UNITED NATIONS DEVELOPMENT PROGRAMME
Project of the Government of the Socialist Republic of Viet Nam

Project Budget Number:
VIE/97/002/A/01/99

Project Title:
Support to the Disaster Management System in Vietnam

Project Short Title:
Disaster Management Center (DMC)

Executing Agent:
Ministry of Agriculture and Rural Development

Implementing Agent(s):
Standing Office of the Central Committee for Flood and Storm Control (CCFSC)

Government Cooperating Agent(s):
Vietnam Red Cross

Hydrometeorological Service

Project Site:
Hanoi and Nationwide

Beneficiary Countries:
Vietnam

Estimated Start Date:
1 July 1998

Estimated End Date:
30 June 2001

LPAC Approval Date:
24 April 1998

BPAC Approval Date:
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Programme Officer:
Tran Nguyen Anh

Classification Information:

ACC sector & sub-sector:
1600 Humanitarian Assistance
1620 Disaster Prevention and Preparedness

DCAS sector & sub-sector:
15 Disaster Preparedness
1504 Relief Planning and Instl Preparedness

Primary areas of focus/sub-focus:
Promoting Sound Governance

Secondary areas of focus/sub-focus:
Effective Governance in Special Circumstances

Summary of UNDP and Cost Sharing

<table>
<thead>
<tr>
<th>UNDP:</th>
<th>Current</th>
<th>Previous</th>
<th>Change</th>
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</thead>
<tbody>
<tr>
<td>TRAC (1 &amp; 2)</td>
<td>$1,538,000</td>
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<tr>
<td>TRAC (3)</td>
<td>$ 0</td>
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<td>Other</td>
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<tr>
<td>Cost Sharing:</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
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<td>--</td>
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<td>Financial Inst.</td>
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<td>AOS:</td>
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<td>SOF 07</td>
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<td>--</td>
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</tr>
<tr>
<td>Other</td>
<td>$ 0</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>GRAND TOTAL</td>
<td>$1,808,000</td>
<td>--</td>
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</table>

Brief Description: This project will establish strategies for disaster preparedness, prevention, and mitigation; and strengthen national capacities to plan for and respond to natural disasters, especially water disasters. The successful implementation of the Disaster Management Unit Project (VIE/93/031) established a nationwide disaster information and monitoring system focused on the provincial level; this new project will extend training in disaster awareness and response to the district and commune levels, specifically targeting school children. It will also strengthen the system of disaster warning, reporting and response so that more accurate and timely information can be transmitted between districts, provinces and the central Government. This in turn will allow the central Government and concerned international organizations to respond more effectively to disaster situations. Also, under this project a national Strategy and Action Plan for Disaster Mitigation in Vietnam will be developed, the national Strategy and Action Plan for Water Disaster Mitigation will be updated, and the public information system established under the previous DMU project will be upgraded using current information technologies.

On behalf of
Executing Agent

UNDP

Signature

Date

Name/Title
A CONTEXT

A.1. Description of the Subsector

Vietnam is one of the most disaster-prone countries in the world. Every year monsoon rains, typhoon storms, floods, flash floods, drought and other calamities cause death, injury, crop loss, property loss and infrastructure damage.

Vietnam is located in the monsoon tropical zone of Southeast Asia. At the same time, it is situated in the typhoon center of the Western Pacific, which is one of the five most typhoon-prone areas of the world. Given the coincidence of typhoon and monsoon seasons with heavy rains, and the complicated topography of narrow and low plains to steep and high mountains, floods occur annually in Vietnam. Table 1 indicates the relative frequency of disaster hazards faced by Vietnam:

<table>
<thead>
<tr>
<th>Table 1: Relative Frequency of Disaster Hazards in Vietnam</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High</strong></td>
</tr>
<tr>
<td>Flood</td>
</tr>
<tr>
<td>Typhoon</td>
</tr>
<tr>
<td>Inundation</td>
</tr>
<tr>
<td>Erosion/silting</td>
</tr>
<tr>
<td>Sea water intrusion</td>
</tr>
</tbody>
</table>

Source: Vietnam National Committee for International Decade for Natural Disaster Reduction

There are five principle disaster hazard zones in Vietnam. Each zone has different topography, population type, internal transport and principle types of disaster hazards. Through this regional zonation it is possible to group provinces into 5 classifications to simplify disaster management and planning.

<table>
<thead>
<tr>
<th>Disaster Zone</th>
<th>Principle Water Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Mountain</td>
<td>Flash floods; landslides</td>
</tr>
<tr>
<td>Red River Delta</td>
<td>Monsoon river floods; typhoon storms</td>
</tr>
<tr>
<td>Central Provinces</td>
<td>Typhoon storms; flash floods</td>
</tr>
<tr>
<td>Central Highlands</td>
<td>Flash floods; landslides</td>
</tr>
<tr>
<td>Mekong Delta</td>
<td>River flooding from upstream; typhoon storms</td>
</tr>
</tbody>
</table>

Water disasters rank highest among natural disasters affecting Vietnam. Over 70% of the population of Vietnam is at risk. Table 2 provides some conservative estimates of the damage caused by floods and typhoons in Vietnam over the last two decades. Regarding human losses, only confirmed deaths are indicated. Since there is no reliable data available for damage to infrastructure, estimates for economic damage have been calculated taking into account only damage to unharvested rice and housing. The total damage due to water hazards is certainly much higher.

The 1996 flood season was particularly devastating; a series of typhoons, tropical storms, whirlwinds, landslides and floods from June to November impacted almost every province of Vietnam causing damage that will take years to repair.
Table 2 - Estimated Flood and Typhoon Damage in Vietnam

<table>
<thead>
<tr>
<th>Year</th>
<th>Value of Losses (10^6 USD)</th>
<th>Deaths</th>
<th>Rice Fields Submerged (km²)</th>
<th>Unharvested Rice (km²)</th>
<th>Lost Rice Production (1000 tons)</th>
<th>Houses Damaged (1000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>78</td>
<td>594</td>
<td>N/A</td>
<td>N/A</td>
<td>289</td>
<td>158</td>
</tr>
<tr>
<td>1973</td>
<td>57</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>400</td>
<td>18</td>
</tr>
<tr>
<td>1977</td>
<td>5</td>
<td>153</td>
<td>928</td>
<td>N/A</td>
<td>223</td>
<td>163</td>
</tr>
<tr>
<td>1978</td>
<td>20</td>
<td>676</td>
<td>12,976</td>
<td>6,359</td>
<td>1,343</td>
<td>652</td>
</tr>
<tr>
<td>1979</td>
<td>N/A</td>
<td>46</td>
<td>1,076</td>
<td>N/A</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>1980</td>
<td>10</td>
<td>403</td>
<td>27,783</td>
<td>1,864</td>
<td>324</td>
<td>225</td>
</tr>
<tr>
<td>1981</td>
<td>N/A</td>
<td>274</td>
<td>1,056</td>
<td>404</td>
<td>N/A</td>
<td>49</td>
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<tr>
<td>1982</td>
<td>N/A</td>
<td>97</td>
<td>1,044</td>
<td>704</td>
<td>N/A</td>
<td>175</td>
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<tr>
<td>1983</td>
<td>19</td>
<td>818</td>
<td>3,932</td>
<td>798</td>
<td>187</td>
<td>357</td>
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<tr>
<td>1984</td>
<td>N/A</td>
<td>464</td>
<td>4,174</td>
<td>2,284</td>
<td>N/A</td>
<td>282</td>
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<tr>
<td>1985</td>
<td>N/A</td>
<td>1,013</td>
<td>5,304</td>
<td>2,195</td>
<td>N/A</td>
<td>344</td>
</tr>
<tr>
<td>1986</td>
<td>110</td>
<td>797</td>
<td>3,543</td>
<td>321</td>
<td>1,098</td>
<td>787</td>
</tr>
<tr>
<td>1987</td>
<td>28</td>
<td>140</td>
<td>1,332</td>
<td>78</td>
<td>166</td>
<td>242</td>
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<tr>
<td>1988</td>
<td>35</td>
<td>292</td>
<td>1,429</td>
<td>626</td>
<td>170</td>
<td>284</td>
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<tr>
<td>1989</td>
<td>74</td>
<td>484</td>
<td>6,428</td>
<td>1,642</td>
<td>806</td>
<td>1,290</td>
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<tr>
<td>1990</td>
<td>17</td>
<td>354</td>
<td>1,722</td>
<td>455</td>
<td>169</td>
<td>220</td>
</tr>
<tr>
<td>1991</td>
<td>44</td>
<td>480</td>
<td>2,019</td>
<td>767</td>
<td>N/A</td>
<td>398</td>
</tr>
<tr>
<td>1992</td>
<td>62</td>
<td>352</td>
<td>N/A</td>
<td>456</td>
<td>N/A</td>
<td>277</td>
</tr>
<tr>
<td>1993</td>
<td>82</td>
<td>387</td>
<td>2,300</td>
<td>896</td>
<td>N/A</td>
<td>257</td>
</tr>
<tr>
<td>1994</td>
<td>260</td>
<td>507</td>
<td>5,739</td>
<td>892</td>
<td>1,000</td>
<td>634</td>
</tr>
<tr>
<td>1995</td>
<td>106</td>
<td>399</td>
<td>2,489</td>
<td>365</td>
<td>83</td>
<td>501</td>
</tr>
<tr>
<td>1996</td>
<td>655</td>
<td>1,278</td>
<td>8,402</td>
<td>1,910</td>
<td>56</td>
<td>1,952</td>
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</tbody>
</table>

Source: Department of Dike Management and Flood Control, Ministry of Agriculture and Rural Development, 1996

Note: N/A - data not available

Furthermore, the constant fear of typhoons and flooding significantly influences the lives of farmers and villagers at the district/community level and their economic behavior. In areas affected by floods, farmers tend to grow only one crop a year during the non-flood season; this is compared to two to three crops grown in flood protected parts of the country. In addition to the loss of their homes and personal possessions, farmers also lose opportunities to invest and to modernize their agricultural and business practices. Thus, in order to increase agricultural and other investments in the less developed and poorest areas of Vietnam, the risk of water-induced disaster must be reduced.

Rapid social, economic and technological reforms are currently taking place in Vietnam as the country moves from a central to a market-oriented economy. In general, these reforms have been successful in generating remarkable economic growth. However, rapid urbanization and industrialization have also put new pressures on the already strained resource base. Unless environmental considerations are incorporated into the development process, there is a risk of a significant degradation of Vietnam’s natural resources. As a result, an increased incidence of natural disasters and their ensuing costs can be expected.

Examples of the increased incidence of natural disasters in Vietnam caused by the degradation of natural resources are real and readily available. Along the coast, mangroves have been removed for shrimp farming and coastal reefs have been destroyed for building materials, exposing coastal settlements to more winds and waves than before. On the hills and mountains, deforestation for fuel wood has substantially increased water run-off so that flood levels
are higher than they used to be. At the same time, with less and less water filtering into the ground, dry season flows are reduced. For the first time in the recent history of Vietnam, severe water shortages and extensive sea water intrusion into groundwater and up the coastal estuaries have been recorded. This has caused community water supplies to go brackish and requires villagers to travel many kilometers to obtain fresh water.

A.2. Host Country Strategy

As a follow up to the “International Workshop on Emergency Preparedness and Flood Disaster Mitigation” held in Hanoi in 1992, the Government of Vietnam prepared a *Strategy and Action Plan for Mitigating Water Disasters in Vietnam*. Three objectives were considered in the formulation of the strategy:

- **Social**: to reduce the loss of life, injury, and social disturbance caused by water disasters.
- **Economic**: to increase economic benefits from the use of areas prone to water-disasters.
- **Environmental**: to restore flood degraded land areas and to prevent the environmental degradation of key food production areas.

Vietnam is one of the very few countries in the world to have adopted a strategic approach to water disaster mitigation. The purpose of the *Strategy and Action Plan* is to ensure that all flood mitigation issues are addressed, to prevent duplication of effort, and to assist in the coordination of disaster mitigation activities. The *Strategy and Action Plan* recommends a three-pronged approach to water disaster mitigation, with a strong emphasis on non-structural solutions on a short and medium-term performance basis:

**Forecasting and warning systems**: To prevent a natural phenomena from turning into a disaster by providing advance notice to potentially affected populations. Physical warning systems and non-physical methods of public awareness training and education are stressed.

**Preparedness and mitigation**: To decrease the incidence of disasters by upgrading and monitoring emergency repair and mitigation techniques. On the one hand, there is physical construction, such as improvement and maintenance of water disaster control structures. On the other hand, there are non-physical activities throughout the country that include development of water laws, introduction of insurance coverage against loss, schemes for generating funds for the self-financing of mitigation works, and institution building for water disaster preparedness.

**Emergency relief**: To minimize losses through physical stockpiling of equipment and repair materials, combined with training for effective emergency response. Non-physical relief includes the formation, staffing and training of a *Disaster Management Unit*; the DMU prepares plans for emergency management, develops procedures for mobilizing emergency relief and recommends strategies for rehabilitation.

It is because of its annual battle with nature and the increased incidence of natural disasters that Vietnam has aggressively embraced the “International Decade for Natural Disaster Reduction” (IDNDR) declared by the United Nations. The Vietnam National Committee for IDNDR, with strong patronage from the Prime Minister’s office, has become a regional model.
for the promotion of disaster mitigation through all phases of the disaster cycle building on Vietnam’s thousand-year long tradition of communal response to natural disasters.

A.3. Prior and On-Going Assistance

There are a number of projects in Vietnam related to disaster management supported mainly by the Vietnam Red Cross Society, World Food Programme, Asian Development Bank, Asian Disaster Preparedness Center, and United Nations Development Programme. However, only two on-going projects are directly related to capacity building for disaster management at the provincial level.

VIE/93/031 - Disaster Management Unit (Phase 1 & 2). The objective of this project is to strengthen the national capacity to respond effectively to disaster situations and to better manage disaster relief at the provincial and national levels by establishing a Disaster Management Unit (DMU) supporting the operations of the central Government and provincial Committees for Flood and Storm Control (CFSCs).

The DMU project in its first year (Phase 1) established data and voice communications with 17 disaster-prone provinces. It has also established a National Training Team to conduct disaster management training for provincial, district and local leaders in all disaster-prone provinces of Vietnam. A Reference Center and a central database on disaster management was successfully established in the DMU office in Hanoi; and regional databases were established in 17 provincial disaster management offices. A national and internationally accessible Bulletin Board Information System was implemented to provide daily updates of disaster and relief bulletins from throughout Vietnam. This information is taken from the Vietnamese language press, from the English language press, and from official Government sources.

UNDP funding for Phase 2 of the DMU project was granted as a result of the Government’s desire to extend DMU activities and performance of the project in achieving Phase 1 goals. Cost-sharing for Phase 2 was provided by the BP/Statoil Alliance for the extension of the DMU Disaster Information System to all 11 provinces of the Mekong river delta. The DMU project in its second year (Phase 2) extended the Phase 1 outputs to 47 of the remaining most disaster-prone provinces of Vietnam. The Phase 2 DMU project also established a DMU geographic information system (GIS) and upgraded the DMU public information function.

A detailed description of DMU outputs to date is contained in Annex VII. A summary of those outputs is as follows:

1. Emergency Disaster Communications System (DMUnet)
2. Reference Center and Computer Bulletin Board Services for Disaster Management Information (DMUbbs)
3. Disaster Damage Assessments (DMUdamage)
4. Disaster Needs Reporting (DMUneeds)
5. Disaster Management Data Base (DMUgis)
6. Disaster Management Training Team (DMUtraining)

Disaster Preparedness Programme of Vietnam Red Cross Society: Disaster preparedness was considered a very high priority in the framework agreement signed in April 1991 between the Vietnam Red Cross Society (VNRC) and the International Federation of Red Cross and Red
Crescent Societies (IFRC). As of February 1995, the IFRC had assisted the VNRC in establishing 39 Disaster Preparedness Centers (DPCs) throughout the country.

The objectives of the VNRC DPCs are “to build up a connected network of well-trained and sufficiently equipped Red Cross staff and volunteers, who, supported by a well-functioning logistical system, and in coordination with local authorities, effectively will carry out emergency preparedness, emergency relief, post-disaster rehabilitation, and public awareness activities within their respective geographical areas of responsibility.” In addition to these disaster related activities, the VNRC DPCs also serve other prioritized VNRC activities, like the provision of community-based first aid/primary health care.

A.4. Institutional Framework

Vietnam has one of the most developed national and provincial institutional, political and social structures in the world for confronting water disasters. These structures have evolved over centuries. Moreover, several major institutional initiatives have taken place over the last five years to streamline the Government administration in charge of disaster management and to strengthen its ability to respond to natural disasters.

The current legal authority for disaster management in Vietnam rests with the Central Committee for Flood and Storm Control (CCFSC). The Hydrometeorological Service of Vietnam (HMS) is the government agency responsible for the management of meteorology and hydrology as well as issuing typhoon and flood forecasts over the whole country.

Based on this information, the CCFSC is responsible for directing emergency responses. The CCFSC is an inter-ministerial body having the legal authority to take actions, based on HMS forecasts, to mitigate the effects of all types of natural disasters including storms and typhoons. The CCFSC has representation at the highest level from all relevant central Government agencies; and it has a comprehensive system of daughter organizations spanning the entire governmental range from central to local government. For example, at the provincial level, the Provincial Committee for Flood and Storm Control is chaired by the Chairman or the Vice Chairman of the Provincial People’s Committee; the standing offices of these provincial committees under the provincial Departments of Agriculture and Rural Development (DARD) are responsible for dike management and flood control. Their tasks include the preparation of flood mitigation and relief plans.

In January 1991, in line with the United Nations’ initiative for natural disaster reduction, the Vietnamese National Committee for the International Decade of Natural Disaster Reduction (VNCIDNDR) was established. In October 1995, a ministerial position for flood and storm control was established to chair both the VNCIDNDR and the CCFSC. Both committee secretariats are managed by the Department of Dike Management and Flood Control (DDMFC) under MARD.

Prior to its upgrading to ministerial level, the CCFSC was mainly in charge of disaster preparedness, particularly dike monitoring and emergency repair. Now, for the first time in Vietnam, a single administration is in charge of all the different phases of disaster management, including disaster mitigation and rehabilitation. This upgrading shows the unique importance given to flood disaster mitigation by the Government of Vietnam.
At the national level, the day-to-day work of disaster management is performed by the Standing Office of the CCFSC. As described above, the Standing Office is managed by the Department of Dike Management and Flood Control of MARD.

Further, in early 1997, the DDMFC of MARD was renamed the Center for Disaster Management with new broad powers to plan and implement disaster management actions. In effect this means that the Standing Office of the CCFSC has been upgraded to the status of a center with broader powers for all aspects of disaster management. Further, the Vietnam Center for Disaster Management is the counterpart of National Centers for Disaster Management that have been instituted in all ASEAN countries.

B. PROJECT JUSTIFICATION

B.1. Problem To Be Addressed

Limited awareness and capacities at the district-level. Almost all of the authority for implementing physical and non-physical activities for mitigating water disasters in Vietnam has been delegated from the central Government to the provinces. Similarly, the provinces delegate much of this authority to their districts which serve as the grassroots government in Vietnam. Provincial and district institutions in charge of disaster management generally have good understanding regarding structural disaster mitigation solutions (water engineering, dike operation, and flood way maintenance).

However, authorities at both the provincial and district levels suffer from a lack of information and practical experience on non-structural solutions to incorporate disaster mitigation into the development process (hazard and risk analysis; vulnerability assessment; land-use planning and zoning; legislation and regulation; insurance and self-financed protection; disaster preparedness and mitigation training; environmental protection; hydrometeorological awareness; mitigation planning, etc).

At the household level, individuals are usually aware of the threats and even have some experience in responding to natural disasters. However, these same households generally have taken only limited steps to mitigate the effects of natural disasters prior to their occurrence. This is a result of poverty on the one hand, which limits the amount of material preparations that can be afforded, and lack of information on the other hand, which limits the range of options that are even considered. Despite the fact that the central Government can generally warn the population of typhoons more than 48 hours in advance, damage assessment missions after a disaster often show that simple flood mitigation actions, such as protecting livestock or protecting personal belongings, have not been taken by the local population.

Inadequate site-specific information. Another major constraint to effective relief efforts in Vietnam is the limited provincial and district capacity for preparing damage assessments that are based on accurate, timely, and site-specific information. This in turn limits the ability of national agencies to develop rational relief plans after the event, or disaster mitigation plans prior to the event. In the absence of an efficient damage assessment and relief assistance monitoring system at the district/community level, provincial authorities often have no other option than make an estimate of the damage and request a standard list of relief goods, consisting of food, clothes and medicine. The result is that wrong quantities of needed relief goods are often supplied and that critical relief needs are often overlooked.
Inadequate coordination, planning and public information. While the flow of information both to and from the grassroots level needs to be improved in Vietnam, the overall coordination of activities at the national and international levels needs to be improved as well. The *Strategy and Action Plan for Water Disaster Mitigation in Vietnam* has not been updated in more than two years, and there is currently no national strategy for natural disasters that are not water related. Such disasters can include droughts, earthquakes, landslides, whirlwinds, forest fires, salt water intrusion, etc. Many efforts have been undertaken by different agencies in accordance with their mandates and capacities, often with the assistance of the international donors community, but they are often isolated, stand-alone projects which are not undertaken within the framework of a comprehensive national strategy.

In the interest of mobilizing international support for disaster mitigation in Vietnam, information on these various disaster systems needs to be shared not only between concerned agencies within Vietnam, but with the international community as well through an improved public information system. Given the growing importance of electronic information flows both in Vietnam and around the world, the public information system should adopt the most up-to-date information technologies available.

**B.2. Expected End of Project Situation**

By the end of the project, district and commune capacities to deliver grassroots training in disaster awareness and response will be strengthened. This will be accomplished by carrying out a disaster awareness and response training program for district- and commune-level leaders; and a disaster awareness and response instructional program for school children and their families.

By the end of the project, national and provincial capacities to plan for and respond to natural disasters based on site-specific criteria will be strengthened. This will be made possible by an improved disaster warning system; an improved reporting system for damage, emergency relief needs, and rehabilitation requirements at the district level; improved mechanisms for decision-making at the national level regarding needs and priorities for emergency relief and rehabilitation; and improved procedures for delivering emergency relief and rehabilitation.

By the end of the project, the *Strategy and Action Plan for Water Disaster Mitigation in Vietnam* will be updated, and a separate *Strategy and Action Plan for Disaster Mitigation Disasters in Vietnam* will be prepared. By the end of the project, the national capability to disseminate public information will be strengthened through the implementation of improved information technology systems and procedures.

**B.3. Target Beneficiaries**

The direct beneficiaries of this project will be Government authorities in national, provincial and district institutions responsible for water disaster management. Indirect beneficiaries will include households in disaster-prone areas who will benefit from increased awareness of non-structural responses to the threat of water disasters and from improved disaster planning and response on the part of the responsible Government authorities. A select number of school children and their families will also benefit indirectly from this project through the provision of disaster management and disaster mitigation training instructional kits. Ultimately, the
whole population of disaster-prone provinces will benefit from the project from improved disaster mitigation, from better emergency aid delivery and from new self help capabilities to mitigate disaster induced household trauma.

B.4. Project Strategy and Institutional Arrangements

Project Strategy. In order to ensure consistency in capacity building for disaster management in Vietnam, the proposed project activities will be performed as a follow-on to the UNDP-supported Disaster Management Unit project (VIE/93/031). Disaster management training activities for decision-makers at the district and community level will be carried out using simplified training materials already validated at the provincial level by VIE/93/031. The DMU disaster communications network will be expanded and upgraded (including GIS capabilities with site-specific information) to improve disaster planning, warning, reporting and response. National strategies and the public information system will be upgraded updated and improved for better coordination of disaster mitigation efforts.

Grassroots Training. Disaster awareness campaigns will be focused on the school system. Experience in both developing countries and in developed countries shows that grassroots training in disaster preparedness and disaster loss mitigation is best given at the grammar school level. School children then take the materials home to the family unit and provide information to other family members including the responsible adults.

Disaster relief studies in Vietnam have shown that one of the most critical disaster effects on low income rural families is the loss of official papers and family records. Official papers include identify cards, land ownership records, army discharge papers, pension documents and other official records. Similarly, family records include birth certificates, death certificates, ancestral documents and family pictures. Experience shows that the loss of official papers and/or family records is severely distressing and incapacitating to the entire family household at times when people most need their survival instincts.

With this concern in mind, the disaster awareness campaign will be carried out using direct marketing techniques using training kits distributed to school children. A specially produced waterproof plastic disaster bag, printed with illustrated instructions on how to mitigate personal loses from water and other disasters, will be provided to each pupil. The disaster bags will provide both instructions on how to prepare for a disaster and a waterproof place to store official records and family documents. By incorporating water absorbing desiccant as part of the training kit, these papers will remain fresh, readable and safe from the elements in even the poorest households. Pupils will be trained on how to use the disaster bag and how to tell their family household how to respond to flood and other emergencies. This training will be performed with extensively illustrated classroom posters and comic book like reading materials suitable for both the pupil and their elders. In particular, the grassroots level in the Mekong delta in the south and in the coastal provinces of central Vietnam will be targeted.

In addition to disaster response measures, the training will also include components on environmental protection and sustainable development (as a means of reducing the consequences of natural phenomena) and hydrometeorological awareness (as a means of better understanding the forecasts and warnings that are issued).
Disaster Planning and Reporting. Using existing low-cost technology, to be integrated by the project, the DMUnet disaster information reporting system will be extended to target districts of prototypical provinces representing typical disaster conditions in each of the five principal disaster zones of Vietnam. The data input technology will make use of place of entry terminals presenting pre-programmed damage needs questions on a rugged waterproof device such as an inventory data input device. Bar code format and optical scanning may be used to ensure that input data is consistent and within a meaningful range of values. The portable place of entry device will be combined with a portable modem and GPS location to allow for real time transmission of disaster needs reports directly from the damage site. Data transmission technology options to be evaluated include cellular telephone modems, VSAT satellite technology, intercontinental paging satellites, etc. Emergency power technology options to be implemented include solar power, generator, and battery backup systems.

The DMUnet information system will be in place to communicate local disaster relief needs to managers of existing emergency relief supply stockpiles, to Government relief agencies, to international aid agencies, and to NGO aid agencies. In this way, the critical time between needs assessment and actual dispatch of aid will be minimized to the shortest possible time. The DMUgis will contain all information needed to assess the characteristics of the population at risk, the available access routes, and the location of local emergency assistance. Incorporating the disaster needs reports received from the provinces/districts into the DMUgis will allow the DMU to rapidly generate site-specific, district-level disaster needs inventories that provides the type and quantity of disaster relief supplies and assistance most required. The DMUgis will also help ensure that the relief can be effectively delivered.

Coordination and Public Information. Under the project, the Strategy and Action Plan for Mitigating Water Disasters in Vietnam will be updated, and separate Strategy and Action Plan for Disaster Mitigation will be developed.

The public information system initiated under the DMU project will be upgraded using up-to-date information technologies and will be used by the Disaster Management Center to disseminate the most up-to-date information on disasters in Vietnam. This system will utilize information technologies, such as Web sites, to make the information accessible worldwide.

Institutional Arrangements. The project will be nationally executed by the Ministry of Agriculture and Rural Development and implemented by the Central Committee for Flood and Storm Control. Actual day-to-day project management will be the responsibility of the Standing Office of the Central Committee for Flood and Storm Control within the Center for Disaster Management of the Ministry of Agriculture and Rural Development.

The Hydrometeorological Service of Vietnam and the Vietnam Red Cross will be cooperating agencies. HMS will cooperate in developing an improved disaster warning system (see Output 2.3 in Section D). VNRC will cooperate in carrying out an instructional program in disaster awareness and response for people at the local level (see Output 2.2 in Section D).

B.5. Reasons for UNDP Assistance

This project is fully in line with the UNDP Country Cooperation Framework which designates Environment and Natural Resource Management (ENRM) as one of UNDP’s main areas of focus. Furthermore, this project is in line with the detailed ENRM Strategy and Action Plan
which includes disaster mitigation as one of its three priority areas in Vietnam. Lastly, this project is in line with the national *Strategy and Action Plan for Mitigating Water Disasters in Vietnam*. Furthermore, UNDP provided substantial assistance to Phase 1 and Phase 2 of the DMU project.

**B.6. Coordination Arrangements**

As this project is cross-sectoral in nature including the CCFSC, the VNCIDNDR and provincial disaster coordination centers, cooperation will easily be arranged with other government agencies and non-governmental organizations, working at regional, provincial and district/community levels.

Coordination of the project with the Vietnam Red Cross Society will be institutionalized through the *VNRC Disaster Preparedness Program*. Similarly, CCFSC information collection, information processing, training, and other activities will be coordinated with the VNRC program. Grassroots training will be performed by district and commune Red Cross officials through Red Cross school units that currently exist in every school in Vietnam.

**B.7. Counterpart Support Capacity**

The Department of Dike Management and Flood Control has sufficient senior staff to manage the project. However, due to the Government-wide hiring freeze in effect for several years, there is a lack of younger technical staff to work on the project. This will be addressed by hiring several national junior staff using project funds. At the end of the project, these staff will be added to the permanent MARD/DDMFC staff to sustain project activities.

**C. DEVELOPMENT OBJECTIVE**

In accordance with the on-going streamlining and decentralization of the public administration for disaster management, the development objective is to prevent and reduce human suffering and economic losses inflicted by natural disasters in Vietnam by strengthening national, provincial and district capacities for disaster planning, mitigation, reporting and response.

**D. IMMEDIATE OBJECTIVES, OUTPUTS AND ACTIVITIES**

**Immediate Objective 1:** To establish a master strategy and action plan for preparing for, preventing and mitigating natural disasters.

**Indicators of Success:**

- The “International Consultation on the Strategy and Action Plan for Disaster Mitigation in Vietnam” will have been held prior to the first flood season after project initiation.
- A strategy for the mitigation of natural disasters will have been prepared by month 18.

**Output 1.1:** A *Strategy and Action Plan for Disaster Mitigation in Vietnam*. (Responsible parties: MARD, all international experts, subcontractors for natural disaster studies and strategy for disaster mitigation)

**Activity 1.1.1:** Inventory all nationally- and internationally-supported projects in Vietnam relating to the mitigation of non-water natural disasters.
Activity 1.1.2: Collect information and carry out studies on major non-water disasters in Vietnam; prepare for and hold several seminars to present the studies of major disasters.

Activity 1.1.3: Organize study tours to select countries to learn from their experiences in disaster management and to apply their knowledge; prepare for and hold a seminar on the study tours to review the experience gained through them and the results achieved.

Activity 1.1.4: Collect and classify studies on major non-water disasters (as mentioned under activity 1.1.2) and draft the Strategy and Action Plan for Disaster Mitigation in Vietnam.


Activity 1.1.6: Finalize the Strategy and Action Plan for Disaster Mitigation in Vietnam and prepare the necessary document to submit it to the Government for approval.


Activity 1.2.3: Summarize all actions taken to update and complete the Strategy and Action Plan for Mitigating Water Disasters in Vietnam.


Immediate Objective 2: To strengthen provincial and district capacities to deliver grassroots training in disaster awareness and response.

Indicators of Success:

✓ A disaster awareness and response training program for district and commune leaders will have been conducted in a total of 30 districts in 3 provinces by month 18.

✓ A pilot disaster awareness and response instructional program for primary school children will have been developed and conducted for school children in 3 different pilot provinces by month 24.
Funding sources to expand the pilot program to all disaster-prone provinces in Vietnam will have been identified by month 24.

Output 2.1: A disaster awareness and response training program for district and commune leaders (in collaboration with related organizations in Vietnam). (Responsible parties: DDMFC, VNRC, Disaster Management Expert, sub-contractor for disaster management training materials)

Activity 2.1.1: Refine and/or develop new materials for training master trainers at the provincial, district and commune level.

Activity 2.1.2: Develop materials to be used by master trainers in providing training in disaster awareness and response at the grassroots level.

Activity 2.1.3: Identify and train master trainers at the provincial level in the most disaster-prone provinces of Vietnam; identify and train master trainers in selected districts and communes of these provinces.

Output 2.2: A disaster awareness and response instructional program for people at local levels. (Responsible parties: VNRC, DDMFC, Disaster Management Expert, sub-contractor for grassroots disaster preparedness training materials)

Activity 2.2.1: Develop disaster awareness and response kits for distribution to primary school children at a selected grade level.

Activity 2.2.2: Develop a training module on disaster awareness, using the kits developed under Activity 1.2.1, to be used by the Red Cross in training leaders of Red Cross School Units.

Activity 2.2.3: Test the disaster awareness kits in prototype provinces; provide disaster awareness training to school children at a selected grade level in all districts of the selected pilot districts and communes.

Activity 2.2.4: Conduct focus group discussions with family group elders to assess the impact of the disaster awareness and response instructional program on their understanding of actions that will mitigate the impact of water disasters on their family and the community.

Activity 2.2.5: Revise the instructional program based on results from the focus group discussions.

Activity 2.2.6: Identify sources of funding to extend the training program to all of the most disaster-prone provinces in Vietnam.

Immediate Objective 3: To strengthen national, provincial and district capacities to plan for, respond to natural disasters and to upgrade the related public information system.

Indicators of Success:
A technical steering committee, and electronic links and information exchange, between HMS and CCFSC will have been established by month 6.

A training program on the national standards for damage reporting and assessment will have been developed and conducted from months 6 to 12 in all districts.

Alternative technologies for real-time disaster reporting will have been assessed and piloted in 5 provinces by month 24.

A comprehensive GIS system for disaster planning and response will have been developed by month 30.

The public information system of the Disaster Management Center will have been upgraded using current information technologies by month 6.

Output 3.1: Improved disaster warning system. (Responsible parties: DDMFC, HMS, Disaster Information Expert)

Activity 3.1.1: Establish a technical group including representatives from concerned Government agencies for improving cooperation on disaster forecasting, warning and mitigation.

Activity 3.1.2: Improve procedures for the exchange of information between concerned Government agencies and the CCFSC related to disaster forecasting, warning and mitigation.

Activity 3.1.3: Design and establish a information link between CCFSC and HMS

Activity 3.1.4: Upgrade the existing broadcast room of HMS to improve the quality and frequency of HMS broadcasts to disaster-prone areas.

Activity 3.1.5: Improve the accessibility of data and develop a system for analyzing information and hydrometeorological data on a computer-based system.

Activity 3.1.6: Harden emergency power supplies at all disaster mitigation offices and harden communications links between CCFSC and the provinces/ministries to help ensure that disaster warnings are transmitted instantaneously from CCFSC to the provinces/ministries even during severe storm events.

Output 3.2: Improved reporting system for damage assessment, emergency relief needs, and rehabilitation requirements at the district level. (Responsible parties: DDMFC, GIS Expert, Communications Expert, sub-contractor on emergency communications system)

Activity 3.2.1: Prepare and implement training program on damage assessment using national standards for disaster reporting in all districts, nationwide.

Activity 3.2.2: Implement improved reporting system and test during the course of one typhoon and flood season.

Activity 3.2.3: Assess alternative technologies for preparing and transmitting in real time assessments of damage and emergency relief and rehabilitation needs from districts to the provincial and national levels.
Activity 3.2.4: Select and procure the appropriate instruments/equipment for such reporting; establish telecommunications linkages and protocols between this district-based equipment and the provincial/national CFSCs in five provinces representing the five disaster zones of Vietnam.

Activity 3.2.5: Revise manual reporting, telecommunications linkages and protocols, and training program.

Activity 3.2.6: Identify sources of funding to extend the disaster reporting system to all remaining districts of Vietnam.

Output 3.3: A system to recommend priorities for emergency relief and rehabilitation to mitigate damage caused by natural disasters in the event of the latter’s occurrence. (Responsible parties: DDMFC, GIS Expert, sub-contractors on GIS data services and remote sensing services)

Activity 3.3.1: Compile existing information and/or conduct additional surveys on the demographics, infrastructure, topography, and other factors, of all provinces for inclusion in a geographic information system for disaster mitigation planning and response (DMUgis).

Activity 3.3.2: Develop and promote a Government protocol whereby all multilateral, bilateral, and NGO donations for emergency disaster relief and rehabilitation are collected and documented by Government in one office.

Activity 3.3.3: Develop DMUgis using as inputs this data as well as information transmitted from HMS, the provinces and districts. Include data output capabilities covering damage projections, relief needs, vulnerability mapping, relief efforts and other outputs.

Activity 3.3.4: Provide training to staff of the CCFSC in the use of DMUgis both to plan for and to respond to natural disasters.

Output 3.4: Improved procedures for delivering emergency relief and rehabilitation. (Responsible parties: DDMFC, Disaster Management Expert)

Activity 3.4.1: Using the DMUgis, develop and implement procedures to inventory relief and rehabilitation needs for districts affected by each storm event based on district characteristics and actual damage reports.

Activity 3.4.2: Develop and implement procedures to prioritize and publicize relief and rehabilitation needs.

Activity 3.4.3: Develop and implement procedures to mobilize, disburse and account for emergency relief and rehabilitation grants provided through the CCFSC by bilateral donors, UN agencies and other international organizations.
Output 3.5: An upgraded and enhanced public information system for the Disaster Management Center and the UN Disaster Management Team. (Responsible parties: DDMFC, Disaster Information Expert, sub-contractor on public information system)

Activity 3.5.1: Upgrade the existing public information dissemination capability using new Information Technologies, such as a DMU Web site.

Activity 3.5.2: Upgrade procedures for posting and/or distributing up-to-date announcements on current storm forecasts, warnings, damage reports and similar data to concerned national and international organizations.

Activity 3.5.3: Post historical data and related disaster information in the public information system such that it can be easily accessed by concerned organizations and individuals.

E. INPUTS

The project will be performed predominately by national experts, with technical support from international experts to ensure the use of international experience and knowledge in disaster mitigation and planning. The project language will be both Vietnamese and English, with necessary interpretation facilities into the English language for international staff.

E.1. Government Inputs

Personnel. The following staff will be appointed by the Government for the full project duration (3 years):

(a) 1 National Project Director (Hanoi): Part-time assignment
(b) 5 Provincial Project Coordinators: Part-time assignment
(c) 25 District Trainers: Part-time assignment
(d) 5 Documentation Officers: Part-time assignment

Equipment. The Government will make available on a permanent basis all of the equipment previously provided under VIE/93/031 including:

(a) office equipment;
(b) technical equipment (provided new or upgraded);
(c) vehicles; and
(d) emergency communications systems at the provincial and national levels.

GIS Materials and Data

(a) GIS materials and GIS-formatted documentation describing disaster-prone areas (maps, infrastructure, socio-economic data, aerial photographs, other)
(b) GIS-formatted documentation describing the sea dike and river dike system

Office Facilities. The Government will provide adequate office space for international experts at the implementing office.
Logistics. The Government will ensure adequate budget for general administrative support. The Government will provide transport by allocating to the project UNDP-supplied vehicles from prior projects.

E.2. UNDP

UNDP will provide funding for the project in accordance with the budget detailed in Section J to provide the following inputs:

Project Personnel. UNDP will provide the following international experts:

(a) Senior Technical Advisor
(b) Disaster Mitigation Strategy Advisor
(c) Information Technology Expert
(d) Communication Expert
(e) Disaster Management Training Expert
(f) GIS Expert (UNV)
(g) Disaster Information Expert (UNV)

UNDP will also provide the following national staff:

(a) National Execution (NEX) Coordinator
(b) GIS Engineer
(c) Informatics Engineer
(d) Information Technology Engineer
(e) Disaster Management Expert
(f) Administrative Assistant

Sub-Contracts. To supplement the work of international and national counterpart staff, subcontractors will be used to provide the following services. Additional details are provided in Annex III:

(1) Natural Disaster Studies
   (a) Flood study
   (b) Storm study
   (c) Inundation study
   (d) Storm surge study
   (e) Salt water intrusion study
   (f) Flash flood study
   (g) Whirlwind study
   (h) Land slide study
   (i) Drought study
   (j) Forest fire study
   (k) Reservoir problems and solutions study
(2) Strategy for disaster mitigation
(3) Disaster management training materials
(4) Grassroots disaster preparedness training materials
(5) Disaster management handbooks and video tapes
(6) Emergency communications system maintenance, installation and training
(7) Public information system management
(8) Translation services
(9) GIS data services
(10) Graphic design
(11) Remote sensing support
(12) Auditing services

Training. Training will be designed and monitored by the international and counterpart staff in the following areas:

(a) Disaster management at the national, provincial and district level
(b) Grassroots disaster awareness at the commune level
(c) Damage assessment at the provincial and district level
(d) Disaster communications at the provincial and district level
(e) GIS and database technology

UNDP will also support international fellowships and study tours as well as national and international consultations related to the new *Strategy and Action Plan for Disaster Mitigation in Vietnam* and the updated *Strategy and Action Plan for Mitigating Water Disasters in Vietnam*.

Training Materials. Professional training materials on specialized subjects relating to disaster management will be designed and developed. A great number of educational disaster management leaflets are to be issued to the public. The project will develop standard training materials for traditional (long established) national and provincial training programs.

Equipment. UNDP will provide the equipment outlined in Annex V. Detailed specifications for the equipment will be developed by project staff during project implementation.

The joint signature of this project document by UNDP and the Government authorizes the UNDP Country Office to provide Country Office support services in accordance with the corresponding approved budget. These services will be undertaken in adherence with applicable UNDP Financial Rules and Regulations and the NEX manual. The support services to be provided by the Country Office may include:

- preparation and review of equipment specifications,
- placing of purchase orders, follow-up and customs clearance,
- reviewing terms of reference for personnel and sub-contracts,
- reviewing terms of reference for personnel and sub-contracts prepared by the project,
- monitoring and evaluation missions,
- recruitment and contracting of national and international consultants and experts,
- sub-contracting.

The funding of such support services shall be provided by the project. The national executing agency hereby agrees with the provision of such services and concurs that the Resident Representative may incur expenditures in the amounts and under the budget lines as follows:

<table>
<thead>
<tr>
<th>Budget Line</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>BL 15.02 UNDP/Govt. Travel</td>
<td>$6,000</td>
</tr>
</tbody>
</table>
BL 23.01 Audits $7,500
BL 53.01 Sundries $3,000
BL 53.08 Public Information $7,500
BL 53.09 CO Support Costs $9,000

Country Office Support Costs (BL 53.09) shall cover actual costs incurred by UNDP for direct support to UNDP’s management of the project. Expenditures made under all other line items will first be cleared by the executing agency.

F. RISKS

Factors which may at the outset cause major delays or prevent achievement of the projects objectives and outputs are relatively small. For example, project design is based on the Vietnamese national culture in disaster mitigation, and the Government commitment to disaster reduction. Vietnam has a thousand-year-old natural history of flood mitigation and disaster management at all levels of government. This project will enhance this commitment by providing public administration reform, institutional strengthening, training, and technology to increase capability and effectiveness in disaster management at the district/community level.

Further, in the organization of the project, arrangements have been made to minimize the risks which could seriously delay or prevent the achievement of the project’s outputs and objectives. These arrangements were verified as effective during the implementation of UNDP Project VIE/93/031, Disaster Management Unit.

G. PRIOR OBLIGATIONS AND PRE-REQUISITES

Prior to the commencement of the project, all required Government inputs will be secured or be in the pipeline. As a pre-condition for the start of the project, the Government will agree to second qualified provincial and district coordinators and trainers. These counterpart staff will continue to receive their normal salaries from the seconding agencies or institutions.

The Ministry of Agriculture and Rural Development (MARD) will provide permanent premises for the project to be located in Hanoi and in the provinces as appropriate. MARD will also make available all equipment procured under UNDP Project VIE/93/031 - Disaster Management Unit. The project document will be signed by UNDP and UNDP assistance to the project will be provided only if the prior obligations stipulated above have been met to UNDP’s satisfaction.

H. PROJECT REVIEW, REPORTING AND EVALUATION

The National Project Director will submit monthly progress reports to the supervisory national agencies, to UNDP and to bilateral funding agencies. Auditing will be performed by an outside agency to be selected by UNDP.

The project will be subject to joint review by representatives of the Government and UNDP at least once every 12 months, the first such meeting to be held within the first 12 months of the start of full project implementation. The national project coordinator shall prepare and submit
to each review meeting a Project Performance Evaluation Report (PPER). Additional PPERs may be requested, if necessary, during the project.

A project terminal report will be prepared for consideration at the terminal review meeting. It shall be prepared in draft sufficiently in advance to allow review by Government and UNDP at least four months prior to terminal review.

The project shall be subject to evaluation 30 months after the start of full implementation and 3 months prior to the scheduled termination. The organization, terms of reference and precise timing will be decided after consultation between parties to the project document. An additional evaluation can be scheduled at any time at the request of Government or UNDP.

I. LEGAL CONTEXT

This project document is the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of Vietnam and the United Nations Development Programme, signed by the parties. The host country implementing agency shall, for the purpose of the Standard Basic Assistance Agreement, refer to the government cooperating agency described in that Agreement.

The following types of revisions may be made to this project document with the signature of the UNDP resident representative only, provided he or she is assured that the other signatories of the project document have no objections to the proposed changes:

   a) Revisions in, or addition of, any of the annexes of the project document [with the exception of the Standard Legal Text for non-SBAA countries which may not be altered and the agreement to which is a pre-condition for UNDP assistance].

   b) Revisions which do not involve significant changes in the immediate objectives, outputs, or activities of the project, but are caused by rearrangement of inputs already agreed to or by cost increased due to inflation; and

   c) Mandatory annual revisions which rephase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility.
J. PROJECT BUDGET
ANNEX I - WORK PLAN
## ANNEX II

**SCHEDULE OF PROJECT REVIEWS, REPORTING, AND EVALUATION**

<table>
<thead>
<tr>
<th>Report type</th>
<th>Due date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name</strong></td>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>Monthly Progress Report</td>
<td>Report</td>
</tr>
<tr>
<td>PPER Report No. 1</td>
<td>Report</td>
</tr>
<tr>
<td>TPR Meeting No. 1</td>
<td>Meeting</td>
</tr>
<tr>
<td>PPER Report No. 2</td>
<td>Report</td>
</tr>
<tr>
<td>TPR Meeting No. 2</td>
<td>Meeting</td>
</tr>
<tr>
<td>Terminal</td>
<td>Report</td>
</tr>
<tr>
<td>End of Project Evaluation Report</td>
<td>Report</td>
</tr>
<tr>
<td>Terminal TPR</td>
<td>Meeting</td>
</tr>
</tbody>
</table>
ANNEX III - SUBCONTRACTS

A number of sub-contracts will be provided to supplement the work of the international and national counterpart staff. Detailed terms of reference will be developed during project implementation, and suitable organizations to undertake these subcontracts will be identified and contracted in accordance with NEX procedures. A preliminary summary of the required subcontract topics, the related project outputs and activities, and the estimated number of work-months are provided in the table below.

<table>
<thead>
<tr>
<th>BL</th>
<th>Subcontract Action</th>
<th>Related Output</th>
<th>Estimated Work-Months</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Year 1</td>
<td>Year 2</td>
</tr>
<tr>
<td>21.01</td>
<td>Natural disaster studies (note 1)</td>
<td>1.1</td>
<td>88.0</td>
<td></td>
</tr>
<tr>
<td>21.02</td>
<td>Strategy for disaster mitigation</td>
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</tr>
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<td>Disaster management training materials</td>
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<td>9.0</td>
<td>8.0</td>
</tr>
<tr>
<td>22.02</td>
<td>Grassroots disaster training materials</td>
<td>2.2</td>
<td>15.0</td>
<td>15.0</td>
</tr>
<tr>
<td>22.03</td>
<td>Disaster handbooks and video tapes</td>
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<td>5.0</td>
<td>5.0</td>
</tr>
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<td>23.01</td>
<td>Emergency communications system</td>
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<td>8.0</td>
<td>6.0</td>
</tr>
<tr>
<td>23.02</td>
<td>Public information system</td>
<td>3.5</td>
<td>8.0</td>
<td>6.0</td>
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<td>24.01</td>
<td>Translation services</td>
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<td>10.0</td>
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<td>GIS data services</td>
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<tr>
<td>25.01</td>
<td>Auditing services</td>
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<td>2.5</td>
<td>2.5</td>
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<td></td>
<td>TOTAL</td>
<td></td>
<td>167.5</td>
<td>72.5</td>
</tr>
</tbody>
</table>

Note (1): Individual disaster studies will be on the following topics

1. Flood study
2. Storm study
3. Inundation study
4. Storm surge study
5. Salt water intrusion study
6. Flash flood study
7. Whirlwind study
8. Landslide study
9. Drought study
10. Forest fire study
11. Reservoir problems and solutions study

Sub-contracts are budgeted at US$ 1,000 per work-month.
## ANNEX IV - TRAINING PROGRAMS

(a) Disaster Management at the National, Provincial and District Level

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of training classes</th>
<th>No. of people per class</th>
<th>Total no. trained</th>
<th>Cost each (US$)</th>
<th>Total budget (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>30</td>
<td>30</td>
<td>900</td>
<td>20.00</td>
<td>18,000</td>
</tr>
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<td>20,000</td>
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<td>33</td>
<td>30</td>
<td>1000</td>
<td>20.00</td>
<td>20,000</td>
</tr>
<tr>
<td>Total</td>
<td>96</td>
<td>30</td>
<td>2,900</td>
<td>20.00</td>
<td>58,000</td>
</tr>
</tbody>
</table>

(b) Grassroots Disaster Awareness at the Commune Level

<table>
<thead>
<tr>
<th>Year</th>
<th>Total no. instructor days</th>
<th>Cost each day (US$)</th>
<th>Total budget US$</th>
<th>No. of student classes</th>
<th>No. of students per class</th>
<th>Total No. students trained</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1,000</td>
<td>20.00</td>
<td>20,000</td>
<td>1,000</td>
<td>40</td>
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<td>20.00</td>
<td>20,000</td>
<td>1,000</td>
<td>40</td>
<td>40,000</td>
</tr>
<tr>
<td>3</td>
<td>1,000</td>
<td>20.00</td>
<td>20,000</td>
<td>1,000</td>
<td>40</td>
<td>40,000</td>
</tr>
<tr>
<td>Total</td>
<td>3,000</td>
<td>20.00</td>
<td>60,000</td>
<td>3,000</td>
<td>40</td>
<td>120,000</td>
</tr>
</tbody>
</table>

(c) Damage Assessment at the Provincial and District Level

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of districts</th>
<th>No. of trainees per district</th>
<th>Total no. trained</th>
<th>Duration of class (days)</th>
<th>Training days</th>
<th>Training rate (US$)</th>
<th>Total budget (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>500</td>
<td>2</td>
<td>1,000</td>
<td>2</td>
<td>2,000</td>
<td>20.00</td>
<td>40,000</td>
</tr>
<tr>
<td>2</td>
<td>250</td>
<td>2</td>
<td>500</td>
<td>2</td>
<td>1,000</td>
<td>20.00</td>
<td>20,000</td>
</tr>
<tr>
<td>3</td>
<td>250</td>
<td>2</td>
<td>500</td>
<td>2</td>
<td>1,000</td>
<td>20.00</td>
<td>20,000</td>
</tr>
<tr>
<td>Total</td>
<td>500</td>
<td>4</td>
<td>2,000</td>
<td>2</td>
<td>4,000</td>
<td>20.00</td>
<td>80,000</td>
</tr>
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</table>

(d) Disaster Communications at the Provincial and District Level

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Provinces</th>
<th>No. people per Province</th>
<th>Duration of class (day)</th>
<th>No. of training days</th>
<th>Training rate US$</th>
<th>Total budget US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>61</td>
<td>3</td>
<td>4</td>
<td>700</td>
<td>20.00</td>
<td>14,000</td>
</tr>
<tr>
<td>2</td>
<td>61</td>
<td>2</td>
<td>4</td>
<td>500</td>
<td>20.00</td>
<td>10,000</td>
</tr>
<tr>
<td>3</td>
<td>61</td>
<td>2</td>
<td>4</td>
<td>500</td>
<td>20.00</td>
<td>10,000</td>
</tr>
<tr>
<td>Total</td>
<td>61</td>
<td>3</td>
<td>4</td>
<td>1,700</td>
<td>20.00</td>
<td>34,000</td>
</tr>
</tbody>
</table>
(e) GIS and Database Technology

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of organizations</th>
<th>No. of people per organization</th>
<th>Duration of training (days)</th>
<th>Total training days</th>
<th>Training rate (US$)</th>
<th>Total budget (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>2</td>
<td>5</td>
<td>200</td>
<td>20.00</td>
<td>4,000</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>2</td>
<td>5</td>
<td>200</td>
<td>20.00</td>
<td>4,000</td>
</tr>
<tr>
<td>3</td>
<td>30</td>
<td>2</td>
<td>5</td>
<td>300</td>
<td>20.00</td>
<td>6,000</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>2</td>
<td>5</td>
<td>700</td>
<td>20.00</td>
<td>14,000</td>
</tr>
</tbody>
</table>

(f) Study Tour to Western Country for Advanced Disaster Technology Indoctrination

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of participants</th>
<th>Duration of study tour (weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>1.5</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>1.0</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>2.5</td>
</tr>
</tbody>
</table>

g) Fellowship Training to Regional Country for Advanced Disaster Management Training

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of participants</th>
<th>Duration of fellowship (weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7</td>
<td>2.0</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3.0</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>5.0</td>
</tr>
</tbody>
</table>
ANNEX V - EQUIPMENT REQUIREMENTS

The following list summarizes the equipment to be procured under the project. Detailed specifications will be developed by project staff during project implementation, and the equipment will be procured in accordance with NEX procedures. Related outputs which these equipment packages are intended to support are shown in the first column.

<table>
<thead>
<tr>
<th>Item (Output)</th>
<th>Equipment List</th>
<th>Estimated US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (3.3)</td>
<td>Geographic Information System Enhancement</td>
<td>36,000</td>
</tr>
<tr>
<td>1.</td>
<td>Upgrade one existing GIS computer</td>
<td>2,150</td>
</tr>
<tr>
<td>2.</td>
<td>Two new GIS computers (workstation)</td>
<td>8,500</td>
</tr>
<tr>
<td>3.</td>
<td>Software licenses for new GIS computers</td>
<td>4,650</td>
</tr>
<tr>
<td>4.</td>
<td>Software license for Internet publishing of maps</td>
<td>20,700</td>
</tr>
<tr>
<td>2 (3.2)</td>
<td>Emergency Disaster Communication System Upgrade</td>
<td>148,200</td>
</tr>
<tr>
<td>1.</td>
<td>Enhanced central station server and subsystems</td>
<td>31,300</td>
</tr>
<tr>
<td>2.</td>
<td>Eight stations for Emergency Communication at 8 provinces</td>
<td>37,360</td>
</tr>
<tr>
<td>3.</td>
<td>Upgraded provincial DMUnet stations</td>
<td>9,540</td>
</tr>
<tr>
<td>4.</td>
<td>District disaster reporting hand-held DMUnet terminals</td>
<td>30,000</td>
</tr>
<tr>
<td>5.</td>
<td>Back up emergency power system for provincial stations</td>
<td>20,000</td>
</tr>
<tr>
<td>6.</td>
<td>Back up emergency communications system</td>
<td>20,000</td>
</tr>
<tr>
<td>3 (3.5)</td>
<td>Public Information System</td>
<td>14,300</td>
</tr>
<tr>
<td>1.</td>
<td>Server</td>
<td>5,000</td>
</tr>
<tr>
<td>2.</td>
<td>NT server software</td>
<td>1,000</td>
</tr>
<tr>
<td>3.</td>
<td>56 Kbps modem</td>
<td>300</td>
</tr>
<tr>
<td>4.</td>
<td>SQL server software</td>
<td>2,000</td>
</tr>
<tr>
<td>5.</td>
<td>Proxy server software</td>
<td>2,000</td>
</tr>
<tr>
<td>6.</td>
<td>Pentium II PCs</td>
<td>3,000</td>
</tr>
<tr>
<td>7.</td>
<td>Web development software</td>
<td>1,000</td>
</tr>
<tr>
<td>4 (3.1)</td>
<td>Improving Disaster Warning System for HMS</td>
<td>66,000</td>
</tr>
<tr>
<td>1.</td>
<td>Establish high speed link between CCFSC and HMS</td>
<td>25,280</td>
</tr>
<tr>
<td>2.</td>
<td>Upgrade broadcasting room of HMS</td>
<td>19,720</td>
</tr>
<tr>
<td>3.</td>
<td>Improve hydromet data accessibility; database and info. system</td>
<td>21,000</td>
</tr>
<tr>
<td>5 (3.1/2)</td>
<td>Disaster Warning Technologies</td>
<td>79,500</td>
</tr>
<tr>
<td>1.</td>
<td>Transmitter stations with UPS, air conditioner, etc. support</td>
<td>25,000</td>
</tr>
<tr>
<td>2.</td>
<td>Emergency radios for fishing boats</td>
<td>5,000</td>
</tr>
<tr>
<td>3.</td>
<td>Emergency radios for schools</td>
<td>4,000</td>
</tr>
<tr>
<td>4.</td>
<td>Emergency radios for district Peoples Committees</td>
<td>5,000</td>
</tr>
<tr>
<td>5.</td>
<td>Emergency radios for provinces</td>
<td>500</td>
</tr>
<tr>
<td>6.</td>
<td>Warning light system for inshore fishing fleets</td>
<td>15,000</td>
</tr>
<tr>
<td>7.</td>
<td>Data measurement interface to DMUnet</td>
<td>25,000</td>
</tr>
<tr>
<td>6 (All)</td>
<td>Office and Training Equipment</td>
<td>36,000</td>
</tr>
<tr>
<td>1.</td>
<td>PCs for report writing and translation staff</td>
<td>8,000</td>
</tr>
<tr>
<td>2.</td>
<td>Local area network</td>
<td>1,000</td>
</tr>
<tr>
<td>3.</td>
<td>PCs for DMUnet operating training</td>
<td>8,000</td>
</tr>
<tr>
<td>4.</td>
<td>Portable digital projector and screen for training classes</td>
<td>5,000</td>
</tr>
<tr>
<td>5.</td>
<td>A4 printer/plotter</td>
<td>3,000</td>
</tr>
<tr>
<td>6.</td>
<td>A1 printer/plotter</td>
<td>8,000</td>
</tr>
<tr>
<td>7.</td>
<td>Fax machine with high speed polling capacity</td>
<td>3,000</td>
</tr>
</tbody>
</table>

Estimated Total: US$ 380,000
ANNEX VI - JOB DESCRIPTION

JOB DESCRIPTION

SENIOR TECHNICAL ADVISOR

Duration: 9 work-months
Location: Hanoi and provinces of Vietnam

Qualifications: Civil engineering expert with a minimum of 10 years experience in disaster management; having been involved in the planning and implementation of at least one disaster mitigation project in Vietnam; with a proven familiarity with the relevant Government institutions. Fluency in English required.

Tasks: In coordination with the National Project Director:

1. Advise on the national execution of the project; provide staff training on NEX procedures as required, including accounting and project reporting.
2. Advise on the delivery of project inputs; including international experts, national experts, training, and equipment.
3. Advise on the recruitment of national and international experts; monitor the performance of the experts with the goal of achieving the required project outputs.
4. Design and implement a methodology for improved cooperation between the HMS forecasting responsibility and the CCFSC disaster management responsibility.
5. Assist with the upgrading of the DMU Disaster Communication Network (DMUnet) in the Mekong delta and in the most disaster prone regions of Vietnam. Develop and implement methodologies so that the system is hardened against natural disasters so that it remains functional during and after disasters.
6. Assist with the development of new disaster needs reporting formats for the five disaster regions of Vietnam.
7. Assist with the development of a disaster management GIS system.
8. Prepare a plan for extending the DMUnet into the districts and grassroots communes of Vietnam using appropriate technologies for field disaster needs reporting. Prepare specifications for development of a supervising system for using this disaster needs reporting to deliver accurate disaster relief to disaster stricken districts.
9. Edit project publications and advise on the best means of distribution to reach the maximum number of users.
10. Monitor the DMU Web information system and instruct the staff on ways to make enhancements and improvements to the type, quality and quantity of data provided to both international and national users.
11. Assist with the preparation of detailed monthly progress reports for the project.
12. Prepare an annual mission report.
JOB DESCRIPTION
DISASTER MITIGATION STRATEGY ADVISOR

Duration: 5 work-months
Location: Hanoi and Provinces of Vietnam

Qualifications: Civil engineering expert with a minimum of 10 years experience in disaster management; having been involved in the planning and implementation of at least one disaster mitigation project in Vietnam; with a proven familiarity with the relevant Government institutions. Fluency in English required.

Tasks: In coordination with the National Project Director and the Senior Technical Advisor, the Disaster Mitigation Strategy Advisor will complete the following tasks:

1. Prepare specification for the individual national subcontractor disaster studies in the areas of flood, flash flood, whirlwind, landslide, drought, forest fire and reservoir problems.
2. Advise on the selection of disaster study subcontractors and help monitor their performance with periodic meetings and workshops between all of the subcontractors.
3. Prepare an outline of a strategy for mitigating major disasters based on the disaster subcontractor reports.
4. Help to organize and manage an international consultation on disaster mitigation in Vietnam.
5. Edit and produce a proceeding for the international consultation incorporating individual disaster studies.
8. Prepare an annual mission report.
JOB DESCRIPTION
INFORMATION TECHNOLOGY EXPERT

Duration: 2 work-months
Duty Station: Hanoi

Qualifications: A information technology professional with a minimum of 10 years experience and with a proven familiarity with disaster management and information systems design, implementation, and management in Vietnam. Fluency in English is required. Past experience with the Vietnamese Government is an advantage.

Tasks: Under the overall guidance of the National Project Director and Senior Technical Advisor, the Information Technology Expert will complete the following tasks:

1. Provide technical leadership to harden emergency power supplies at all disaster mitigation offices and harden communications links between CCFSC and the provinces/ministries to help ensure that disaster warnings are transmitted instantaneously from CCFSC to the provinces/ministries even during severe storm events.
2. Provide technical leadership to implement electronic links between each flood management office to make it possible to share data, to coordinate disaster mitigation decision making and to undertake flood-warning actions in real time.
3. Provide technical leadership to upgrade the existing public information dissemination capability using new information technologies, such as a DMU Web site.
4. Develop and implement procedures for posting and/or distributing up-to-date announcements on current storm forecasts, warnings, damage reports and similar data to concerned national and international organizations.
5. Assess alternative technologies for preparing and transmitting in real time assessments of damage and emergency relief and rehabilitation needs from districts to the provincial and national levels.
6. Select and procure the appropriate instruments/equipment for such reporting; establish telecommunications linkages and protocols between this district-based equipment and the provincial/national CCFSC in five provinces representing the five disaster zones of Vietnam.
7. Help identify sources of funding to extend the disaster reporting system to all remaining districts of Vietnam.
8. Prepare a final mission report.
JOB DESCRIPTION
COMMUNICATIONS EXPERT

Duration: 3 work-months
Duty Station: Hanoi

Qualifications: A telecommunications expert with 10 years proven experience in radio and satellite communications systems existing and proposed for Vietnam; familiar with Vietnam telecommunications infrastructure with recent experience working in Vietnam at the ministerial level. Fluency in English is required.

Tasks: In coordination with the Information Technology Expert:

1. Become familiar with the current and planned national DMUnet and existing and planned telecommunications capabilities in Vietnam. Rank possible emergency telecommunications options based on technical feasibility, reliability and cost.
2. Monitor the emergency power requirements and actual emergency power capacity to operate each provincial DMUnet nodes and the central DMUnet station in case of prolonged power failure.
3. Lead a two day technical workshop with disaster management and telecommunications officials to discuss alternatives and recommendations for DMUnet telecommunications and hardened operation during storms and floods in the northern mountain, Red river delta, central, and Mekong delta provinces. The total number of attendees should be restricted to enable fruitful discussion. The goal of the workshop is to provide DMU, MARD and UNDP staff with a complete conceptual understanding of alternatives and recommendations.
4. Demonstrate the recommended DMU telecommunications option and emergency power system in a limited fashion in several provinces using loaned or purchased equipment.
5. Prepare a DMU technical report outlining an implementation plan for the recommended telecommunications and power system upgrade.
6. Prepare a final mission report in the form of a professional technical proposal with detailed design and cost information suitable for presentation to appropriate funding agencies outside of the Government of Vietnam.
**JOB DESCRIPTION**

**GIS EXPERT (LOCAL HIRE)**

**Duration:** 15 work-months (local hire)

**Duty Station:** Hanoi

**Qualifications:** GIS expert with a proven competence with Geographical Information Systems, technical writing, electronic publishing, and office computing. Familiarity with computer database systems is required and past experience in Vietnam or another Southeast Asian country is helpful.

**Tasks:** Under the overall guidance of the National Project Director and Senior Technical Advisor:

1. Assist the DMU in setting up an operational geographical information system to assist with disaster management in Vietnam. The data base is to contain non-physical properties (socio-economic) and physical properties (dike system, infrastructure).
2. Provide GIS training to relevant Government counterparts.
3. Supervise the national GIS staff
4. Develop and implement a natural disaster damage reporting methodology suitable for implementation at the district level for aggregating at the provincial level.
5. Develop and implement a GIS based disaster management presentation package that will give Government officials access to real time data needed to take action to mitigate flood and storm damage.
6. Identify, write, publish, and disseminate disaster management information in real time during the annual flood and storm season; and as electronic summary documents after the season.
7. Regularly meet with government data collection agencies and with the NGO community to discuss DMU activities, and to keep abreast of other disaster management activities in Vietnam.
8. Maintain a database of relevant sources of disaster management information outside of the DMU, both nationally and internationally.
9. Prepare an annual project GIS report.
JOB DESCRIPTION
DISASTER MANAGEMENT TRAINING EXPERT (UNV)

Duration: 24 work-months (UNV)
Location: Hanoi and provinces of Vietnam

Qualifications: Civil engineering expert with a minimum of 10 years experience in disaster training; having been involved in the planning and implementation of at least one disaster training project in Vietnam; with a proven familiarity with the relevant Government institutions. Fluency in English required

Tasks: In coordination with the National Project Director and the Senior Technical Advisor:

1. Assist with the upgrading of training of the DMU Disaster Communication Network (DMUnet) in the Mekong delta and in the most disaster prone regions of Vietnam. Develop and implement training methodologies so that the system is hardened against natural disasters so that it remains functional during and after disasters.
2. Assist with the design of new training materials and the implementation of improved instruction methods.
3. Assist with the training for new disaster needs reporting formats for the five disaster regions of Vietnam.
4. Assist with the development of a disaster management GIS system
5. Prepare a training plan for extending the DMUnet into the districts and grassroots communes of Vietnam using appropriate technologies for field disaster needs reporting. Prepare training materials for development of a supervising system for using this disaster needs reporting to deliver accurate disaster relief to disaster stricken districts.
6. Prepare an annual mission report.
JOB DESCRIPTION
DISASTER INFORMATION EXPERT (UNV)

Duration: 24 work-months (UNV)
Duty Station: Hanoi

Qualifications: Documentation professional with a minimum of 3 years experience and with proven familiarity with disaster management, database management, and electronic communication systems; past experience in Vietnam or another Southeast Asian country is required. Fluency in English required.

Tasks: In cooperation with the Senior Technical Advisor and the National Project Director:

1. Review existing disaster management information handling and documentation procedures, as well as existing data.
2. Assist the Information Technology Expert in establishing a suitable disaster information database system. The database should be able to store and retrieve all information relevant to disaster management. Provide guidelines for the establishment of regional databases in all provincial CFSCs.
3. Assist the DMU in strengthening the existing reference center for disaster management information. This includes building up the disaster information database with new and updated information, as well as establishing linkages, both manual and electronic, to further sources of information.
4. Manage the project international and national Web site
5. Recommend and assist in the implementation of reporting procedures to meet the information needs of all levels of Government involved in emergency preparedness and disaster relief.
6. Manage the emergency aid distribution responsibilities of the project.
7. Prepare provincial, district and commune level training materials; implement the materials in pilot training programs; evaluate the effectiveness of the materials in focus groups; finalize and print the materials.
8. Prepare an annual project disaster information activities report.
JOB DESCRIPTION
NATIONAL EXECUTION (NEX) COORDINATOR

Duration: 36 man-months
Duty Station: Hanoi

Qualifications: A university degree in engineering, business, finance, administration or related disciplines, with a minimum of 5 years work experience in the administration and management of official development assistance (ODA) projects and 1 year’s work experience on nationally-executed UNDP projects. Knowledge of Government project execution procedures. Work experience with the former Ministry of Water Resources or the Ministry of Agriculture and Rural Development. Familiarity with the Central Committee for Flood and Storm Control in particular and the disaster management sector in general preferred. Fluent written and spoken English.

Tasks: Under the overall guidance of the National Project Director and Senior Technical Advisor:

1. Manage the national execution of the project; provide staff management and staff training on NEX procedures.
2. Plan for the delivery of project inputs; including international experts, national experts, training, and equipment.
3. Assist with the recruitment of national and international experts; help monitor the performance of the experts with the goal of achieving the required project outputs; obtain visa and resident permits.
4. Manage the methodology for improved cooperation between the HMS forecasting responsibility and the CCFSC disaster management responsibility.
5. Manage all project accounting and financial reporting; and maintain the project budget.
6. Evaluate the need for quarterly financial advances; prepare and submit all necessary documentation to the UNDP.
7. Prepare and distribute monthly project reports.
8. Manage and coordinate the planning and implementation of all project sponsored training.
10. Plan and implement the annual project Tripartite Review Meeting.
JOB DESCRIPTION
GIS ENGINEER

Duration: 36 man-months
Duty Station: Hanoi

Qualifications: Information Technology Engineer (B.Sc.) with two year relevant work experience; familiar or experienced with Geographical Information Systems (GIS) and relational databases; proven experience with computer programming; able to work in a multi-disciplinary and multi-cultural environment. Fluency in English required.

Tasks: Under the overall guidance of the GIS Expert:

1. Assist the GIS Expert to set up an operational geographical information system to assist with disaster management in Vietnam.
2. Collect and prepare relevant disaster management data for use with the GIS.
3. Input relevant geographic data into the GIS with the use of digitizers and/or scanners.
4. Supervise additional attribute data input.
5. Assist with the design, implementation and maintenance of databases to be used with the GIS.
6. Assist with programming GIS modules and user interfaces.
7. Identify and maintain contact with national GIS agencies and relevant organizations.
8. Document procedures, conventions, accuracy and validity of data used for the GIS.
10. Act as a technical translator between English and Vietnamese.
**JOB DESCRIPTION**  
**INFORMATICS ENGINEER**

**Duration:** 36 man-months  
**Duty Station:** Hanoi

**Qualifications:** An informatics trained engineer (B.Sc.) with a minimum of 2 years experience and with information systems design, implementation, and management in Vietnam. Fluency in English is required.

**Tasks:** Under the overall guidance of the Information Technology Expert:

1. Help to upgrade existing public information capability using new information technologies, such as a DMU Web site.
2. Manage and perform day to day posting and/or distributing of up-to-date announcements on current storm forecasts, warnings, damage reports and similar data to concerned national and international organizations. Assist secretarial staff to post historical data and related disaster information in the public information system so that it can be easily accessed by concerned organizations and individuals.
3. Assist with the assessment of alternative technologies for preparing and transmitting in real time assessments of damage, emergency relief needs, and rehabilitation needs from districts to the provincial and national levels. Select and procure the appropriate instruments/equipment for disaster information reporting.
4. Help prepare an annual project information technology report
JOB DESCRIPTION
INFORMATION TECHNOLOGY ENGINEER

Duration: 36 man-months
Duty Station: Hanoi

Qualifications: An informatics trained engineer (B.Sc.) with a minimum of 2 years experience and with information systems design, implementation, and management in Vietnam. Fluency in English is required.

Tasks: Under the overall guidance of the Information Technology Expert:

1. Monitor and maintain the integrity of hardened emergency power supplies at all disaster mitigation offices and harden communications links between the CCFSC and the provinces/ministries to help ensure that disaster information are transmitted and received even during severe storm and flood events.
2. Manage and maintain electronic links between each flood management office to make it possible to share data, to coordinate disaster mitigation decision making, and to undertake flood warning actions in real time.
3. Monitor and maintain telecommunications linkages and protocols between district-based communications equipment and the provincial/national CCFSC in five pilot provinces representing the five disaster zones of Vietnam.
4. Help prepare an annual project information technology report
JOB DESCRIPTION
ADMINISTRATION ASSISTANT

Duration: 36 man-months
Duty Station: Hanoi

Qualifications: A hydraulic engineer (B.Sc.) with a minimum of 1 year of UNDP, multilateral, or bilateral project coordination experience; familiar with Vietnam project execution procedures; experience with Vietnamese disaster, storm and flood management. Fluent written and spoken English.

Tasks: Under the overall guidance of the National Execution (NEX) Coordinator:

1. Monitor and expedite the delivery of project inputs; including international experts, national experts, training, and equipment.
2. Help to manage all project accounting and financial reporting; and maintain the project budget.
3. Organize and manage the project documentation filing system.
4. Prepare and distribute monthly project reports.
5. Manage and coordinate the planning and implementation of all project sponsored training.
7. Help to plan and implement the annual project Tripartite Review Meeting.
ANNEX VII - DISASTER MANAGEMENT UNIT ACCOMPLISHMENTS

Background: The most obvious disaster management weakness noted by national and international experts who prepared the *Strategy and Action Plan for Mitigating Water Disasters in Vietnam* was the absence of a Disaster Management Unit to serve as a catalyst for the implementation of the action plan. Thus, UNDP implementation of the Disaster Management Unit in late 1994 established the link between Vietnamese Government agencies charged with disaster mitigation, and foreign donors anxious to show that their development funds were directed to the most urgent disaster mitigation problems.

Current DMU Outputs: In just two years, Disaster Management Unit outputs have positively impacted almost the entire population in the most disaster-prone provinces in Vietnam. Some but not all of the most significant outputs of the DMU include:

1. **Emergency Disaster Communications System (DMUnet):** The DMUnet is a fully operational communications system enabling the most disaster-prone provinces to exchange disaster damage and needs assessments with the Disaster Management Center of the Vietnam Central Committee for Flood and Storm Control. Now reaching 47 provinces and 13 central Government agencies nationwide, the DMUnet has become the official -- and required -- channel for communicating disaster assessments to the Disaster Management Center. The system is monitored continuously during the flood season by DMU-trained operators in all disaster-prone provinces of Vietnam.

2. **Reference Center and Computer Bulletin Board Services for Disaster Management Information (DMUbbs):** The DMUbbs is an electronic, on-line reference center containing information on both current and past disaster seasons. The DMUbbs system is accessible by dial-up modem from anywhere in Vietnam; or from anywhere in the world. The DMUbbs provides disaster information from responsible Government officials to: international aid agencies, bilateral aid agencies, NGOs and the national and international media. During the flood season, the system is updated daily - providing the most up-to-date and comprehensive source of disaster management information available for Vietnam anywhere.

3. **Disaster Damage Assessments (DMUdamage):** All classes of disaster related humanitarian needs, agricultural losses and infrastructure damage are collected, quantified and disseminated to the UN Disaster Management Team (UN-DMT) members and the international donor community on a daily basis during the annual flood season. The data is aggregated to the provincial level and has been described by an expert working in the region as “the most detailed, accurate and complete in all of Asia.”

4. **Disaster Needs Reporting (DMUneeds):** Based on the detailed damage reports of disaster stricken areas, and together with the well-developed disaster communication links, DMU is capable of identifying priority areas eligible for humanitarian aid and helping local officials to mobilize humanitarian aid for the affected communities. This has provided the basis for multiple DMU-assisted emergency relief efforts, funded by multilateral agencies and the international donor community.
5. **Disaster Management Data Base (DMUgis):** Disaster Management information has a highly spatial component, and only a geographic information system (GIS) can provide the fundamental information needed to support disaster management activities. A GIS and associated database are under development by the DMU based on the requirement for district-level reporting of disaster damage, relief needs and rehabilitation needs. The GIS system will store administrative, hydrological and topographical data amongst others, with the capability of linking various socio-demographic and agricultural indicators with disaster related data. Typical GIS outputs include consistent damage reporting, disaster needs inventories, hazard mapping, disaster vulnerability assessments and disaster risk evaluation.

6. **Disaster Management Training Team (DMUtraining):** A multi-sectoral and multi-Ministry training program is operational. Under the program, a master trainer team periodically conducts disaster management training for provincial, district, and commune leaders in all disaster-prone provinces of Vietnam. The master trainer team contains both regional and subject area experts. To date, 127 provincial and district leaders have been trained. New training materials for this program have been developed and validated by the Standing Office of the CCFSC.

During the 1996 Vietnam flood season -- the worst in 20 years -- the Disaster Management Unit was charged with additional and critical disaster management responsibilities including:

7. **Disaster Condition Reporting (DMUreports):** Official Vietnamese Government natural disaster forecasts, condition reports, situation maps and records of disaster mitigation actions were synthesized, translated, and issued daily to all concerned Government disaster management agencies and to the member agencies of the UN Disaster Management Team. For the first time ever, Vietnamese national experts and UNDP foreign experts often worked together around the clock to provide the critical information needed to make life and death disaster and flood fighting decisions.

8. **Disaster Relief and Distribution (DMUaid):** Based on the close working relationship between the key Vietnamese Government disaster mitigation agencies and the DMU, the DMU was given the responsibility to distribute disaster relief aid channeled through the UNDP Hanoi office. The DMU successfully identified, designed, implemented and monitored the distribution of over US$ 250,000 of emergency relief aid from the northern-most mountain province to the southern-most Mekong delta province.