



DỰ ÁN PHÒNG CHỐNG NHỮNG THIẾT HẠI VỀ NHÀ Ở DO BÃO GÂY RA Ở MIỀN TRUNG VIỆT NAM

PRÉVENTION DES DOMMAGES CAUSÉS À L'HABITAT PAR LES CYCLONES, CENTRE VIET NAM

PREVENT TYPHOON DAMAGE TO HOUSING, CENTRAL VIET NAM



COMMUNE DISASTER PREVENTION ACTION PLAN

Hai Quy (Quang Tri) Action Plan

Map of risk areas

Vulnerability matrix

DEVELOPMENT WORKSHOP / FRANCE

B.P.13, 82110 Lauzerte, France

Tél : (33 5) 63 95 82 34 - Fax: (33 5) 63 95 82 42

e-mail: dwf@dwf.org

website : www.dwf.org/

EUROPEAN COMMISSION



Humanitarian Aid

DEVELOPMENT WORKSHOP / VIỆT NAM

91/44^A Phan Đình Phùng, Huế, Việt Nam

ĐT : (84 - 54) 384 82 31

e-mail : dwn@dwf.org

www.dwf.org/

**LONG-TERM ACTION PLAN FOR DISASTER PREVENTION
HAI QUY COMMUNE, HAI LANG, QUANG TRI**

I. SOCIO-ECONOMY CONDITIONS:

A. Summary:

1. General conditions:

Hai Quy, a commune in Hai Lang District – Quang Tri Province, places an important role about geography, strategy on economy – society – culture, and politics in the district. Local people love their country, expressed through the history of the country. Nowadays, in the peaceful time, Hai Quy Commune has contributed a lot, in term of human being, to the country

However, due to different conditions such as traffic, weather, drought, and flood, living conditions of local people remain limited, especially when most of local people live on agriculture.

2. Geographical location:

Hai Quy is located in the North plain of Hai Lang District (Quang Tri Province), 8kms far from the district centre. Hai Quy has 3 villages (Quy Thieu, Van Van, and Tram Ly). Commune centre is in Van Van Village. There are two commune-to-commune roads (Xuan-Quy-Vinh and Quy-Phu)

- East: border Hai Xuan Commune, Hai Lang District
- West: border Quang Tri Town
- South: border Hai Thuong Commune, Hai Phu
- North: border Trieu Trung Commune, Trieu Phong District

• **Natural conditions:**

- + Hai Quy is a plain commune, but one part is sand and lagoon; lower to the East; 2 big rivers in the Commune (Nhung River and Vinh Dinh River); streams to the rivers.
- + Two main kinds of soil: rich soil for trees/plants for food, perennials and white sand - poor nutrition - for forestry trees, sandflying-break trees, and some other vegetable.
- + Total natural land: 694.5 ha; of which:
 - Land for agriculture: 399.49 ha
 - Land for forestry: 148.5 ha
 - Remaining 146.51 ha: non-agriculture land (142.52 ha), wild land (3.99 ha)

• **Weather conditions:**

Weather in the Centre: hot, high humidity, sun bake, hot wind, flood, and typhoon...(2 different seasons). Details as below:

+ **Rain quantity:**

- Average every year: 280-310mm
- Highest/year: 350-370mm; some times up to 600mm, causing flooding

Lowest/year: 90-110mm

+ **Temperature:**

Average/year: 24-25°C

Highest/year: 39-40°C

Lowest/year: 10-12°C

• + **Population:**

Living along basins of Rivers Vinh Dinh and Nhung, separated into 3 villages with 17 living areas. There are 1120 families and 5029 population totally in the whole commune.

| No. | Village | Families | Population | Female population | Note |
|-----|--------------|-------------|-------------|-------------------|------------------------|
| 1 | Tram Ly | 322 | 1372 | 613 | 4 living areas |
| 2 | Van Van | 348 | 1676 | 860 | 5 living areas |
| 3 | Quy Thien | 450 | 1981 | 1090 | 8 living areas |
| | Total | 1120 | 5029 | 2563 | 17 living areas |

• + **Economic structure:**

Agriculture – Forestry – Fishery: 50% (945 families; 1315 population)

Industry – small scale Industry – Construction: 26% (105 families; 255 population)

Services: 24% (70 families; 429 population)

+ **Average income:** 6.8 million dongs/capital/year

+ **Poor families:** 291 (26%); of which, 90 families in Tram Ly Village, 104 families in Van Van Village, and 97 families in Quy Thien Village

- + **Housing:** 1012 houses; of which, 164 solid houses, 791 semi-solid houses, 57 temporary houses

B. Infrastructure:

- **Electricity system:** electricity basically in the whole commune, managed by Electricity Supplier (from electricity transformer station and up); local authority manages 3.49kms of electricity wire of 0.4kv (10m – closest distance connected to the main electricity system; 99.5% families in commune have electricity).
- **Traffic system:** 21.5kms of road for car; of which, 6.5kms of commune-to-commune roads (road of Bazan soil), 15kms (8.5kms concreted) of village-to-village and hamlet-to-hamlet roads; closest distance to main road (National road/Province-to-province road/district-to-district road) is 3.5kms.

Transport means for evacuation: 1,355 bicycles, 679 motorbikes, 5 boats, 2 trucks.

- **School:** 3 schools. The high storey school locating in the centre consists of 16 classrooms: a place to evacuate people there in case of disaster. There are 20 classrooms, separated, in several places, vulnerable.
- **Dispensary:** 1 dispensary match national standard; however due to the lack of equipment, healthcare work remain limited, especially in case of disaster.
- **Fresh water:** 81% of families in the whole commune have hygienic water (drill well water); 35% of families have septic tank and semi-septic tank.
- The Commune is building a freshwater supplier for 2 hamlets (Ba Duong hamlet in Van Van Village and Boat hamlet in Quy Thien Village), for more than 160 families.

C. Disaster situation:

1. Vulnerability and impact assessment:

- Main disasters: flood, typhoon, drought, whirlwind, riverbank erosion, lightening, flashflood, fire (forest), etc.

Most affected: low areas, areas close to riverbank and those far from the centre (hamlets Lang, Duoi in Tram Ly, zones Hoi, Qua Lo, Ba Duong in Van Van, hamlets Nam in Quy Thien).

- Impact of disaster during the past 10 years:

| Year | Type of Disaster | Death | Injured | House destroyed | House damaged | Total estimated damage (VND) | Agriculture area affected (%) | |
|-------------|-----------------------|-------|---------|-----------------|---------------|------------------------------|-------------------------------|------|
| Before 1999 | Flood, typhoon | 4 | 24 | 621 | 879 | 4.3 billion | | 100 |
| 1999 | Flood | 2 | 13 | 15 | 56 | 3.4 billion | 508 ha | 100 |
| 2000 | Flood | 0 | 0 | 0 | 15 | 1.5 billion | 330 ha | 70 |
| 2001 | Flood | 0 | 3 | 0 | 0 | 1.5 billion | 320 ha | 70 |
| 2002 | Flood | 0 | 9 | 0 | 4 | 1.5 billion | 309 ha | 70 |
| 2003 | Flood, typhoon | 0 | 7 | 0 | 6 | 1.8 billion | 330 ha | 80 |
| 2004 | Flood, typhoon | 0 | 6 | 0 | 0 | 1.3 billion | 320 ha | 75 |
| 2005 | Flood, drought | 0 | 2 | 0 | 0 | 1.4 billion | 315 ha | 88 |
| 2006 | Flood, typhoon | 0 | 0 | 0 | 0 | 1.5 billion | 305 ha | 75 |
| 2007 | Flood, drought | 0 | 0 | 0 | 0 | 1.9 billion | 408 ha | 100 |
| 2008 | Lightening, cold snap | 0 | 0 | 0 | 0 | 1 billion | 260 ha | 70 |
| Total | | 6 | 64 | 636 | 960 | 16.8 billion | 3405 ha | 87.8 |

II. VULNERABILITY CAUSED BY DISASTER:

Due to the natural conditions, the Commune annually is hit by typhoon, flood, and lightening which cause serious damages to life and asset, especially affect water resources from Nhung River and Thanh Han River (overflow to irrigation system). The impact is more serious when the income of population remains poor.

1. Temporary houses: There are 57 temporary houses in the whole commune need to be recovered before typhoon season (30 in Van Van, 20 in Quy Thien, and 7 in Tram Ly). People often live in the areas of Rivers Nhung and Vinh Dinh. This causes serious damage to them also (bank erodes...)
2. Lightening areas: damage to life annually in Van Van (sand area), both in living areas and cultivation areas.
3. Other vulnerable issues:
 - Lack of and weak in infrastructure. Some degraded public buildings such as schools, cultural houses cannot be a safe shelter during disaster.
 - Low traffic systems: difficult to travel during raining and flooding.
 - Underdeveloped inner roads, irrigation and drainage systems: not match current need.
 - Lack of equipment for rescuing such as boat, communication system
 - Ineffective warning system
 - Awareness of people about disaster remains low
 - Non-dredged rivers: affect water flow and environment
 - Some parts of river bank often be eroded: affect living area and cultivation.

III. LONG-TERM PLAN FOR VULNERABILITY RECOVERY:

Disaster Prevention Committee of the Commune makes the plan basing on the vulnerability and climate change. Priority will be given to high risk issues, easy to do, not much budget and then other issues.

1. Conditions/situation need to be recovered:

1.1. **Animation work:** animation work need to be maintained to improve awareness of people on prevention mainly, especially before disaster season.

1.2. Four at spot:

- Direction at spot
- Force at spot
- Material and means at spot
- Logistics at spot

1.3. Evacuation plan:

Annually, Commune organizes and mobilizes families who live in low areas to move to sand area or to take part into “new economic work” in Huong Hoa District.

1.4. Build solid house:

Mobilize people and invest in construction to build solid public facilities and houses for safe shelters in case of flooding and typhoon; support to erase temporary houses.

1.5. Organize and equip for rescuing teams:

Commune and villages establish rescuing teams for in time rescue; equip, step by step, rescuing boats, lifebuoy, communication means, etc...

2. Implementation method:

- Temporary house eradication: Try to erase 5 – 10 houses annually with the budget from families, community, projects, and donors.
- Build a solid cultural house in each living area with the budget from Government, contribution from community, projects, and donors. Time to do: in the year of receiving and following years; priority: vulnerable living areas.
- Build and improve some part of the dyke, village-to-village roads, hamlet-to-hamlet roads as access to disaster prevention constructions; study to build lightening-rod in living area in Van Van (sand area), with the contribution from community and donors. Implementation time: following socio-economic development plan of the Commune annually and long-term.
- Organize and maintain activities of Disaster Prevention Committee and rescuing teams of Commune and village.
- Strengthen animation work to improve Laws for people.

IV. PLAN IN 2009-2010:

| No. | Activity | Time | | Quantity | Place | In charge | Force |
|-----|--|-------|--------|---|------------------------------------|---|-------|
| | | Start | Finish | | | | |
| 1 | Strengthen DPC | 1/6 | 30/6 | 25 people | Commune | Chairman | |
| 2 | Implement Disaster Prevention (DP) | 1/7 | 15/7 | 47 people | Commune | | |
| 3 | Animation about DP | 15/7 | 15/12 | 4 times/month | Commune Centre, Co-operative | Information bureau | |
| 4 | Meeting with people | 16/7 | 30/7 | 3 villages | Co-operative | Village leader, DPC | |
| 5 | Strengthen rescuing team | 17/7 | 20/7 | 20 people | Commune | Vice-Chairman | |
| 6 | Prepare for means | 15/7 | 30/7 | 10 boats | Commune, village | Vice-Chairman, village leader | |
| 7 | Survey families could be evacuated | 1/8 | 5/8 | 3 villages | Village | Village leader | |
| 8 | Prepare for evacuation place | 6/8 | 15/8 | 13 places | School, houses, sand area | Vice-Chairman | |
| 9 | Store food | 15/8 | 15/9 | 1.7 tons of rice; food for 7 days at family | Commune, house | Vice-Chairman, Co-operative | |
| 10 | Give direction for harvest | 1/9 | 8/9 | 220 ha | Co-operative | Vice-Chairman, Co-operative | |
| 11 | Housing: - Temporary house eradication - Reinforcement | 1/7 | 30/9 | 10 5 | Villages | Vice-Chairman, Chairman of Father Frontier... | |
| 12 | Public work | 1/6 | 1/10 | 1 | Quy Thien Village | Vice-Chairman, Construction Cadre, village leader | |
| 13 | Traffic road | 15/6 | 15/9 | 3 km | Villages | Vice-Chairman, Construction Cadre, village leader | |
| 14 | Check DP work at village level | 10/9 | 29/9 | 3 villages | Village, school, dispensary, house | DPC | |

Recipients:

- DPC of District;
- DWF;
- DPC of Commune;
- Archives.

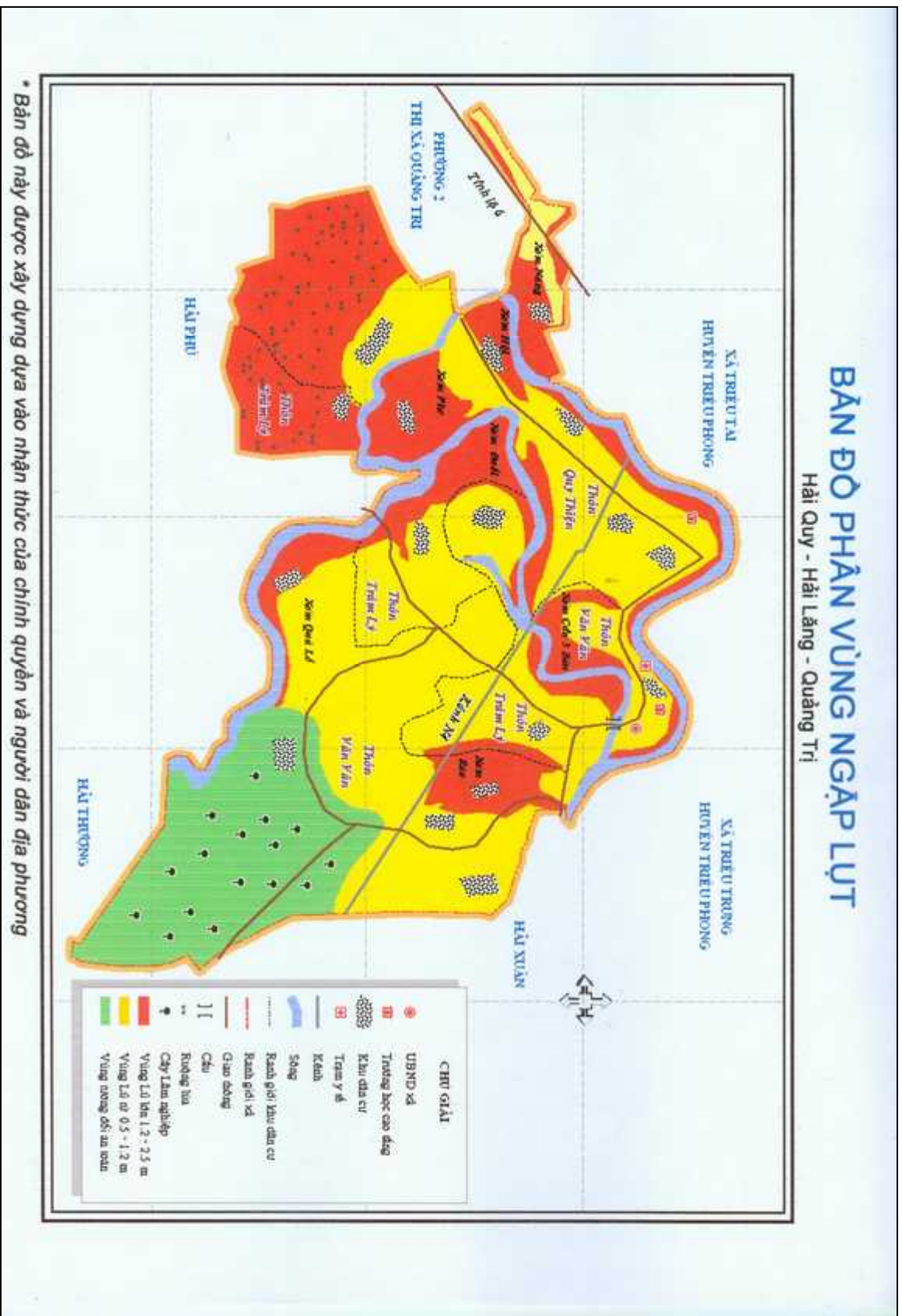
FOR THE PEOPLE'S COMMITTEE OF COMMUNE

Chairman

LE VAN LAT

(Signed and stamped)

Flood risk mapping



Vulnerability matrix

| Nguy cơ thiên tai Risk for Disaster | | Con người Human being | | | | Cơ sở hạ tầng công cộng Collective infrastructure | | | | | Cơ sở hạ tầng kinh tế Economic infrastructure | | | | Công trình công cộng Public facilities | | Nhà ở Housing | | | Khác Others | | |
|--|------|--------------------------|--------------------|----------------------|-----------------------------|--|------------------------|------------------|-------------------------|---------------------|--|----------------------------|------------------------------------|---------------------|---|----------------|---------------------------|---------------------------------------|---------------------|----------------|---------------------------|------------------|
| | | Trẻ em Children | Người lớn Adult | Người già The old | Người khuyết tật Disable | Giao thông Road | Thủy lợi Irrigation | Bờ sông Banks | Mạng lưới Networks | | | Nông nghiệp Agriculture | Nuôi trồng thủy sản Aquaculture | | Chăn nuôi Breeding | Khác Others | Bán kiên cố Semi-solid | Kiên cố (2 tầng) Solid (2 storeys) | Tạm bợ Temporary | | Bán kiên cố Semi-solid | Kiên cố Solid |
| | | | | | | | | | Nước sạch Freshwater | Điện Electricity | Điện thoại Telephone | | Nuôi trồng Breeding | Đánh bắt Fishing | | | | | | | | |
| Bão lớn (bão năm 1985) Cyclone (like1985) | | 5 | 3 | 5 | 4 | 3 | 2 | 3 | 3 | 5 | 4 | 5 | 5 | 2 | 4 | 1 | 4 | 2 | 5 | 4 | 3 | 2 |
| Bão hàng năm Annual storm | | 5 | 2 | 4 | 4 | 2 | 2 | 3 | 3 | 5 | 4 | 5 | 3 | 3 | 2 | 2 | 3 | 1 | 5 | 3 | 1 | 1 |
| Lụt Flooding | <1m | 4 | 1 | 3 | 2 | 3 | 3 | 2 | 3 | 3 | 3 | 5 | 4 | 3 | 2 | 1 | 2 | 1 | 4 | 2 | 1 | 1 |
| | 1<2m | 5 | 2 | 4 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 5 | 4 | 3 | 3 | 2 | 2 | 2 | 4 | 3 | 1 | 1 |
| | >2m | 5 | 3 | 4 | 4 | 5 | 4 | 3 | 5 | 4 | 4 | 5 | 4 | 4 | 4 | 2 | 3 | 1 | 5 | 2 | 1 | 1 |
| Lũ quét Flash flooding | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Hạn hán Drought | | 4 | 1 | 2 | 2 | 0 | 0 | 1 | 2 | 0 | 0 | 4 | 4 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cháy Fire | | 4 | 0 | 3 | 3 | | | | | | | | | | | | | | | | | |
| Dịch bệnh Eepidemic diseases | | 5 | 2 | 4 | 3 | | | | | | | 4 | 4 | 0 | 4 | | | | | | | |
| Khác Others ... | | 4 | 2 | 5 | 4 | | | | | | | 4 | 3 | 0 | 4 | | | | | | | |