



UNITED NATIONS DEVELOPMENT PROGRAMME  
UNDP's Response to Crisis Prevention and Recovery in Northern Ghana  
Recovery Programming Support for Northern Ghana

<b>Programme Support No:</b>	US\$ 1,336,430
<b>Programme Support Title:</b> Recovery Programming Support for Northern Ghana	- UNDP CO: 250,000;
<b>Executing Agencies:</b> UNDP	- UNDP BCPR: 1,086,430
<b>Implementing Agencies:</b>	
<b>Collaborating Institutions:</b> National Disaster Management Organization (NADMO), partner NGOs	
<b>Estimated Starting Time:</b> 01/May/2009	
<b>Estimated End Date:</b> 30/April/2011	

**Brief description:**

The project is to enable UNDP support national efforts at disaster response and in Northern Ghana through the establishment of an implementation capacity to effectively plan and respond to the perennial disasters confronting the Northern, Upper West and Upper East Regions of Ghana. The objectives of the project will be achieved through the support to enhancing national disaster coordination mechanism in the north, developing the capacity of NADMO to coordinate more effectively with agencies and institutions, enhancing livelihoods initiatives and strengthening the capacity of UNDP to become more effective in Recovery activities in the north. The project will work with government institutions at the regional and district levels and in collaborate with UN agencies, the World Bank and NGOs in the coordination and implementation of activities.

On behalf of:

UNDP Ghana

Government of Ghana

Signature

Date:

22 May 2009  
11 May 2009



UNITED NATIONS DEVELOPMENT PROGRAMME  
UNDP's Response to Crisis and Recovery in Northern Ghana  
Recovery Programming Support for Northern Ghana

<p>UNDP UNDP UNDP</p>	<p>Programme Support for Programme Support for Programme Support for Programme Support for Programme Support for Programme Support for Programme Support for Programme Support for Programme Support for Programme Support for</p>
-------------------------------	--

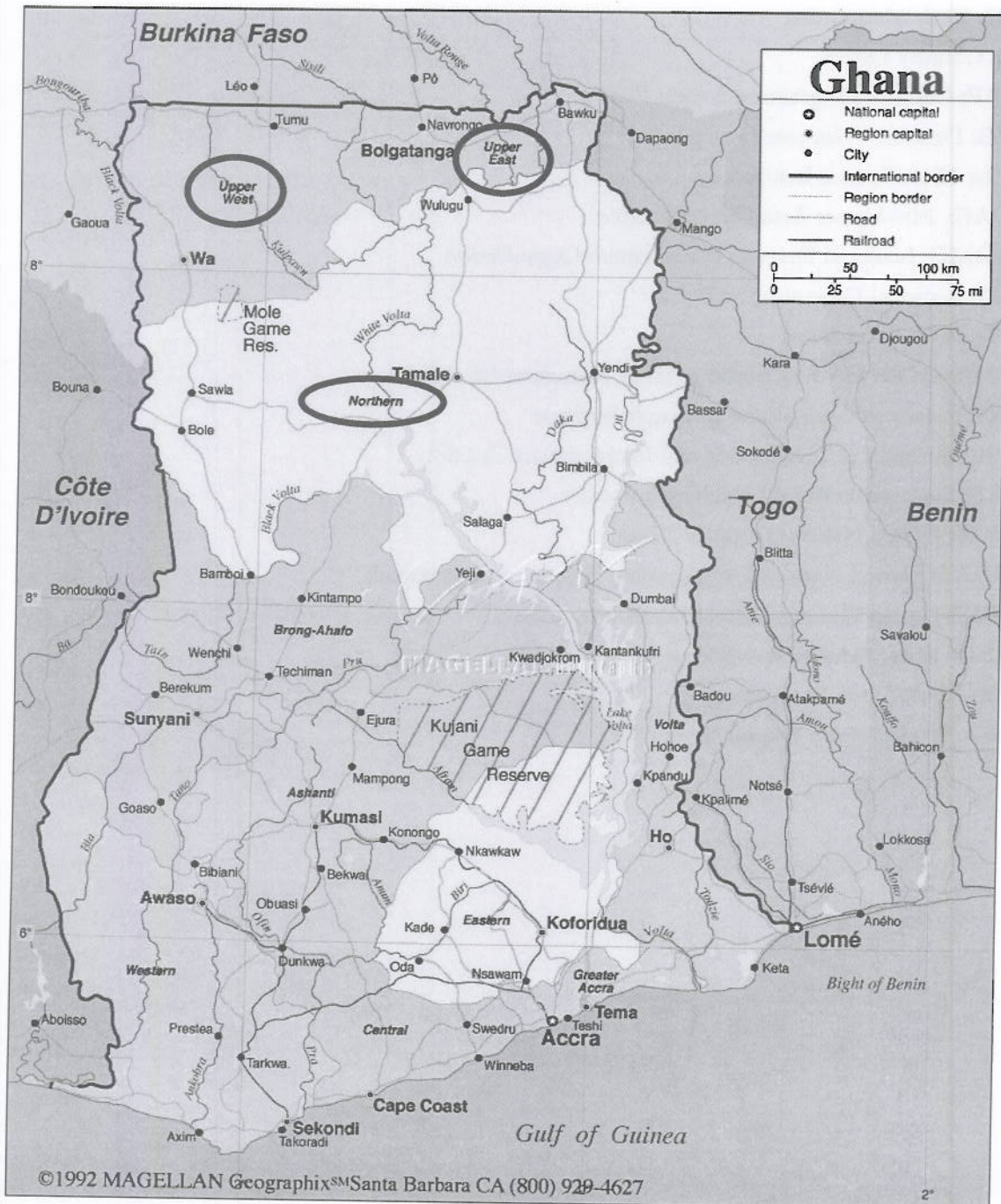
### Recovery Programming Support for Northern Ghana

The project is to provide UNDP support to assist in the recovery of the Northern Ghana region through a combination of an integrated approach to disaster risk reduction and recovery in the period following the 2007-2008 food crisis and to support the recovery of the region through the provision of technical assistance and capacity building support to strengthen national disaster risk reduction and recovery systems in the region. The project will work with the Government of Ghana and other stakeholders to support the recovery of the region through the provision of technical assistance and capacity building support to strengthen national disaster risk reduction and recovery systems in the region. The project will work with the Government of Ghana and other stakeholders to support the recovery of the region through the provision of technical assistance and capacity building support to strengthen national disaster risk reduction and recovery systems in the region.

22<sup>nd</sup> April, 2009

Figure 1: Regions affected by floods in Northern Ghana, August 2007

Map of Ghana



## **ABBREVIATIONS AND ACRONYMS**

**AMG:** African Market Garden

**BCPR:** Bureau for Crisis Prevention and Recovery

**BMI:** Body Mass Index

**CO:** Country Office

**CPAP:** Country Programme Action Plan

**DVG:** Disaster Volunteer Group

**MFI:** Microfinance Institutions

**MUAC:** Mid-Upper Arm Circumference

**NADMO:** National Disaster Management Organization

**NEX:** National Execution

**NFIs:** Non-Food Items

**OCHA:** Office for the Coordination of Humanitarian Affairs

**SARI:** Savannah Agricultural Research Institute

**SLEC:** Sustainable Livelihoods and Employment Creation

**SRLP:** Sustainable Rural Livelihoods Project

**UNCT:** United Nations Country Team

**UNDAF:** United Nations Development Assistance Framework

**UNDP:** United Nations Development Programme

**WASH:** Water Sanitation and Hygiene

**WFP:** World Food Programme

**WHO:** World Health Organization

## A. ANALYSIS OF THE EFFECTS OF THE FLOODS AND DRAUGHT AND THE HUMANITARIAN RESPONSE

### 1. Brief analysis of the immediate effects of the floods and drought and the response

The year 2007 saw intense rainfall affecting large parts of Northern Ghana. The rains followed two months of below average rainfall that had already impacted the farming activities in the Northern part of the country. Regions most badly affected by the floods were the Upper West Region, the Upper East Region and the Northern Region. The heavy floods that followed brought in more than 30 millimetres of rainfall in August and the consequences were severe flooding in valleys and low lying areas. Particularly affected were the areas along the Black and White Volta and their tributaries. The situation was further aggravated by spillage from the Bagre Dam<sup>1</sup> in Burkina Faso.

The result was a humanitarian crisis. Whilst not uncommon in Ghana, the cumulative effects of the prolonged dry spell, the spillage from the Barge Dam and the ensuing excessive rainfall was in excess of what the local capacities could and would normally deal with.

According to Government figures, 49-61 people were killed and over 300,000<sup>2</sup> people were directly affected by the floods, with the Northern Region being the most affected with an estimated 227,817 people affected. The damage caused by the floods included the destruction of homes, disruption to water supply systems, loss of assets for generating income through damage to cropped farms and livestock, stored crop stocks, damage to infrastructure including the collapse of nine bridges, dams and damage to road networks and schools. The effect of the floods prompted the Government to declare the three northern regions as a Disaster Zone as of the 12<sup>th</sup> of September 2007.

Notably, most of the affected areas were also the most economically disadvantaged in the country. The floods compounded the already existing vulnerabilities and magnified the need for not only humanitarian assistance but more medium and longer term strategies to better address the different concerns in the region.

The response immediately after the floods was swift. Under the leadership of the Government of Ghana, the UN agencies, NGOs, the Red Cross Movement and religious groups provided much needed relief for the affected populations, commencing firstly with a joint rapid assessment exercise that took place from the 8<sup>th</sup> to 20<sup>th</sup> September conducted in all three flood affected regions. In addition to the requirement for immediate life saving interventions, the joint assessment exercise also called for immediate medium and long term strategies to be deployed to prevent the further deterioration of the situation and for more sustainable solutions.

The Flash Appeal which was launched on October 4<sup>th</sup>, with technical assistance from the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) during the emergency, sought to address some of the priority areas identified in the joint rapid assessment exercise. Priority interventions were identified as food security, nutrition, Water Sanitation and Hygiene (WASH), health, education, shelter and Non-Food Items (NFIs), sustainable livelihoods and common services including logistics, information management and coordination.

---

<sup>1</sup> Bagre dam was constructed in the eastern part of Burkina Faso in 1992 for construction of a power plant and irrigation.

<sup>2</sup> Source: National Disaster Management Organization (NADMO), cited in Joint Progress Review of Response to Flood Emergency in Northern Ghana.

The Appeal targeted 75,000 people estimated by the UNCT as being the more affected by the effects of the floods, a lower figure than the government's 300,000 estimation. The UNCT's estimate did not however take into account WFP's estimation of people at risk of being food insecure. These figures were put at 266,000 with 70,600 requiring life saving food assistance and 96,400 requiring assistance to restore livelihoods.

Donor response to the appeal was generally good at 64%, but with some sectors such as livelihoods, coordination and information received funding from only the UN agencies.

Subsequent to the Appeal, a number of sectoral assessments were undertaken and funding mobilised to support some of the activities indicated within them. They included disaster management assessments by the World Bank, health sector assessment missions by the Ministry of Health and WHO, rapid nutritional assessment, education infrastructure damage assessment, transport infrastructure damage assessment and road and bridges repairs assessment.

## **2. Analysis of current situation; Identified priorities, needs and challenges**

The grave humanitarian situation in the North is considered to be essentially over, even if it is acknowledged that some emergency needs still remain for some sections of the population and that the general vulnerability level of the population is very high especially in the likelihood of further floods. There is also general agreement that the levels of vulnerability are particularly high regarding food security and access to livelihood opportunities.

With the receding of the flood waters, priority has shifted to livelihoods regeneration mainly within the agricultural sector and looking at the commencement of early farming activities. Also to be addressed are the incidents of malnutrition and the levels of food insecurity, the rebuilding of destroyed shelters, infrastructure and the restoration of livelihoods.

A Joint Progress Review of the impact Emergency Response was undertaken in March 2008, to identify lessons learned during the response phase and their implications for the reconstruction phase and actions required to link the ongoing response to both the emerging long-term development process for the Northern Regions of Ghana and the overall national long-term development plan.

The Joint Review highlighted the continuing priorities for action as:

- 1) conducting a re-targeting exercise to refine the list of beneficiaries of food assistance using criteria related to: (a) nutrition indices, such as Mid-Upper Arm Circumference (MUAC) of under-five children and Body Mass Index (BMI) of female household residents, (b) ownership of productive assets by small-scale producers, (c) sex of household head, (d) households with pregnant and lactating women, (e) nature of key coping strategy adopted by household
- 2) increasing the supply of targeted food assistance to help meet needs during the lean season and until the first harvest, including through: (a) using existing nutrition-based selection criteria in operational distribution centres and the MUAC with pre-determined cut-offs in provisional food distribution centres, (b) continuing emergency school feeding
- 3) focusing on access issues in addressing food security problems
- 4) completing and up-scaling reconstruction of affected household shelter
- 5) quickly implementing livelihood restoration activities
- 6) developing the capacity of partner agencies, particularly community health, nutrition and sanitation workers to strengthen surveillance, end-user monitoring and follow-on remedial

interventions, such as continuous disinfection of water sources and development of sanitation structures

7) building and strengthening humanitarian assistance coordination mechanisms

The first challenge identified is the need to continue with humanitarian assistance whilst at the same time shifting from relief to recovery. The challenge to this is the added financial strain and the subsequent competition for resources in order to address the priority needs in the two phases. Whilst there is no plan for a joint humanitarian appeal as was in the case of the flash appeal, individual humanitarian agencies will be expected to mobilise resources and strengthen their annual emergency assistance to respond to these humanitarian needs.

The second challenge has been the slow pace it has taken to build the capacities of partners to respond to the emergency and its impact on delivery as we now move on to recovery. Strengthening the capacities of national partners and NGOs in particular to maintain the momentum gathered by the onset of the floods and using this to drive the humanitarian process has not been easy. The Joint Progress Review specifically mentioned the need for capacity development support to the Ministry of Food and Agriculture, the Ghana Education Service, Ghana Highway Authority, Department of Rural Housing, Community Water and Sanitation Committees, and all of which are key institutions for the implementation of the recovery phase.

A third challenge is coordination of responses. Coordination of the humanitarian phase was not without its problems. In discussions with UN partners and with Government, the perception was that poor coordination of the humanitarian response affected all levels of the humanitarian response. It is because although the roles and responsibilities within Government organizations for this humanitarian response were defined, their capacities and resources were not sufficient to pursue their functions. A key issue will be the effectiveness of the existing coordination mechanisms to effectively deal with the demands of coordinating the recovery interventions.

### **3. Impact of the pre-existing and continuing vulnerabilities including possible future flooding**

The effects of the floods in Northern Ghana only served to compound an already existing problem. The three mostly affected regions in the north of the country also happen to be the most economically deprived. In the Government of Ghana's Northern Rural Growth Programme, rural poverty is stated to be community wide and livelihood systems extremely vulnerable in the three affected regions. Food insecurity affects virtually all members of the community for part of every year. Pre-existing vulnerability in the North is associated with on-going dependence on low return food crop farming which results in persistent low economic growth and low incomes; the low percentage of household income that is generated from non-farm activities and where individual have access to other sources of income, the low level of remittance compared to the rest of the country which makes it almost impossible for any sort of accumulation of income.

In developing a recovery project for the North, it is critical that these pre-existing vulnerabilities are taken into account. The three northern regions are susceptible to severe weather conditions and frequently experience incidents of drought and flood. Riverine flooding occurs annually and it is estimated that floods occur once every 10 years, as major incidences were last experienced in 1989 and 1999 (Source: NADMO). This is disputed by inhabitants of the region, particularly those who inhabit the banks of the Black Volta, who claim to experience severe flooding at least once every three to four years. The cyclical incidence of the floods and drought and its impact on farming livelihood opportunities is a strong indication of the need to provide multi faceted and

flexible alternative livelihood activities so as to more effectively ensure food security for the targeted communities.

To enable the country respond to threats of flooding the UN is collaborating with NADMO to prepare a Contingency Plan to strengthen national capacity for disaster preparedness.

## **B. UNDP'S SUPPORT TO NORTHERN GHANA**

### **1. Existing UNDP Programming in Northern Ghana.**

UNDP's support to Northern Ghana is in three areas; Governance; Environment and Energy; and Wealth Creation and Sustainable Livelihoods. These areas have received support since 2006 within the framework of the United Nations Development Framework (UNDAF) for Ghana (2006-2010).

In area of Governance, UNDP has supported the rolling out of the National Peace Architecture to the regional level, through the establishment and capacity development of Regional Peace Councils. The Ghana National Commission on Small Arms, with support from UNDP, has led a campaign against the proliferation of small arms and light weapons as well as capacity development to enhance gender equality in democratic governance. In the Energy/Environment sector, UNDP is promoting the use of LP Gas and improved woodstoves and Public Private Partnerships in water management. As for the Wealth Creation and Sustainable Livelihoods cluster, in order to promote holistic, people-centred and sustainable community empowerment, selected districts and communities in the three Northern Regions are being supported to develop and implement Community Action Plans. Also, Micro and small Enterprises (SMEs) are being assisted with financial and business development services to enhance their capacity to create jobs and wealth. Human Development Reports have been formulated for selected districts to outline their HD profiles as an input into the development of District Plans.

Following the floods, UNDP supported flood impacted communities in two key areas: sustainable livelihoods and disaster management:

In the area of restoration of livelihoods, UNDP in collaboration with 5 NGOs (Opportunities Industrialization Centres International, Concern Universal, CARE International, Plan International and Africa 2000 Network) worked to restore livelihoods in flood impacted communities in Northern Ghana. The interventions include activities such as food production, livestock and fisheries production, soil conservation and dry season supported by micro-irrigation, market gardening of high value vegetables, training in emergency preparedness and disaster risk management, post harvest training and micro-enterprise development, training and technical support.

Also, there has been UNDP-FAO collaboration in this component. UNDP and FAO are part of the Sustainable Livelihoods theme group, in which UN agencies, NGOs and Government of Ghana have regularly discussed collaboration and activities in support of sustainable livelihoods, especially during the post-floods period in 2007 and 2008. In response to the floods, UNDP and FAO promoted collaboration in enhancing sustainable livelihoods through strengthening on-farm and off-farm activities in Northern Ghana, contributing to early recovery in flood-impacted communities. Also, UNDP and FAO have been working on a joint programme on Human Security, with other UN agencies to support conflict prevention and poverty reduction in the three northern regions. This joint programme will be launched in mid 2009 to contribute to sustainable development in Northern Ghana by using expertise and strengths of each UN



agency. It is expected that the current favorable collaboration between UNDP and FAO will continue under the Recovery Project in Northern Ghana to complement existing efforts and accelerate recovery initiatives, creating further synergies.

While working on support to flood impacted communities, UNDP also facilitated stakeholder discussions to review the development approach in Northern Ghana, to ensure that the special needs and issues of Northern Ghana are adequately addressed in any long-term plan for Ghana, arising out of this, the Savanna Accelerated Development Authority (SADA) is being established to ensure concerted effort to bridge the development gap between the north and south.

Within the framework of UNDAF and CCF-II, UNDP's collaboration with NADMO since 2006 has focused on strengthening institutional structures and coordination for vulnerability and disaster preparedness and risk management by enhancing data collection and analysis.

Upon the occurrence of floods in September 2007, UNDP Country Office with the support of the Bureau for Crisis Prevention and Recovery (BCPR) provided Information and Communication Technology (ICT) equipments to the three Northern Regional offices of NADMO. The installation of the equipment in October 2007 has significantly enhanced communication between the NADMO regional offices at Tamale, Bolgatanga and Wa and the national headquarters. The BCPR support also covered access to an upgraded intranet portal within the Office of the President that provides information on the extent of disaster damage and supplies and distribution of relief commodities. UNDP assisted in the upgrading of the Castle Internet Portal to facilitate coordination of relief assistance in this regard.

Under the current UNDP support to NADMO, a capacity assessment of the organization is to be undertaken with the view to strengthening NADMO's disaster preparedness for effective response at all levels. The programme also supports capacity development of NADMO and disaster-related institutions by setting up a National platform for disaster risk reduction, establishment of a functioning information management system at district level to ensure coordinated disaster relief as well as training of NADMO staff to enhance their operational effectiveness.

The effects of the floods have brought to the fore the need to sustain and safeguard the gains made through UNDP's intervention in the flood affected areas by ensuring that vulnerability to such hazards and hence the risk for damage and destruction could be reduced through the institutionalisation of appropriate disaster preparedness plans. The afore-mentioned UNDP initiatives as well as the Joint Progress Review of Response to Flood emergency in Northern Regions of Ghana have revealed the following lessons:

- Greater effort should be placed on capacity development of local partners at the regional, district and community levels;
- Response interventions should focus more on livelihoods support for addressing multiple hazards;
- There is a need to increase assistance to on-going activities in the areas of logistics support to coordination, sustainable livelihoods and NADMO's coordination capacity development.

## **2. Recovery coordination and programming support to northern Ghana**

The government proclamation of the end of the humanitarian phase in Northern Ghana leaves a gaping vacuum with the absence of any coordinated or structured response to recovery and beyond. UNDP's lead role in recovery in the flood affected areas is very sharply felt. This is not

withstanding UNDP's on-going livelihoods and peace building projects, many of which preceded the floods and are not perceived to fall within any strategy of recovery response to the crisis.

Against this backdrop, the need for recovery programming was recognised as far back as the initial assessment stage. Since then, many other actors including Government, non-governmental organisations, UN agencies and beneficiaries have repeated the urgent need to ensure continuity of the momentum gained in the humanitarian phase and to commence recovery activities.

UNDP's lead role in early recovery and longer term recovery and development activities has continued to raise expectations amongst partners and beneficiaries. Effective and sustained engagement in recovery necessitates not only the developing of UNDP supported coordination mechanisms of recovery activities as they are rolled out, but importantly that UNDP recovery programmes are developed to address the urgent recovery needs in the worst flood affected areas and that UNDP's leadership is demonstrated through visibility in the North.

In response to this, UNDP proposes to implement a recovery project in the three regions in Northern Ghana with three components: coordination, sustainable livelihoods, and disaster management.

### **C. RECOVERY PROJECT IN NORTHERN GHANA**

UNDP Ghana proposes to implement a recovery project to address urgent recovery needs in the three flood affected regions of Northern Ghana. Project site districts and communities will be selected and agreed on through a review of existing data and local consultations with partners, district authorities and community groups. The selection criteria include the level of damages caused by flooding in 2007 and needs of vulnerable groups particularly women because the 2007 floods resulted in increased vulnerabilities compounded by a loss of livelihood opportunities and the threat of recurring increasing food insecurity. Considering the high vulnerability of districts which an on-going UNDP project (Sustainable Rural Livelihoods Project in Northern Ghana) is supporting, those project site districts will be given high priority in site selection so as to build on initial and current efforts, to optimize results and to reduce high vulnerability. Those project sites include: Bunkprugu-Yonyoo, Central Gonja, Karaga, Nanumba South, and Sawla-Tuna-Kalba Districts in the Northern Region; Garu-Tempene and Tanlensi-Nabdam Districts in the Upper East Region; and Sissala West, Wa East, and Wa West Districts in the Upper West Region.

For the context of Northern Ghana, UNDP's objectives in recovery are as follows:

- To bridge the gap between relief and development in terms of programme and resources;
- To support the Government of Ghana's coordination activities in recovery
- To provide recovery programme activities to the flood affected communities specifically with regards to livelihood support and lessening food insecurity
- To provide capacity development support to Government for better Disaster Risk Reduction strategies

In meeting these objectives, the recovery project will seek to:

- Reinforce existing coordination mechanisms at the Regional Coordination Offices of the Northern, Upper West and Upper East Regions.
- Implement a series of livelihood projects for the most severely flood affected communities.

- Enhance already existing capacity development support for the National Disaster Management Organisation (NADMO)
  - Increase UNDP CO capacity to manage the project activities
- 1. Reinforce existing coordination mechanisms at the Regional Coordination Offices of the Northern, Upper West and Upper East Regions.**

Overall coordination of the humanitarian response to the floods was under the leadership of the Government of Ghana. From Accra, the Government created the Inter-Ministerial Task Force as the centre piece of the coordination efforts for the whole Northern Ghana. Complimenting the Government's efforts was the Humanitarian Country Team under the leadership of the Resident Coordinator who met regularly for a coherent, timely and integrated response to the humanitarian efforts. These mechanisms were replicated at the regional level where the Regional Coordination Council with more direct linkages to the flood affected districts and communities were tasked with the coordination of the day to day sectoral responses to the crisis. The coordination mechanisms functioned under the chair of the different regional coordinating directors. While the Joint Progress Review states that the coordination of the humanitarian response was overall satisfactory with the response coordinated effectively enough to achieve major targets specified in the humanitarian plan of the Flash Appeal, it also identified the major points of weakness of coordination in communication between national and regional levels of the NADMO structure.

In coordinating the recovery response, it is proposed that three information coordination hubs are established within the three Regional Coordination Councils. These coordination hubs will serve to collate, analyse and disseminate up-to-date data on all of the recovery activities in their specific regions, identify the gaps and report on the progress and new challenges so as to facilitate their evidence based decision making.

The Regional Coordination Hubs meetings will be co-chaired by the Regional Coordinating Directors and UNDP with participation expected of all development and humanitarian partners including Ministry of Food and Agriculture, NADMO, Regional Peace Council and NGOs. The Project aims to reinforce the capacity of the Regional Coordination Councils to take on this recovery coordinating role by providing technical support to affect a systematic information management mechanism that will seek to be able to gather information from partners and be able to analyse the information collected for dissemination. Technical support to the Regional Coordination Hubs will be provided by the Recovery Field Specialists.

The generation of information to be fed to the Regional Coordination Hubs will be a key component of the recovery programming response at the districts.

- 2. Implement a series of livelihoods activities for the most severely flood affected communities.**

Under its Sustainable Rural Livelihoods Project (SRLP), UNDP presently has livelihoods support activities in 10 flood affected districts in the three northern regions. They are Bunkprugu-Yonyoo, Central Gonja, Karaga, Nanumba South, and Sawla-Tuna-Kalba Districts in the Northern Region, Garu-Tempene and Talensi-Nabdam Districts in the Upper East Region and Sissala West, Wa East, and Wa West Districts in the Upper West Region. The SRLP, through the community action planning methodology, engages members of the community to be actively involved in the decision making process of development programmes in their village through identifying and prioritizing their assets, needs and challenges, and designing Action

Plans with solutions. Through this methodology, priorities have been identified to include food security, education and wealth creation. By working with other UN and non-UN partners, UNDP through this project aims to increase productive capacity for sustainable livelihoods in the three Northern Regions, especially in the most deprived districts by 2010. Following from the floods, the communities were given training in disaster recovery and management (DRM) and the Community Action Plans are being revised to incorporate DRM as a key component.

With the development of livelihoods component as part of its recovery response, UNDP expects to tap into existing expertise and entry points to reach to the most affected districts within which it already operates and to reach out to other districts where they meet the required criteria of being severely affected by the floods.

Under the livelihoods component of the Recovery Project, UNDP will embark on a number of livelihood activities. These activities will pay close attention and provide direct support to vulnerable women in the project sites for enhancing their livelihoods. These will include:

- Traditional farming support supplemented with minimal support for livestock farming: The discussions with Government representatives, UN and non-UN actors stress not only the very dire effects the floods had on the farming activities in the North, but also the impending crisis due to the inability of farmers to do any farming activities as a result of the extreme shortage of seeds and farming implements. The Recovery Project proposes to support selected traditional farmers in districts severely impacted by the floods in all three regions with the provision of seeds, fertiliser, insecticide and farming implements for the next farming season. The project will also provide minimal support for the rearing of livestock such as sheep, goats, guineafowl as an additional source of income during the lean period before the harvest.
- Dry season farming specifically targeting women and youth is a second proposed livelihoods activity. The region has a semi arid Savannah type climate and the year is divided into by five months of rainy season (June-October) and seven months dry season. The region's reliance on agriculture and including rain fed produce in light of the prolonged spell of the dry season contributes significantly to the precarious food security situation for the general population. The Recovery Project proposes to address this by providing dry season market garden opportunities, using the African Market Garden (AMG) methodology<sup>3</sup> which will allow farmers to have access to water using the drip irrigation method that the AMG provides, throughout the dry season. Proposed dry season produce will include maize, sorghum, millet, rice, groundnut, cowpea, yam and to a limited extent, soybean and cassava. Vegetable produce will include onions, tomatoes, pepper, garden eggs (African eggplant), okra, cabbage and lettuce. The support to dry season farming will also include support to the provision of fertilizer, insecticide, seeds and initial technical support from the Savannah Agricultural Research Institute (SARI) on the use of the AMG method.
- Support to alternative livelihoods opportunities for women such as shea butter and soap making and fortified cereal making, which are major income generating activities for women in Northern Ghana. This support will target many women who have lost their usual traditional forms on income generation opportunities which is farming using the

---

<sup>3</sup> The AMG is a low-pressure drip irrigation system developed for the small producers of Africa by The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and Savanna Agricultural Research Institute (SARI), Tamale, Ghana. It has all the advantages of the pressurized drip system (water, fertilizers, pesticides and labour saving, higher yields, better product quality, year round production) with a fraction of its costs. The AMG has already enjoyed tremendous success during its piloting phase in Northern Ghana. For example, 2006 a set of 20 AMG units was installed beside the Binduri dam near Bawku. This is an onion production site. Drip irrigation resulted in a 50% increase in onion yield and in halving of the amount of water used. Farmers were able to produce two irrigated crops per year whereas before they had only one crop per year. Onion is the major crop produced in these sites because of the very big market for onions in the big cities to the south. At Golinga, African eggplant was a second high value crop generating nearly 50% more income than onion.

OL