

VIETNAM

The country DRM note was prepared in consultation with Vietnam’s Committee for Storm and Flood Control- Disaster Management Unit (CCFSC-DMU), the Ministry of Natural Resources and the Environment, the Ministry of Finance, the United Nations Development Program and other key development partners.



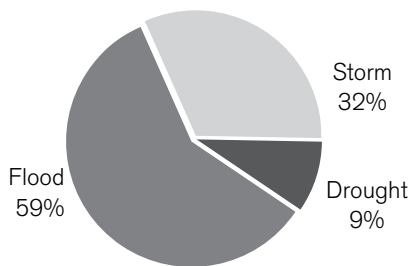
1. DISASTER RISK PROFILE

Located in the tropical monsoon area in South East Asia, Vietnam is one of the most hazard-prone areas in the Asia Pacific Region.

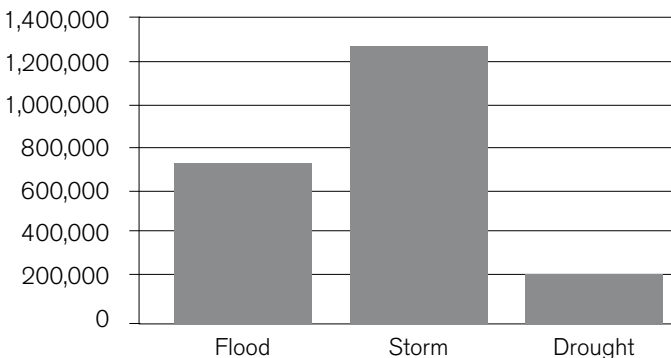
Because of its topography, Vietnam is susceptible to typhoons, floods, droughts, sea water intrusion, landslides, forest fires and occasional earthquakes of which typhoons and floods are the most frequent and most devastating hazards. The storm season lasts from May to December with storms hitting the northern part of the country in May through June and moving gradually south from July to December.

Given the massive concentration of its population along the coastline and in the low lying deltas, disasters take a heavy toll in lost lives and damaged livelihoods. The encroachment of economic activity and development into marginally suitable areas such as floodplains, costal swamps, drainage channels or other natural buffers only adds to the vulnerability of the population.

% People Affected by Disaster Type



Economic Damages by Disaster Type (1000s US\$)



Source: EM-DAT: The OFDA/CRED International Disaster Database.

COUNTRIES AT RELATIVELY HIGH MORTALITY RISK FROM MULTIPLE HAZARDS (Top 96 based on population with 2 or more hazards)	
1.	Bangladesh
2.	Nepal
4.	Burundi
5.	Haiti
7.	Malawi
10.	Guatemala
15.	Antigua and Barbuda
17.	Nicaragua
19.	Cuba
20.	Niger
22.	Vietnam
25.	Chile
26.	Ecuador
30.	Burkina Faso
32.	Venezuela

Household survey data from 2006 confirms the continued reduction of poverty in Vietnam, with the fraction of households living below the poverty line attaining 16 percent (Vietnam Development Report 2008). Most of the poor live in rural areas and while rural poverty rates are declining, urban poverty rates appear to have stagnated. Natural disasters continually threaten the progress that has been made.

Every year, natural disasters cause an average of 750 deaths, and result in annual economic losses equivalent to 1.5 percent of GDP. However, damage and loss data is chronically underreported, so real totals may be much higher. As most of the population is living in low-lying river basins and coastal areas, more than 70 percent of the population is estimated to be exposed to risks from multiple natural hazards.

A 2007 assessment of the World Bank listed Vietnam as one of the five worst affected countries by climate change, as a large proportion of the population, infrastructure and economic production including irrigated agriculture, is located in coastal lowlands and deltas. It appears that a one-meter rise in the sea level would affect 39 of the 64 provinces in six of the eight economic regions of Vietnam. About 20 percent of the communes could be wholly or partially inundated, with the Mekong River Delta being the most seriously affected area. By one estimate, a one-meter rise in sea level would affect approximately 5 percent of Vietnam's land area, 11 percent of the population, and 7 percent of the agriculture input.

Relative Disaster Frequency

High	Medium	Low
Flood	Hail rain/tornado	Earthquake
Typhoon	Drought	Accident (technology)
Inundation	Landslide	Frost
	Flash flood	Damaging cold
	Fire	Deforestation

Capital	Hanoi
Official Language	Vietnamese
Independence	2 September 1945 (from France)
Area	Total: 329,560 sq km Land: 325,360 sq km Water: 4,200 sq km
Land Use	Arable land: 20.14% Permanent crops: 6.93% Other: 72.93%
Government	Communist state
Population	86,967,524 (July 2009 est.)
GDP	US \$90.88 billion (2008 est.)
HDI	105 th out of 177 countries (HD Report 2007/2008)
Terrain	Low, flat delta in south and north; central highlands; hilly, mountainous in far north and northwest
Climate	Tropical in the south; monsoonal in the north with hot, rainy season and warm, dry season
Natural resources	Phosphates, coal, manganese, chromate, offshore oil and gas deposits, forests, hydropower
Major products	<i>Agriculture products:</i> paddy rice, coffee, rubber, cotton, tea, pepper, soybean, cashews, sugar cane, peanuts, bananas, poultry, fish, seafood. <i>Industries:</i> food processing, garments, shoes, machine-building, mining, coal, steel, cement, chemical fertilizer, glass, tires, oil, paper

EXPOSURE AND VULNERABILITY

An estimated 80–90 percent of the population is affected by typhoons according to the Ministry of Agriculture's Central Committee for Flood and Storm Control. This includes both communities living along the long coastline and those living in the upland areas who are vulnerable to subsequent flashfloods resulting from the typhoons' heavy rains.

River plain flooding is extensive and prolonged throughout the wet season in the large deltas. Most of Vietnam's 2,360 rivers are short and steep, so that heavy rainfall in their basins produces intense, short duration floods. Sizeable portions of the country and especially the Central Highlands and Central Coast are subject to heavy rainfall. Three consecutive years of flooding in the Mekong Delta claimed the lives of over 1,000 people, mainly children.

An average of six to eight typhoons or tropical storms of varying intensity strike Vietnam each year with more frequent occurrences in the northern and central coastal region earlier in the season. In 1997, Typhoon Linda killed over 3,000 people along the southern coast.

RECENT DISASTERS

Vietnam – Major Hazardous Events of the Decade (1999-2008)

Year	Event	No. of people dead	No. of people injured	No. of people missing	Economic loss (VND billion)	Areas affected
2008	Storm Kammuri	133	91	34	1,939.733	9 North and Central provinces
2007	Storm Lekima	88	180	8	3,215.508	17 North and Central provinces
2006	Storm Xangsane	72	532	4	10,401.624	15 Central and Southern provinces in
2005	Storm No. 7	68	28		3,509.150	12 North and Central provinces
2004	Storm No. 2	23	22		298.199	5 Central provinces
2003	Rains and floods	65	33		432.471	9 Central provinces
2002	Flooding	171			456.831	The Mekong River Delta
2001	Flooding	393			1,535.910	The Mekong River Delta
2000	Flash Floods (July)	28	27	2	43.917	5 Northern provinces
1999	Floods	595	275	29	3,773.799	10 Central provinces

Source: CCFSC's Website, Historical Disaster Database, <http://www.ccfsc.org.vn/ndm%2Dp/?module=800&sid=NDMP&mnid=67>

2. DISASTER RISK MANAGEMENT FRAMEWORK

Vietnam's primary DRM framework, the National Strategy for Natural Disaster Prevention, Response and Mitigation to 2020, was approved by the government in November 2007. The strategy lays out Vietnam's primary disaster risk management objectives, focusing largely on water related disasters. The Ministry of Agriculture and Rural Development estimated they will require a budget of US \$18 billion; around US \$13 billion for structural measures i.e. building reservoirs, dams and dykes and US \$5 billion for non-structural measures. This figure does not include funds needed by other ministries and provinces to implement disaster risk reduction action plans.

The main objectives of the National Strategy are: The integration of disaster risk management into socio-economic development plans at the national and levels with a focus on disaster response; ensuring sustainable disaster recovery which integrates disaster risk management; planning five different regional disaster risk management strategies for the five geographical regions of the country; combining structural and non-structural measures in disaster risk management and dividing implementation responsibilities and timing for risk reduction among a range of ministries.

Traditionally, Vietnam has focused on preparedness and response with a strong emphasis on structural measures such as dykes and seawalls. Mitigation activities are slowly entering the development agenda but the revised strategy still puts disaster preparedness and forecasting as its foremost objectives.

3. ACTIVITIES UNDER THE HYOGO FRAMEWORK OF ACTION

HFA Priority # 1: Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation

THE NATIONAL DRM AGENCY

Vietnam's national disaster risk management agency, the Committee for Flood and Storm Control, is chaired by the Minister of MARD. Established by decree 1990, it formulates all flood and typhoon related policies and mitigation measures, with the Office of Government, the Ministry of Agriculture and the Ministry of Defense as its key members. Its secretariat is provided by the Department of Dyke Management and Flood Control (DDMFC) of MARD.

The CCFSC tends to convene primarily in response to natural disasters although Vietnam is making the shift from a largely reactive to an increasingly proactive approach to disaster risk management. While the CCFSC is responsible for a broad range of disaster risk reduction activities, its ability to focus on and coordinate response among a wider range of ministries is limited due to its position within MARD.

DRM LEGISLATION

Vietnam does not have a DRM law. The National Strategy for Natural Disaster Prevention, Response and Mitigation to 2020 is the key document underpinning all disaster risk reduction policy and strategy. There are ongoing discussions about drafting a disaster risk management law and this is planned as an activity in MARD's new action plan and in the newly-launched UNDP program on disaster risk reduction.

Disaster risk management policy is addressed in several additional Vietnamese laws and decrees.

- The Law on Water Resources promulgated in May 1998 governs water usage and the prevention of water related disasters¹
- The Ordinance on Flood and Storm Control promulgated in March 1993 amended and revised in August 2000 formally created the existing institutional structure²
- the Law on Dyke promulgated in November 2006 regulates the planning of flood prevention and response in flood prone areas¹
- The Environment Protection Law (1998) governs the use of natural resources as a means to prevent natural disasters.

¹ Available at <http://dwrn.gov.vn/en/uploads/Laws/files/8-1998-OHIO.pdf>

² www.cafs.org.vn/ndmp/images/download/Phap%201enh%20PCLN%20SDBS%202000.pdf

GOVERNMENT



Source: CCFSC

Other legislative instruments which incorporate disaster risk management elements are

- The Law on Forest Development and Protection³
- The 2003 Law on Fisheries⁴
- The Ordinance on Irrigation Structures Utilization and Protection⁵
- The Ordinance on Hydro-meteorological Structures Protection⁶

LEGISLATIVE AND ORGANIZATIONAL GAPS

Legislation related to natural disasters is prolific—in spite of the lack of an explicit DRM law—but enforcement is erratic. Much of the existing legislation lacks clear institutional arrangements for enforcement and the current organizational structures, mandates, annual budget earmarks and working agenda focus largely on disaster response rather than prevention. There is no professional and specialized cadre of staff who focus on disaster management. Instead, it is managed in an 'as-needed' basis, part-time, by staff of the agriculture and rural development sector, mainly under the irrigation and dyke management sub-sectors. Some of these gaps have been addressed in the on-going World Bank Financed Natural Disaster Risk Mitigation project and the new UNDP/One UN program.

3 Available only in Vietnamese at http://www.nea.gov.vn/luat/toanvan/Luat_BVPT_Rung.html

4 Available only in Vietnamese at http://www.fistenet.gov.vn/Luat_TS2.asp

5 <http://www.vncold.vn/Web/Content.aspx?distid=415>

6 <http://www.kttvqg.gov.vn/Default.aspx?tabid=12>

DRM AT THE SUB-NATIONAL LEVEL

Line ministries, provinces and districts are responsible for disaster risk management planning, creating both vertical and horizontal reporting structures. The Ordinance on Flood and Storm Control mandates the creation of provincial and other sub-national disaster risk management strategies and plans and has subordinate provincial and district Committees for Flood and Storm Control.

All 64 provinces and cities of Vietnam are tasked with developing their own action plans to implement the National Strategy up to 2020. As of March 2009, approximately 90 percent of the provinces had created and approved their own action plans for incorporation into the National Action Plan. While actual implementation and funding for these action plans varies widely from province to province, the sheer number of provinces which have undertaken the first steps in this exercise is commendable.

Disaster risk management activities are coordinated across ministries at the national level though the work of the CCFSC, however at the provincial and lower level, reporting is both vertical and horizontal, through line ministries and local committees for Storm and Flood Control. For example, while a wide range of ministries belong to and participate in the Central Committee for Flood and Storm Control, at the provincial level, the provincial Department of Construction would report upwards to the national Ministry of Construction in parallel to the Provincial Committees for Storm and Flood Control.

DRM IN THE POVERTY REDUCTION STRATEGY

Disaster risk management is integrated into Vietnam's Poverty Reduction Strategy and Country Development Plans, although implementation remains uneven. Within Vietnam's Socio-Economic Development Plan 2006-2010, the Government of Vietnam has stipulated it will halve the number of poor people falling back into poverty due to natural disasters by 2010 as one of its primary indicators⁷. This is a good first start, but there is room for increased integration of risk reduction into all levels of development planning.

DISASTER RISK MANAGEMENT IN THE COUNTRY PARTNERSHIP STRATEGY

The Vietnam Country Partnership Strategy 2007-2011 contains the following disaster risk reduction benchmarks: "Strategy and action plan for DRM approval; (1) Targeted communities and populations reporting improved early warning for storms and floods; (2) Flood forecasting with 80 percent preciseness on the Red River 48 hours in advance, in the Mekong River 3-5 days in advance, and (3) Feasibility of agricultural flood-index based insurance tested for scale-up."

INTERMINISTERIAL INVOLVEMENT IN DRM

A wide range of government agencies and ministries are involved in disaster risk management. The *National Committee for Search and Rescue* (NCSR) is responsible for search, rescue and emergency relief during and after disasters; *The Fatherland Front and Red Cross Society* are charged with receiving and distributing emergency relief donations; *The Ministry of Natural Resources and Environment* (MONRE) and *Geophysics Institute of Vietnam Academy of Science and Technology* are charged with disaster warning and forecasting; the *Voice of Viet Nam* (VOV) and *Vietnam Television* (VTV) are responsible for disseminating disaster warning and forecast to the public; *The Ministry of Finance* (MOF) is responsible for allocating and releasing emergency response funds and other recourses in order to meet post-

disaster needs; *The Ministry of Health* (MOH) is responsible for post-disaster environment health needs; *The Ministry of Transportation* (MOT) is responsible for traffic safety and rehabilitation during and after disasters; *The Ministry of Post and Telecommunication* is responsible for rehabilitating communication systems ex-poste; *The Ministry of Labour,*

⁷ Reporting on progress made on this indicator was not available as of April 2009.

Invalids and Social Affairs (MOLISA) is charged with setting disaster compensation policies; *The Ministry of Industry* is responsible for managing reservoirs in and hydro power plants; *The Ministry of Foreign Affairs* is responsible for disaster related international cooperation issues. The above is not an exhaustive list, but all are members of the CCFSC.

CLIMATE CHANGE AND DISASTER RISK MANAGEMENT

The Government of Vietnam approved its National Target Program (NTP) to respond to climate change in December 2008. The National Target Program Steering Committee is led by the Ministry of Natural Resources and the Environment, with the participation of key ministries such as the Ministries of Agriculture, Transportation, and Construction. Its strategic objectives are to assess climate change impacts on sectors and regions, to develop feasible action plans to effectively respond to climate change in the short and long term and to join the international community's efforts in protecting the climate system.

HFA Priority # 2: Identify, assess and monitor disaster risks and enhance early warning

NATIONAL, REGIONAL AND LOCAL SECTORAL RISK ASSESSMENTS

While limited national hazard mapping exists with a primary focus on water related events, there is little if any comprehensive risk mapping in Vietnam. Where hazard data exists, there is often insufficient exposure data.

Historically, the hazard mapping data that exists is held by different agencies and where detailed maps exist, considered sensitive by the government and not widely disseminated. There are three larger scale hazard mapping projects but two of these projects (tsunami and drought mapping) have experienced considerable delays.

For example, where detailed flood maps exist at the provincial level, they are often not factored into new development plans. No institution, including the Central Committee for Flood and Storm Control, has the mandate to ensure risk maps are taken into consideration.

Donor and NGO projects have sponsored ad hoc provincial and community level risk assessments. An OFDA/UNDP 2003 mapping project created high resolution risk maps for eight provinces in central Vietnam. However limited field survey data produced risk maps that were subsequently never used by most participating provinces and the map distribution was extremely limited. Community level risk mapping has been undertaken in some other projects, but data quality is not sufficiently detailed to be of use for national level risk maps.

In particular regions, there is a high level of awareness about Vietnam's exposure to natural hazards at both the national, provincial and commune level when related to annual river based flooding rather than floods associated with tropical cyclones. Communities living along the low lying Mekong Delta areas have experienced floods for generations, and the government has developed a program of "living with floods."

At some point in the future, the government should strongly consider an integrated national disaster and hazards data and mapping system as a first step to obtaining reliable data on the scale of economic activities at risk from natural hazards. Currently MONRE's Institute of Hydro-met and Environment has three hazard mapping projects underway.

Project	Budget (US\$)	Timeframe
Flash flood risk mapping at district level and 1:200,000 scale for selected mountainous provinces	US \$1.02 million	2006–2009
Tsunami risk mapping for coastal areas	US \$384,000	2006–2008 (not completed)
Drought hazard mapping for the Highlands and Southern Central provinces	US \$395,000	2006–2008 (not completed)

INDICATORS ON DISASTER RISK MANAGEMENT

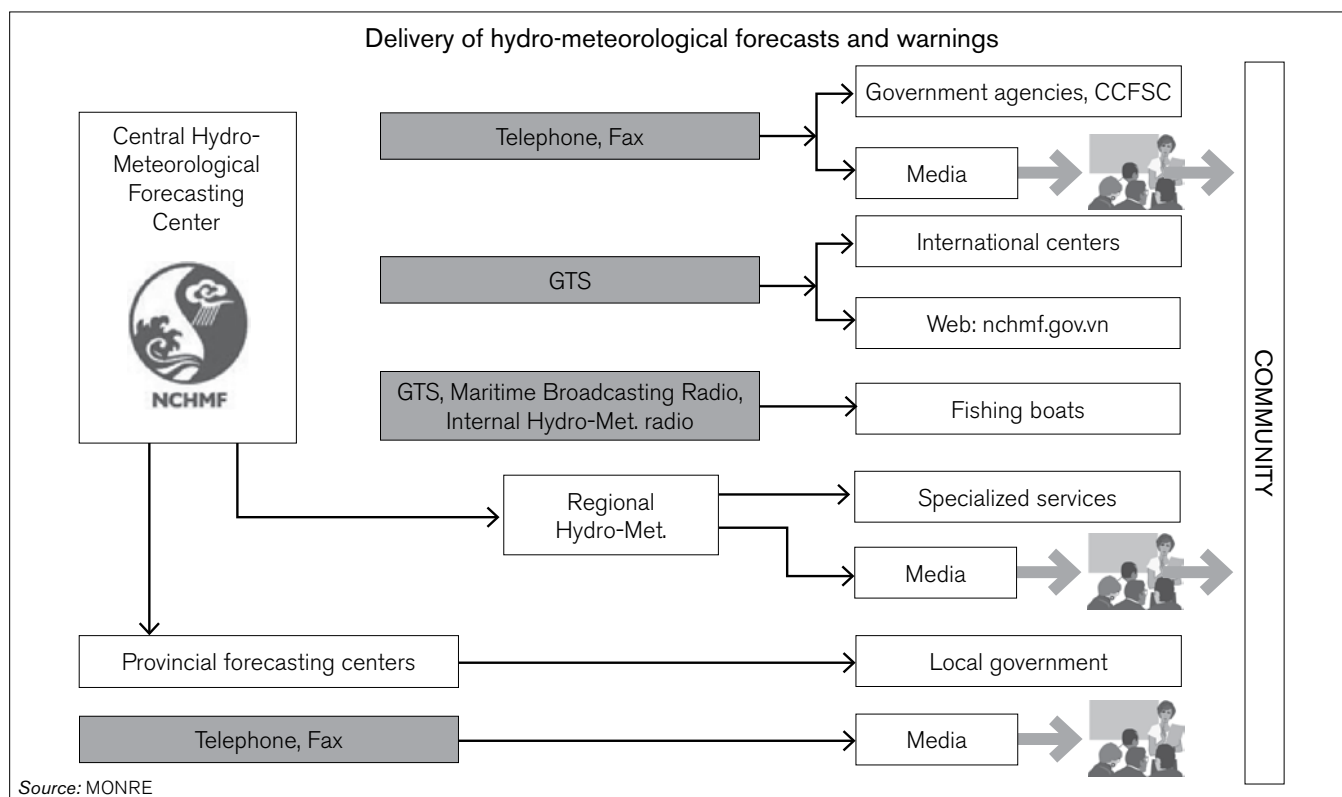
There is a shortage of data, tools and capacity to quantify natural hazard risks and to interpret them in a manner which allows risk reduction to be integrated explicitly into development planning and decision-making. Vietnam lacks a system of disaster risk and vulnerability indicators at national and sub-national scales that will enable decision-makers to assess the impact of disasters on social, economic and environmental conditions and disseminate the results to decision makers, the public and populations at risk.

EARLY WARNING SYSTEMS

Disaster risk management coordination is strongest, in Vietnam, for hydromet disasters. When storms approach over the South China Sea, they are monitored by the Geophysics Institute and the Central Hydro-metrological Center, which produce forecast bulletins every two hours on the approaching event. The bulletins are immediately and simultaneously sent to Vietnam Television/ Voice of Vietnam and the Maritime Broadcasting System for broadcasting nation-wide, to the Department of Dike Management and Flood Control, which is the Standing Office of the Central Committee for Flood and Storm Control and uploaded on the Center's website for external reference. The DDMFC, based on information received from the National Hydro-meteorological Center, convenes meetings of the CCFSC.

Depending on the severity of the disaster, the CCFSC will be chaired by the Minister of MARD or the Deputy Prime Minister/Prime Minister. Its other core members, the National Committee for Search and Rescue, MOT, MOH, VTV, VOV and others participate based on the scale and requirements of the event.

When a storm is incoming or following a natural disaster, the CCFSC convenes once a day, or more frequently if necessary. It prepares directive telegraphs which are dispatched to relevant ministries and localities affected by the disaster, asking for appropriate actions i.e. population evacuation, return of fishing boats, securing critical assets, etc. These directives are also broadcast through VTV and VOV nation-wide.



MONRE is the state agency charged with hazard monitoring through its Department of Hydro-meteorology and Climate Change. The tasks of weather forecasting (mainly hydrological and metrological phenomena) observations and issuing early warning sits with the National Center of Hydro-meteorology which has networks at the regional and provincial levels. The National Center of Hydro-meteorology is a member of CCFSC, responsible for providing early warning and forecasts for the CCFSC's action.

FORECASTING

Vietnam has nine regional hydro-meteorological forecasting centers, 54 provincial hydro-meteorological forecasting centers, and the following observation station networks:

Description	Quantity
Surface meteorological stations	174
Rain gauge sites	764
Hydrological stations	248
Marine meteorological stations	18
Radio stations	5
Weather radar stations	6
Wind-gauge by theodolite	8
Ozone and UV stations	3
Weather radars	6
Radiation	13

Insufficient coverage and distribution of the observation centers as well as outdated equipment is cited by the national hydro- meteorology centers as an impediment to accurate forecasting. It is not only a problem of equipment. Were more modern equipment in place, it would still need to be accompanied by a comprehensive human resource development program.

DATA SHARING

Vietnam has linkages to numerous regional and international climate forecasting centers including. It has been a member of the WMO since 1955 and is participating in the Regional Association II (Asia). Vietnam also participates in the UNESCAP/WMO Typhoon Committee (member since 1979, TC chair: 2006-2007), the ASEAN SCMG (member since 1995), the Mekong River Commission (member since 1957; signed the Agreement on the cooperation for the sustainable development of the Mekong River Basin in 1995), the North-West Pacific Tsunami Advisory Center (NWPTA), Japan, the Pacific Tsunami Warning Center (PTWC).

Vietnam has a number of bilateral forecasting agreements, including agreements with: China: (since 1993): exchange of weather forecast expertise, instrumentation in calibration, communication using PCVSAT, research, training; the United States: (since 2001) for technology transfer (NWSRFS, ETA models), training: Asia Pacific Desk, AMS annual meetings, training courses in Vietnam and US; Australia: (since 2002) for technology transfer, training; Lao PDR for technology transfer: providing Data receiving, processing and plotting systems; 6 meteorological and hydrological stations to DMH, training; Cambodia; Japan (GAME, SOWER/Pacific, MAHASRI); ADPC (Multi-hazard early warning system, application of climate information and prediction) and APEC (APEC Climate Center).

COMMUNICATIONS

Vietnam's communications system is relatively developed and functional before and after disasters. Vietnam has telephone and fax hotlines which connects the meteorological service with the CCFSC, the NCSAR, and the

VOV/VTV in the event of emergencies. The CCFSC is also connected via phone and fax with the Standing Offices for Flood and Storm Control which is often housed in the Department of Agriculture in the provinces. They also make use of village/neighborhood speaker systems to broadcast warnings at the community level.

HFA Priority # 3: Use of knowledge, innovation, and education to build a culture of safety and resilience at all levels

EDUCATION AND TRAINING

Increasing community awareness about disaster risk reduction is undertaken primarily through donor-funded projects rather than through the Government of Vietnam, although the two work in close cooperation.

Vietnam runs natural disaster awareness raising pieces on its state-run television and radio stations and NGOs sponsor community events on disaster risk management.

Scaling up its Community-based Disaster Risk Management program is a main priority for Vietnam in the next decade. As a part of their CBDRM programs, they plan to train all staff at central, provincial and commune level on disaster risk management, establish disaster risk management centers at the province level and engage in a large-scale community awareness raising programs. Support for this activity is being requested from a wide range of donors.

The National Strategy for DRM up to 2020 has a component on integrating disaster risk reduction into school curricula. While not yet on the curricula, it is acknowledged as an important area with several NGOs already working on pilot programs.

INFORMATION MANAGEMENT AND EXCHANGE

Vietnam has several academic research institutions designated to studying different hazards. The Institute of Hydro-Meteorology studies flood and storms, the Institute of Geography focuses on geo-hazards and the Institute of Geophysics is in charge of studying and providing warnings for earthquakes and tsunamis.

HFA Priority # 4: Reduction of the underlying risk factors (reduction of exposure and vulnerability and increase of resilience)

ENVIRONMENTAL AND NATURAL RESOURCE MANAGEMENT

Mangrove forests, which have traditionally provided a barrier against flooding and seawater intrusion, have steadily been decreasing in acreage as Vietnam's population expands. However, the government has been making a concerted effort at mangrove reforestation and has passed appropriate legislation (such as the Law on Forest Protection) to reforest vulnerable areas and encourage the sustainable use and management of ecosystems. They have also offered advice and financial assistance to communities who use adaptive special plants in flood-prone areas.

LAND USE PLANNING

Land use planning incorporates some risk reduction policies but exposure to natural hazards is inconsistently taken into consideration. For example, while new developments must factor in earthquake and other hazards, a site's location in an area prone to flash flooding will not necessarily preclude major development. Increasing provincial level awareness about factoring natural disasters into land use planning is a priority for sustainable development.

Vietnam's building codes factor in certain natural hazards (for example, typhoons, earthquakes, sea level rise, wind loading) but their enforcement varies widely from province to province. While construction codes are stringent about earthquake resilience, flood resistance for buildings is more loosely enforced. In the highly storm and

flood prone provinces of Quang Nam, for example, approval is contingent on considering the impact of a wide range of natural hazards. In other equally hazard-prone provinces, this is not compulsory. Instead, it is frequently dependant on the level of awareness of the particular province, investor or developers and their interest in safeguarding their development. Pre-construction environmental impact assessments sometimes consider flooding as a factor. The existing building codes mainly apply for major public works. There is almost no enforcement of the building codes in construction of private housing.

SOCIAL AND ECONOMIC DEVELOPMENT PRACTICE

Households living in disaster prone areas have been active in diversifying their income sources so as to reduce risk (Vietnam Development Report 2008). By correlating daily rainfall data from 172 weather stations with household survey data, it appears that farmers in higher rainfall areas facing more volatile conditions areas diversifying their labor inputs more to safeguard their assets against risk (i.e. not relying on only crops but on crops and livestock). But they do not self-insure by accumulating livestock or holding assets. The Vietnam Development Report also suggests that farmers in these disaster prone areas have fewer diversification options, perhaps because they do not have good access to land or credit.

HFA Priority # 5: Disaster preparedness, recovery and reconstruction at national, regional, and local levels

RISK FINANCING

Most budgetary allocations in Vietnam are intended for response. Three percent of both the central and province level budgets are allocated for response contingent funds. These funds cannot be carried over from year to year and are in principal, supposed to be returned to the state budget. They are rarely used for mitigation activities, though frequently spent each year. There is an annual budget line at central and province level for both the relocation of people living in high risk areas and for the maintenance of the dyke systems.

Under the Ordinance on Flood and Storm Control, the Vietnamese Government is responsible for losses to public assets caused by natural disasters. There is also limited compensation for private assets, housing and livestock (but, as in most countries, insufficient to cover the entire loss). Vietnam does not have a disaster insurance scheme in place. Currently, MOF and MARD are considering a pilot agricultural insurance scheme which will be submitted to the Government by end of June 2009. The World Bank is also undertaking an initial study on risk transfer instruments currently in place in Vietnam.

When a disaster is declared, provinces use their contingency fund and may later ask the state for reimbursement if damage is in excess of the provincial contingent fund. They are also reliant on funds from line ministries. Funds are usually transferred from state to provincial treasuries for expenditure at the local level.

There is no comprehensive data available for total disaster relief expenditure nor origin of these funds. Post disaster funding is a complex web of state and provincial budgeting, line ministry reallocations, donors' funds outside the annual line items, private companies and individuals who donate through the mass organizations such as the Fatherland Front. The CCFSC tries to track funding data on its website.

DAMAGE AND LOSS ASSESSMENTS

Following a natural disaster, key ministries (usually the Ministries of Agriculture, Transportation and Health) send missions to the worst affected areas to investigate the situation and direct their respective sectors on appropriate response and recovery actions. The DDMFC receives and consolidates damage data from local

levels on a daily basis following a natural disaster. The consolidated data is sent to the CCFSC/Prime Minister for the Government's decision on the level of support provided to the affected areas. Following the initial disaster and damage reports, the Ministry of Finance allocates budget support from the State Treasury to provincial Treasuries in accordance to the Government's decision.

The broader socio-economic impacts of disasters are acknowledged by the government. Nevertheless the Government's damage and loss assessments can be inconsistent across sectors and provinces and total loss figures difficult to substantiate. Damage reported by communes – for instance to housing – may be in excess of government assistance allowances and so revised downwards to match available funds. Available norms for valuing damages – as in many countries – do not take loss into consideration and may significantly underestimate the total impact of natural hazards. Nevertheless, the government does send out teams from central ministries to assess damage in major sectors as well as rely on commune and provincial damage estimates.

EMERGENCY MANAGEMENT

Vietnam has a central, provincial, district and commune level emergency response plans for storms and floods which are reviewed and updated annually. Vietnam is particularly strong at pre-storm evacuations and has moved up to half a million people from the coastline within the space of a few hours.

Search and Rescue is embedded in the Ministry of Defense and its garrisons around the country. Responsibility falls under the National Committee for Search and Rescue located in and led by Ministry of Defense and composed of a number of relevant ministries such as the ministries of transportation, health, agriculture and rural development.

The National Committee for Search and Rescue has three 'Centers of Sea Search and Rescue', three 'Centers for Oil Spill Response' and a number of emergency units at military airports. The government is interested in improving its search and rescue capacity, particularly in terms of training and equipment. At present, following a natural disaster, locally based army garrisons are mobilized, often young soldiers with no professional skills for search and rescue. As a part of its effort to strengthen key technical capacity across the sector, Vietnam would like to focus on improving the capacity of its search and rescue cadre.

4. KEY DONOR ENGAGEMENTS

Existing Projects with Donors and International Financial Institutions	Funding Agency/ International Partners	Allocated Budget and Period (US\$)	HFA Activity Area(s)
<i>Natural Disaster Risk Mitigation Program</i> involves prevention and mitigation investments, community based disaster risk management, post-disaster reconstruction support and institutional strengthening	World Bank, Netherlands, Japan and AusAID	US \$110 million	1, 2, 3, 4, 5
<i>Hazard Risk Management Institutional Development Advocacy and Capacity Building Program</i> provides technical assistance for capacity building in risk finance, CBDRM, urban drainage designs, climate resilient cities, and integration of DRM into poverty reduction activity.(* see chart below for additional details)	GFDRR	US \$914,000	1,3,4,5
<i>Emergency Rehabilitation of Calamity Damage Project</i> for a rapid resumption of livelihoods and reduction of vulnerability to natural disasters in the affected areas (primarily infrastructure repair)	ADB	US \$76 million	4,5

(Cont.)

Existing Projects with Donors and International Financial Institutions	Funding Agency/ International Partners	Allocated Budget and Period (US\$)	HFA Activity Area(s)
<p><i>Strengthening Institutional Capacity for Disaster Risk Management in Vietnam, including Climate Change related disasters</i> program provides institutional capacity building TA for DRM and climate change related issues in Vietnam</p> <ul style="list-style-type: none"> - Supporting evidence-based national and local Disaster Risk Management legislation, strategies and policies and plans developed, approved and integrated in socio-economic and sectoral strategies and plans - Strengthening Institutional systems and processes to enhance coordinated and integrated DRR actions and adaptation to global climate change, at national and provincial level - Strengthening national and local capacities to minimize the adverse social, economic and environmental impacts of climate-related disasters 	UNDP/One UN	US \$4.5 million	1,2,3,4,5
Program for Hydrometeorological Risk Mitigation in Asian Cities (PROMISE): (Chittagong, Bangladesh; Hyderabad, Pakistan; Dagupan City, the Philippines; Kalutara, Sri Lanka; and Da Nang, Vietnam, Semarang in Indonesia)	USAID/OFDA	2005–present US \$1,855,286	1,2,3,4
<i>Asia Flood Network (AFN)</i> : (Cambodia, China, Laos, Thailand, and Vietnam in the Mekong river basin and Bangladesh, India, Nepal, and Pakistan in the Ganges-Brahmaputra-Megna)	USAID/OFDA	US \$2,579,927	2,3
<i>Drought Preparedness in Southeast Asia</i> : (Cambodia, East Timor, and Vietnam)	USAID/OFDA	US \$1,200,000	2,3
<i>Project for Building Disaster Resilient Societies in Central Region of Vietnam</i> supports storm and flood mitigation infrastructure works in the three central provinces of Quang Ngai, Thua Thien Hue and Quang Nam	JICA	US \$4.5 million	1,2,3,4,5
<i>Joint Advocacy Network Initiative (JANI – formerly Dani)</i> program works to improve the effectiveness of Community-based Disaster Risk Management (CBDRM) in Vietnam	ECHO	1998–present Euro 6 million	1, 2, 3, 5
<i>Capacity Building for Mitigation and Adaptation of Geodisasters Related to Environment and Energy Development in Vietnam</i> project aims to building capacities for Vietnamese experts in the areas of geodisaster adaptation and mitigation	Norway	US \$2.2 million	2,3,4,5
Community Based Disaster management in the Mekong Delta/ Mountainous areas	Oxfam UK/ Hong Kong		2,3,4
Mangrove Plantation, disaster preparedness and climate change	Vietnam Red Cross		2,3,4

Ongoing GFDRR Activities (Current GFDRR Portfolio)	Budget (years covered)	HFA Activity Area(s)
Study on existing transfer activities	165k	HFA Priority #4: Reduction of the underlying risk factors
Study on drainage system for coastal cities	154k	HFA Priority #4: Reduction of the underlying risk factors
Climate resilient cities, pilot in Hanoi, Can Tho and Dong Hoi	320k	HFA Priority #4: Reduction of the underlying risk factors
Documentaries to promote CBDRM	65k	HFA Priority #3: Use knowledge, innovation and education to build a culture of safety and resilience at all levels
DRM integration into the Bank's poverty reduction project	110k	HFA Priority #4: Reduction of the underlying risk factors
Capacity support to DRR and CCA	68k	

5. GLOBAL FACILITY FOR DISASTER REDUCTION AND RECOVERY (GFDRR): ACTION PLAN

By putting forth the National Strategy and the National Action Plan, the Government has shown a strong interest in moving forward with the DRM agenda. Vietnam currently has a US \$110 million IDA program. Although DRM is a priority for the government, lessons learned from this activity show there is extremely weak capacity for client implementation so Bank execution is proposed for much of the next round of GFDRR grants. Moreover, there is a strong need to integrate DRM into many of Vietnam's new investment projects. The Government has proposed integrating DRM into its socio-economic planning and, in partnership, the World Bank Hanoi would like to integrate DRM into its upcoming and existing projects.

The areas proposed have been identified in consultation with national local authorities and reflect HFA priorities. They will build on activities started in the first round of GFDRR programming (such as expanding support for CBDRM and undertaking a more broad reaching risk finance strategy) and will contribute to the development of the future lending program in Vietnam.

Indicative Program for GFDRR Funding <i>(Projects and engagement areas being considered for GFDRR funding)</i>	Implementing Agency/ International Partners	Indicative Budget and Period (US\$)	HFA Activity Area(s)
I Integration of Disaster Risk Reduction into Pipeline World Bank projects in Vietnam <i>Priority activities:</i> <ol style="list-style-type: none"> 1. Identification of pipeline projects suitable for DRM integration 2. Mainstreaming disaster reduction activities (structural improvement and non structural activities such as assessments and awareness raising etc) and into upcoming projects such as roads, schools, hospitals, the Northern Mountains program etc. during the preparation phase 3. Developing guidelines for a detailed disaster risk assessment checklist for future Vietnam projects 4. Integration of DRR into upcoming and existing CAA Activities 4. Preparation of the next IDA lending program for Disaster Risk Reduction in Vietnam projected for FY 2012 	<p style="text-align: center;">WBOH</p>	<p style="text-align: center;">2009–2011 US \$2 million</p>	<p style="text-align: center;">1,2,3,4,5</p>
II Risk Financing Options - Supporting the Development of Vietnam's Strategy <i>Priority activities:</i> <ol style="list-style-type: none"> 1. Identification and assessment of catastrophe risks (e.g. wind, earthquake, flood) 2. Collection of relevant existing hazard, vulnerability and exposure data 3. Support development of a catastrophe risk finance model for Vietnam that would allow for risk transfer and risk sharing mechanisms 4. Support development of draft legislation and regulations that would allow implementation if such a scheme in Vietnam. 5. Explore development of supplemental multi-hazard risk maps 6. Strengthen Ministry of Finance and National Planning capacity for understanding and bringing a focus to this issue 7. Establishment of an umbrella contingent component for the Bank's investment projects that can be mobilized for disaster recovery 	<p style="text-align: center;">WBOH Ministry of Finance, Ministry of Agriculture and Rural Development</p>	<p style="text-align: center;">2009–2011 US \$3 million</p>	<p style="text-align: center;">1,2,3,4,5</p>

(Cont.)

Indicative Program for GFDRR Funding <i>(Projects and engagement areas being considered for GFDRR funding)</i>	Implementing Agency/ International Partners	Indicative Budget and Period (US\$)	HFA Activity Area(s)
III Support Vietnam's NAP Implementation <i>Priority activities may include:</i> <ol style="list-style-type: none"> 1. In close coordination with other donors, provide TA for the preparation of the National Action Plan to implement the National Strategy on DRM 2. Support sub national DRM structures, in coordination with UNDP, including both establishment of centers and staff capacity building 3. Update and developing risk maps and related information in conjunction with activity II 4. Support Vietnam's planned national DRM training and awareness raising activities 5. Improving development and enforcement of building codes which incorporate disaster risk reduction measures 	WBOH Central Committee for flood and Storm Control, MONRE, Provincial authorities	2009–2011 US \$6 million	1,2,3,4,5
IV Strengthen the hydrological and meteorological capability for Vietnam <i>Priority activities:</i> <ol style="list-style-type: none"> 1. Review the meteorological and hydrological observational networks, data collection, processing and information dissemination systems 2. Based on identified gaps and establish requirements for effective meteorological and hydrological monitoring, forecasting and end-to-end warning system and service delivery, at the same time addressing hazard management and climate change needs 3. Review and develop institutional arrangements to support a sustainable level of service 4. Implement institutional and sustainable service arrangements. 5. Design and implement systems support purchase of and tools to support regular meteorological and hydrological monitoring, forecasting, end-to-end warning and effective service delivery 6. Enhance the climate database and operational systems for effective climate change monitoring, prediction and evaluation. 7. Identify skills gap and assist with training and capacity building 	MONRE, Department of Hydro-meteorology and Climate Change, National Center of Hydro-meteorology	2009–2011 US \$3.9 million	2
Support to program monitoring, evaluation and oversight	WBOH	3 years US \$100,000	
Total Budget Requested:	US \$15,000,000		

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