

MILLENNIUM DEVELOPMENT GOALS AND CLIMATE CHANGE ADAPTATION

THE CONTRIBUTION OF UNDP-GEF ADAPTATION INITIATIVES TOWARDS MDG1



Issue No.1: Safeguarding MDG 1

Eradicate Extreme Poverty and Hunger - from Climate Change

United Nations Development Programme



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This brief discusses the nexus between climate change and the first Millennium Development Goal: to eradicate extreme poverty and hunger (MDG 1). In doing so, it sets the stage in the latter part of the brief to highlight UNDP-GEF adaptation programming approaches and initiatives to increase the resilience of vulnerable populations to adapt to the long-term impacts of climate change and variability that threaten to derail ongoing development efforts and gains towards MDG 1.

Achieving MDG1

Progress, Gaps, and Lessons Learned

The MDG 1 sets out targets to halve the proportion of people living on less than \$1.25 a day and people who suffer from hunger by 2015. MDG 1 also targets full and productive employment and decent work for all.

Despite setbacks during the recent economic and food crises, global progress towards poverty reduction suggests that the developing world as a whole is on track to meet the poverty reduction target by 2015.¹ Advances, however, have been uneven. In Sub-Saharan Africa, the poverty reduction target is not expected to be met due to the slow pace of economic growth, further dampened by the global economic crisis.²

Also, while progress has been made on reducing hunger, the world is not on track to achieve this target by 2015. Hikes in food prices and falling income due to the recent crises have exacerbated the situation. FAO estimates that in 2009 about 1.02 billion people were under-nourished worldwide.³

Growth has been an important driver of the reduction of poverty and hunger in countries where development focused on agricultural productivity especially smallholder farms, employment-intensity, and the consciously planned and gender-equitable distribution of income, assets, and opportunities.⁴



The Climate Change

MDG 1 Nexus

Climate change and variability pose a significant threat to sustaining growth and advances towards MDG 1. Climate change is inextricably linked to poverty and hunger in a number of ways. Long-term changes in temperature and precipitation are likely to manifest themselves in changes to ecosystems and the services they provide. These include changes to agriculture lands, forest, freshwater stocks and channels of distribution, and marine ecosystems and the quantity and quality of services they provide such as crop production, usable water, soil formation, forest products, fish numbers, etc.⁵

Decline in quality and quantity of these services affects the sectoral output, growth rate, and livelihoods linked to these systems, leading to economic and long-term human development impacts. Additionally, increased variability in weather, including more frequent and intense floods and droughts, can lead to immediate impacts on assets such as crops, homes, and livestock, threatening food security and livelihoods.

For 75% of the world's poor who live in rural areas and largely depend on natural resources such as forests, fisheries, water and marginal lands for their livelihoods and income, climate change is expected to accentuate poverty and hunger. Vulnerability is intensified by the limited number of adaptation strategies and coping mechanisms available to the poor owing to limited or lack of access to natural, physical, financial, human, and social capital. Development goals for poverty reduction and growth are, therefore, inextricably linked to climate change.

¹ "The Millennium Development Goals Report 2010", UN

² "The MDGs after the Crisis", Global Monitoring Report 2010, World Bank

³ "State of Food Security in the World", FAO, 2009

⁴ "What will it take to achieve the Millennium Development Goals?", UNDP, 2010

⁵ UNDG (2009) Addendum to the 2nd Guidance Note on Country Reporting on the Millennium Development Goals

Reducing vulnerabilities to adverse impacts of climate change and increasing adaptive capacities to prepare for and manage climate change uncertainties and impacts is necessary to promote climate resilient development. Integrating climate change risk management principles into national development strategies, policies, and plans is crucial to safeguard efforts and achievements towards MDG 1.

Based on its corporate strategy for climate change, UNDP supports the design of adaptation policies and strategies, promotes early adaptation actions and long-term adaptive capacity, and advances use of low-carbon technologies and land use practices to promote and support long-term sustainability and poverty reduction. UNDP-GEF adaptation initiatives are designed to complement and integrate with national priorities and strategic development frameworks such as the Poverty Reduction Strategies.

To comprehensively address the multi-faceted nature of climate change and poverty reduction and food security nexus, UNDP works with Ministries of Agriculture, Natural Resources, Economic Affairs, Finance, Fisheries, Forests, Geology, Mineral Resources, National Planning, Science and Technology, and Water, among others.



MILLENNIUM DEVELOPMENT GOAL

Eradicate extreme poverty and hunger

EXAMPLES OF CLIMATE CHANGE IMPACTS

Depleted livelihood assets, reduced economic growth, and undermined food security



The contribution of UNDP-GEF adaptation initiatives towards MDG 1 is anchored in following key approaches to assist countries better manage the uncertainties of climate change and its impacts:

1 Internalizing climate change information and risks into planning and activities of key sectors: A number of countries are supported in mainstreaming climate change adaptation through assistance, first, in developing climate scenarios and risk assessments. Relevant information is subsequently integrated into short- and long- term planning, budgeting, decision making, and strategies for relevant sectors impacting poverty and food security.

Samoa | In Samoa, climate change impacts, particularly related to failing crops in conditions of increasing average temperatures and rising groundwater salinity levels, are expected to adversely impact agriculture and food security. UNDP is facilitating climate-sensitive short- and long-term planning for agriculture and food security. Incorporation of climate risk and early warning information into short- to medium-term planning activities is supporting contingency and preparedness planning by farmers and sectoral planners. Samoa's long-term strategy for agricultural diversification including integration of climate change resilience needs into the National Agricultural Sector Plan is being informed by activities such as enhanced climate risk and crop productivity modeling and improved GIS-based maps for soil, crop, and rainfall distribution.

Tanzania | The Pangani River Basin is greatly important to Tanzania, in terms of hydro-power production, irrigated agriculture, livestock, fisheries, etc., but water demand is rapidly rising while water flows are in decline largely due to changing climatic patterns including a decrease in rainfall and increase in temperature and evapotranspiration. In partnership with IUCN-EARO, UNDP is supporting the mainstreaming of climate change concerns into the integrated water resources management (IWRM) framework of the Pangani river basin. The initiative is promoting increased understanding of environmental, economic and social implications of different river flow scenarios under a changing climate to enable planning and policy for equitable allocation of freshwater for the livelihoods of current and future generations.

2 Revising national and sectoral policies to incorporate climate change risks and opportunities: UNDP is assisting countries in assessing, revising and/or formulating national and sectoral climate change resilient policies and legislation impacting poverty reduction and food security. Working with key sector Ministries, partners at the national/sub-national level are supported to incorporate climate information and risks as well as lessons learned from piloted adaptation initiatives on the ground.

Bangladesh | Climate change impacts through increased sea level rise, changes in upstream river discharge, erosion of coastal embankments, and increased frequency and intensity of tropical cyclones are compounding the existing pressures from anthropogenic activities on coastal areas of Bangladesh. Support is currently being provided to enable the Ministry of Agriculture to revise national policies to increase the climate risk resilience of coastal communities. Building on lessons drawn from piloted community-based adaptation measures, national policies including the National Environment Policy, National Forest Policy, National Land Use Policy, and the Coastal Zone Policy are being revised to promote the resilience of livelihoods among coastal communities to impacts of climate change.

Namibia | Climate change is expected to have a bearing on land degradation with impacts including loss of vegetation due to decline in water availability from increased temperatures and reduced rainfall and lower crop productivity from reduction in topsoil through soil erosion. As part of an overarching effort to implement an integrated sustainable land management framework, the government is internalizing climate change risks and opportunities into National Drought Policy strategies and other relevant policy instruments. Through participation in planning processes centered on the National Development Plan including a series of national consultations, the Government plans to identify and effect the necessary policy revisions at the sector and national level.

3 ***Building capacity at individual and institutional levels to address climate change:** Central to UNDP's approaches to climate change adaptation is human and social development. Capacities are being strengthened at the national, sub-national, and community levels to prepare for and address impacts of climate change and variability to food security and poverty. Capacity building involves training on development and use of climate information and tools, including forecasting and early warning systems; mainstreaming adaptation into planning, decision making, and policy and program development; and participatory community-based adaptation measures.*

Cambodia | *The impacts of climate change, including increased frequency and severity of floods, dry spells and drought events, on Cambodian agriculture, particularly on rice cultivation, are predicted to adversely affect food production and food security in rural areas. The Ministry of Agriculture, Forestry, and Fisheries is receiving support to build capacity within local institutions in climate-resilient water management through provision of training for provincial and commune level officials in climate-risk management and development of climate-sensitive plans, Farmer Water User's Community (FWUC) engineers in climate-resilient irrigation design, and district and local authorities in conflict-resolution in areas prone to climate-induced water shortages. Education and awareness raising is also assisting communities to adopt sustainable agricultural practices and water harvesting measures.*

Burkina Faso | *The Sahel region, which includes most of Burkina Faso, is expected to experience a rise in temperature, changes in rainfall distribution, and increased incidence of extreme events that would further undermine the country's natural-resource dependent economy. UNDP is enabling capacity development among national and local stakeholders to plan for and respond to climate changes in agro-sylvo-pastoral sectors. Commune level extension agents and provincial technical officers in targeted provinces are being trained in use of information and tools such as forecasting and vulnerability mapping to integrate climate change into the relevant sectors. Capacity is also being built in communities for adoption of such adaptation practices as land and water management, fodder production, establishment of food banks, and livelihood diversification.*

4 ***Piloting technologies and community based adaptation measures to facilitate learning and scale:** UNDP supports the design and implementation of community-based, adaptation measures on the ground that engender capacity building, advocacy, and multi-stakeholder engagement to promote scale and integration of adaptation at all levels and in long-term policy and planning processes. Innovative technologies and measures for safeguarding and improving food security and enhancing livelihoods are being piloted to demonstrate adaptation to climate change and variability.*

Niger | *Niger's Second National Communication noted an increase in mean temperature of about 2.5 to 30C, which would result in increased evapotranspiration and reduction of water for agricultural and livestock productivity, further threatening food security. The National Council for Sustainable Development is aiming to increase the resilience of food production systems and/or food insecure communities. Adaptation measures being demonstrated to improve food security and livelihoods include dissemination of drought-resilient crop varieties, construction of cereal banks, fodder banks, fertilizer and pesticide shops, wells and drinking water supplies, stabilization of dunes and river banks, and development of entrepreneurial activities such as sewing supported by establishment of small-scale savings and credit institutions.*

Zimbabwe | *The reliance of Zimbabwe's agriculture sector on distribution of rainfall makes the sector particularly vulnerable to climate variability and change with projected impacts including reduced rainfall and increased incidence of drought. Through UNDP's support, the Environmental Management Agency is improving livelihood strategies and resilience of farmers and pastoralists to cope with drought. Adaptation measures are being demonstrated to support diversity and resilience of community food and income sources through crop diversification, woodlot management, harvest storage and processing, water harvesting, community based safety nets, and commercial seed production. Pilot projects are also being implemented to develop value addition and markets for dryland products.*

Going Forward: *UNDP-GEF's Role in Enhancing Food Security and Livelihood Resilience*

Ensuring food security and safeguarding poverty reduction efforts under a changing climate requires empowering smallholder farmers with the capital assets they need to act effectively as primary agents of adaptation and food production. To do so, small farmers must have access to land, water, forests and other natural capital; to knowledge and the acquisition of new skills and capacities; to key physical capital such as irrigation systems, roads and other appropriate infrastructure needed to sustain production; and to credit, access to markets and other financial mechanisms. Above all, it is crucial that farmers have access to seeds and other plant genetic resources, as these are the primary instrument of agricultural adaptability, and local level institutions and organizations have the vision, knowledge, and capacities to build and govern multifunctional climate resilient landscapes.

UNDP has to date focused on developing climate information and dissemination systems, strengthening legislation and frameworks related to food production and ecosystem resilience, integrating climate considerations into planning for various sectors such as agriculture, fisheries, forestry, environment, finance etc., and engaging and building capacities in communities for identification and adoption of technologies and practices for productivity and sustainable livelihoods.

Building on current adaptation efforts to promote MDG1, UNDP-GEF's adaptation programming is evolving to enhance food security and build resilient livelihoods by:

1

Strengthening civil society organizations, in particular farmer organizations, as important or primary actors/agents in identifying and devising local adaptation measures.

Participatory research methodologies should be applied to generate farmer and community understanding of vulnerability, definition and ownership of potential adaptation measures, and characterization of resilience indicators in the context of long-term climate change. Traditional or customary knowledge codification and dissemination mechanisms should be strengthened, as well as new ones created to ensure as broad a dissemination of this knowledge as possible in the most effective way.

3

Developing a landscape resilience approach that effectively integrates adaptation measures across habitats and ecosystems, including agricultural as well as natural or wild lands.

This will include development of a resilience model for landscapes based on ecosystem ecology principles and development of models for governance of multifunctional landscapes, as well as financing of ecosystem services to promote food security and sustainable livelihoods.

4

Integrating agricultural adaptation and rural livelihood resilience principles and methods into low emissions, climate resilient development strategies at local and sub-national levels.

Regional authorities can encourage the development of sustainable economic activities by providing the technologies, products and services necessary to adapt to climate change or achieve lower emissions. In areas where local food supplies are projected to be negatively affected by climate change, regional authorities can encourage an agricultural transition towards other crops by providing training, making new cultivars available, promoting technological adoption through better access to financial risk management instruments, etc. UNDP will integrate sustainable rural livelihood goals and objectives into low emissions, climate resilient development strategies at local and sub-national levels and identify and engage potential donors and other investors to implement them.

2

Strengthening access by farmers and communities to seeds and other plant genetic resources.

UNDP will follow a focus on livelihoods and non-formal and formal institutions at all levels to build the capacities of farmers and their organizations to strengthen collaborative plant breeding processes as a key element determining agricultural adaptation and rural income. Activities will include development and implementation of strategic action plans for Plant Genetic Resource conservation and sustainable use at national or sub-national levels (provincial, agro-ecological zone) or for particular crop(s) or organizations (farmers, etc.).



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September 2010