



PROMISE PROJECT

DA NANG CITY
VIET NAM

PROGRESS REPORT OF COMPONENT 1

Implemented By:
*The Canadian Centre for International Studies and Cooperation
(CECI)*

Submitted To:
ADPC

July 2006



TABLE OF CONTENTS

1. Introduction	3
1.1 Introduction on the ADPC – USAID Program.....	3
1.2 Introduction on Promise Vietnam – Da Nang	3
1.3 Promise program.....	4
2. Progress report of component 1: Hazard, vulnerability and risk assessment	5
2.1 Activities	5
3. Activity 1.1.1: Participatory vulnerability assessment (PVA)	6
3.1 Background of Study.....	6
3.2 Methodology.....	6
3.3 Research area: Da Nang City.....	7
3.4 Detailed Study.....	7
3.4.1 General information of studied areas	7
A. Cam Le District	7
B. The six wards of Cam Le District	8
3.4.2 Participatory Vulnerability and Capacity Assessment.....	10
A. Assessment result of Hoà An Ward	10
B. Assessment result of Hoà Phát Ward	12
C. Assessment result of Hoà Xuân Ward	16
D. Assessment result of Hoà Thọ Tây Ward	20
E. Assessment result of Hoà Thọ Đông Ward	23
F. Assessment result of Khuê Trung Ward	26
4. Activity 1.1.2: Baseline Survey	29
4.1 Methodology.....	29
4.2 Executive survey	30
4.2.1 General household's information	30
4.2.2 General household's information	31
4.3 Survey results	33
5. Activity 1.1.3 : Inception workshop at city level and ward level	34
5.1 Purpose.....	34
5.2 Participants	34
5.3 Contents	35
6. Activity 1.2.1 : Identification of change agents	36
7. Activity 1.2.2 : Training of Trainers (TOT)	38
8. Conclusion:	38
9. Annexes:	39
9.1 Annex 1	39
9.2 Annex 2	42
9.3 Annex 3	46

1. Introduction

1.1 Introduction on the ADPC – USAID Program

ADPC has picked up five candidate cities from Bangladesh, Pakistan, Philippines, Sri Lanka and Vietnam in consultation of the lead partner in respective countries through an analysis conducted in South Asia and South Asia for city demonstration projects. The selected cities are among the most vulnerable secondary cities subjected to hydro-meteorological events in the recent history. They are rapidly urbanizing and have the potential to be impacted severely affected by hydro-meteorological events in the future. City authorities of the respective candidate cities consider risk management as one of the priority issues among the problems faced by residents of the respective city and have shown a keen interest to take up activities under city demonstration projects. ADPC has included a concept note on the potential project and the detail project proposal should be in line with the concept note, which we have already shared with Project leading partners.

Based on the above assessment, ADPC has identified the following secondary cities as primary target area for project implementation, namely Chittagong in Bangladesh, Rawalpindi in Pakistan, Dagupan city in the Philippines, Kalutara in Sri Lanka and Da Nang in Vietnam.

1.2 Introduction on Promise Vietnam – Da Nang

Da Nang City

Da Nang city is located in Central Viet Nam, which is a long-stretching narrow region. The area is frequently subjected to flood and storm disaster events. Storms, affecting the Central provinces, often originate from tropical storms and depressions coming from the South China Sea (East Sea), and from tropical and cold fronts. Severe storms with strong wind are often engaged with heavy rains, causing river water level rising and flooding.

Total Area:	1.256.2446 sq km
Land Use – Agriculture:	117.22 sq km
Land Use – General:	1048.6264 sq km
Annual rainfall:	1747.5 mm
Population:	816,831
Annual population growth rate:	1.74%
Population density:	599 people/sq km
Average urban population:	73.10%
Households:	167,109
GDP per capita:	12.54 m VND
Monthly average income:	635,000 VND (est for 2004)

City of Da Nang is situated in the center of the country, on the north–south trans–national communication network and the East–West trans–Asia road linking with central Laos, northeast Cambodia and northeast Thailand. It is located in a typical tropical area influenced by monsoons with an annual average temperature of 25.7oC. The city has a natural land area of 1,256km2 and a population of 816,831 in 2004. It consists of five urban districts, one rural district and one archipelago district. Da Nang City is an important communications hub of the central region, Western Highlands and Vietnam with its international airport, deep-water seaports and north-south land routes and railways completely and conveniently developed.

This region is close to international shipping routes, very important for the establishment of convenient cargo transit sites for the markets in Indochina and Southeast Asia.

The central government has focused on developing this Key Economic Zone in order to make the best use of its location, potentials and advantages to be one of the dynamically developed areas of the country.

Da Nang also has abundant tourist potential, as it is located on World Heritage Road in Central Vietnam and adjacent to four natural and cultural UNESCO-designated World Heritage Sites and closely connecting with the legendary Ho Chi Minh trail. Da Nang is known as a historical place with many famous sights. The city is also endowed with a long coastline of the numerous beaches bright with sunshine much of the year, suitable for building ideal tourist resorts.

Cẩm Lệ, a newly split district from former Hoà Vang district of Da Nang city was selected to be the area for project implementation for its matching to the project objectives. The fact that urbanization is happening to most of the wards of the district inconsistently has exposed vulnerability to disasters of this district. The district is situated in the low-lying location, which has total natural area of 230 ha. There are 6 wards in the district namely: Khue Trung, Hoa Xuan, Hoa Tho Dong, Hoa Tho Tay, Hoa Phat and Hoa An. Its total population is 71.000 people (16.612 households), in which there are 1.231 poor households accounting for 6,44%.

Disasters Affecting Da Nang city

Flood and drought are common phenomena in this city and usually occur each year. Floodwaters bring in alluvial soil and clear the harmful elements for agriculture production, thus increasing yields and reducing the cost of pesticides and fertilizers. At the same time, floods, which occur 1-2 times per year, affect negatively the low-lying areas in Da Nang.

Disaster Occurrence, Frequency and Impact in Da Nang

Type of disaster	Period of occurrence	Frequency	Affected business
Flood	Oct. - Dec.	1 -2 times/ year	Agriculture (if during crop season), transportation (roads blocked)
Drought	Apr. - Sep.	Almost every year	Agriculture (summer rice crop)
Storm	Oct. - Dec.	Occasionally	Aquaculture (inshore fishing), tourism.

Drought is considered the major threat to the local agriculture. Lack of fresh water supply for rice cultivation reduces the yield of summer crop from 30% to 100%. Drought also increases the risk of fire in the residential areas, since most of the houses and accommodation facilities of are made of bamboo/wood. Coastal communities are also prone to storm and tropical low pressures. Although they are more rare than flood and drought, the area has been affected by two major storms in the past ten years. River and sea erosion are other threats, which need to be taken into account for the disaster management planning in Da Nang.

1.3 Promise program

Program Goal

Reduced vulnerability of urban communities through enhanced preparedness and mitigation of hydro-meteorological disasters in South and South East Asia.

Program Strategy

ADPC proposes the following strategy for the proposed program: “Increased adoption of private and public sector mechanisms for community preparedness and mitigation of hydro-meteorological disaster risk in urban areas of South and South East Asia which will measurably alleviate human suffering, prevent loss of life, and reduce the potential for physical and economic damage”.

Program Objectives

The proposed project will build on the activities undertaken and strategies developed under the AUDMP for achieving the above goal through:

- Adoption of specific hydro-meteorological disaster preparedness and mitigation measures *to manage hydro-meteorological disaster risk* by stakeholders in targeted cities;
- Increased stakeholder involvement and further enhancement of strategies, tools and methodologies related to community preparedness and mitigation of hydro-meteorological disasters in urban communities;
- Enhanced coordination with USAID Missions to promote sustainability and ensure program activities accord with USAID country and regional strategies;
- Strengthen networks and regional links among relevant risk management institutions/organizations for improving potential and capacity for application and dissemination of lessons learned.

Components

Component 1:	Hazard Vulnerability and Risk Assessment;
Component 2:	Mitigation and Preparedness
Component 3:	Training and Public Awareness
Component 4:	Advocacy for Mainstreaming risk management in urban governance

2. Progress report of Component 1: Hazard, vulnerability and risk assessment

2.1 Activities

This component consists of the following activities:

Activity 1.1: Surveys and Inception Workshop

Activity 1.1.1 Participatory Vulnerability Assessment (PVA)

Activity 1.1.2 Baseline Survey

Activity 1.1.3 Inception Workshop at city level and ward level

Activity 1.2 Preparedness and mitigation orientation session at the ward level

Activity 1.2.1 Identification of change agents

Activity 1.2.2 Training of Trainers (TOT)

3. Activity 1.1.1 Participatory vulnerability assessment (PVA)

3.1 Background of Study

Main Objectives:

- To assess the disasters impacts in terms of social-economic, physical, material, natural, and financial on local residents and community;
- To identify particularly vulnerable groups and their existing capacity to cope with and recover from episodic disasters;
- To present a vulnerability study to serve as the basis for communities and governmental counterparts to develop sound and targeted plans for emergency response preparedness and disaster mitigation in future disasters.

Specific Objectives:

- Identify the potential hazards and principle natural disasters that have effected the study areas;
- Understand the disaster impacts in terms of social-economic, physical, material, natural, and financial impacts on local residents and communities as well as the typical loss to livelihoods in disaster times;
- Assess the current transportation networks; communication systems; existing shelters in the event of disasters;
- Assess the communities' vulnerability in terms of geographic location, infrastructure, health and livelihood, and collect information on quality and accessibility of water, sanitation and health facilities;
- Identify the capacity of the CFSC at different levels to respond to natural disasters and assess skills, knowledge, and level of disaster management plans for the areas;
- Assess coping strategies used by the communities;
- Describe the extent of gender roles in mitigating disaster impacts.

3.2 Methodology

Qualitative and quantitative research techniques are chosen to apply for this study. The combination of tools for data collection will be used for field research. The following discussion and interview methods will be conducted in the field:

- Secondary data collection;
- Focus Group Discussion with representatives of CFSC members and Mass-organizations (participatory hazards, natural disasters, vulnerability and capacity assessment at the ward and section level);
- In-depth Interview with the key informants selected from FGD at ward and section level;
- Household Interview at the section level.

Brief explanation of tools to be used:

- Secondary data collection: This is used to gather general information of district and commune in terms of geography, population, natural condition, climate pattern, economic patterns and current situation of base-line condition. The District and Commune Profile Forms were used and other written documents were collected mainly: Annual Disaster preparedness plan (District and commune levels), Socio-economic development plans (District and commune levels) and Others (land use plan, support programs related to disaster mitigation from Government and NGOs, etc);

- Mapping: Maps were used to identify the most vulnerable villages in the commune basing on their location, terrain and natural disasters impacts they faced and also the safer places that can be used as shelter in case of disasters;
- Focus Group Discussion: Groups of 10-20 members from commune' committee for floods and storms control (CFSC) participating in FGD. The purposes of FGD is to clarify information and gather different opinions on issues related to vulnerability study based on their knowledge and experiences;
- Historical profile: The historical profile will be used to gather historical information on disaster frequency, recent disaster impacts and the local existing practices and attitudes;
- Problem tree: The problem tree will be used during the FGD to identify the most concern problems caused by natural disasters and their opinions on how to solve their problems in the way that can minimize community vulnerability;
- Ranking: It will be used to rank the most vulnerable villages and the potential hazards and natural disaster impacts addressing on frequency, severity in terms of loss of life, impacts on production and damage homes, property, etc.

3.3 Research area: Da Nang City

In Cam Le District, there are 6 wards:

- Khue Trung ward
- Hoa Xuan ward
- Hoa Tho Dong ward
- Hoa Tho Tay ward
- Hoa An ward
- Hoa Phat ward

3.4 Detailed Study

3.4.1 General information of studied areas

A. Cam Le District

CẨM LỆ is a newly split district from former Hoà Vang district basing on the Government's Decree N^o 102 dated on 1st September 2005. The district is situated in the low-lying location, which has total natural area of 230 ha. There are 6 wards in the district namely: Khue Trung, Hoa Xuan, Hoa Tho Dong, Hoa Tho Tay, Hoa Phat and Hoa An. Its total population is 71.000 people (16,612 households), in which there are 1,231 poor households accounting for 6.44% according to criteria made by the city of Da Nang with the income per capital is 200.000VND/month, not 160.000VND/month as national criteria.

Main economic activities of the ward consist of (i) small industry; (ii) trade service and small business; (iii) 40% of population involve in agriculture production.

Identification of potential Hazards to the District:

- Flood
- Storm
- Drought

The most vulnerable Wards in the District

Ward	Household	Poor HH	Poverty level (%)	Flood	Typhoon	Drought	Ranking
Hoa Xuan	2.543	173	6,8	F1	T1	D1	1
Hoa Tho Dong	2.491	125	5	F2	T2	D2	2
Hoa Tho Tay	2.075	147	7,08	F2	T2	D2	2
Khue Trung	3.893	328	8,4		T1		3
Hoa Phat	2.383	115	4,8		T2	D3	3
Hoa An	3.227	173	5,36		T2	D3	3
Total	16.612	1.231	6,44%				

*Note:

F1= the most affected by flood; F2= Less affected by flood

T1= the most affected by Typhoon T2= Less affected by Typhoon

D1= the most affected by Drought D2= Less affected by Drought, D3=the least affected by Drought

B. The six wards of Cam Le District

HOÀ AN WARD

Hoà An ward is located in the low lying area in the open fields and near the mountains without protection trees to the East of the city, which is 4 km far from the center of Da Nang city. Because of its location, every year most typhoon and floods affect it. Hoà An ward has 53 sections. The biggest section has 115 households and the smallest one has 60 households. Only 10% of population involve in agriculture production with 81 ha of one paddy rice crop and subsidiary crops. The rest engage in doing small business, opening business services and small industry and handicraft (rattan production, carpet making and woolen knitting for export and incense producing, etc).

HOÀ PHÁT WARD

Hoà Phát is 5 km far from the city center to the East. It has 39 sections with total households of 2.383, in which there are 115 poor households accounting for 4, 8%. Because of its narrow topography in the low-lying ground and no natural streams or rivers so it is frequently affected by flash floods from the mountains and also be inundated by water flood coming from the city. Hoa Phat wards receives big water pressure during flooding because the drainage sluice and system of the city are too small to drainage water quickly and that water stuck and pour down to Hoa Phat. Moreover, it's low-lying location and no irrigation system nor drainage system to make it more prone to flooding.

The sections close to the mountains like section 10, 24, 25, 26, and section 27 are only 500m far from the mountain foot with high slope, which are always affected by flash floods. In the past, the mountains had more bushes that could prevent and reduced water pressure coming down. Since people clear bushes to plant tree, the ward is, therefore frequently and more seriously affected by flash floods.

Agriculture production accounts for 50% and the rest of 50% is for off-farm (business service, small business and labor service for carpenter enterprise and rock exploration for construction material, etc). Land for agriculture production is situated in a very low-lying ground that always be flooded and that no crop can be produced. Particularly, 5 ha of Đồng Cây Chay field for three years running farmers could not cultivate on that field.

HOÀ XUÂN WARD

Hoà Xuân ward is located in the South of Da Nang city, which is 10 km far from the city center. It has 32 sections with total population of 13.317 people (2.300 households), in which there are 173 poor households accounting for 6,8% (clarified by city criteria that annual income per capital

is 300.000 VND/month). The ward is situated in very low lying ground between the two big rivers named Tứ Cầu River and Cẩm Lệ River and some other small rivers like Lậu River and Cồn Dầu River.

The main economic activities of the wards are agriculture production with 420 ha of farmland for 50% of paddy rice production and 50% subsidiary crops. In addition to agriculture, people also engage in tailoring, handicraft making, and mason. There are two sections live mainly on fishery (section 24 and section 25).

HOÀ THỌ TÂY WARD

Hoà Thọ Tây is about 8 km far from the city center to the West. It has 28 sections with a small population of 8.337 people (2.063 households) living in the large natural land area of 8,7 km². There are 147 poor households, which accounts for 7,08% and 30 temporary houses. The ward residential distribution is along the mountain and river with national road and railway crossing some of its sections.

There are about 40% households involve in agriculture production with 100 ha of farmland for two rice crops. About 60% of households conduct small business and business services to earn living.

HOÀ THỌ ĐÔNG WARD

Hoà Thọ Đông is a newly split ward of the city since September 2005. It is 7 km far from the city center to the East in the low-lying ground. It borders Khuê Trung ward to the South, to the North is Hoà Phát ward, to the West is Hoà Thọ Tây, and to the South is Cẩm Lệ River. The national road number 1 passes the ward to the West. It has 37 sections with total population of 10.000 people (2.350 households). Poor household accounts for 5% with 120 poor households.

Business services (restaurant service), small business, and small industry like tailoring, carpenter and mason are the main economic activities of the ward. Agriculture accounts only for 20% with 29 ha of farmland for two rice crops and vegetable and other kinds of subsidiary crops. Before 1999, the farmland area was 270 ha, but since 2002, agriculture farmland has been taken for urban development plan. At the present, there are only 29 ha remained for agriculture production.

KHUE TRUNG WARD

Khue Trung was formerly belonged to Hải Châu ward of Đà Nẵng city. Since September 2005, it was split to be one of Cẩm Lệ district according to the urban development plan of the city. It is 7 km far from the city center, which has 37 sections under urban planning program. The other 7 sections are still in a survey process to be formed as new resettled area for households coming from different places in the city. In the near future, this ward will have 44 sections not only 37 sections as it has now. Its total population is 12. 067 people (2.627 households), in which there are 328 households accounting for 8, 4%.

Before 1997, the main economic activity was agriculture production with involvement of 80% households and farmland area was 105 ha for two or three rice crops per year. Now 100% of farmland was taken for urban development purpose and so residential land also be reduced. Formerly, each family had at least 300 m² for housing, but now only 100 m²/household. Since there was no farmland left all farmers had to find other jobs to earn their living. The common new jobs they have now are small business and business services. Because those new jobs bring them unstable income. Moreover, it is hard to find stainable jobs, therefore there are about a thousand jobless. Women seem to have more advantages than men when shifting from farming into conducting business or business services. Men can only find seasonable jobs as motorcycle drivers, mason, which cannot help them to have sustainable income.

3.4.2 Participatory vulnerability and capacity assessment

A. Assessment result of Hoà An Ward

A1. Hazard Assessment

- Typhoon
- Drought
- Flood and inundation

The natural disasters frequently happen in Hoà An are Typhoon, Drought and Flood/inundation. They are all identified as the most concerned disaster to locality in terms of their frequency and impacts on community health, livelihood, and economic activities. Though typhoons happen every year, no loss of life caused by them due to local people's experiences to typhoons and high awareness of typhoon preparedness.

Crops and disaster calendar

Crops and Disasters	1	2	3	4	5	6	7	8	9	10	11	12
Summer-Autumn rice												
Typhoon												
Drought												
Flood/inundation												
Subsidiary: flowers, sweet potato, and beans, cassava.												

The most vulnerable sections to disasters

Section	Typhoon	Drought	Flood/Inundation	Ranking	Remarks
Section 15	x	x		1	-The location of sections 3 and 14 is near the sea and close to the mountain that are directly affected by typhoons and cyclones every year;
Section 9	x	x			
Section 13	x	x			
Section 16	x	x			
Section 18	x		x	2	- These two sections have many temporary houses;
Section 14, 19	x	x			
Section 1, 2		x	x		

Disaster impacts on community

Disasters and their characteristics	Main impacts
<p>Floods and inundation: Happen during typhoon season from April to September. There are at least three inundations each year caused by typhoons and floods.</p> <ul style="list-style-type: none"> • Inundations have been increased because of incomprehensive rural development plan. Most of the construction work prevents the flow of water; 	<p>Impacts:</p> <ul style="list-style-type: none"> ▪ Housing: solid and semisolid houses with iron sheets were roofed off. Big trees and temporary houses were collapsed (especially communities living along the national road). For examples, the typhoon N0 8 in 2005 roofed off more than 233 houses in sections: 13, 15, 16 because those are in the areas without protection trees. In 1998 there were more houses collapsed than the typhoon in 2005 that caused a big loss to locality and put off all economic activities for a month; ▪ Transportation and communication: Road systems are all in low-lying ground and have been damaged by several floods without any upgrading. Therefore, transportation is always interrupted during flooding. The telephone lines as well as electric lines are damaged that cause a serious problem of communication during flooding. Restoration and recovery cause at least 10-15 days after each flood. Schooling

<ul style="list-style-type: none"> Only two or three days of constraint rain will cause flooding and inundation. 	<ul style="list-style-type: none"> must be put off for 3-5 days; Diseases: dengue caused by mosquito, eye disease and gynecological disease caused by polluted water in women and flu in children;
<p>Drought: Drought happens during the time from May to August. With lasting from 4-5 months and lack of rain for extended period of will cause serious drought. The temperature of hot months is always varied from 33^o to 39^o.</p>	<p>Impacts:</p> <ul style="list-style-type: none"> Shortage of water for production; Hot weather during drought season Impacts on community health, especially workers working in carpenter's shop, textile mill, and so as the production productivity. In 2005, there was a fire in an incense making shop that caused a loss worthy 1 billion VND; Shortage of living water: During drought season, water in all digging wells run out. Villagers have to carry water from other places home. In the ward there is only 10 % of households can access fresh water as they are living close to the main water pipeline. The rest of 90% of population still use wells either digging or drilling ones without purifying;

A2. Vulnerability Assessment

Infrastructure: Since the ward has been split recently, its infrastructures and basic facilities are still poor. It has neither public building for People's Committee office nor Health center. At the moment, it shares the same Health center with Hoa Phat ward and People's Committee office temporarily rent.

Housing: section 13 and section 14 are still in a clear away area for resettle program that close to the seas, therefore they are directly affected by typhoon coming from the sea. Moreover, these two sections have high percentage of temporary and weak houses with 60-85 households accounting for 80%. The residential areas are in open field without trees close to the mountain. The cyclones consequently hit that areas and cause lots of damages to these two sections every year.

Living water: 90% of households use digging wells with very low quality as they are all affected by alum and polluted water resource. The under ground water resource has been heavily polluted because house constructions are so close to each other following the city urban development plan, latrine of this house is only 1-2 m from a well of other's house and vice versa. During drought season, there is always a serious shortage of living water since all wells are run out. Each family has water container to storage water, but it cannot help family to have enough quantity they need. For that reason, people have to travel to other places to get water for living.

Emergency rescue activity: The ward as well as sections hasn't got any basic emergency rescue facilities like life buoys, life jackets or first aid-bag, etc. The members of emergency rescue teams of ward as well as sections haven't got any training on emergency rescue techniques and skills. The women have made a very little participation in disaster mitigation team and activities.

A3. Capacity Assessment

Disaster management mechanism:

- The ward has a steering committee for floods and storm control and an emergency rescue team, which consists of 42 members (mainly youth, farmers and civil defense). Each section also has one team of 5-7 members who are responsible for emergency rescue activities at the community during disaster season.
- All Mass organizations have close and good collaboration to undertake annual disaster preparedness plan.

- The ward has got a plan for income generation as in the near future 10% farmland will be converted into residential land according to urban development plan of the city. The little land area left will be for flowers and pot plants meanwhile there are about 6.000 young men and farmers at the working age will not have land for production. New income generation should be small business and business service. In order to help them have certain knowledge and skills for new diversification jobs, training programs are highly recommended for them now. The main training fields should be tailor, carpenter, electrician, accountant, computer science and professional security guard that can be a resource person for companies and industry zones in the city.

Infrastructure:

- In every community, there are some two-storey buildings that can be use as safer shelters for households living in temporary or weak house during storm and flood season.
- 80% of roads in the ward are concretized.

A4. Concern problems and recommended measures

Problems	Recommended measures
<ul style="list-style-type: none"> • Community awareness raising on disaster mitigation. 	<ul style="list-style-type: none"> • Provide training and propaganda programs on flood and inundation preparedness and train accident reduction; • Provide training on building techniques resistant to storms and floods and reinforcement techniques and skills. Support households with material for there house reinforcement and set up a model of reinforced house resistant to storm and flood; • Training programs on emergency rescue techniques and skills and organize health check for community focusing on children, elderly, and women; • Set up early warning system along the railway to raise awareness of community living close to the railway on accident reduction because number of rail accidents has been increased every year.
<ul style="list-style-type: none"> • Emergency rescue and communication facilities. 	<ul style="list-style-type: none"> • Equip emergency rescue teams of ward and sections with basic facilities. Encourage women to join with those teams; • Set up communication system from ward to section to ensure that communication during disaster can be reached to the local level comprehensively.
<ul style="list-style-type: none"> • Living water and environment protection. 	<ul style="list-style-type: none"> • Check water in existing wells; • Install water pipe-line to section (the shortest distance is 300 m and the furthest is 2-3 km).

B. Assessment result of Hoà Phát Ward

B1. Hazard Assessment

The natural disasters happen frequently in Hoà Phát ward are Flash flood, inundation, drought and cyclone, in which Flash flood and inundation are considered as the most serious ones to community because of their frequency and severity. Effects of floods and inundations include negative impacts on community health, livelihoods and production through destruction of crops, death of livestock and other interruption of economic activities. Though, flash floods always happen suddenly, there is no loss of life caused by them because people have good coping experiences to flash floods.

Natural disasters can be prioritized as flows according to their frequency and impacts:

- Flash flood and inundation
- Drought
- Storm and cyclone

Crops and disaster calendar:

Crops and disaster	1	2	3	4	5	6	7	8	9	10	11	12
Winter Spring rice crop	_____										_____→	
Summer -Autumn			_____									

Flash flood												
Subsidiary crops of sweet potato, cassava, beans, vegetable, etc	_____											
Drought												
Storm and cyclone												

The most vulnerable section to disasters

Section	Flash flood	Drought	Storm/ cyclone	Ranking	Remark
Section 8	x	x	x		
Section 6	x	x		2	
Section 7	x	x			
Section 11	x	x			
Section 12	x	X			
Section 13	x	X			
Section 14	x	X			

Disaster impacts on community

Disasters and their characteristics	Main impacts
<p>Flash flood:</p> <ul style="list-style-type: none"> • Happen in the period from September to December (in some years it happens even during April or May). There are 2-5 flash floods, about 2-5 big floods and 5-10 small ones; • Characteristics: When there is a tropical low depression or after one day and one night of heavy rain, there will be a flash flood. The flash floods always happen suddenly and fast within 4 hours causing inundation even with low water pressure. Inundation lasts at least 10-15 days. 	<p>Impacts:</p> <ul style="list-style-type: none"> ▪ Loss of farmland area: Flash floods bring earth and rock from mountains and cover farmland area and wash fertile soil (mainly ha of Đồng Cấn field). It takes long times to recover soil quality for production. ▪ Destruction of crops: The flood in 1999 caused 100% of Summer-Autumn rice crop lost. The floods in 2000, 2003, and 2005 caused a great loss of 15 ha of Summer-Autumn rice crop and 100% subsidiary crops. Loss of seed on 11 ha of 2005-2006 Winter-Spring rice crop. ▪ Transportation: Floods turned asphalted roads to be earthen ones. Previously, Autumn Revolution Road and Truong Chinh road were low with two drainage sluices; water flood could either pass the road or drainage through the two sluices. Now they have been upgraded higher and the two sluices were covered, there is only one sluice remained. As it is situated in a very low position that makes it impossible to function as a drainage sluice. ▪ Inundation caused interruption of transportation as well as economic activities and production. Interruption sometimes

	<p>lasted for months.</p> <p>Local coping experiences:</p> <ul style="list-style-type: none"> ▪ Dredging sluices and water channels. Clear bushes to enlarge water flow channels. But now it is impossible as houses are constructed so close to each other that prevent water ways and no water channels remained.
<p>Drought:</p> <ul style="list-style-type: none"> ▪ Occurrence time between April to August (each drought lasts for 3 months). <p><i>Characteristics:</i></p> <ul style="list-style-type: none"> • Long lasting hot, sunny days with high temperature but lack of rain for extended period of time. 	<p>Impacts:</p> <ul style="list-style-type: none"> ▪ Shortage of water for production: More than 70% farmland (27 ha) of Spring-Summer and Summer-Autumn rice crops is affected and about 8-10 ha of subsidiary crops is destructed. The reasons are because of no irrigation system for agriculture production; agriculture production relies completely on rainwater and terraced fields. ▪ Shortage of living water: 80% households use wells and only 20% house holds access fresh water. Living water is affected by pollution of underground water resource as family latrine is so close to the well, just 2m far. It also affected by alum.
<p>Storm and cyclone:</p> <ul style="list-style-type: none"> • Occur during the period from April to November (every year there are 5-6 storms and 1-2 cyclones); • <i>Characteristics:</i> Storm lasts for two hours. Normally storms are company with heavy rain last for 4 days and cause inundation all over the ward. Inundation always lasts long. The shortest duration always lasts long, particularly in section 1, 6, 7, 8, 9, 10, and 11 it lasts for more than 10 days. 	<p>Impacts:</p> <ul style="list-style-type: none"> ▪ Housing: House damage (semi solid and solid houses) ▪ Livelihood and production: Destruction of crops and other economic activities. Trees broken and interruption of transportation and communication. Restoration after the storm takes 15 days to a month. <p>Local coping experiences:</p> <ul style="list-style-type: none"> ▪ Before storm: inform people to reinforce houses, for the most vulnerable families the ward rescue team sends their members to help them; ▪ Warning people not to go out of their house during storms.

B2. Vulnerability Assessment

Emergency rescue and communication facilities: At the present, the ward rescue team hasn't got any facilities. There are only 4 loudspeakers at the section clusters. This is not enough for communication to all sections in the ward. Moreover, during disaster season communication system cannot be used as electricity is cut. In order to communicate or relay message to the sections, rescue team have to travel on foot or use their personal motorcycle. No communication means at the sections during disaster seasons. So far there are two training classes on disaster management conducted by District Red Cross with 25 participants each class. The rescue team has never got any training on rescue techniques and skills.

Living water: There is only 20% of households can access fresh water as they are living near the main water pipeline. The rest of 80% households use low quality water from digging wells. Family latrine is just 2 m far from digging wells. Since residential houses are, side-by-side so the latrine of this house is close to the wells of other houses and vice versa that pollute underground resource. As a result, quality of water of digging wells is polluted. People still use polluted water for living without quality check. Moreover, during flooding all wells are under flooding water so the problem of pollution of living water becomes more serious. During drought season, all wells run out of water causing a problem of water shortage for living and people have to travel to get water from other places. Environment pollution as well as pollution of living water are not taken into consideration by the ward authority.

Production: Agriculture production completely relies on rainwater. Moreover, farm lands are terraced fields that easily got dried and that there is no irrigation system for production. It is, therefore in drought season no crops can be calculated. There are 27 ha (70%) of farmland for Spring-Summer and Summer-Autumn crops and about 8-10 ha of subsidiary crops are fallow due to water shortage. In addition to this, some areas of farmlands have been covered with soil and rock caused by flash floods for several years cannot be cultivated rice. They must be converted into banana planting, but this new type of crop is not effective. It is important to have a careful study for crop diversification on the poor land areas that can bring more benefit to farmers.

In the ward more than 50% of households live mainly on agriculture production, but all farm land areas are located in the low lying ground that always be inundated. Every year, flash floods destroy farmlands and make them filled up and infertile. In the recent years, farmers cannot cultivate on their land and that they have to work as labor service providers to earn their living. However, in the ward there are 20 farms successful in combining agriculture production and animal husbandry mainly goats, cows, pigs and livestock. The hill land is one of the ward's potentials for developing farm of this model, but the problem is that farmers do not have financial capacity to invest into farm development.

As far as, the city development plan is concerned, in the near future farmland will be reduced and that there will be no more land production. For that reason, they have to find other economic activities to earn living. If it is possible that farmers at the working age can get to be trained on the existing traditional jobs such as mason, carpenter mechanics for their future living.

B3. Capacity Assessment

Disaster management mechanism:

- The ward has a steering Committee for Floods and Storms Control with 25 members, who are representatives of different departments and mass organizations. One rescue team of 50 members mainly youth, farmers. This team has first aid bag and they work well on their duty. The collaboration among CFSC and rescue team is very good and effective;
- The ward gives budget for purchasing basic facilities such as weeding hoe, bush-hook for flood and storm emergency coping;
- People have high spirit to support to each other during disasters;
- Military force has budget for emergency rescue activities and is very active in responding to emergency rescue;
- In case of interruption of communication, the volunteers use their personal motorcycle or mobile to relay message to the most vulnerable sections;
- There is a broadcasting station at the ward people's committee and at section clusters. There is also one vocational training center based in ward.

Infrastructure:

- The health center of ward is two-storey building with one doctor and 2 nurses;
- In the communities, there are high buildings that can be used as safer shelters for households living in low-lying areas during flooding and inundation.

B4. Concern problems and suggested measures

Problems	Suggested measures
<ul style="list-style-type: none"> Community awareness raising on disaster mitigation. 	<ul style="list-style-type: none"> Provide training on building and reinforcement techniques resistant to floods and storms.
<ul style="list-style-type: none"> Living water and environment protection. 	<ul style="list-style-type: none"> Treatment techniques of environment after flooding and inundation; Water quality check for all using digging wells; Install water pipeline to get fresh water for living as the underground water resource has been polluted heavily.
<ul style="list-style-type: none"> Long lasting inundation. 	<ul style="list-style-type: none"> Construct more sluices at August Revolution Road and Trường Chinh Road for drainage water faster; Reforestation to reduce speed and water pressure of flash floods.
<ul style="list-style-type: none"> Water for production. 	<ul style="list-style-type: none"> Drill wells at the fields and equip pumping machines to get enough water for production during the drought season.

C. Assessment result of Hoà Xuân Ward

C1. Hazard Assessment

Natural disasters that frequently happen in Hoà Xuân ward are flood, drought, and storm, in which flood and Tieu Man flood are identified as the most serious ones in terms of their frequency and severity. They can be ranked as follows:

- Flood/Tiểu Mãn flood
- Drought
- Storm

Crops and Disaster calendar

Crops and disasters	1	2	3	4	5	6	7	8	9	10	11	12
Winter-Spring rice	—————										—————→	
Summer-Autumn Rice					—————							
Flood												
Subsidiary crops of sweet potato, cassava, beans	—————											
Tieu Mãn flood												
Drought												
Storm												

The most vulnerable sections

Section	Flood	Drought	Storm	Ranking	Remarks
Đông Nò	x	x	x	1	
Trung Lương	x	x	x		
Section 16	x	x	x		
Section 31	x	x	x		
Section 8	x		x		
Section 3	x		x		

Section 26		x	x		<ul style="list-style-type: none"> • Section 4, 3 are in low-lying areas and also close to Tứ Câu river that always be affected by floods. People are experienced in reinforcing houses and preparedness; • Because of being situated at the end of canal, therefore they are also affected by drought in dry season;
------------	--	---	---	--	---

Disaster impacts on community

Disaster and their characteristics	Impacts and suggested measures
<p>Flood:</p> <ul style="list-style-type: none"> • Happen in the period from September to December (with rain fall of 200 mm within 3 days will cause flooding and inundation); • Flood always comes with heavy rain and strong wind. <p>Storm:</p> <ul style="list-style-type: none"> • From August to October (it happens every year with heavy rain that cause flooding and inundation); • Storms are normally at level 4 except storm N^o 8 in 2005 with level 11-12 caused a big loss of more than one billion (mainly on houses and production). 	<p>Impacts:</p> <p>Production:</p> <ul style="list-style-type: none"> ▪ 100% of farmland for rice cultivation and subsidiary crops is inundated. Tiểu Mãn floods do not frequently happen, but they cause a big loss to production. ▪ Every year, there are more than 5.000 m² of cultivation land lost because of flooding (10 years ago, there was a village washed away to the river). ▪ Fill up farmland is also one of the problems caused by floods. More than 2 ha of farm land of Đồng Nò, Cổ Nhân, Tùng Lâm and Trung Lưu are filled up each year as they are located on the water way. <p>Infrastructure:</p> <ul style="list-style-type: none"> ▪ Erosion of irrigation channels and inter-field roads as 80% them are earthen made and only 20% concretized. ▪ Damage of dam, pumping station and storage house for agriculture facilities. Ward health center is situated in the very low lying ground so it is flooded and inundated makes it difficult for community health treatment during flood and storm season. ▪ 9 kindergarten classes are inundated causing damages of school facilities. The children have to stay home for 15 to a month. ▪ Road damage caused by high water pressure. The sluices at Tung Lam Bridge are filled up with rubbish so that water cannot be drainage. Sections along the river like Xóm Cò, Đồng Nò, Trung Lương and Tùng Lâm are isolated from other parts of the ward. ▪ House damage: Every year, 22 households who have temporary houses have to evacuate to safer areas that 150 m far from their living place as their house are always damaged. <p>Community health and environment:</p> <ul style="list-style-type: none"> ▪ Living water and living environment are polluted because of inundation lasts long and rivers bring down rubbish from other parts of the city to this ward. Pollution of living water and living environment cause diseases. The common diseases in this area are gynecological disease in women (37%), cholera in children and elderly, and eye disease and skin disease (70%).
<p>Drought:</p> <ul style="list-style-type: none"> • From May to July (long lasting hot sunny days without rain). 	<p>Impacts:</p> <ul style="list-style-type: none"> ▪ Water shortage for production of Trung Lương zone, which has 6 sections (26, 27, 28, 29, 30, 31) as wells and rivers are dried out, and saline water intrusion affect farmland along the rivers. About 42 ha of farmland in the fields of Kim Lạc, Thổ Mãn, and Trung Lương, which account for 10% cultivation land area.

C2. Vulnerability Assessment

Emergency rescue activity: In emergency case, it is very difficult for the rescue team to access to Đồng Nò, Trung Lương and section 31, 32, 16, as they are isolated from the other parts of the ward. Particularly, section 32 which is 4 km far from the ward center on the other side of the river, therefore emergency rescue activities could not be undertaken properly due to lacking of rescue facilities. The ward has only two small boats and 15 life buoys equipped in 1999. These facilities are not enough for even the members of rescue team of the ward. In case of evacuating people to a safer area, they have to mobilize boats among the fish men. The rescue teams of the sections have never got trained on rescue techniques and skills and they have got neither rescue facilities nor first aid bag.

Environment and community health: Due to the low lying location of the ward between the two big rivers Tứ Cầu and Cẩm Lệ, in rainy season a big quantity of rubbish pour down to this area by the rivers causing a problem of pollution to living environment. Moreover, there is only 60% of households have latrines, the rest still even have no temporary ones. This also constitutes to make living environment become more polluted when inundation lasts long. Disease spreading makes community become worse. The common diseases are Eye disease; cholera (70%) mainly in children, elderly and 30% of women suffer from gynecological disease.

Living water: About 80% households use water from pumping wells, which are 6-12 meter deep and 15% households use digging wells and the rest take water from rivers for living without filter. Living water is either affected by alum or salinity. There is one common well in the ward, which has very good water source. This well was constructed for long time ago, which provide water for more than 6.000 people. By the time, this well becomes shallower and is now just only 3 m deep. As it absorbs water from irrigation channels, so during drought season when the irrigation channels run out of water, this well is also dried out. But in rainy season, it is polluted because of long lasting inundation. In the drought season, it is affected by saline intrusion resulting to a problem of lacking water for living.

Production: Cultivation areas are in the low-lying ground that frequently and heavily are affected by flooding and inundation so that no crops can be cultivated. In some years, rice crops were planted but farmers lost their harvest because of Tieu Man flood impacts. For some years inundation lasted long so that no crops could be cultivated and that cultivation areas became fallow. Every year, 2 ha of farm land of Đồng Nò, Cổ Nhân, Tùng Lâm on the river bed is filled up and land erosion on the farm land areas on the river bed of farm land of (2 ha) and filled up and about 5.000 m² is eroded.

More than 80% of inter fields roads are earthen that are eroded and inundated whenever there is a flood. 100% of earthen irrigation system is impossible to drainage flooding water. Moreover, the sluice at Tùng Lâm Bridge always gets stuck with rubbish causing inundation lasts longer.

C3. Capacity Assessment

Disaster management mechanism:

- The ward has a steering Committee for Floods and Storms control of 30 members and a rescue team of 30 people. Each section has a rescue team of 10 people led by the Head of the section. Every year, in August the CFSC holds a meeting to review disaster mitigation activities of the previous year and draw out lessons learnt from last year implementation of annual disaster preparedness plan. A New Year disaster preparedness plan is elaborated;
- Before storm and flood seasons, reinforcement of houses and constructions are completed. The ward has an evacuation plan for the most vulnerable sections and assigns people to be responsible for implementing the plan.

Inform community about the plan. There was one demonstration exercise organized Cần Chánh;

- The ward has got a plan to diversify crops for better income to compensate the loss of rice production caused by disasters. The intensive vegetables planting on 3,2 ha with 60 households involve brought about good income to farmers and the ward planed to expand this new production pattern on 4 ha more. The urgent needs for this plan are production techniques and seeds. In addition to this, there are 30 households successful in producing mushroom that received training already. In order to expand mushroom production activity, other 11 households should be trained;
- There are 9 community health workers based at the section clusters, but none of them have first aid bags.

Infrastructure:

- The ward has got 2 boats and 15 life buoys since 1999;
- There are 9 community-meeting houses at the section level in the ward;
- The ward has one FM broadcasting station, each section has a radio, and each two sections have one loudspeaker;
- The fishing sections 24 and 25 are always ready to let the ward rescue team use their boats for emergency rescue purposes;
- There is one health center in the ward with one doctor, 3 assistants 3 male nurses, and 3 mid wives.

C4. Concern problems and suggested measures

Problems	Suggested measures
<ul style="list-style-type: none"> • Community awareness raising on disaster mitigation. 	<ul style="list-style-type: none"> • Provide training on building and reinforcement techniques and skills for poor households; • Organize propaganda programs to raise community awareness on health care and environment protection. Integrate disaster mitigation program into other training topics;
<ul style="list-style-type: none"> • Emergency rescue and communication facilities. 	<ul style="list-style-type: none"> • Provide emergency rescue facilities to rescue teams of sections and ward (rescue engine boats, life buoys, life jackets, helmets and first aid bags, etc); • Electric generator;
<ul style="list-style-type: none"> • Infrastructure for production. 	<ul style="list-style-type: none"> • Concretize irrigation channels and drainage cannels, reinforce, and upgrade damaged parts; • Construct the cooperative storage house where seeds and production facilities and fertilizer are kept; • Construct sea wall to prevent saline intrusion for 2.500 m of farmland in Trung Lương and Đồng Nò fields; • Maintenance 4 dykes named Dập Khởi, Xã Mèo, Bà Thủ, and Bà Cùng to prevent saline intrusion and storage fresh water for 420 ha of farmland. Those dams were constructed for long times ago since 1976-1977 and now their foot is hollow and that saline can be easily intruded; • Support with 10 pumping machines more with capacity of 20 horses as the existing Hà Tùng pumping station cannot be able to pump enough water for production in drought season. It is impossible to drill wells at the fields because if drill shallow will be affected by alum but if drill deeper will be affected by saline;
<ul style="list-style-type: none"> • Housing. 	<ul style="list-style-type: none"> • Construct solid houses those who live along the riverbank and continue with reduce temporary houses that the ward has been doing so far. Each year the ward helps the poor households to build 2 solid houses;

<ul style="list-style-type: none"> Upgrade schools and health center. 	<ul style="list-style-type: none"> Upgrade 4 rooms of the health center to be two storeys; Upgrade 9 kindergarten classrooms and construct one new classroom for Đồng Nò as it hasn't got any classroom yet;
--	--

D. Assessment result of Hoà Thọ Tây Ward

D1. Hazard Assessment

The natural disasters frequently happen in Hoa Tho Tay are flood, storm and drought, in which flood is identified as the most concerned disaster to locality in terms of their frequency and impacts on community health, livelihood and economic activities. They are raked as follows:

- Flood
- Storm
- Drought

Crops and disasters calendar:

Crops and disasters	1	2	3	4	5	6	7	8	9	10	11	12
Winter-Spring rice	—————											→
Summer-Autumn rice					—————							
Flood												
Subsidiary crops of potato, vegetable and beans	—————											
Storm												
Drought												

The most vulnerable sections

Section	Flood	Storm	Drought	Raking	Remarks
Section 4	x	x	x	1	- Inundation of residential and farm land that lasts for one week and with water level of 1,5 to 2m deep; - Their location so close to the river. As construction work and fill up farmland for rural development purpose that prevent the flow of water.
Section 5	x	x	x		
Section 6	x	x	x		
Section 7A,B	x	x	x		
Section 8	x	x	x		
Section 11	x	x	x		
Section 16	x	x	x		
Section 1, 2, 3		x	x	2	- Because of urban development plan, the Hóc Giá sluice is no more function as drainage one. - Cultivation land areas are all in low-lying ground and are affected by long lasting inundation every year.
Section 24, 25		x	x		
Section 26, 27		x	x		

Disaster impacts on Community

Disasters and their characteristics	Impacts and suggested measures
Flood: <ul style="list-style-type: none"> From September to November (three days and three nights of constraint rain will cause flooding). There are 2-3 floods a year. Flood happens whenever there is a storm; 	Impacts: <ul style="list-style-type: none"> Inundation of residential and farmland of sections: 4,5,6,7,8,9 and only farmland of sections 2, 3. Inundation lasts a week with water level is 1,5 to 2 m deep. Because of being near the river and fill up farmland for urbanization and construction work preventing the flow of water, inundation becomes more and more serious than before;

<ul style="list-style-type: none"> • Before 1999, many big floods frequently happened, but since 1999 less big floods but more affects due to inundation caused by city development plan. 	<ul style="list-style-type: none"> ▪ Destruction of crops and delay of season calendar. There are 3 ha of rice cultivation land must be fallow for 3 years now resulting no income for farmers. They have to work as labor service providers to earn the living. The flood in 1999 caused a loss of 3 billions VND (mainly housing, production, livestock and infrastructure); ▪ Diseases: cholera, eye disease, and gynecological disease.
<p>Storm:</p> <ul style="list-style-type: none"> • From April to November (there is 1 to 5 storms per year). Storms always happen with heavy rain causing flooding and every part of the ward is affected; • From July to November is main storm season, but in some year storms happen in the period between April and May. Early storms unusually happen, but they cause big loss to locality. 	<p>Impacts:</p> <ul style="list-style-type: none"> ▪ Storms impact on the large scale of the whole ward, which causes collapse of temporary houses, damage and roof-off of solid and semi solid houses. The storms N^o 8 and 9 in 2005 cause a big loss of more than 300 semi solid and solid houses roofed off, 30 houses collapsed, 100% of rice and subsidiary crops lost; <p>Local coping experience:</p> <ul style="list-style-type: none"> ▪ Before storm, early inform community about forecasting of storm so that households can reinforce their houses, storage food and harvest crops if possible. Support community with recovers activities after storms;
<p>Drought:</p> <ul style="list-style-type: none"> • From April to August (It happens when there are long lasting hot sunny days without rain within 3-4 months). In a year, if there is an early storm, the drought of that year will be less serious and that it will be shorter. 	<p>Impacts:</p> <ul style="list-style-type: none"> ▪ Shortage of water for production as only irrigations level 2 are concretized, but 100% of inter field irrigation systems are all still earthen, therefore cannot get enough water to the fields. Moreover, water for production relies on quantity of rainfall and water level of rivers; ▪ Shortage water for living: 70% of households use water from digging and drilling wells for living, and the rest of 30% households access the fresh water. In some particular years, when the drought lasted long all wells dried out so people had to travel to get water from other places for drinking. There are some common wells in the ward, but by the time, they are now too shallow to have water during drought season; <p>Local coping experience: Community hasn't got any drought mitigation measures;</p>

D2. Vulnerability Assessment

Emergency rescue: Every year, the communities of the low lying sections like section 5, 6 and 7 have to evacuate to Yên Bắc mountain. The ward has an evacuation plan for them, but evacuation activities cannot be done properly as there is only one small boat for 10 people. In case of emergency, the ward mobilized boats from the fishing sections for transferring the most vulnerable group of people and family's property to the safer areas. However, families' boats are all too small to move in strong wind and water pressure. It is, therefore very dangerous and difficult for emergency rescue team to undertake evacuation activity. The emergency rescue team was train on emergency rescue techniques one time. Every year members of the team can be changed and that the new members need to be trained, especially rescue teams of the sections.

Production: As all cultivation lands are in low-lying areas without drainage system, they are inundated for 10-15 days at least. The water level reaches to 1,5 to 2 m deep. Most of inundated fields are of sections: 1, 3, and 4,5,6,7,8,9. In addition to the low-lying location, there are other two reasons that make them prone to inundation. Firstly, those cultivation lands are situated near the Yên River and secondly, filling up cultivation lands for construction of the urbanization plan. The sluice system is out of drainage function after upgrading roads. Previously, The

August Revolution Road was low and its sluice was good enough to drainage water during flooding. But when the road has been upgraded larger and higher, the sluice was at the lower position and shorter and smaller for the large and high road, therefore it has no more function of water drainage. Similarly, Hóc Giá sluice is impossible to drainage water after completion of new urbanization area of Phong Bắc-Hoà Thọ. The floods every year cause inundation, which impacts badly on seasonal calendar. There are about 3 ha of rice cultivation land is fallow for 3 years now. The farmers therefore have no income from agriculture production. They have to work as a job our service provider to earn living.

100% of inter field irrigation system is still earthen that make it difficult to get water for production in dry season. Agriculture production relies completely on the rain and water from the rivers. Since, all wells and rivers dried out in dry season, there is a serious water shortage for production. Being experiences to that situation for several years, the ward authority has made a plan to convert dry land that cannot be cultivated rice into fish keeping ponds. For urbanization, in the future agriculture land will be reduced and that there will be less land for farming. The remained lad will be converted into planting flower or pot plants.

Living water: 70% households use main living water sources are from digging or drilling wells and only 30% households can access fresh water. In the ward there are some community wells: two in section 6, 10 in section 4, about 15 in section 7B and section 1, 2, 3 have 7-8 wells. Those community wells have good water resource but they are too shallow so they cannot provide enough water in dry season.

Infrastructure: the ward has no health center. At the moment, it shares with Hoà Thọ Đông the health center.

D3. Capacity Assessment

- The ward has an annual evacuation plan for the low lying sections and prepared a permanent safer area in Yên Bắc mountain for section 6, 5 and 7;
- The volunteer and rescue teams are formed for ward and section levels. The ward Committee for Floods and Storm control is equipped with a boat that can carry 10 people and some life buoys since 2003;
- There is a FM wireless broadcasting station, which gives news broadcasting three times per week and 10 loudspeakers at section clusters;
- Communities are very supportive and willing to effectively help each other in case of disasters. Those who have boats are ready to give to ward to use for rescue and emergency response activities. Those who have solid and two storey building always help families whose house are temporary and need to have temporary shelter during flooding. The ward Women's Union and the Red Cross always organize fund raising to support the disasters victims in time;
- The ward has got a plan for economic activity diversification that will be incoherence with the city's rural development plan. Agriculture land will be converted into planting flowers, plot plants, Environmental friendly vegetable, and grass for cow raising development. So far, there are 3,5 ha of alum affected land have been effectively converted into fish keeping ponds;
- Living water is not polluted as family latrines are far from wells as the ward still has large land area in comparison with it population;

D4. Concerned problems and suggested measures

Problems	Suggested measures
<ul style="list-style-type: none"> Capacity improvement for emergency rescue activity. 	<ul style="list-style-type: none"> Provide training on emergency response and first aid techniques and skills to emergency rescue teams of ward and sections;
<ul style="list-style-type: none"> Emergency rescue and communication facilities. 	<ul style="list-style-type: none"> Provide emergency rescue teams with basic facilities mainly rescue boats, lifebuoys, life jackets, first aid bags, megaphones; tents; helmets and handle saw machines, etc;
<ul style="list-style-type: none"> Production protection. 	<ul style="list-style-type: none"> Upgrade inters field irrigation system for water irrigation and drainage; Provide pumping machines for the frequently inundated fields to solve a problem of long lasting inundation that delay crops; Support with seed, livestock, and credit programs to develop production, which will be incoherence with the city urbanization plan; Drill more wells at the fields and equip pumping machines to get water for production during drought season;
<ul style="list-style-type: none"> Living water and environment protection. 	<ul style="list-style-type: none"> Living water treatment after the floods; Deepen the existing wells, which have good under water resource to get enough water for living during dry season; Install fresh water pipeline (nearest distance is 300m and the furthest distance is 6 km);
<ul style="list-style-type: none"> Housing. 	<ul style="list-style-type: none"> Support the poor household to construct solid houses that can help them to minimize money they have to spend on house repairing every year after each disaster; Provide trainings on building techniques and reinforcing techniques resistant to storm and flood; Support the poor households with good materials to reinforce their houses. And set up a good roof-reinforced model for community to follow as there are over 80-90% of houses roofed by iron sheets;

E. Assessment result of Hoà Thọ Đông Ward

E1. Hazard Assessment

The natural disasters frequently happen in Hoà Thọ Đông ward are flood and inundation, storm, land erosion and drought, in which flood and inundation are identified as the most concerned ones in terms of their frequency and severity of their impacts on the locality. The common disasters can be ranked according to the following priority orders:

- Flood and inundation
- Storm
- Land erosion
- Drought

Crops and disasters calendar

<i>Crops and disasters</i>	1	2	3	4	5	6	7	8	9	10	11	12
Winter-Spring rice	—————											—————→
Summer-Autumn rice					—————							
Subsidiary crops of sweet potato, flower, beans, etc.	—————											

Flood, inundation, land erosion																
Storm																
Drought																

The most vulnerable sections

Section	Flood/ Inundation	Storm	Land erosion	Raking	Remarks
Section 1	x	X	x	1	Location: close to the river. There are two sluices receive water from the national road 1A down the ward, but no drainage sluice so residential and farm land are all inundated. - Sections 1 to section 4 are in low-lying ground, but they have drainage sluice that help them from being seriously inundated.
Section 2	x	X	x		
Section 3	x	X	x		
Section 4	x	X	x		
Section 6, 7, 8	x	X		2	
Section 9, 10	x	X			
Section 32, 33	x	X			
Section 34, 35	x	X			
Farm land			x		- 7 ha along the river for intensive vegetable planting of section 16, 17, 29, 30, 31.

Disaster impacts on community

Disasters and their characteristics	Impacts and suggested mitigation measures
<p>Flood, inundation and land erosion:</p> <ul style="list-style-type: none"> • From September to December; • Only 1-2 days of normal rain can cause inundation, which happens frequently every year; • There are two floods in a main flood season. Each flood lasts for 7-10 days with water level is 0,5 to 2 m high. This water level has been raised higher, even double in the recent years because of the new construction preventing the flow of water; • Number of floods in main flood season has a tendency to be less than the previous years before 1999, but number of inundations has been increased. 	<p>Impacts:</p> <p><u>Production:</u></p> <ul style="list-style-type: none"> ▪ Loss of cultivation land along Cầm Lệ riverbeds because of land erosion (0,5 ha/year of Bãi La Hùng area and 7 ha of land subsidiary crops and other 29 ha cultivation land); ▪ Cultivation lands in the very low-lying areas are frequently inundated that no crops can be cultivated. In some years, inundation caused a big loss of seed to be planted for three or four times. Inundation always lasts for 7-10 days and the most affected cultivation lands are in Bàu Gia field of section 34, 37, 35, 36 and 2,5 ha of sections 1, 2, 3, 4. ; <p><u>Residential areas and Livelihood:</u></p> <ul style="list-style-type: none"> ▪ Inundation of residential areas of sections 34, 37, 16 and sections 1, 4, 3, every year they need to be evacuated to safer places. Because of high inundation of 0,5 to 2 m and long lasting inundation for 7 to 10 days, there are about 30 households of section 16 and 40 households of section 9 and section 10 badly affected every year; ▪ Damage houses and 100% of concretized roads are under water causing interruption of transportation; <p><u>Environment and living water:</u></p> <ul style="list-style-type: none"> ▪ Flood and inundation cause pollution to the environment and living water. The low-lying cultivation lands now become stagnant ponds. The color of those ponds turns from dark green into black now showing a problem of serious environment pollution; ▪ Pollution of underground water resource because of family latrines is so close to the wells; <p><u>Communication:</u></p> <ul style="list-style-type: none"> ▪ The residential areas of section 34, 37, 16, 1, 3, 4 and those along the river have no public loudspeakers system. During disaster season, those areas are hard to get information;
<p>Storm:</p> <ul style="list-style-type: none"> ▪ From May to November (normally storms always happen with heavy rain that cause flooding and inundation). There are 2-3 storms per year. 	<p>Impacts:</p> <ul style="list-style-type: none"> ▪ Roof off the iron sheet of semi solid or solid houses and cause temporary house collapsed. The storm N^o 8 in 2005 caused more than 334 houses with iron sheet roofed off and other 16 houses totally collapsed;

E2. Vulnerability Assessment

Emergency rescue activity: It is very difficult to response to emergency rescue demand of the residential areas living near the river of sections 34, 37, 16, 1, 3, and 4 where there is no public loudspeakers system for communication. Moreover, the rescue teams of ward as well as sections haven't got any basic rescue facilities such as life buoys, life jackets, rescue boats, and first aid bags. The members of those teams have never got any training on rescue techniques and skills.

Environment: Environment pollution caused by inundation is the most serious problem to the community health. Low lying lands become stagnant ponds for mosquito that cause a problem of dengue, malaria to residents who live near by. Under urbanization plan, residential houses are constructed side-by-side preventing the flow of water that cause long last (previously each household had about 500-1.000 m2 but now there is only 100 m2 for a household).

Living water: 80% households have digging and drilling wells and only 20% households can access fresh water. About 90% of households have family latrines and as the latrines are so close to the wells that pollute of well water and cause certain diseases is increased. All wells should be tested to finalize the quality of living water that people is using. The common diseases are: gynecological in women, cholera, and flue in children and elderly.

Production: The cultivation land areas are situated in very low-lying ground that always is inundated. The inundation causes a problem of losing seed for two or three times per crop. There is about 1,9 ha cultivation land in Bàu Gia field of section 34, 37, 35, 36 and about 2,5 ha in other fields affected by long lasting inundation make the be fallow for three years now. Previously, those cultivation lands were for three rice crops per year and now when they become fallow the loss of income that farmers are dealing with is very big. They have to find other work to earn their living. There are 7 ha for subsidiary crops and other 29 ha along the Cầm Lệ River affected by land erosion every year with 0,5 ha lost per year. Sections 1, 4, 16, 17, 21, 30, 31, 32, and section 33 live mainly on agriculture production. In the recent years income from agriculture production has been instable, therefore the ward decided to shift these areas into intensive vegetable planting for city consumption.

Infrastructure: There are 7 projects implemented with many construction work of urbanization plan not comprehensive. For an example, the new upgrading roads are higher than residential houses about 2 m without drainage systems. 100% of concretized roads are always inundated when there is a rain causing difficult for transportation and economic activities.

E3. Capacity Assessment

Disaster management mechanism:

- The ward has a steering committee and one emergency rescue team with 30 members. Every section also has a rescue team with 6 or 8 members;
- The ward Red Cross has its own rescue team of 10 people with two female members. Members of Red Cross team have got training on rescue techniques and skills, but some of them have to be shifted, therefore it is very necessary to organize trainings for the new team members;
- In the residential areas, there are high buildings that can be used as safer places for evacuation of households living in low lying areas during flood and storm season. In addition, there are four high storey schools (1 secondary school, 2 primary schools and 1 kindergarten) for safer shelters;
- The ward health center is a newly constructed in 2005. There is one doctor, four nurses, and one hospital orderly;

- Rubbish collection is well organized by truck.

E4. Concerned problems and suggested measures

Problems	Suggested measures
<ul style="list-style-type: none"> • Community awareness raising on disaster preparedness and environment protection. 	<ul style="list-style-type: none"> • Provide training on environment protection; • Provide training on disaster preparedness; • Provide training on reinforcement techniques and set up a good model of house resistant to storm; • Support to reduce temporary houses;
<ul style="list-style-type: none"> • Facilities for emergency rescue and communication. 	<ul style="list-style-type: none"> • Provide rescue facilities to rescue teams of ward and sections (helmets, megaphones, handle saw machines, etc); • Support families with radio for getting broadcasting news about disaster from national radio channel when electricity cut;
<ul style="list-style-type: none"> • Living water and hygiene. 	<ul style="list-style-type: none"> • Reconstruct drainage sluices at Red bridge and new resettle area, as they are higher than residential areas; • Spray anti mosquito in the living areas; • Test living water quality from existing wells; • Install fresh water pipeline (nearest distance to the main pipeline is 500 m and the furthest distance is 4 km);
<ul style="list-style-type: none"> • Livelihood. 	<ul style="list-style-type: none"> • Support the youth and farmers at working age with vocational training programs that in coherence with city urbanization development plan; • Support farmers who live in the low-lying areas with new varieties and techniques for planting environmental friendly vegetables, as they cannot cultivate rice in their land;

F. Assessment result of Khuê Trung Ward

The natural disasters frequently happen in Khuê Trung ward are storm and inundation which can be ranked according to the following priority orders:

F1. Hazard Assessment

- Storm
- Inundation

The most vulnerable sections

Section	Storm	Inundation	Ranking	Remarks
Section 17	x	X	1	Location: low lying ground close to Cẩm Lệ river. These sections have many temporary houses and no drainage system.
Section 18	x	X		
Section 19	x	X		
Section 24	x		2	Location: high ground without big trees to break wind therefore those sections are directly affected by storm causing house damage.
Section 28	x			
Section 26	x			

Disaster impacts on community

Disaster and their characteristics	Impacts and suggested mitigation measures
Storm: <ul style="list-style-type: none"> • From September to November. Storms happen along with heavy 	Impacts: <ul style="list-style-type: none"> • House collapsed and roofed off because of the ward's location in the high ground with no big tree to break wind. The storms in 1989 and 2005 caused a big loss of 50 houses roofed off and 4 houses

<p>rain, cyclone that causes inundation. Every year, there are two storms directly hit this area and about other 8 to 9 storms happen in the region and impact on the ward.</p>	<p>completely collapsed;</p> <ul style="list-style-type: none"> • Interruption of communication during storm and flood season. At the present, the ward has one FM broadcasting station and 7 loudspeakers at the section clusters; <p>Local coping experiences:</p> <ul style="list-style-type: none"> • Before disasters, informed community to reinforce their houses. After disasters, supported the victim with 2 millions VND to reconstruct their houses. The ward also sent volunteers to help victim to repair their houses in case of emergency; • Organized community awareness raising on disaster preparedness and mitigation. Gave warnings to community not to go out during storm. There was no loss of life caused by storms;
<p>Flood and inundation:</p> <ul style="list-style-type: none"> • One day of rain causes inundation of residential areas, especially section 18 and 19. Water level of inundation is not high (just 0,2 to 0,5 m deep) but it lasts long and frequently happens through out the year whenever, there is a rain. 	<p>Impacts:</p> <ul style="list-style-type: none"> • Inundation of residential areas: The most prone sections to inundation are sections 17, 18, and 19. They are in the reconstruction areas of the city urbanization plan that has not been implemented yet. The infrastructure hasn't been improved and that there are no drainage systems; • Environment pollution: Because of long lasting inundation of residential areas, rubbish collection cannot be done properly. In addition, sewage and rubbish from the airport area pour down to the ward and make environment be more polluted; • Pollution of living water: 70% households use drilling wells. Water of drillings well has been heavily polluted, as family latrines are so close to the wells; • Community health: the pollution of living water and environment caused by long lasting inundation of residential areas are the reasons that lead to disaster related diseases as many mosquito generated. The common diseases are dengue, cholera, eyes disease, etc; <p>Local coping experiences: The local authority and people haven't got any effective measures to solve the above said problems.</p>

F2. Vulnerability Assessment

Facilities for rescue activity and communication: The ward has a radio broadcasting station and 7 loudspeakers at the section clusters. With only 7 loudspeakers among the great number of sections situated in a large area, therefore it is very difficult for communication during disaster season. Moreover, the broadcasting station was set up for long time ago with low capacity, therefore even when there are more loudspeakers installed it cannot serve all. In order to improve communication, the broadcasting station should be upgraded with higher capacity and 20 more public loudspeakers should be set up. There is only one rescue boat, 30 lifejackets, and 30 lifebuoys for ward rescue team. These facilities are even not enough for the members of the rescue team at ward level. At the section level, no team has rescue facility. Lacking of rescue facility makes it difficult for the rescue team to undertake their duty, especially the emergency rescue activities done at the section level.

Environment: Section 17, 18 and 19 are still under reconstruction plan without drainage system, therefore residential areas are frequently inundated for many days. Moreover, there is no access road for the trucks to collect rubbish. Living environment has been heavily polluted because of long lasting inundation and sewage as well as rubbish coming from the city (particularly from airport areas) down.

70% households have drilling wells and about 30% access fresh water as they are living close to the city main pipeline. Water from drilling wells is affected by alum and polluted by family latrines, which are only 2-3 m far from the wells. In some sections the latrine of this family is only 0,5 m far from the other family's well. From 2003 to 2005, every year the ward health center conducted a test of living water quality and the result shows that living water in this area has been polluted seriously and that some wells should not be use. However, local people still continue using water from polluted wells as there is no way for them. Because of using polluted water, local people have to deal with another problem of disease.

Livelihood: Agriculture has been taken for urbanization development plan. Farmers have no land for production some households shift to do small business, some others hire land to plant flowers or vegetable and the male farmers at the working age work as job our providers to earn living. However, new jobs bring them uncertain income. It seems that women have more advantage to shift from agriculture production to small business and business service than men. The most common problem is that farmers have no other skills but agriculture production experiences, nor capital to invest into their new business. In the recent year, the ward mobilized funds from different credit channels, but not enough for the real demand for diversification of income generation. And the existing credit programs provide short loan duration and small loan size that can only help farmers to solve their urgent problem rather than investment for long term development.

F3. Capacity Assessment

Disaster management mechanism:

- The ward has a steering committee of 15 members, a rescue team of 23 people, mainly youth, farmers, and civil defense, and a volunteer team of 20 volunteers. The ward Red Cross has its own rescue team with good rescue techniques and skills. At the section level, the local policemen are the main body to undertake rescue activity;
- Every year the ward develops, it's an annual disaster preparedness plan and a rescue plan. The steering committee and the rescues teams at ward level as well as section level actively responding to rescue activities. They have very good collaboration and cooperation in implementing annual disaster preparedness plan and rescue plans. Every year, the ward has propaganda programmed and community awareness raising plan on disaster mitigation. In addition, people can access communication through TV and community meeting;

Infrastructure:

- The ward has good infrastructure. 100% of road system and electricity are well upgraded with 100% of households use electricity. The ward People's Committee office and the four schools are all high storey buildings. 90% households have family latrine.

F4. Concerned problems and suggested measures

Problems	Suggested measures
<ul style="list-style-type: none"> • Housing. 	<ul style="list-style-type: none"> • Support the poor household to construct solid houses or reinforce their houses. Priority will be for 100 households of section 17, 18, and section 19;
<ul style="list-style-type: none"> • Facilities for emergency rescue and communication. 	<ul style="list-style-type: none"> • Provide basic facilities for the ward and sections' rescue teams (helmets, hand saws, boot, megaphone, handier-talkie and torch, etc); • Support the ward to upgrade the broadcasting station and provide 20 more loudspeakers at the sections;

<ul style="list-style-type: none"> • Living water and environment. 	<ul style="list-style-type: none"> • Install fresh water pipeline (furthest distance is 4 km); • Spray anti-mosquito in living environment and give treatment to living water and environment after the floods and inundations;
<ul style="list-style-type: none"> • Livelihood. 	<ul style="list-style-type: none"> • Provide vocational training to farmers at the working age on new income generation jobs; • Support with credit programs for new income job development;

4. Activity 1.1.2 Baseline survey

Baseline survey

The baseline survey was realized to provide an assessment of the current status of Cam Le wards related to the planned project interventions as well as an assessment of past experiences in disaster situations which will provide benchmarks for monitoring and evaluating the impact of interventions for the disaster preparedness mitigation program. The baseline survey is also to assess the community's vulnerability in terms of geographic location, infrastructure and livelihood and to gain a comprehensive profile on risks suffered by community in relation to natural disasters.

So, the approach for the baseline survey was applied in order to understand the socio-economic conditions, identify problems and opportunities facing problems. In this way, this approach allows community members to understand their own issues and they would be more able to provide the solutions to their own problems.

The objective of the baseline survey is to:

- Assess the community's vulnerability in terms of geographic location, infrastructure and livelihood;
- Gain a comprehensive profile on risks suffered by community in relation to natural disasters;
- Identify capacities of local population and respective government authorities to mitigate negative impacts of disasters and improve livelihoods;
- Identify capacities of local population to implement disaster preparedness plans and its execution;
- Evaluate the project impacts.

4.1 Methodology

The District of Cam Le introduced and facilitated all meetings with relevant government officials and families to obtain key information for the study.

The baseline survey was taken in six wards of Cam Le District: Hoa Xuan, Hoa Tho Dong, Hoa Tho Tay, Khue Trung, Hoa Phat and Hoa An. Each ward is divided in sections, and for Cam Le District there are **226** sections in total. The household level survey collected data from the sections of wards in the District covering **15 649** households. The survey covered a stratified random sample of 2% of the target households. So, in totally, there's **311** households were surveyed. The main aim of the executive summary was to provide a quick overview over some key finding of the baseline survey, as well to compare the overall situation between the Cam Le wards.

This survey used the questionnaire developed and field tested by the Capacity Building specialist of CECI Viet Nam, Nguyen Thi Phuc Hoa who also trained 15 locals surveyors before the survey.

The indicators utilized in the surveys are interconnected to issues of not only disaster mitigation and recuperation, but incorporates a livelihood approach in mitigating negative effects of seasonal flooding.

The baseline survey methodology includes the following:

- Household interviews in selected sections in 6 wards;
- Ward level Survey;
- Vulnerability assessments at section and ward level;
- Secondary data from various government departments and other sources.

4.2 Executive survey

4.2.1 General household's information

Table 1-1: Number of local surveyors & Ward demographics

WARDS	Hoa Xuan	Hoa Tho Dong	Hoa Tho Tay	Khue Trung	Hoa Phat	Hoa An
Local surveyors	3	3	2	2	2	2
Number Households	2394	2791	2061	2650	2508	3245
2 % sample	47	58	41	54	50	65

The list of the household's number was provided from each ward.

Table 1-2: Household's demographics

WARDS	Hoa Xuan	Hoa Tho Dong	Hoa Tho Tay	Khue Trung	Hoa Phat	Hoa An
Avg. # of HH members	4.1	N/A	4.8	5.2	3.7	5.2
Male	2.1	N/A	2.7	2.5	1.3	2.6

Table 1-3: Household's economics

Female	2.0	N/A	2.1	2.8	2.9	2.6
Avg. # of HH Labourers	4.1	2.0	4.2	1.6	4.1	3.0
WARDS	Hoa Xuan	Hoa Tho Dong	Hoa Tho Tay	Khue Trung	Hoa Phat	Hoa An
Monthly Income	1 531 250	1 435 000	1 490 244	1 918 800	1 064 634	3 282 539
Income loss per year due to flood	783 750	N/A	620 833	687 857	N/A	1 121 666

Hoa An is located in the low lying area in the District, and every year most typhoon and floods affect this ward.

4.2.2 Information on disaster risk

Table 2-1: House's condition (by observation)

WARDS	Hoa Xuan	Hoa Tho Dong	Hoa Tho Tay	Khue Trung	Hoa Phat	Hoa An
Simple	17%	16%	0%	6%	9%	0%
Semi-solid	76%	55%	58%	61%	61%	2%
Solid	17%	29%	42%	33%	30%	98%

Hoa An, the most low area, the houses surveyed seems to be in solid condition in majority.

Table 2-2: Sanitation

WARDS	Hoa Xuan	HoaTho Dong	Hoa Tho Tay	Khue Trung	Hoa Phat	Hoa An
Septic tank latrine	81%	82%	85%	93%	99%	100%
Temporary latrine	17%	13%	13%	7%	4%	0%
No latrine	2%	5%	2%	0%	6%	0%

A majority of household has access to septic tank latrine. The type of latrine has also far reaching implications during flooding. A flush toilet keeps waste safe inside its closed containment. Temporary latrines and even more the absence of latrines do not provide this safety. Instead, waste will be picked up by incoming flood water, contaminate the water, and afterwards leave a layer of contaminated mud. This at the same time will have negative impact on clean water available.

Table 2-3: Water source for consumption

WARDS	Hoa Xuan	HoaTho Dong	Hoa Tho Tay	Khue Trung	Hoa Phat	Hoa An
Open well water	9%	11%	19%	7%	12%	0%
Pumping well	85%	56%	52%	34%	60%	55%
Acceleration well	0%	7%	0%	26%	0%	34%
Tap water	0%	26%	29%	33%	16%	11%
Lake	1%	0%	0%	0%	2%	0%
River, stream, canal	5%	0%	0%	0%	10%	0%

While it seems that the houses surveyed have an average a water source pumping well.

Table 2-4: Quality of living water sources

WARDS	Hoa Xuan	HoaTho Dong	Hoa Tho Tay	Khue Trung	Hoa Phat	Hoa An
Good	2%	56%	46%	41%	51%	10%
Medium	36%	44%	54%	51%	47%	90%
Polluted	62%	0%	0%	8%	2%	0%
Seriously polluted	0%	0%	0%	0%	0%	0%

A majority of household has access to medium water. But, for Hoa Xuan ward, the water seems to be polluted for a lot of households. However, even clean water is usually not clean enough and should still be treated in order to be not a health risk.

Table 2-5: Most common disaster related disease treatment

WARDS	Hoa Xuan	HoaTho Dong	Hoa Tho Tay	Khue Trung	Hoa Phat	Hoa An
Flu	37%	42%	39%	44%	34%	52%
Fever	3%	28%	0%	4%	4%	8%
Skin disease	18%	4%	15%	16%	15%	0%
Malaria	13%	6%	0%	8%	8%	23%
Dengue	24%	14%	30%	19%	21%	17%
Gynaecological disease	5%	0%	9%	9%	18%	0%
Cholera	0%	0%	0%	0%	0%	0%
Other	0%	6%	7%	0%	0%	0%

The flu disease seems to be the most common disease when they the have natural disaster. But, there can be also a possible connection between diseases and qualities of the water sources and available sanitation infrastructure.

Table 2-6: Is your section prone to disaster ?

WARDS	Hoa Xuan	Hoa Tho Dong	Hoa Tho Tay	Khue Trung	Hoa Phat	Hoa An
No	0%	2%	0%	41%	2%	0%
Yes	100%	98%	100%	59%	98%	100%
Which type of disaster :						
Typhoon	40%	67%	49%	68%	40%	48%
Tidal waves	0%	1%	0%	0%	0%	0%
Flood	39%	24%	6%	7%	0%	40%
Cyclone	2 %	0%	5%	17%	19%	0%
Landslide	0%	0%	1%	0%	1%	1%
Erosion	0%	0%	0%	0%	0%	0%
Drought	10%	2%	37%	0%	0%	11%
Disease	6%	2%	2%	7%	1%	0%
Forest fire	0%	0%	0%	0%	0%	0%
Flash flood	0%	0%	0%	0%	0%	0%
Others	3%	0%	0%	0%	0%	0%

In majority, almost the households surveyed are prone to disaster, and typhoon and flood are the most major disasters.

Table 2-7: Emergency plan

WARDS	Hoa Xuan	Hoa Tho Dong	Hoa Tho Tay	Khue Trung	Hoa Phat	Hoa An
Do you know if your section has an emergency plan?						
No	10%	56%	50%	4%	3%	0%
Yes	90%	44%	50%	96%	97%	100%
Do you know who are in section emergency team?						
No	9%	67%	51%	4%	3%	0%
Yes	91%	40%	49%	96%	97%	100%
Do you receive quick response for emergency need?						
No	16%	77%	72%	40%	3%	0%
Yes	84%	33%	1%	28%	97%	100%
Have you ever participated in any trainings or community activities related to disaster impact mitigation?						
No	78%	94%	83%	86%	98%	33%
Yes	22%	6%	17%	14%	2%	67%

In majority, almost the people of the households surveyed know about the emergency plan, the emergency team and emergency needs. But, a lot of people never participated to a training or community activities related to disaster impact mitigation.

Table 2-8: Where do you go during evacuation?

WARDS	Hoa Xuan	Hoa Tho Dong	Hoa Tho Tay	Khue Trung	Hoa Phat	Hoa An
Public Building	37%	2%	2%	18%	0%	0%
Temple	4%	0%	0%	2%	0%	0%
High Ground	2%	23%	0%	27%	0%	0%
Stay Home	46%	63%	98%	47%	98%	100%
Do Not Know	0%	4%	0%	4%	0%	0%
Other	11%	8%	0%	2%	2%	0%

The consequence is clearly visible when asked to which location they evacuate during an evacuation. Almost the people of the households surveyed stay in their house, even during evacuation.

4.3 Survey results

Baseline survey results indicate that in general, data results from this baseline survey confirm those of the *Participatory vulnerability assessment*. There is a significant similarity in level of economic development and vulnerability. The baseline survey had also included open questions for the household interviewed thus making it possible to confirm their priorities, their needs by more personal viewed answers than multiplied choice answers:

What training you would like to receive?

- Taking care of health and environment;
- Training on environment and sanitation;
- Any training that is good for family and community;
- Training on keeping the environment clean;
- Take part in fire control training;
- Training on first aid techniques;
- Training on environment and natural disaster's protecting.

What should you do to reduce the vulnerability of your family and community?

- Have materials to protect the disaster;
- Take part actively in disasters' protection with the others;
- Should protect effectively;
- Families and locals have good plans to protect the disasters;
- Take care of health, protect the environment surround and natural disasters;
- To be interested in information when there is a disaster;
- Updating the information on natural disasters.

Can you describe the role of the women in disaster preparedness?

- Joining the protecting teams, encouraging people to protect;
- Encourage people's motivation;
- Take part in natural disasters' protection program with the others;
- Have an important role as men;
- Have a great contribution in protecting natural disasters;
- Important in protecting natural disasters.

These two surveys are an excellent information tool for measuring the quality of life of the o households and the disaster preparedness plan in wards of Cam Le District. Thanks to the findings, the project should be more in a position to understand the actual situation and be able to finds tools to improve it.

5. Activity 1.1.3 Inception Workshop at city and ward level

The Inception workshop was held on the 15th of June at the meeting hall of the People's Committee of Cam Le district.

5.1 Purpose

To describe the objectives and activities of the project and the overall of the PROMISE program as well as to share results of the group discussion of the PVA and the baselines survey analysis to the stakeholders.

5.2 Participants: 30 persons

Asian Disaster Preparedness Centre (ADPC):

Ms. Gabrielle Iglesias Information and Networking Coordinator
Urban Disaster Risk Management

CECI:

Ms. Gaby Breton Team Leader of NDMPs
Ms. Marie France Biron Volunteer, Urban planner and architect
Ms. Duong Thi Hoai Trang Field Coordinator
Mrs Nguyen Thi Phuc Hoa Capacity building Specialist

Da Nang City, Cam Le district and wards:

Mr. Huynh Van Thang Vice-Director of Department of Agriculture, Forestry and Aquaculture cum Vice Chairman of Storm and Flood Control Department of Danang city
Ms Vu Viet Thu Specialist of Department of Foreign Affairs
Ms. Tran Thi Diep Chi Specialist of Department of Planning and Investment
Mr. Nguyen Van Chung Vice-Director of Urban Planning Department
Mr. Tran Anh Duc Vice Chairman of People's Committee of Cam Le district
Ms Duong Thi Hoang Specialist of Economic Department, Cam Le district
Mr Le Van Dinh Specialist of Natural Resources and Environment Department, Cam Le district
Mr. Nguyen Van Toan Vice Chairman of Hoa Xuan People's Committee
Mr. Vo Thanh Tung Vice-Chairman of Hoa An People's Committee
Mr. Truong Van Vy Vice-Chairman of Hoa Tho Dong People's Committee
Mr. Tran Viet Sau Vice Chairman of Hoa Tho Tay People's Committee
Mr. Phan Tinh Phong Vice Chairman of Khue Trung People's Committee
Mr. Vo Linh Quan Vice Chairman of Hoa Phat People's Committee
Mr. Bui Van Sang Urban planner of Hoa Xuan People's Committee
Mr. Hoang Tat Thanh Urban planner of Hoa An People's Committee
Mr Ngo Van Vu Urban planner of Hoa Tho Dong People's Committee
Mr. Phung Van Phat Urban planner of Hoa Tho Tay People's Committee
Mr. Le Van Hung Urban planner of Hoa Phat People's Committee
Mr. Vo Van Binh Urban planner of Khue Trung People's Committee
Mr. To Hung Lecturer of Achitecture Department - Danang Technology University
Mr. Phan Huu Bach Lecturer of Achitecture Department - Danang Technology University
Mr. Nguyen Cau Danang Newspaper
Mr. Nguyen Van Phat Danang- Vietnam Television
Ms. An Hai Danang- Vietnam Television

5.3 Contents

Welcome speech from Mr Huynh Van Thang, Vice-Director of Department of Agriculture, Forestry and Aquaculture cum Vice Chairman of Storm and Flood Control Department of Danang city.

Presentations:

- Introduction of CECl and CECl's DM approach by Ms. Gaby Breton, CECl;
- PROMISE overall by Ms. Gabrielle Iglesias from ADPC;
- Introduction on Promise Vietnam by Ms Duong Thi HoaiTrang, CECl;
- Results of PVA by Ms Nguyen Thi Phuc Hoa, CECl;
- Cam Le Communes urban planning analysis by Ms. Marie France Biron, CECl;

Open discussions:

Mr. Nguyen Van Chung from Urban Planning Department of Danang City:

- Analysis of current situation of Cam Le District should be used to recommend a strategy for urbanization;
- A research for long-term development should be done. If not, what the project was trying to do at the moment would be affected by uncontrolled urban development.

Mr. Tran Anh Duc, Vice-Chairman of People's Committee of Cam Le district:

- Agreed with identification of main hazards (flood/ inundation, storm and drought), result of PVA and household survey and identification of the local's most concerned problems and project's planned activities;
- Pollution of living environment should be the first priority;
- Water treatment should be done for heavily polluted areas;
- Health centers for Hoa Xuan and Hoa Tho Tay Wards should be upgraded;
- Disease spreading should be taken into account (during and after the disasters);
- Early warning for urban development should be raised (should have a research in collaboration with Urban Planning Department of the city to point out the strategy).

Mr. Huynh Van Thang, Vice-Director of Department of Agriculture, Forestry and Aquaculture:

- Agreed with identification of main hazards (flood/ inundation, storm and drought), result of PVA and household survey and identification of the local's most concerned problems and project's planned activities;
- More hazards such as landslide and land erosion that have happened in recent years should be the concern. Landslide and land erosion do not happen only in Cam Le District but also in other places in the city that caused by sand exploration for construction materials. The most vulnerable places to the new hazards are Hoa Phat, Hoa An and Hoa Tho Tay Wards;
- Pollution of living water should be focused (particularly under water resource in Hoa Xuan was a danger for living as it was heavily polluted). Thus installation of water pipeline to get fresh water was highly recommended;
- Water for production had been polluted because of low awareness of communities living upland throwing dead animals, rubbish into the river. Community awareness raising on environment should be focused;
- Early warning system for reducing electricity accidents should be developed along with railway accidents reduction (because during flooding or storm, electricity lines were always broken and fallen, which were a danger for community);
- Handy-talkies should be provided to rescue teams as no communication could be reached during flooding time;

- CECI should engage into conducting a research for strategic urban planning of Danang as Mr. Chung suggested;
- Problem of land erosion near and along Cam Le River was a critical issue that should be taken into consideration.

6. Activity 1.2.1 Identification of change agents

In Vietnam, the mass organizations (women's association, youth association, farmer's association, Red Cross volunteers, etc.) have a strong role to play in the community. The mass organizations leaders are identified as the Change Agents and a consolidated training program will be conducted for these change agents.

To identify the change agent, a capacity assessment was conducted to evaluate the skills of these change agents.

The Objectives of the assessment:

- To evaluate the knowledge and skills of possible trainers and collaborators for the project regarding knowledge of CBDRM and training delivery;
- To select capable people, who will act as the local resource trainers;
- To identify weakness to organize TOT training that is adapted to level of the project training collaborators.

The assessment focuses on:

- Knowledge of CBDRM;
- Training for trainers attended;
- Experiences of delivering trainings;
- Self-evaluation of skills methodology and capacity to be a trainer;
- Self-evaluation of weaknesses to be improved;
- Time available for collaboration with project training activity.

The assessment methodology and process:

The main methods used for the capacity assessment were Questionnaires and interview (see attachment for questionnaires). The participants were selected by the Ward People's Committee (WPC) basing on the criteria agreed between project and Ward PC. There were two to five participants in each ward selected for the assessment. Total numbers of participants is 18.

Assessment result:

- Knowledge of CBDRM: There are only 4 participants received CBDRM training before. Two of them are the Chairmen of Ward Red Cross Chambers, one is the Chairwoman of Women's Union and one staff from hygiene and environment section;
- Trainings for trainers attended: 15 participants have never attended any trainings for trainers. Only three participants received TOT training before. They are again Red Cross staff and Women's Union;
- Experiences of delivering trainings: Only two participants have experiences of delivering training;
- Time available for collaboration with project training activity: All participants show their willingness to collaborate with project training activities;
- Self-evaluation of skills methodology and capacity to be a trainer: Most of participants show their strong points of having good skills for a trainer, mainly listening, presentation, facilitation that come from their experiences of organizing meetings, speaking in front of large audiences (see attachment of assessment result). The main weak points and strong points taken from self-evaluation can be summarized as follows:

Strong points	Weak points
Skills: - Logistics preparation I - Listening and presentation - Facilitation/instruction - Speaking loudly, clearly in front of a large group of audience	Skills: - Develop a lesson plan - Questioning - Specific methodology for adult learners - Group work and group discussion management - Use different training aids during training delivery - Use brain-storming exercises efficiently
Needs for further training: - Community-based Disaster Risks Management (CBDRM) - Elaborate a Disaster Preparedness Plan - Learning process, Training monitoring and evaluation - Elaborate training materials - TOT training should include all the main weak points summarized above	

Selected Local trainers:

	Name	Position	Ward
1	Mr. Phan Ngoc Nam	Chairman of ward's RC	Hoa Tho Dong
2	Mr. Tran Nam Khanh	Land use Planner	
3	Mr. Phan Phuoc Bay	Ward PC official for transportation and irrigation	Hoa An
4	Mr. Vo Thanh Hung	PC Official	
5	Mr. Tran Mang	Chairman of RC	Hoa Tho Tay
6	Ms. Tran Thi Bich Lien	Chairman of Women's Union	
7	Mr. Nguyen Tang Hung	Responsible for hygiene and environment	
8	Mr. Ha Nguyen Thanh Ha	Chairman of Youth Union	Khuye Trung
9	Mr. Ho Van Sang	PC official	
10	Mr. Trinh Quang Vinh	Chairman of Farmer Union	Hoa Phat
11	Ms. Bui Thi Kim Chi	Chairman of the Ward's Women Union	
12	Mr. Pham Duc Can	Chairman of the Ward's Farmer Union	Hoa Xuan
13	Ms. Le Thi Truong	Chairman of the Ward's Women's Union	

Conclusion and recommendations:

- All selected local trainers are capable to act as the local resource trainers for project;
- TOT training program should be designed basing on the identified weaknesses from local trainers' self-evaluation and level of project training collaboration;
- Since, CBDRM training program of the project aims to help local trainers link the knowledge of CBDRM with disaster preparedness planning, this training should be for all selected local trainers including the ones who received that training before. They should be the participants of CBDRM training for Commune level before having TOT program. This is a good opportunity for the local trainers to get knowledge of CBDRM and planning techniques;
- As the selected local trainers will conduct CBDRM training at the village level. Their learners are villagers, therefore TOT training should address on specific methodology for adult learning and other basic coaching techniques;
- TOT training should be in five days. Two days for training techniques and skills and three days for CBDRM training and practicum.

7. Activity 1.2.2 Training on trainers (TOT)

We will conduct CBDRM training focusing on the target members of CFSC to strengthen their capacity to prepare a better Disaster Preparedness Plan. The selected Change Agent will attend this CBDRM training and will also receive TOT training for dissemination and validation of the Disaster Preparedness Plan prepared after CBDRM training to the community.

8. Conclusion

The Participatory Vulnerability Assessment (PVA) and baseline survey in the six communes of Cam Le have brought about the key findings reflecting real situation of the project areas as well as what the project should focus on later. These findings were presented to project stakeholders at the introductory workshop for confirmation and additional information. All of the information of the activities in component 1 will be a good guideline for preparation of the project implementation plan.

9. Annexes

9.1 Annex1: Questionnaire for training capacity assessment

A program for Hydro-meteorological Disaster Mitigation in Secondary Cities in Asia (PROMISE)



Phone: 054-826657; Fax: 054-826658

Email: cecihue@dng.vnn.vn

QUESTIONNAIRES FOR TRAINING CAPACITY ASSESSMENT OF THE LOCAL TRAINERS AND COLLABORATORS

The objective of this questionnaire is to evaluate the knowledge and skills of possible trainers and collaborators for the project regarding training delivery. This tool will help project to select capable people, who will act as the local resource trainers. Most important of all, it will help to organize training for trainers that are adapted to level of the project training collaborators. The most honestly you will answer, the more support project will provide you to suite your needs. The project team will use answers you provide for the project purpose only. Thank you for your collaboration.

Name: _____ Date: _____

Occupation: _____ Level of education: _____

Commune: _____ District: _____ Province: _____

Answer the following questions:

1. Have you ever attended any CBDRM training program? (if yes, go to Qs 2-3)
 yes No
2. Who provided training? _____
3. How long was the training? _____ When was it? _____
4. How many other trainings you have received? (if yes, fill the table given below)
 1 3 5
 2 4 more than 5

	Training program	organization	year	Number of days
1				
2				
3				
4				
5				
6				
7				

5. Did you receive training for trainers before? (if yes, go to Qs 6 -7)
 yes No
6. Who provided it? _____
7. When? _____ How many days? _____
8. Have you ever delivered any training programs? (if yes, go to Question 9)
 yes No
9. How many training programs did you deliver? _____

	Training programs conducted	Level	year

1			
2			
3			
4			

10. Have you ever participated in the preparation of a training session? (if yes, what did you do?.....
.....
.....
11. Why would you like to be one of the local team?
.....
.....
12. Have you got any experiences in sharing information that you will be able to use as a trainer?
 Facilitate workshop
 Make presentation
 Chair a meeting
 Facilitate a discussion
13. What are your main strengths as a trainer?
.....
.....
.....
14. What are your weaknesses?
.....
.....
.....
15. What do you need to improve to be a good trainer?
.....
.....
.....
16. If you could participate in training for trainers, what are the subjects that would be useful for you? Why?
.....
.....
.....
17. How many days in a month could you devote to the project activities? _____
18. What do you think will be harder for you as a trainer? Why?
.....
.....
.....
19. What will be easier for you as a trainer? Why?
.....
.....
.....
20. To your opinions, what are the main qualities of a good trainer?
.....
.....
.....

21. Please, give score of self-evaluation on your training capacity, skills and knowledge in the appropriate column regarding of these aspects: 5 (for very good); 4 (for good); 3 (for fairly good); 2 (for need improvement); 1 (no knowledge and skills at all)

	Very good	Good	Fairly good could be better	Need improvement	No knowledge and skills at all
Skills, methodology and capacity					
Management skill					
Logistics preparation skill					
Facilitation/instruction skill					
Observation skill					
Listening skill					
Questioning skill					
Specific methodology for adult learners					
Presentation and public speaking skills					
Group work and group discussion management					
Speaking loudly, clearly in front of a large group of audience					
Elaborate training materials					
Develop a lesson plan					
Use different training aids during training delivery					
Use brain-storming exercises efficiently					
Elaborate a Disaster Preparedness Plan					
Conduct Rapid Needs Assessment					
Knowledge					
Community-based Disaster Risks Management (CBDRM)					
Natural disaster mitigation measures					
Learning process, Training monitoring and evaluation					
Who in the District/Commune involve in disaster mitigation					
The most vulnerable places and groups of people					
Relief activities					

Thanks for your collaboration

9.2 Annex 2: Capacity assessment summary table

CAPACITY ASSESSMENT OF THE LOCAL TRAINERS OF CAM LE DISTRICT - DA NANG CITY (PROMISE PROJECT)

	General information of local trainer	Having CBDRM training before		Attending TOT before		Having experience of being a trainer		Capacity assessment		Need for further training
		yes	no	yes	no	yes	no	good points	weak points	
HOÀ THỌ ĐÔNG										
1	Mr. TRẦN NAM KHANH (Land use Planner) Tel: 879272 <ul style="list-style-type: none"> High school Degree Time available: 30 days/month 		X		X		X	<ul style="list-style-type: none"> Having good skills of presentation, listening; Be an active volunteer with good knowledge of locality and the most vulnerable sections. 	<ul style="list-style-type: none"> No knowledge of CBDRM and training techniques. 	CBDRM: <ul style="list-style-type: none"> Techniques and skills for training communication; Lesson planning, training monitoring and evaluation.
2	PHAN NGỌC NAM (Chairman of ward's RC) Tel: 0511-672.594 <ul style="list-style-type: none"> Secondary school Time available: 7 to 10 days/month 	X		X		X	<ul style="list-style-type: none"> Having very good experiences and skills of being a trainer; Having experience of disaster preparedness planning. 	<ul style="list-style-type: none"> Cannot be able to travel far from home and stay long if required because of having sick father. 	CBDRM: <ul style="list-style-type: none"> Training monitoring and evaluation. 	
3	PHAN THỊ TƯỜNG LINH (Vice-chair of Ward's Women Union) Tel: 0511-673.108 <ul style="list-style-type: none"> High school Degree Time available: 		X		X		X			
HOÀ AN										
1	Mr. PHAN PHƯỚC BÂY (Ward PC official for transportation and irrigation) Tel: <ul style="list-style-type: none"> High school Degree Time available: 2 days/month 		X		X		X	<ul style="list-style-type: none"> Good listening skill and knowledge of the most vulnerable sections; Rather good skills of being a trainer (training management, facilitation, coaching and communication). 	<ul style="list-style-type: none"> Cannot swim. 	<ul style="list-style-type: none"> Techniques and skills for training communication, lesson planning; Disaster preparedness planning.
2	Mr. VÕ THANH TÙNG Mobile: 0914.077.572 <ul style="list-style-type: none"> High school Degree Time available: 4 days/month 		X		X		X	<ul style="list-style-type: none"> Good health and good knowledge of locality; Good skills of facilitation, management, listening, public speaking and emergency 		<ul style="list-style-type: none"> All required skills for training; Community health care.

								rescue.		
3	Mr. PHAN ĐÌNH NAM Mobile: 0905.157.279 <ul style="list-style-type: none"> University Degree Time available: 8 days/month 		X		X		X	<ul style="list-style-type: none"> Very good techniques and skills working with adult learners; as well as presentation, management, listening, public speaking; Training monitoring and evaluation. 	<ul style="list-style-type: none"> No knowledge of CBDRM, rapid need assessment and information collection techniques and skills. 	CBDRM: <ul style="list-style-type: none"> Techniques and skills of facilitation, coaching, communication; Training monitoring and evaluation; Emergency rescue techniques and skills.
HOÀ THỌ TÂY										
1	Mr. TRẦN MĂNG (Chairman of RC). Tel: 846.763 <ul style="list-style-type: none"> High school Degree Time available: 7 days/month 		X		X		X	<ul style="list-style-type: none"> Having good skills of presentation, facilitating group discussion. 	<ul style="list-style-type: none"> No knowledge of CBDRM and training techniques and skills for training management, evaluation and coaching, questioning, lesson planning. 	CBDRM: <ul style="list-style-type: none"> Training and Emergency rescue techniques and skills.
2	Ms. TRẦN THỊ BÍCH LIÊN (Chairman of Ward Women's Union) Tel: 0955.675.251 <ul style="list-style-type: none"> High school Degree Time available: 4 days/month 		X		X		X	<ul style="list-style-type: none"> Having good research method. 	<ul style="list-style-type: none"> Having little time. 	<ul style="list-style-type: none"> CBDRM and how to help community to reduce risks caused by drought; Training on techniques and skills to be a good trainer; Community health care, environment protection.
3	Mr. PHAN HỮU CHÂU (Section management Board). Tel: 681. 638 <ul style="list-style-type: none"> High school Degree Time available: 8 days/month 				X		X	<ul style="list-style-type: none"> Having good skills and techniques of working with adult learners; presentation, public speaking, facilitating group work, disaster preparedness planning and emergency rescue. 	<ul style="list-style-type: none"> No knowledge of CBDRM and training techniques and skills for training management, monitoring and evaluation, facilitation and questioning, lesson planning. 	CBDRM: <ul style="list-style-type: none"> Training and Emergency rescue techniques and skills.
4	Mr. NGUYỄN VĂN LÝ (Chairman of the Ward's Farmer Union) Tel: <ul style="list-style-type: none"> Secondary school Time available: 3 days/month 				X		X	<ul style="list-style-type: none"> Having very good skills of facilitation, observation, listening and questioning, public speaking, rapid needs assessment and knowledge of locality. 		
5	Mr. NGUYỄN TÂN HÙNG (Responsible for hygiene and environment). Tel: 971725 <ul style="list-style-type: none"> High school Degree Time available: 		X				X	<ul style="list-style-type: none"> Having very good skills of workshop and group discussion facilitation, listening, questioning, public speaking, rapid needs assessment, emergency 	<ul style="list-style-type: none"> Skills of mobilizing community in local activities, lesson planning, how to use training facilities. 	<ul style="list-style-type: none"> Knowledge of Disaster mitigation.

	4 days/month							rescue.	
KHUYÊ TRUNG									
1	Ms. NGUYỄN THỊ LÃNG (Ward's Women Union). Tel: 698113 • Secondary school • Time available: 2 days/month		X		X		X	<ul style="list-style-type: none"> Having good skills of public speaking, facilitating group discussion and disaster preparedness. 	<p>CBDRM:</p> <ul style="list-style-type: none"> Training techniques and skills to work with adult learners; Communication as well as facilitation and coaching skills.
2	Mr. HÀ NGUYỄN THANH HÀ (Chairman of Youth Union). Tel: 698620 • University Degree • Time available: very little time		X		X		X	<ul style="list-style-type: none"> Having good skills of listening and logistics and some rather good skills of management, facilitation observation, listening, questioning group discussion; Good knowledge of who involve in disaster mitigation structures. 	<ul style="list-style-type: none"> No skills of working with adult learners, emergency rescue and knowledge of the most vulnerable sections <p>CBDRM:</p> <ul style="list-style-type: none"> Training techniques and skills to work with adult learners; Communication as well as facilitation and coaching skills.
3	Mr. HỒ VĂN SANG (PC official). Tel: 698583 • High school Degree • Time available: 1 day/month		X		X		X	<ul style="list-style-type: none"> Having very good skills of presentation, public speaking, listening, questioning and some rather good skills of management, logistics, facilitation group discussion lesson planning using training facilities, brainstorming and disaster preparedness planning. 	<ul style="list-style-type: none"> No skills of emergency rescue and knowledge of the most vulnerable sections and knowledge of CBDRM. <p>CBDRM:</p> <ul style="list-style-type: none"> Training, Emergency rescue techniques and skills.
HOÀ PHÁT									
1	Mr. TRỊNH QUANG VINH (Chairman of Farmer Union). Tel: 682 517 • Secondary school • Time available: 4 days/month		X		X		X	<ul style="list-style-type: none"> Having good skills of propaganda, emergency rescue, listening, questioning and disaster preparedness planning, training monitoring and evaluation; Rather good knowledge of CBDRM. 	<p>CBDRM:</p> <ul style="list-style-type: none"> Training techniques and communication skills; How to plan a training lesson; First aids and emergency rescue techniques.
2	Ms. BÙI THỊ KIM CHI (Chairman of the Ward's Women Union). Tel: 683.726 • High school Degree • Time available:		X		X		X	<ul style="list-style-type: none"> Having rather good skills of group work facilitation and fairly good skills of public speaking, listening and questioning; Knowledge of local people 	<ul style="list-style-type: none"> No knowledge of CBDRM and management skill. <p>CBDRM:</p> <ul style="list-style-type: none"> Training techniques and skills to work with adult learners; Techniques and skills of facilitation, coaching and Communication.

	Up to project training plan							involve in disaster mitigation mechanism.		
HOÀ XUÂN										
1	Mr. PHẠM ĐỨC CÂN (Chairman of the Ward's Farmer Union). Tel: 688.659 <ul style="list-style-type: none"> • High school Degree • Time available: 3 days/month 		x					<ul style="list-style-type: none"> • Having good skills of propaganda, public speaking, listening; • Rather good skills of management, group work facilitation, observation, presentation lesson planning and questioning and CBDRM, rapid needs assessment. 		CBDRM: <ul style="list-style-type: none"> • Training techniques and skills to work with adult learners, brainstorming; • Disaster preparedness planning; emergency rescue techniques and skills.
2	Ms. LÊ THỊ TRƯỜNG (Chairman of the Ward's Women's Union). Tel: 688.659 <ul style="list-style-type: none"> • High school Degree • Time available: 1 days/month 		x					<ul style="list-style-type: none"> • Having very good skills of presentation, group discussion facilitation and public speaking; • Having good training skills, lesson planning, using training facilities, training monitoring and evaluation. 		CBDRM: <ul style="list-style-type: none"> • Brainstorming technique and vulnerabilities assessment.

9.3 Annex 3: Baseline survey questionnaire



A program for Hydro-meteorological Disaster Mitigation in Secondary Cities in Asia (PROMISE)

VULNERABILITY MONITORING SURVEY (Applied for individual household interview)

Village/section:	Ward:	District:
Date:	Name of Interviewer:	
Is the interviewee the household head: Yes / No		Male / Female Age:
Name of interviewee: 1..... 2.....		

I. General household's information:

1. Head household's Name:	b. Male / Female	c. Ethnicity:	
2. Household code:			
3. Number of people in the household:	Of which:	Male: Female:	
a. children under 15:			
b. Between 15-65:			
c. People over 65:			
d. Any physically disabled require assistance:			
4. How many children go to school?			
kindergarten:..... ..Primary:..... ..Secondary:..... ..High school:..... ..Above:.....			
5. No of Laborers (Age from 15 to 65 with working ability):	Of which:	Male: Female:	
A/ Agri/ forestry/fishery	B/ Industry, craft	C/Trading, Business	D/ Government worker
Male: Female:	Male: Female:	Male: Female:	Male: Female:
6. Income HH/month:			
7. How many labor days lost due to flooding (VND).....			

II. Information on disaster risk:

1. What are the main economic activities of the household:
 - Agriculture Animal husbandry Aquaculture other
 2. House's condition:
 - Temporary Semi solid Solid (by observation)
 3. Sanitation: *(having any kind of the following latrine)*
 - No latrine Temporary latrine septic tank latrine
 4. Water source for consumption:
 - open well water pumping well acceleration water
 - tap water lake river, stream, canal
 5. Quality of living water sources:
 - Good Medium Polluted seriously polluted
 6. Is your village prone to disaster? Yes No
- If Yes, to which type of disaster is your family exposed?
- Typhoon Flood Landslide Drought Forest fire Tidal waves
- Cyclone Erosion Disease Flash flood
- Others:
7. In average, how many extreme event of different type occur per year?
 8. Is your house
 - Close to the sea
 - Close to river, stream bank which overflows.
 - Near high slopes or hills which are knows to have rock or landslide
 - Locate in low lying area.
 9. Are your garden, field and asset for production frequently threatened by disaster?
 - Yes No
 10. During and after disaster, what are the three most serious problems of your family?

During disaster	After disaster
<input type="checkbox"/> Lack of food	<input type="checkbox"/> Lack of food
<input type="checkbox"/> Lack of water	<input type="checkbox"/> Lack of water
<input type="checkbox"/> Disease	<input type="checkbox"/> Disease
<input type="checkbox"/> House degradation	<input type="checkbox"/> House degradation
<input type="checkbox"/> Shortage of income	<input type="checkbox"/> Shortage of income
<input type="checkbox"/> Shortage of asset for production	<input type="checkbox"/> Shortage of asset for production
<input type="checkbox"/> Environment pollution	<input type="checkbox"/> Environment pollution

11. After every disaster season, do you have to: (estimate the cost)
 - Reinforce the house: what : _____ cost VND: _____
 - Repair the house: what : _____ cost VND: _____
 - Disease: what : _____ cost VND: _____
 - Foods and other: what : _____ cost VND: _____
12. Do you know your section has an emergency plan? Yes No
13. Do you know who are in the section emergency team? Yes No
14. Do you receive quick response for emergency need? Yes No
15. Where is a safer place for evacuation of your section?
 - Public building School Temple High ground
 - Stay home Do not know Other.....
16. Can you access to communication during disasters? Yes No
 - If Yes, which communication channel?.....
 - If No, give the reasons why?.....
17. When being sick, where do you go for treatment during disasters?
 - Hospital Communal health center Self-treatment at home
18. What are the most common disaster related diseases in your village?
 - Flu Skin disease Dengue Cholera
 - Fever Malaria Gynecological disease
 - other.....

19. How much does your family spend on disaster related disease treatment?

	Flu	Skin disease	Dengue	Cholera	Fever	Malaria	Gynecological disease	Other
Cost in VND								

20. Is your living environment polluted during and after disasters? Yes No

If Yes, What are the reasons?.....

21. What should be done to protect living environment from being polluted?

III. Information on household's coping capacity:

1. Is your house

A safe shelter against any of the disaster identified above

Maybe affected by flood typhoon storm

Easily affected by flood typhoon storm

2. Do you know where is the nearest evacuate place in the event of a disaster? Yes No

3. Do you and your family have plan of what to do in the event of a disaster? Yes No

if yes, please brief what will you do?

4. How do you get early warning of impending disaster?

Commune loud speaker radio

Television neighbor

Village leaders Early warning system

Other:

5. What emergency facilities does your family have?

Boat Lifebuoy Lifejacket First aid kit Battery light

Other:

6. Do you know how to minimize the losses of production and production asset?

Yes No

if yes, please give some example of what you would do?

9. Have you ever participated in any trainings or community activities related to disaster impact mitigation ? Yes No (if yes, which of the following programs did you attend)

Training programs	When	Provider
<input type="checkbox"/> CBDM training		
<input type="checkbox"/> First aid training		
<input type="checkbox"/> Evacuation drill		
<input type="checkbox"/> Fire control drill		
<input type="checkbox"/> Disease control training		
<input type="checkbox"/> Sanitation/hygiene training		
Other		

10. What training you would like to receive?

11. What should you do to reduce the vulnerability of your family and community?

12. Can you describe the role of the women in disaster preparedness:

