



## Summary:

### **Damage and loss:**

- **Income and food security:** Total loss of household level food stock and standing crops, loss of work and income opportunities. Local small business and market will suffer for loss of available finance, market and product.
- **Water and Health:** Water sources have not been seriously effected.
- **Material Loss:** 41 houses destroyed and 1,350 houses damaged. Lost household materials and furniture as well as clothing and bedding.
- **Education:** 69 schools (37 in Ky Son and 32 in Ky Thuong) damaged and student educational materials lost.

### **Identified needs:**

- **Income and food security:**
  - Food relief
  - Seeds and fertilizers to the poor and marginalized farmers to grow spring crops.
- **Water and Health:**
  - Improve health services and increase medicines available
  - Clean mud and flood-damaged environment, remove rotting crops and livestock
- **Material Loss:**
  - Non- food items are not a priority
  - Repair infrastructure
- **Education:**
  - Repair buildings
  - Replace lost educational materials (books, schools supplies, equipment)

### **Government support and other coping mechanism**

- Government has provided rice, 0.7kg/person to the most affected families. This is enough for 1 day only.
- Mass organisations and private companies are providing food and money (e.g 300,000,000VND from Czech Association of fellow-countrymen.
- Army providing support to repair houses
- Province, district and commune coordination committees in place.
- Volunteers and youth have been mobilised to assist communities

## **Background**

### **Lekima Typhoon Profile**

Typhoon Lekima slammed into Vietnam's central coast on Wednesday, Oct 03, 2007, initially killing two people and unleashing floods in one of the country's poorest regions. Earlier, the storm hit landfall near a beach resort in south China's island province of Hainan, frightening away tourists. Named for a fruit found in Vietnam, Lekima had already left about 10 people dead or missing in the Philippines, where it caused mudslides, damaged roads and bridges, and flooded homes and crops. In anticipation of the storm, China and Vietnam moved hundreds of thousands of people from low-lying coastal areas earlier on Wednesday as it began to lash the region with torrential rains and heavy winds. In Vietnam, the typhoon made landfall in Quang Binh and Ha Tinh provinces but its reach of storm damage stretched to other provinces including Nghe An and Thanh Hoa.

### ***General Information on Damage caused by Lekima in whole country range***

Hundred of thousands of houses were damaged or destroyed with many roofs being torn off. The death toll was 66 persons. Eleven bodies alone were recovered in Nghe An, and one death was discovered in Son La province. Nine people are still missing and feared dead.

The flood waters that inundated central Vietnam continued receding Wednesday, but large sections of Nghe An and neighboring Thanh Hoa province remained unreachable by car. "The waters are receding, but very slowly," said Do Minh Chinh a disaster official in Thanh Hoa province, where 15 people died. The International Federation of the Red Cross and the Vietnamese government estimate that about 10 million Vietnamese had been affected by Typhoon Lekima, according to Joe Lowry, a Red Cross official from Ninh Binh. The typhoon washed away 6,000 houses, damaged 52,000 houses and destroyed about 200,000 acres of crops, Lowry said.

Vietnam's Department of Floods and Storms Control said earlier the initial damage estimate from the typhoon was \$131 million.

### **Ha Tinh Response, to date, by the Inter-Agency joint assessment team**

The Inter-Agency joint assessment team, made-up of representatives from Catholic Relief Services (CRS), Oxfam Hong Kong (HK), and PACCOM conducted a rapid assessment in Ky Thuong and Ky Son communes of Ky Anh district. In addition, the team met with representatives from the Province and district before visiting this pre-selected commune. The assessment teams used a rapid assessment checklist covering major areas of livelihoods, water and sanitation, shelter, health, child protection and education. Gender issues were noted as a cross-cutting theme. This report is a summary of the assessment.

### **Lekima Typhoon in Ha Tinh Province**

Lekima is the fifth storm or Storm Number 5 to hit the province. It hit at 9:00 on Oct 3, 2007 and lasted for approximately 22 hours characterized by heavy rain over a wide geographic area.

**Rainfall** measured from 19:00 on Oct 1, 2007 until 19:00 on Oct 4, 2007 at gauging stations was as follows:

- Huong Khê 254,8 mm;
- Chu Lễ 308,7 mm;

- Linh Cảm 119,4 mm;
- Sơn Diêm 114,3 mm;
- Hương Sơn 170,5 mm;
- Sơn Kim 148,7 mm;
- Kỳ Anh 189 mm;
- Hà Tĩnh city 150,3 mm;
- Kê Gỗ weir 105 mm;
- Sông Rác weir 233 mm.

**River Water level** measured at 14:00 on Oct 4, 2007 were as follows:

- Water level at rivers varied at several gauging stations. In Ia River is only 0.52 m above flood level but it is alert level I while others are a higher level but alert level III; In Ngan Sau River,
- Ngàn Sâu river: at Chu Lễ 12,78m, characterized as a Lower Alert Level III 0,22m above flood level; at Hoà Duyệt 9,48m characterized as a Lower Alert level III 0,51m above flood level.
- Ngàn Phố river: at Sơn Kim 23,14m and at Sơn Diêm 12,95m characterized as Alert Level III.

**Water level at weirs**

- Kê Gỗ weir: 28,2m;
- Sông Rác weir: 19,5m;
- Kim Sơn weir: 97,5m.

**General Information on Damage in Ha Tinh** (Provincial authority Reports as of Oct 10, 2007)

Deaths	01 (Mr Nguyen Tien, construction worker in Huong Son Hydro-power)
Injured	38 (Loc Ha 3, Ky Anh 15, Cam Xuyen 2, Can Loc 01, Ha Tinh city 03, Huong Khe 2, Vu Quang 2, Duc Tho 3, Hong Linh 1)
Houses	Collapsed 198 houses are collapsed/ swept away. Roofs blew off 48,650 houses' roofs are blown up or dilapidated
Stores	Destroyed 12
Agriculture	1,716ha of paddy rice destroyed result and have reduced their productivity by an estimated 50%. 4,520ha of fruit trees and vegetable fields as well as 4,418 ha of winter maize were lost.
Irrigation system	Dykes up to level VI were swept away; 34,000m <sup>3</sup> of soil and 20,000m <sup>3</sup> of rock and cement lost; 92,079m <sup>3</sup> of irrigation; 42 under-dyke sluices collapsed swept away.
Transportation	Soil swept way: 80,163m <sup>3</sup> ; rock swept way: 3,100m <sup>3</sup> . Culverts collapsed/ swept away: 184; Temporary small bridges damaged: 19
Aquaculture	Boats sunk 16; Submerged: 617ha
Communication	Telecommunication columns downed: 1038; and 52,800m of lines were destroyed
Industry/ Electricity	High/ middle voltage poles downed: 28; Low voltage poles damaged 4,067; Mid voltage wire/ cable 4,600; Low voltage wire/ cable 311,712m
Education	Effected: 192 schools of which 32 class room collapsed; 1.308 classrooms' roofs are blown off.
Health care	Roofs blown off: 330 rooms

Collapsed: 12 rooms

Value loss (in cash equivalent):

Total:	364 billion Vietnamese Dong, of which	
	• Welfare:	112,25 billion
	• Education:	17,40 billion
	• Health & other public infrastructure	6,76 billion
	• Aquaculture	10,70 billion
	• Industry:	18,76 billion

**Lekima Typhoon in Ky Anh district**

Ky Anh was at the center of Typhoon Lekima when it hit Ha Tinh Province. Wind speed was registered at level 10 on the Beaufort scale with gusts reaching level 11. In coastal areas, sea levels rose 3-5m. Heavy rain drenched the entire district. In highland communes of the district, strong winds hit the mountains creating whirlwinds.

About 60,000 people (approximately 35% of the total population of 172,000) were severely affected by floods in Ha Tinh province especially in 12 of the 33 administrative units of the Province. According to the latest estimates from the District Committee for Flood and Storm Control of Ky Anh (DCFSC) as of Oct 10, 2007 damage to the district was as follows:

Housing:

- 44 houses fully collapsed
- 37,124 houses badly damaged and in many instances, waters reached the roofs of these houses.

Education:

- 6 classrooms collapsed;
- 660 classrooms' roofs blown-off

Healthcare:

- 1 room of clinic collapsed;
- 330 rooms have roofs blown-off

Other public infrastructure:

- 165 rooms of administrative buildings' roofs blown-off

Industry:

- Medium tension poles damaged: 2,000
- Electric cable/wire cut: 105km

Agriculture and Forestry:

- 800ha rice completely lost
- 700ha peanuts, beans and autumn-summer maize partly lost;
- 1,000ha of other crops and vegetables partly damaged
- 6,000 fallen trees

Irrigation:

- 40,000m<sup>3</sup> of soil eroded from dikes
- 300,000m<sup>3</sup> of soil eroded from canals
- 1,280 m<sup>3</sup> of soil, rock swept way from weirs
- 35 culverts, sluices collapsed

Transportation:

- 80,000m<sup>3</sup> of soil eroded

- 70 bridges damaged

Communications:

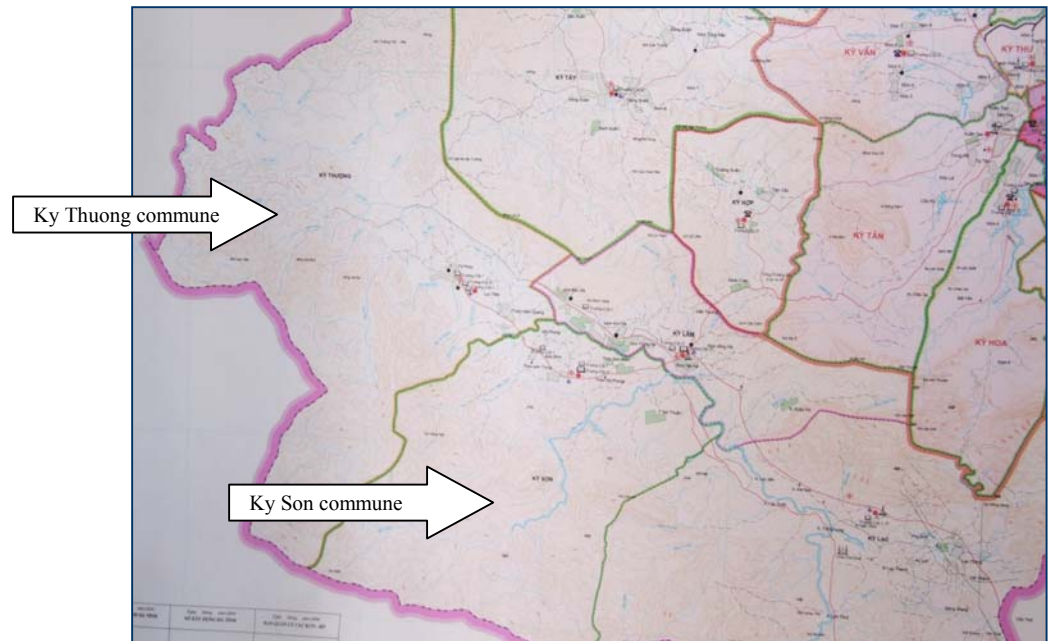
- Total loss in equivalent: 35bill VND (cable, wire and other equipment)

Other:

- Total loss equivalent: 37 bill VND (fences, entry gates, supplemental structures etc.)

**TOTAL LOSS : 359.6 bill VND**

### **Typhoon Lekima in the two target commune- Ky Thuong and Ky Son of Ky Anh district**



Ky Son and Ky Thuong are located in the southwestern part of Ky Anh district with a population of 13,000 people. They are the poorest communes in the district with 53.1% (Ky Son) and 57.2% (Ky Thuong) classified as poor-households. The main sources of income are from agricultural cultivation. These communes are regularly prone to severe climate threats and natural disasters.

There were no deaths, surprisingly, attributed to the typhoon. Property and crop loss/damage, however, were serious and may make life more difficult for poor households and potentially push others on the margins into this classification. The typhoon wreaked havoc on agriculture disrupting rice and other crop cultivation as well as damaging fruit trees. This typhoon also devastated housing and much of the infrastructure such as irrigation systems, roads, electricity poles and cables, etc.

Details from the assessment are described in the next section of this report.

## Sites Visited During the Assessment:

The effects of Typhoon Lekima are doubly hard for residents of Ky Son and Ky Thuong communes since they were already struggling with losses from Typhoon No.2 which struck them in August, 2007. The affects of these two large typhoons in such a short period of time create a critical situation for local residents. In addition, rain continues intermittently in the commune as witnessed by the assessment team who experienced non-stop rain during their visit leading to difficulties in surveying some areas.

### Food Security and Livelihoods:

- Total loss of all stored foods and standing crops in the two communes (1,054ha rice area in Ky Son and 298.87ha in Ky Thuong )
- Most maize, paddy and bean fields were waterlogged and damaged. Some of the crops may be used for cattle feeding only.
- Rice fields and crops were underwater for a long time and are spoiled or rotting, they cannot be harvested.
- Seedlings for the winter season were lost or totally ruined. Also, winter crop cultivation is not available now since most agriculture areas are submerged and experiencing continued heavy rain.
- Floods brought sand and pebbles into some planting areas reducing soil quality (250m canal fully damaged in Ky Thuong commune)
- Flooding destroyed irrigation structures (3 overflow-dams are damaged: Canh Dieu dam serves 15ha rice; Tung Tron dam serves 10ha and Da Den dam serves 8ha).

Most households surveyed have a serious risk of hunger stating they lack food since the typhoon and it will likely continue until next April. Each commune has received support from the district authority. In Ky Thuong district authorities have allocated 5 tonnes of rice (avg. 0.7kg/person) and the province is providing and additional 1.5

tons rice. Most households surveyed have a serious risk the typhoon April. Each district authorities



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0.7kg/ person) and the province is providing and additional 1.5 tons rice.

In September, prices of some basic foods such as rice, noodle, spices, cooking oil, etc. went up by **20% to 50%** and continues to rise. For example, rice is now 7,000 – 9,000 VND/kg in comparison with 6,000 – 7,000 VND pre-flood and noodle are 1,200 – 1,300 VND/kg instead of the pre-flooding amount of 900 VND. All local markets were closed during the time of the survey so data has not been verified.

Some cattle were swept away during the flash floods. A lot cattle pens were collapsed, damaged, or swept off in the flood. In addition, livestock farmers have lost much of the grazing land, and there is a risk of feed shortages and the spread of disease among cattle.

Most household incomes are based on agriculture, and they have taken a serious loss during this storm. Farmers are suffering the most and recovery will be difficult, especially for poorest households. The monthly average income is 300,000VND in Ky Thuong and this figure is lower in Ky Son.

There appears to be little opportunity for non-agricultural sector employment in these communes. The team saw people collecting wood in a stream to sell, and all though it was an isolated incident, it indicates that a more in-depth survey should be done to identify other potential risks of natural disaster such as forest over-exploitation in up-stream areas as people seek other livelihood alternatives.

Gender: Coping strategies generally consist of male family members migrating from the communes/district for labor. This migration not only disrupts the family unit, but it also increases the burden of work for the remaining women and children. Thus clean up and recovery actions may fall heavier on the shoulders of women.

### **Recommendations:**

- Provide food to the poorest households over the next three months or through April when the next crops may be harvested.
- Providing seeds and fertilizer to the poorest and marginal farmers for cultivating spring crops and vegetables by the end of December.
- Continue to advocate for the provision of rice supplements for the poor from the government
- Conduct an in-depth assessment for recovering livelihoods
- Provide assistance to livestock farmer who suffered losses to help replace their animals
- Investigate ways to provide supplementary feed for livestock and ensure surviving animals are properly vaccinated

### **Water:**

The main sources of water for these communes are 10-15m depth-dug wells. The survey team found that these have not been flooded and there is no evidence to indicate that the water is contaminated. It appears that women and children, in particular, have not have difficulty in accessing water resources after the typhoon and floods.

### **Sanitation and Health:**

Despite some clinics that were damaged and affect access to healthcare and the urgent need to remove rotting crops, animal corpses, and dried mud, sanitation and health are not series immediate problems.

Despite the need for a cleaning living to maintain good health, some people seemed tired or dismayed after two storms in a short time period, and unable to do this. Through the assessment, it was observed that up to 40% of households have already cleaned their living areas and cleaned the location immediately surrounding their houses. According to persons interviewed, each household needs two more weeks to clean structures around their main house (e.g. toilets, wells, cattle pens, etc.) and their garden areas.

Again, given the high rate of poverty and potential food shortages, health issues could emerge quickly as an issue particularly for children.

### **Shelter and Other Material Losses:**

In many affected areas, whirlwind blew off the roofs of house. Strong wind in combination with heavy rain caused 19 houses in Ky Son and 22 houses in Ky Thuong to collapse. During the typhoon, most people evacuated to safer areas such as public buildings like the People's Committee Office and schools. Some households were able to take important items with them during evacuation



The assessment team observed that the floors and walls of many houses remain wet and some furniture is still muddy. Scattered in the corner of the gardens are furniture, blankets and clothes that were buried in mud or covered with insects. Some interviewed households said that they have to wash and reuse these things after the flood went down.

For damaged properties, the team observed that the main houses were less damaged and the more seriously damaged structures were the sub-house, cook-houses, and outbuildings and storage areas. For some poorer households, whose houses are thatched roofs, the wattle was swept away by the flood and buried with mud. The assessment team visited Van Hien village of Ky Son commune, and saw some households taking their roof materials, made of palm leaves, to the river to wash and reuse.

The communities in the village are relying on mutual assistance to help rebuild collapsed houses. However, some households are still not able to rebuild, and they have to live with relatives. In general, people are demonstrating an ability rebuild their homes themselves.

Damaged electricity poles and lines have not been repaired completely, hence, in most areas, people do not have electricity and petroleum for lighting in the evening and use for other purposes in the day. People said that almost all of their clothing items including shoes needed cleaning from mud but they could be used.

### **Local Response**

District authorities have supported the delivery of 500 tile roof sheets for each commune. With dimensions of 0.8m wide and 2.2m long/ per sheet, this quantity will only cover around 1,000m<sup>2</sup> of roof while much more is needed. In addition, local authorities are mobilizing the community to repair homes (e.g. Red Cross Organization, the Youth Union, the Women Union, etc.). The communes are proposing to the province authorities that they provide more petroleum. Local authorities are finding funds to support some of the poorest households with assistance such as construction materials of brick, cement etc.

### **Recommendations:**

- Heavily damaged houses are priority to get support on rebuilding or recovering their houses
- Oil lamps and petroleum and candles are needed for lighting

## **Child Protection:**

There is no serious protection issue with children during or immediately after the typhoon. However, one potential concern to keep aware of is the caring and migration of children, and how this may change as families cope with the loss of their livelihoods. The emerging **response or coping plan** of families to have their children taken care of by their grandparents, while the parents go out of province to work. In addition, children above 15 years of age also go to the city to work during vacations. This has a strong potential for risk. Children who work early loose out on educational possibilities and are especially vulnerable if away from their parents/family. Younger children separated from parents may suffer due to this and the trauma of the disaster. Family units are broken up and children are exposed to a less secure and stable environment.

## **Education:**

Primary school students in part of Ky Thuong could not go to school for four days. These children are living in the north part of the commune, and are made up of 300 families living on the right bank of the Rao Tro River. There is no road or bridge connecting the two parts of the commune, and connection is made by boat. This is a very dangerous waterway, especially in the rainy season or during inclimate weather like the typhoon. Because the waterway is often impassable, parents have to bring their children to the school by motorcycle or bicycle everyday through a 20km roundabout road.



Through interviews with children, more than half of those interviewed do not know how to swim, they were very afraid of the floodwaters, especially the possibility of overturning boats or floats while evacuating.

- As mentioned above, access is a problem for some students at the primary school level;
- Many schools were damaged and are just re-opening. Teaching equipment and books were ruined by water damage. In the libraries of both primary and secondary schools, books, note books and school report books were soaked and damaged.
- In Ky Thuong primary school I, the heat-protection roof was damaged. The school would roof and structure will further damaged by the elements if it is not repaired quickly.
- Student books were either lost or suffered water damages and in some cases it appears students do not have enough books.
- Several schools have had their foundations, walls, and protection fences badly damaged or destroyed.
- Some students lost uniforms during flooding.

## **Recommendations:**

- Support the replacement of books, note books, text books and learning equipment.
- Repair damaged schools/classrooms.
- Improve nutrition for children, new mothers and pregnant women
- Training in disaster risk management, and prevention of injury
- Swimming lessons as standard for all children
- Quick response by government and other agencies to act for the recovery of household food and livelihood recovery to prevent the potential break-up of families.

### **Infrastructure:**

- A part of inter-district road No 22 (5km) is in poor condition with mud.
- Several irrigation structures suffered damage; for example, 3 overflow-dams in Ky Thuong commune. This in turn affects the lives and security of people nearby.
- Many smaller paddy fields and irrigation systems have been damaged or destroyed (e.g 250m canal in Ky Thuong commune.
- New power lines are temporarily installed but some households haven't accessed yet many having to borrow money to buy wires. Electric wires and equipment prices are threatening to rise.
- Fixed telephones are unavailable in some areas. However, wireless cell phone networks are working but serve a limited number of people.

### **Recommendations:**

Support the repair of community roads, irrigation systems (dams, canal), power restoration and equipment supply and restoring communication links

## Needs and Responses and Requests Identified by the Two Communes

### Short term

- Provide food for at-risk families
- Repair houses
- Repair schools

### Mid Term

- Upgrade irrigation systems
- Train in CBRDM
- Train children in swimming.
- Seed support fro Spring crops that will be started by the end of December

### Long term: (if any with fund available for extension of the project)

- Upgrading road, Provincial road No. 22 (cost to be determined)
- Implementing Disaster Management programme in Ky Anh district and other potential neighbour districts.

Scenario 1												
No	Items	Quantity		Norm		Duration month	Total Needs		Unit price d/kg	Cost		
										Total	Local Contribution	Doners
1	Food support	13,000	per	15	kg/month	3	2,925,000	kg	7,000	20,475,000,000	14,332,500,000	6,142,500,000
2	Houses repairing											
	Collased house	41	PC	5,000,000	d/hh					205,000,000	41,000,000	164,000,000
	Roof blew off	1,350	PC	2,000,000	d/hh					2,700,000,000	2,700,000,000	-
3	School repairing									300,000,000	100,000,000	200,000,000
4	Dams repairing	3								120,000,000	20,000,000	100,000,000
5	Canal building	250	m	500,000	d/m					125,000,000	25,000,000	125,000,000
6	Training in CBRDM	20	course	20,000,000	d/crs					400,000,000		400,000,000
									in VND	<b>24,325,000,000</b>	<b>17,218,500,000</b>	<b>7,131,500,000</b>
									in USD	<b>1,501,543</b>	<b>1,062,870</b>	<b>440,216</b>
Scenario 2												
No	Items	Quantity		Norm		Duration month	Total Needs		Unit price d/kg	Total	Local Contribution	Doners
1	Food support	13,000	per	15	kg/month	3	2,925,000	kg	7,000	20,475,000,000	20,475,000,000	-
2	Houses repairing											
	Collased house	41	PC	5,000,000	d/hh					205,000,000	102,500,000	102,500,000
	Roof blew off	1,350	PC	2,000,000	d/hh					2,700,000,000	2,700,000,000	-
3	School repairing									300,000,000	100,000,000	200,000,000
4	Dams repairing	3								120,000,000	40,000,000	80,000,000
5	Canal building	250	m	500,000	d/m					125,000,000	25,000,000	125,000,000
6	Training in CBRDM	10	course	20,000,000	d/crs					200,000,000		200,000,000
									in VND	<b>24,125,000,000</b>	<b>23,442,500,000</b>	<b>707,500,000</b>
									in USD	<b>1,489,198</b>	<b>1,447,068</b>	<b>43,673</b>