sustainable development in all its economic, social and environmental aspects.

- The United Nations system is committed to supporting Member States in responding to the climate change adaptation challenge by delivering as one at the global, regional and country levels on the basis of its convening, normative and advocacy role, its sectoral expertise, and its operational and coordination capabilities, in partnership with all relevant stakeholders.

- The UN system's work on adaptation is built on key mechanisms, through which the UN system brings its expertise to bear in support of Member States, especially developing countries namely: support for adaptation planning and implementation; knowledge sharing; building partnerships; and integrated data collection and analysis; all of which are outlined in this brief.

- The brief also presents the UN system's unique expertise for adaptation planning and implementation in areas such as: food security and sustainable natural resource management; disaster risk reduction and risk management; health and nutrition; gender perspectives; education; and employment.

I. INTRODUCTION

Overview

This policy brief is a collective product of the UN system agencies, funds, programmes and regional commissions that have come together under the UN System Chief Executives Board for Coordination (CEB) Climate Change Action Framework to support Member States in addressing climate change in all its aspects. It is a tangible manifestation of the UN system's commitment and ability to assist countries, in particular developing countries, in adapting to the impacts of climate change while tackling poverty and achieving sustainable development for their peoples. More specifically the brief aims to demonstrate that the UN system is responsive to the needs of Member States for priority action on adaptation; has the capacity to deliver, in terms of expertise and mechanisms, and already has a number of achievements/good practices to showcase; and is improving the alignment of its strengths to assist with the implementation of further mandates that may emanate from Copenhagen and its aftermath.

Part I of the policy brief underlines the imperative of action for adaptation to climate change in the context of sustainable development, in particular for developing countries, and refers to the body of multilateral mandates which form the basis of the UN system's support to Members States in their adaptation efforts.

Part II is dedicated to key mechanisms through which the UN system brings its expertise in support of Member States, especially developing countries. These mechanisms are:

- Support for adaptation planning and implementation
- Knowledge sharing
- Building partnerships
- Integrated data collection and analysis

Part III presents issue areas in which the UN system has built unique expertise for adaptation planning and implementation. These are:

- Food security and sustainable natural resource management
- Disaster risk reduction and risk management
- Health and nutrition
- Gender perspectives
- Education
- Employment

Annexes that accompany this brief (available on-line at http://www.unsystemceb.org/climatechange/cop15) provide extensive examples of good practices and resources that the UN system has put in place and is making available to Member States/Parties to UNFCCC in support of global action for adaptation to climate change.

The imperative of adaptation to climate change

In its Fourth Assessment Report (2007), the IPCC observed that "unequivocal" climate warming is evident in increased global average air and ocean temperatures, widespread snow and ice melt and rising global average sea level. With rising temperatures, the IPCC predicts that the frequency of extreme events such as heat waves, drought and heavy rainfall events will very likely (above 90 per cent probability) increase, adversely affecting food security, agriculture, forests, water sources, industry and human health. Climate change is threatening the lives and livelihoods of tens to hundreds of millions of people and will substantially increase the risk of hunger, malnutrition and forced migration. Adaptation will be necessary to address impacts resulting from the global changes

in climate, which are already unavoidable due to past, current and future greenhouse gas emissions.[1] While many impacts can be avoided, reduced or delayed by mitigation, even the most stringent mitigation efforts cannot prevent further impacts of climate change in the next few decades. This makes adaptation essential in both the short and long terms.

Adaptation is the foremost priority for developing nations, which have contributed the least to the emergence of climate change but suffer from limited adaptive capacity and are generally situated in areas most susceptible to climate impacts. These vulnerable countries and peoples, as well as the poorest segments of populations within all nations, are those most in need of urgent, targeted and effective adaptation action to save lives, livelihoods and life-supporting systems. Upholding human rights in all their aspects has to be a core component of adaptation action.

Box I.1

Adaptation in the Bali Action Plan (BAP)

In its paragraph 1 (c) (i-v), BAP calls for *enhanced action on adaptation*, including consideration of international cooperation to support urgent implementation of adaptation actions; risk management and risk reduction strategies; disaster reduction strategies and means to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change; economic diversification to build resilience; and ways to strengthen the catalytic role of the UN Framework Convention on Climate Change. The BAP also calls for enhanced action on the provision of financial resources and investment to support action on mitigation and adaptation and technology cooperation, including through "means to incentivize the implementation of adaptation action on the basis of sustainable development policies" 1(e) (iv); and "financial and technical support for capacity-building in the assessment of the costs of adaptation in developing countries, in particular the most vulnerable ones, to aid in determining their financial needs" 1(e) (vi).

Adaptation and sustainable development

Empowering individuals, communities and countries to cope with climate change impacts, in particular strengthening the adaptive capacity of the poorest, must go hand-in-hand with progress towards sustainable development in all its economic, social and environmental aspects. "Building climate resilience", i.e. the ability of communities to cope with and manage climate fluctuations, presupposes that the targeted goals focus on development, integrated land and water management, poverty and hunger eradication, economic growth, disaster risk reduction and environmental protection through achievement of the MDGs and other internationally and nationally agreed goals and aspirations. It also incorporates the concept of "climate-proofing" development activities, in order to get lasting results. To the extent that climate change has security implications, advancing sustainable development, building resilience to physical and economic shocks, and strengthening institutions can minimize the risk of conflict.[2] In order to harness synergies between enhancing adaptive capacity, building climate resilience and other sustainable development goals at the national level, the effective integration of climate change adaptation into national sustainable development strategies and other development planning processes, as well as into sectoral strategies, is a necessary element of an effective climate change policy.

[1] IPCC IV Assessment Report, Working Group II: Impacts, Adaptation and Vulnerability. http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_wg2_report_impacts_adaptation_and_vulnerability.htm

[2] See report of the Secretary-General on "Climate change and its possible security implications", UN document A/64/350 of 11 September 2009.

Box I.2

Quotes from the IPCC Fourth Assessment Report

"Sustainable development can reduce vulnerability to climate change by enhancing adaptive capacity and increasing resilience."

"…it is very likely that climate change can slow the pace of progress towards sustainable development, either directly through increased exposure to adverse impact or indirectly through erosion of the capacity to adapt".

"…over the next half-century, climate change could impede achievement of the MDGs".

The UN system is committed and able to assist countries in adapting to climate change

The UN system of agencies, funds, programmes and regional commissions, under the leadership of the Secretary-General of the United Nations, has embarked on an effort to align its strengths to support Member States in planning, designing and implementing effective strategies and measures to address climate change, with adaptation as a key area of focus.[3] As part of this effort, the UN system is committed to harnessing its analytical, technical and operational capabilities to assist Member States in increasing their resilience to the effects of climate change.

There is a broad body of intergovernmental mandates, on which the UN system's work on adaptation is based, centered around the objective of the UN Framework Convention on Climate Change (UNFCCC) and its associated legal instruments. The box below makes an indicative reference to some of those mandates. In follow-up, UN agencies, funds and programmes have developed climate change strategies that are being implemented, with an emphasis on adaptation and making increasing use of system-wide synergies and work through UN Country Teams and regional bodies for better results on the ground. As negotiations progress and decisions are made, notably at the upcoming UNFCCC COP 15 in Copenhagen and beyond, the UN system and its partners are preparing to build on existing strengths to respond effectively to the priority needs of LDCs, SIDS and other developing countries, and assist them in formulating and implementing appropriate adaptation strategies.

Box I.3

Adaptation mandates

- Adaptation is specifically mentioned in **the UN Framework Convention on Climate Change**, including its Articles 2, 4.1 (b,e,f), and 4.4; and is also covered by the provisions of Article 4.8 and 4.9.
- **Decisions of the Conference of the Parties (COP) to UNFCCC** adopted in response to adaptation needs include decision 2/CP.11 known as the Nairobi Work Programme on impacts, vulnerability and adaptation to climate change, pursued under the SBSTA, and decision 1/CP.10, known as the Buenos Aires Programme of Work on adaptation and response measures to assist in implementing Article 4.8 and 4.9 of the Convention, pursued under the SBI.
- **Governing bodies of individual UN system entities have also issued adaptation-related mandates** within their respective competences and intergovernmental agreements have been reached that guide action, such as the Hyogo Framework for Action 2005-2015: building the resilience of nations and communities to disasters and the World Climate Conference-3 Declaration establishing a Global Framework for Climate Services.
- A number of mandates and mechanisms provide a foundation for **adaptation within sustainable development**, including Agenda 21 and the Rio Declaration containing significant references to environmental management and sustainable development; MDG 7, which focuses specifically on ensuring environmental sustainability; the Barbados Plan of Action and the Mauritius Declaration outline sustainable development processes for Small Island Developing States (SIDS), where adaptation is of particular importance; the Johannesburg Plan of Implementation reaffirmed Agenda 21 and its links to the pursuit of the MDGs.

[3] See background information on the United Nations system and climate change at http://www.unsystemceb.org/climatechange/cop15

Box I.4

Climate change and human rights

The United Nations **Human Rights Council**, in its resolution 10/4 "Human Rights and Climate Change" of 25 March 2009, recognized that "climate change-related impacts have a range of implications, both direct and indirect, for the effective enjoyment of human rights" and that "the effects of climate change will be felt most acutely by those segments of the population who are already in vulnerable situations owing to factors such as geography, poverty, gender, age, indigenous or minority status and disability." In addressing this urgent challenge, the Council affirmed that "human rights obligations and commitments have the potential to inform and strengthen international and national policy-making in the area of climate change, promoting policy coherence, legitimacy and sustainable outcomes."

http://www2.ohchr.org/english/issues/climatechange/docs/resolution10_4.doc

II. PLANNING AND IMPLEMENTATION MECHANISMS

Support for adaptation planning and implementation

Rationale for prioritizing support through this mechanism

Climate change requires that countries are better able to cope with an uncertain future by increasing their resilience to the impacts through long-term planning and anticipatory action. Such planning serves to prevent increasing vulnerability to climate change and, at best, to provide threatened communities and countries with the requisite social and economic buffers in the context of sustainable development. The UNFCCC calls for adaptation planning in its Article 4.1 and the Bali Action Plan calls for *enhanced action on adaptation,* including through planning, and for incentivizing the implementation of adaptation action on the basis of sustainable development policies. For some developing countries, particularly the least developed ones, community-based adaptation strategies to climate change may be one of the best options to enhance their resilience to climate change, with support from other stakeholders.

Needs to be addressed

Adaptation planning and implementation require development of adequate human and institutional capacity as well as mobilization of domestic and international resources. An initial step towards advancing adaptation planning in the context of the UNFCCC has been taken through National Adaptation Programmes of Action (NAPAs), which were conceived by the Conference of the Parties to the UNFCCC in 2001 as a means through which least developed countries could identify and prioritize their urgent and immediate needs relating to vulnerability and adaptation to climate change. Further work will be required to help: (i) LDCs to update, deepen and institutionalize the planning processes initially followed in preparing the NAPAs; and (ii) other countries to undertake national adaptation planning. Adaptation strategies and planning mechanisms need to be aligned and coordinated with other relevant national planning processes such as disaster risk reduction for implementation of the Hyogo Framework for Action. The use of the NAPA's assessment and preparation methodologies could be extended and adapted for use by other countries as well. Adaptation planning also needs to take place at the local and community levels to ensure the effectiveness of implementation. The involvement of local stakeholders in mapping vulnerability and planning for local adaptation is crucial to ensure a successful implementation of adaptation strategies. Moreover, governments need to evaluate the overall costs of adaptation in the short, medium and long-term, identifying cost-effective measures and means of financing them, including through potential revenues from mitigation actions such as REDD, REDD+ and the CDM. Adequate sustainable development planning should aim to increase the synergies while minimizing the potential incompatibilities between adaptation and other national priorities.

UN system resources and good practices targeting needs

The UN system and other relevant actors are positioning themselves to respond more effectively to the priority needs of LDCs, SIDS and other developing countries, as well as middle-income countries, and assist them in formulating and implementing appropriate adaptation plans and strategies in the context of sustainable development. Support for the preparation of National Capacity Self-Assessments (NCSAs) and NAPAs, as well as for the implementation of NAPAs, is being provided with full respect for national ownership and involvement of all stakeholders.

Community-based approaches are also important for planning and implementing adaptation. Several UN system agencies have strong experience in working directly and consistently with the most

marginalized rural people, their community institutions and farmers' organizations. This experience is also at the basis of adaptation planning and implementation in the context of rural development, sharing lessons and best practices and national policy dialogues in food and agriculture, bringing together the relevant local institutions, social networks, farmers' groups and the private sector. In an urban context, work involves supporting cities to become more resilient by integrating climate change adaptation concerns in their planning and management systems, with special attention to vulnerable slum settlements. Adaptation measures at all levels demand increasing investment in infrastructure, public services and "green" production and services, all of which could be important tools for creating jobs and stimulating sustained economic activity.

Knowledge sharing

Rationale for prioritizing support through this mechanism

Adaptation planning and implementation are knowledge intensive undertakings. They entail a series of activities ranging from assessment of current impacts and vulnerabilities, evaluation of current adaptation practices and policies, characterization of future environmental and socio-economic conditions, and assessment of future risks and vulnerability. In accordance with the precautionary principle, promotion of adaptation must proceed on the basis of the best knowledge available at a certain time. This means that addressing climate change and its impacts is a dynamic process, which responds to changing circumstances. Hence, continuing knowledge sharing and learning among relevant stakeholders to adaptation is critical to informing adaptation efforts with the latest scientific findings, technological advances and information on socio-economic conditions. Disseminating such knowledge to concerned stakeholders among governments and other institutions, as well as to individuals and the broader public, as required for areas that concern their work and/or affect their daily lives, is of paramount importance for the successful implementation of adaptation strategies and mobilization of the human potential, especially in vulnerable countries and regions.

Needs to be addressed

Climate information needs to be provided in a timely manner for decision making for adaptation and associated climate risk management. Key findings of the IPCC Fourth Assessment Report, in particular, its Working Group 2 report on Impacts, Vulnerability and Adaptation, need to be further disseminated in a user-oriented format and promoted for supporting government adaptation policy making. Good practices and lessons learned from planning for and implementing adaptation policies and programmes need to be systematically documented and broadly shared. With adaptation actions being dependent on local conditions, those most vulnerable should be able to have a range of options to adapt. Information should reach groups that most need it and can disseminate it further among their members, e.g. cooperatives, extension services, farmers associations, workers and employers' organizations and trade unions.

UN system resources and good practices targeting needs

The UNFCCC's Nairobi Work Programme on impacts, vulnerability and adaptation to climate change (NWP) plays a significant catalytic role in engaging stakeholders and leveraging actions around a set of action-oriented work areas on adaptation. It facilitates the sharing of experiences, knowledge and information on current adaptation practices, lessons learned and the identification of needs and gaps to further the understanding of climate change impacts and vulnerability, and making informed decisions on adaptation policies and programmes. Through a varied array of activities and approaches, the Nairobi Work Programme has engaged a large number of governments, organizations including UN agencies, intergovernmental organizations, research institutions, NGOs,

community-based organizations and private sector entities, and has catalyzed a wide range of adaptation actions at the international, regional, national, sectoral and thematic levels.

A collaborative Adaptation Learning Mechanism (ALM), a global knowledge platform, promotes, in the context of the Nairobi Work Programme, evolving efforts to integrate adaptation to climate change into development actions through mapping of good adaptation practices and supporting climate change adaptation learning in a community of practice. A Global Climate Change Adaptation Network and its regional networks in developing countries, a multilateral partnership of key UN organizations, governments and the scientific community, provides knowledge services and products to support adaptation policy-setting, planning and practices. Regional programmes such as Climate for Development in Africa (ClimDev-Africa) focus on facilitating the development of policies, practices, services, observation networks and communication with stakeholders to enable effective management of the response to climate change at the regional level. Specialized initiatives involve knowledge sharing programmes in agriculture, urban planning and other sectors. The emerging Global Framework for Climate Services and the linked climate knowledge base portal being developed as a result of World Climate Conference-3 will facilitate access to adaptation science resources and associated services.

Building partnerships

Rationale for prioritizing support through this mechanism

Adaptation is a process ranging from impact and vulnerability assessment, policy setting, planning, capacity building, piloting and demonstration, all eventually culminating into actual implementation on the ground. The whole process needs contributions from numerous stakeholders ranging from the scientific community to policy makers, planners and practitioners at local, national, regional and international levels. It needs joint efforts from the public and private sectors, as well as civil society and community-based organizations, for developing, implementing and mainstreaming climate friendly technologies and practices, provision of investment capital and management of risks.

Needs to be addressed

In order to make adaptation work, strengthening of organizational networks across all levels and sectors is essential. When doing so, there is the need to carefully integrate top-down and bottom-up perspectives and capacities, and to establish functional coordination mechanisms between various agency activities, planning, communication, and operations at field level. Furthermore, it is crucial to better link and factor in adaptation to other on-going development activities. Since adaptation to climate change is a new field of work, the responsibilities of civil society and community-based organizations are not yet well defined. Thus, capacity building of CSOs, CBOs and organizational networking with clear definitions of roles and responsibilities are essential. Local knowledge and practices need to be well-reflected into adaptation strategies, and community-based adaptation activities need to be recognized as critical to strengthening disaster management capacities, improving land and water management skills and diversifying livelihoods.

UN system resources and good practices targeting needs

The UN system, with its unique convening authority and capacity, is well-positioned to facilitate partnerships for adaptation, which bring together a combination of the following stakeholders: governments, including all relevant sectors; local authorities and communities; community-based organizations; indigenous peoples' organizations; the science community; parliamentarians; private sector entities (foundations, companies); international, regional and national organizations (NGOs

and IGOs); and UN system entities. Such partnerships focus on supporting the delivery of the following key services to vulnerable governments and communities: good practices on adaptation policy setting, planning and legislation; good practices on wise investment for adaptation; good practices on community-based and ecosystem-specific adaptation; knowledge services and products; technologies; and financial resources. The work of these partnerships increasingly cuts across all levels ranging from international to regional, national and local levels.

Integrated data collection and analysis

Rationale for prioritizing action

Sustained, high-quality observations of climate and climate-related variables over extended periods are essential for adaptation, as they provide a framework for understanding *where* the impacts of climate change will be located and *what* they will be in terms of natural occurrences. Integrating such data with geo-referenced socio-economic and demographic data can elucidate the precise nature of the *risk* to humans and *who* is most at risk, in terms of individuals, communities and countries. This in turn enables impact and vulnerability analysis and contributes to better planning and decision-making in agriculture and food security, coastal zone management, land and water resources management, urban planning, migration and spatial distribution, design of public facilities, health, employment and decent work, tourism, and disaster risk reduction.

Needs

Substantial progress has been made in building national and international capacity for rigorous analysis of climate, socio-economic and demographic data. The next steps include methodologies and capacity building to integrate these data sets for better societal and economic impact assessments, in order to guide vulnerability assessments and adaptation actions, particularly for vulnerable populations. It is imperative to make full use of the 2010 round of census data, develop indicators of climate change vulnerability derived from existing data sets, and mainstream Geographic Information Systems (GIS) as a means of linking climate and population data. Methodologies and an information base are needed for assessing the socio-economic impacts of extreme weather events, including what types of losses occur and who is affected.

A crucial aspect in reducing vulnerability to climate change impacts is to make climate-related information available and accessible to decision-makers. Moreover, it is crucial to foster increased awareness in both the current and potential user communities – for example, farmers, workers and employers whose livelihoods and incomes depend on resources sensitive to climate change effects – of the availability and value of the full range of existing, new and improved meteorological, hydrological and oceanographic services. These services provide important social and economic benefits, and should be priorities for infrastructure investment at the regional and national levels. Ultimately, these steps will provide the basis for greatly strengthened national and international partnerships in the provision and integration of these services, informed by socio-economic and demographic characteristics of the people being served.

UN system resources and good practices targeting needs

The UN system supports countries in generating and analyzing high-quality weather and climate, socio-economic and demographic data, which can then be statistically cross-referenced to support policy and decision-making for climate change. The UN system provides the requirements, protocols, methodologies and standards that are the basis for data collection, processing and analysis shared across borders through National Meteorological and Hydrological Services (NMHSs), National

Oceanographic Services (NOS) and National Statistics Offices. A number of mechanisms and dedicated resources have been developed to that end including the Intergovernmental Panel on Climate Change (IPCC). Links between science-based climate information and predictions, on the one hand, and the management of climate-related risks and opportunities for adaptation, on the other, are expected to be advanced further through the establishment of the Global Framework for Climate Services endorsed by the World Climate Conference-3 in early September 2009.

Box II

Global Framework for Climate Services (GFCS)

Established by the World Climate Conference-3 (Geneva, 31 August to 4 September 2009), the Framework will ensure the provision of science-based, reliable, useful and timely climate information needed by the governments and society in general for adaptation and climate risk management. The Framework is built upon the enhanced capacity of National Meteorological and Hydrological Services and their national partner institutions engaged in climate related activities, to enable them to take active and effective part in the development of climate information and products at global, regional and national level; deliver climate services at the national level within the mandated national arrangements in collaboration with partners; and work with intermediary agencies in different sectors to help support effective application of these services.

http://www.wmo.int/hlt-gfcs

III. PRIORITY ISSUE AREAS

Food security and sustainable natural resource management

Rationale for prioritizing action

The last century has seen a rapid acceleration of the pressure on natural resources (including water, soils, and genetic material) through the need to produce more food for a growing population, expanding cities and industries, pollution and loss of biodiversity and, lately, from increased bio-energy production. Climate change multiplies the risk of food insecurity, hunger and malnutrition by further depleting already scarce resources and negatively impacting both availability of and access to food in vulnerable regions.

Needs

The climate change and food security challenge must in part be addressed by creating more resilient and sustainable farming systems. Policies and investments need to focus on sustainable natural resource management in agriculture, fisheries and forestry, with a view to increasing productivity and supporting adaptation in these sectors, while ensuring access to nutritious food, safe water and other ecosystem services. Improved management of natural resources requires advances in technology and must be complemented by the availability of stress resistant varieties, functional seed distribution systems, appropriate soil amendments, efficient agricultural tools, and timely and available technical support to introduce adaptation concepts, in particular for small-holders and pastoralists. To build farming systems that are more resilient to climate variability and change, developing countries must have swift access to these technologies and know-how.

An equally important aspect of achieving food security under a changing climate is the protection of those people who have no or limited access to natural resources or the assets required for improved natural resource management. For the billion people who are food insecure today – and for those at risk of falling into this category – food security is an issue of access and entitlement, more than overall supply. To ensure that the poorest and most vulnerable communities are protected from the cumulative impacts of climate change on hunger and poverty, livelihood improvement and social protection programmes must be enhanced and integrated into adaptation strategies and approaches.

Resilient ecosystems can play a vital role in contributing to broader societal adaptation, and ecosystem management has a positive contribution to make to overall adaptation. Ecosystem-based adaptation (EBA) - the use of biodiversity and ecosystem services as part of an overall adaptation strategy – is an integral part of an integrated adaptation strategy.

UN system resources and good practices targeting needs

The UN system supports countries in formulating policy and implementing concrete measures to manage land and water in an integrated way, to sustain food security and ecosystem services, and develop land and water dependent economic sectors. These efforts take the added challenge of climate change into account. They encompass assessment of climate change impacts on water resources including water supply, sanitation and irrigation in major food production areas, the assessment of vulnerabilities to water shortage and land degradation, the enhancement of capacities for disaster risk reduction and natural resource management, as well as the integration of climate change considerations in transboundary water management through knowledge-building and programmatic initiatives. In relation to natural resource management, sustainable and integrated

approaches and activities are promoted by UN system agencies in their respective areas of expertise, including land use planning and management, integrated water management, coastal and marine environment management. Social protection schemes using cash, vouchers or food – sometimes in exchange for work or commitments to send children to school – can build the resilience to shocks of the poorest and promote community based adaptation initiatives such as reinforcement of river banks, land terracing and soil conservation in deforested mountainous regions, and crop diversification and conservation farming in drought-prone areas. In recognition of the need to jointly address cross-sectoral water challenges, UN-Water was established in 2003 to foster increased collaboration within the UN system, while the High-level Task Force on the Global Food Crisis was established in response to the major spike in food prices in 2008.

Disaster risk reduction and risk management

Rationale for prioritizing action

Nearly 80% of disasters caused by natural hazards are linked to climate extremes. The IPCC Fourth Assessment Report has provided scientific evidence that the severity, intensity and frequency of climate related hazards such as droughts, heat waves, floods, forest fires and tropical cyclones are increasing as a result of climate change. In human terms, these hazards can erode community coping capacity and endanger lives and livelihoods. An increase in vulnerability to disasters will likely have negative effects on public health, ecosystems, food security, as well as contributing to migration and displacement (both internal and cross-border) of affected populations. Already-vulnerable groups, such as children, the elderly and women, will be particularly at risk. The UNFCCC Bali Action Plan points to the need for disaster risk reduction and risk management as a critical component of climate risk management and adaptation of all countries. Global efforts to invest in disaster risk reduction have been further supported by commitments to fulfilling the “Hyogo Framework for Action 2005-2015: Building the resilience of nations and communities to disasters”. With concerted efforts at all levels, including by communities themselves, to reduce and manage disaster risk, it is possible to protect lives and livelihoods from climate related disasters in the future.

Needs

Adapting to climate change will require significant strengthening and scaling up of global disaster risk reduction and risk management efforts. Effective disaster risk management must be founded on risk identification, combining climate information critical for the analysis of hazard patterns and trends with socio-economic data and analysis that allows for quantification of exposures and vulnerabilities (e.g. casualties, construction damages, crop yield reduction and water shortages). What is also required is reinforcement of coordination and partnerships between governments and the international system towards translating global commitments to disaster risk reduction into action at the local level. Currently, responses to disasters often rely heavily on donations made after the event. However, investing in reducing risk, including through disaster preparedness and sound early recovery action in the immediate aftermath of a disaster can save both lives and money. This would require an increased emphasis on risk reduction and risk management within national administrations, the UN system and regional organizations and donors.

To be effective, national plans and strategies to reduce disaster risk need to be integrated in the plans and programmes of every sector and area of development and humanitarian work and to reach all the way down to community level. Land-use planning, the locating of critical infrastructure, including enterprises’ infrastructure, and human settlements, the integrated management of natural resources, the protection of key assets, such as health facilities and schools — all would need to ensure that risk is identified and reduced at all stages from planning through to implementation. Early warning

systems based on advanced climate prediction and forecasting tools can provide longer lead times that can be used for improved sectoral planning (e.g. supply/demand management and risk management practices in agriculture, urban planning, water resource management) and contribute to the protection of lives and livelihoods. The role of financial services and access to them by poor people are also critical elements of climate risk management. Financial products tailored to the needs of rural people can offer innovative options to cope with the financial burden of disasters. The various risks that agriculture and other economic sectors face, as well as their different predictability, require different responses. Finally, it is essential to also address the issues relating to involuntary displacement and migration flows and consider policies for the most vulnerable by the affected State or international community through appropriate legal frameworks to adapt to the impacts of climate change.

UN system resources and good practices targeting needs

There are mechanisms in place that can help manage the humanitarian consequences of climate change and protect human security. For example, scaling-up and strengthening existing systems for preparedness, contingency planning, early warning-early action, vulnerability assessment and investing in capacity development can help ensure that responses during disasters are quicker, more predictable and effective, and will lead to a more sustainable development after the recovery phase is over. A network of UN agencies is working to support governments around the world to reduce and manage disaster related risk.

Assistance is provided to countries and regional institutions to deliver enhanced vulnerability assessments, early warning systems, as well as crop and food security monitoring systems in order to increase their resilience to climate change, integrate climate change risks and opportunities into disaster risk management through policy adjustments, education and capacity development, demonstrations of integration as well as knowledge management of lessons learned. Moreover, inclusive financial systems are developed and innovation is fostered to meet the different needs of rural poor men and women, including micro-insurance and weather index-based insurance. Existing systems and mechanisms for disaster risk reduction and risk management can be built upon to fast-track adaptation action and to adapt and scale up best practice approaches. UN system agencies are working together to promote much-needed integration across the divide between development and humanitarian programming through new, more innovative initiatives and partnerships.

Box III.1

Good practices from Mozambique and the Maldives

Broad support can help save lives and promote resilience:

- UN system partnerships with the Government in Mozambique were able to strengthen in-country early warning and preparedness systems for severe storms, dramatically reducing lives lost in disasters between 2001 and 2007.

- Maldives is developing a comprehensive disaster risk reduction and climate change adaptation strategy and implementation plan. This plan will help target the country's risk-reduction and adaptation efforts, for example, to reduce risk in development policy, build capacity for disaster preparedness, and ensure safer construction. Such strategies and mechanisms are particularly relevant in the immediate term, while capacity to address longer-term adaptation strategies and programmes is being developed.

Health and nutrition

Rationale for prioritizing action

Climate change has important implications for the health of human populations. The IPCC has stated that the principal effects will be increased malnutrition; death, disease and injury due to extreme weather events; increased burden of diarrhoeal disease; higher concentrations of ground-level ozone; and altered spatial distribution of infectious disease transmission. Areas most affected will include small island developing states, arid and semi-arid regions, low-lying coastal zones and mega-deltas. The health effects of climate change are exacerbated by a wide range of vulnerability factors, including weaknesses in health systems, existing burdens of diseases that are either sensitive to climate change (such as diarrhoea and malaria) or that interact strongly with other diseases and strain health systems. Increasing natural disasters cause a variety of humanitarian crises, causing death directly, and increasing vulnerability to disease. Possible deterioration of regional and global food security will have implications on nutrition, which is essential to sustaining healthy life, including through maintaining good immune function, which in turn can reduce the risk of acquiring or fully developing diseases such as HIV. Particularly vulnerable population segments include the poor, children, the elderly, and pregnant and nursing women, as well those with disabilities and the displaced. Climate change is responsible for the loss of several million disability adjusted life years (DALYs) annually, according to the WHO. This assessment covers deaths caused by cardiovascular diseases, diarrhea, malaria, accidental injuries in floods or landslides, and the unavailability of recommended daily calorie intake (which is an indicator of malnutrition). The displacement of people and its varying impact on access to health services is also a cause for concern.

Needs

Countries have prioritized the protection of human health from climate change, both through the UNFCCC,[4] which specifies human health as one of the "adverse effects" that should be avoided through international action, and through a resolution of the World Health Assembly in 2008.[5] Through these instruments, Member States have called for support by WHO and UN partner agencies in the fields of awareness raising, partnership development, generation of scientific evidence and, particularly, strengthening of health systems.

There are a number of actions that can both improve resilience to long-term climate change, and bring immediate improvements in both health and health equity. These include measures such as wider coverage of interventions to fight diseases of poverty, enhanced disease surveillance and response, and improved management of environmental health risks. They also include actions to address the underlying environmental and social determinants of health, especially inadequate and inequitable development, and unsustainable global consumption patterns which degrade the ecosystem services that help to sustain human health and well-being. Specific actions such as providing rights-based reproductive health to meet the need for family planning can reduce maternal and child mortality, contribute to the empowerment of women and girls, help families build resources, and ease population pressure, which many developing countries have identified as contributing to population vulnerability to climate change. Supporting such programmes calls for an integrated response from both within and outside the traditional health sector. The positive lessons learnt from country-level approaches to the multi-sectoral planning for emergencies, including the involvement of affected groups in developing responses, can be emulated in addressing the health impacts of climate change.

[4] United Nations. United Nations Framework Convention on Climate Change, 1992. Line 1, and Definitions; Article 1, paragraph 1. http://unfccc.int/resource/docs/convkp/conveng.pdf

[5] WHO. Climate Change and Health: Resolution of the 61st World Health Assembly. Geneva: World Health Organization, 2008. http://www.who.int/gb/ebwha/pdf_files/A61/A61_R19-en.pdf

UN system resources and good practices targeting needs

The range of UN work on health adaptation to climate change can be illustrated in two key areas:
Applied research: For the last 20 years, WHO and UN partner agencies have supported, assessed and disseminated scientific research on the links between climate change and health, and on effective responses. Relevant UN agencies have recently completed an international consultation process to outline a global research agenda on health protection from climate change[6]. UN agencies also collaborate on technical projects to improve health protection on the ground, including in supporting early warning systems for heat waves, and for epidemics of malaria and other infectious diseases.
Health System Strengthening: The core of future UN work will be in strengthening health protection within countries, including through capacity building and training activities in particularly vulnerable developing nations, on health vulnerability and adaptation assessment, and comprehensive training on climate change and health. Relevant UN agencies are building on efforts up to now to identify and share good practices, and to support capacity building across UN Member States.

Gender perspectives

Rationale for prioritizing action

"*The impacts of climate change will be differently distributed among different regions, generations, ages, classes, income groups, occupations and sexes*" stated the IPCC in a 2001 report on adaptation.[7] Moreover, empirical evidence and case-studies over decades have shown that gender inequality in many areas of the world — including women's limited rights, mobility, access to resources and education, and muted voice in shaping decisions — limit their contributions to development solutions and make them more vulnerable than men to environmental stress, natural disasters, malnutrition and other impacts of climate change. Yet women, especially in rural areas, are often primarily responsible for staple food production, water and fuel collection, and have livelihoods dependent on a healthy environment. Women also tend to be the primary care-takers for children, the elderly and the sick, among other high-risk groups that are particularly vulnerable in countries with severe exposure to climate impacts. Many women have, over time, developed unique knowledge and skills that greatly enhance their households and communities adaptive capacity. Thus, society cannot afford to ignore the needs and potential contributions of half of their population in the development of effective and far-reaching adaptation policies. The resilience of families, households and communities will depend in great part on the resilience of women.

Needs

There is a need to enhance the effectiveness of adaptation strategies by mainstreaming gender considerations into all climate-related sectors, including those that do not have clear cut gender linkages yet have tremendous impact on women's lives such as transportation, municipal planning, renewable energy and carbon finance mechanisms. In addition, a dire need remains to strengthen gender mainstreaming in areas where gender linkages are more evident, such as early-warning and disaster preparedness, water and agriculture, sustainable development, and biodiversity and environmental protection. Gender related needs in adaptation to climate change centre on filling four specific gaps including: (1) Inclusive processes that draw on gender expertise and support women's equitable participation as stakeholders; (2) Gender mainstreaming via integration of gender-sensitive

[6] WHO. Protecting Health from Climate Change: Global Research Priorities. Geneva: World Health Organization, 2009. http://www.who.int/globalchange/publications/9789241598187/en/index.html
[7] IPCC (2001) Climate change *2001: Impacts, Adaptation and Vulnerability, Summary for policymakers*, http://www.ipcc.ch/.

criteria into all stages of projects and programme initiatives; (3) Investing in comprehensive data disaggregated by sex to facilitate research and help actors appropriately target efforts, and (4) Funding that responds equitably and sufficiently to the differentiated needs and circumstances of women and men, via dedicated funds or gender-responsive budgeting.

UN system resources and good practices targeting needs

Gender equality has already been established as one of five key principles governing the preparation and implementation of the Common Country Assessments (CCA) and the UN Development Assistance Framework (UNDAF) that guide UN system work at the country level, in cooperation with the relevant national authorities. Several UN system organizations are intensifying their work and resources provided in this area to enhance understanding and sharing of best practices. Various knowledge products and training materials have been developed by UN system organizations, often in collaboration with civil society partners such as members of the Global Gender and Climate Alliance. These resources aim to enhance awareness of the gender dimensions of climate change and offer tools to address differing needs and enhance the contributions of women for more effective adaptation strategies. They vary from those with a broad perspective on gender dimensions of climate change to specialized topics, which highlight the linkages between gender and sectors such as adaptation, water and sanitation, energy, and disaster risk reduction[8].

Box II.2

Good practices: mainstreaming gender in adaptation

Dedicated efforts to fully integrate a gender perspective on men's and women's different needs, priorities, and experiences have clearly demonstrated efficiency in achieving adaptation programmes, as is illustrated in the examples below:

- Soil degradation, desertification, and water stress in a Tunisian community were relieved by drawing upon women's local knowledge and involving them fully in the project's design and implementation.

- Women supported at the community level in Aceh and India were shown to be strong leaders in rebuilding their communities post natural disaster — even advancing women's land rights and increasing elected posts in decision-making bodies in the process. Simultaneous training in non-traditional trades further diversified their livelihoods and increased their resiliency against future natural hazards.

- Training women in disaster preparedness and early warning systems decreased mortality rates from natural disasters in Honduras and Bangladesh

Education

Rationale for prioritizing action

The United Nations Decade of Education for Sustainable Development, 2005-2014 (DESD) affirms the need to integrate principles, values and practices of sustainable development into education systems at all levels in order for education to be a key agent for change. Education has thus a central role to play in understanding, mitigating and adapting to changing climate, especially for young people who represent nearly one-third of the world's population and will be tomorrow's citizens and leaders. Instilling climate change awareness and understanding at a young age is ultimately the best

[8] Links to the resources may be found on the Women Watch special feature on women, gender equality and climate change - http://www.un.org/womenwatch/feature/climate_change/

way to change behaviors and attitudes. Therefore, it is essential that climate change be fully integrated into educational policies and school curricula and that teachers are well trained on this issue.

Needs

Informed action by individuals is fundamental to addressing climate change. It is dependent on citizens' understanding and awareness of the causes, effects of and the means of responding to climate change. Climate change education, as part of education for sustainable development, should be interdisciplinary and holistic, integrating scientific, social, gender, economic, cultural and ethical dimensions, as well as local, traditional and indigenous knowledge perspectives and practices. Climate change education should be an integral part of national education plans and global policy frameworks, including awareness-raising on climate change, the reinforcement of teacher education policies and programmes in this regard, and the exchange of information, knowledge and expertise. UN system organizations will also need to address the ethics of climate change and the social and gender dimensions of climate change mitigation and adaptation.

UN system resources and good practices targeting needs

Climate change is one of the key action themes of DESD. Education concerns are also embedded in Article 6 of the UNFCCC and the associated New Delhi work programme. The United Nations Inter-Agency Committee for DESD promotes a coordinated "educational" response by all United Nations agencies to climate change. All four priority areas of the DESD (promoting basic education, reorienting and revising education programmes, developing public understanding and awareness, and providing practical training) focus on how to mobilize all strata of society and available expertise through both formal and non-formal education in order to further the principles, values and behaviour linked to sustainable development and to induce the necessary behavioural and attitudinal changes required to minimize negative climate impacts. The UN system is currently facilitating regional workshops to help assess needs, identify priorities, share experience and exchange information on related climate change education activities. The UN system is also supporting the development of an information clearing house on climate change education.

Employment

Rationale for prioritizing action

Short to medium and long-term projected climate change impacts will lead to serious disruption of economic and social activity in many sectors on all continents and therefore will have significant implications for the structure of economies, settlement patterns, livelihoods and employment. These implications harbour both major risks and opportunities for decent work in all countries but particularly for the most vulnerables. Extreme weather events due to climate change cause severe and lasting diverse damage, including to infrastructure such as roads and power lines, disrupting economic activity and reducing incomes. Persistent drought has reduced the availability of hydropower from dams in developed and developing countries, provoking frequent load shedding and disrupting life and economic development. Drought and water scarcity also affect agriculture, which still continues to be the single largest employer in the world. Other sectors most directly dependent on the weather, such as tourism, which has been one of the fastest growing employers in recent decades, will also be affected.

Needs

The social impacts of climate change depend on the development path of economies and societies. Most climate change impacts can be cushioned or averted altogether if policies and measures to adapt to climate change integrate the repercussions for employment and income. Social policies, such as active labour policies, will help countries, employers and workers to be better prepared to adapt to the current and expected changes and provide them with decent work opportunities and sustainable livelihoods. Policies aiming to provide the appropriate skills to entrepreneurs and workers will enable them to efficiently anticipate and adapt to the climate change impacts. Strengthening social security systems will prevent people from migrating when faced with climate change-related disasters. The engagement of employers and workers´ organizations in all phases, from the identification of potential impacts to the implementation process, will shape informed and effective adaptation plans.

UN system resources and good practices targeting needs

UN system organizations are working to address the impacts of climate change on employment and livelihoods, including through the development of a Livelihood Assessment Toolkit to be used for early recovery in the aftermath of rapid onset natural disasters. Labour and environment initiatives promote the active participation of workers and their trade unions in decisions on the design, implementation and evaluation of national and international policies and programmes on environment and development, in particular climate change. Assistance is provided to countries to put climate change adaptation at the heart of their efforts to tackle poverty, including adaptation of job creation and enterprise.

Box III.3

Environmental protection through watershed management – lessons from Haiti

- When hurricane "Jeanne" hit Haiti in 2004 it led to widespread flooding, loss of human lives and of assets. The damage was caused by the high runoff as the surrounding catchment areas consisting of bare hills had completely lost their retention capacity (little infiltration of rainfall into soils).
- Watershed management is a vital adaptation to climate change. It is achieved through environmental protection measures such as contour bunding, construction of weirs, and reforestation.
- If implemented in the form of labour-intensive public works schemes carried out by the local population, payment for environmental protection works provides an important income support to affected people. In addition, it is an injection of financial resources reviving the local economy.
- Restoring productive lands for future agro-forestry production and processing is essential for their livelihoods.

Source: Government of Haiti, UNDP, WFP, ILO

Annexes that accompany this brief are available on-line at http://www.unsystemceb.org/climatechange/cop15