



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 DANS LE CENTRE VIET NAM
PREVENT TYPHOON DAMAGES TO HOUSING, CENTRAL VIET NAM



"Give people a chance against disasters"
Central Viet Nam



Commune Quang Tho
District Quang Dien / Province Thua Thien Hue
September 2009

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PRESENTATION

DWF has start working with Commune and families of Quang Tho (pop. 7 500, 1 550 Families) in 2000.

DWF has supported the local authorities to promote the policy / practice of disaster prevention by different ways: training, animation, demonstration and support to housing and public building preventive reinforcement, participation to a Commune network in the Province.

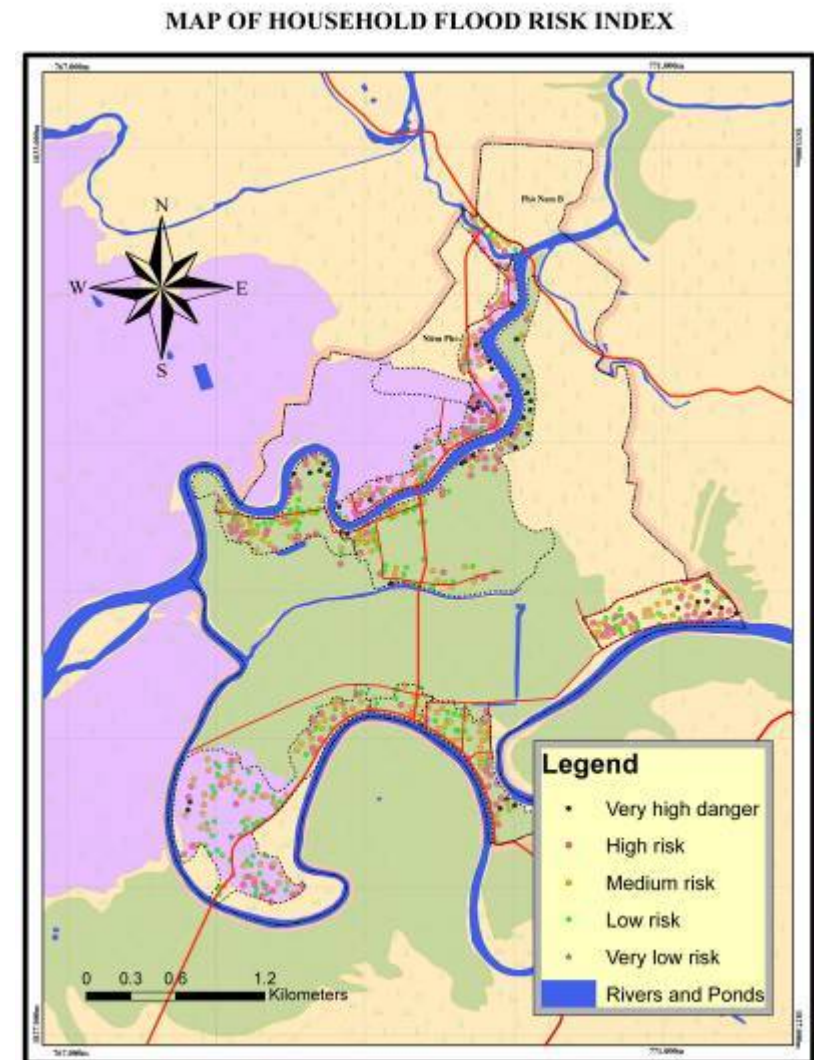
Quang Tho Commune has established long term and short term Disaster Prevention Plan, and organised efficiently the activity of the Commune Committee for Flood and Storm Control, with DWF project support.

In Quang Tho Commune, DWF project has supported technically, and with partial funding:

- The reinforcement of 118 houses
- The reinforcement of 50 houses in 2009 with a loan / Ford Foundation – Vietnamese Social Policy Bank
- The reconstruction of 33 "temporary" houses
- The construction of 10 public infrastructures (markets, schools, cultural houses, Radio FM & Loudspeakers).

The contribution of families and Commune for the works is high: average 50% for housing, 40% for public buildings.

The current activities are funded by ECHO (DIPECHO Programme) and the Ford Foundation



CULTURAL HALL NIEM PHO –QUANG THO

Data

Project	Cultural house - Village Niêm Phò CommuneQuảng Thọ
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Design	06/2005
Agreement Commune - DWF	07/06/2005
Works	15/07/2005 ÷ 15/08/2005
Supervision	Phan Đức Hạnh (DWF)

Cost	Đồng *
Total	4 300 \$
From Commune	700 \$
From DWF Project	3 600 \$

(



HOUSE MR TRAN DINH (REINFORCED HOUSE 2004)

1. Location

District	Quang Dien	Commune	Quang Tho	Village	Niem Pho
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2. Project

Name of family owner	Tran Dinh
Remarks	Former house : House in traditional style with 3 spans, dimension 5m by 7m, not plastering
Surveying	05/2004
Signing agreement	05/2004
Executing	05/2004 – 06/2004
Supervisor	Nguyen Phan Duc Hung
Total cost	4.000.000 VND
Contribution from the reinforcing house project	4.000.000 VND
Contribution from the livelihood project 2008	4.640.000 VND

3. Reinforcing house :

Date of construction	06/2004
Brief descriptions	House with 3 spans, dimension 5m by 7m, veranda 2m in width.
Foundation	Reinforced concrete
Structure	Reinforced concrete column
Wall	Walls made by cement blocks, plastering, have bracing beams at floor level and wall level.
Roof structure	Gables have RC bracing column, have connection between purlins and wall.
Roofing	Main roof by clay tiles, veranda roof by fibro cement
Doors and windows	With wooden frame and glass plate
Total area (square meter)	49 m ²
Total cost	30.000.000 VND
Cost per square meter	612.000 VND



(1\$ = 16 000 VN Dgs / 2004; 1\$ = 17500 CVN Dgs / 2008)

HOUSE MR NGUYEN XUAT (REINFORCED HOUSE BY CREDIT FOR REINFORCING HOUSE PROJECT)

1. Location

District	Quang Dien	Commune	Quang Tho	Village	Niem Pho
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2. Project

Name of family owner	Nguyen Xuat
Remarks	Form house : House traditional style with 3 span, dimension 5m by 7m
Surveying	09/2009
Signing agreement	09/2009
Executing	09/2009 – 10/2009
Supervisor	Nguyen Phan Duc Hung
Estimating cost (VND)	(about) 10.000.000 VND
Contribution from family	500.000 VND
Contribution from the project	500.000 VND
Loan from credit for reinforcing house program	9.000.000 VND

3. Reinforced house

Date of construction	10/2009
Short description	House with 3 spans, dimension 5m by 7m, veranda 2.2m in width.
Foundation	Reinforced concrete
Structure	Reinforced concrete column
Wall	Walls made by cement blocks, plastering, have bracing beams at floor level and wall level.
Roof structure	Gables have RC bracing column, have connection between purlins and wall. Wooden purlins, rafters and battens.
Roof	Main roof made by clay tile.
Doors and windows	With wooden frame and glass plate
Total area / square meter	50 m ²
Total cost	40.000.000 VND
Cost per square meter	816.000 VND

(1\$ = 17 800 VN Dgs / 2009)



TEMPORARY HOUSE REBUILT 2005 - MR MAI CHOT

1. Location

District	Quảng Điền	Commune	Quảng Thọ	Village	Niêm Phò
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2. Project

Name of family owner	Mai Chot
Remarks	Former house: temporary house
Surveying	05/2005
Signing agreement	05/2005
Executing	05/2005 – 07/2005
Supervisor	Phan Duc Hanh
Total cost	32.000.000 VND
Contribution from the family	26.000.000 VND
Contribution from the project	6.000.000 VND



3. Reinforced house

Construction date	07/2005
Brief descriptions	House with 3 spans, dimension 5m by 7m, veranda 1.8m in width.
Foundation	Reinforced concrete
Structure	Reinforced concrete column
Wall	Walls made by cement blocks, plastering, have bracing beams at floor level and wall level.
Roof structure	Gables have RC bracing column, have connection between purlins and wall. Wooden purlins. Rafters and battens made by bamboo.
Roofing	Clay tile
Doors and windows	With wooden frame and glass plate
Total area (square meter)	48 m ²
Total cost	29.000.000 VND
Cost per square meter	592.000 VND

(1\$ = 16 000 VN Dgs / 2005)



TEN KEY PRINCIPLES

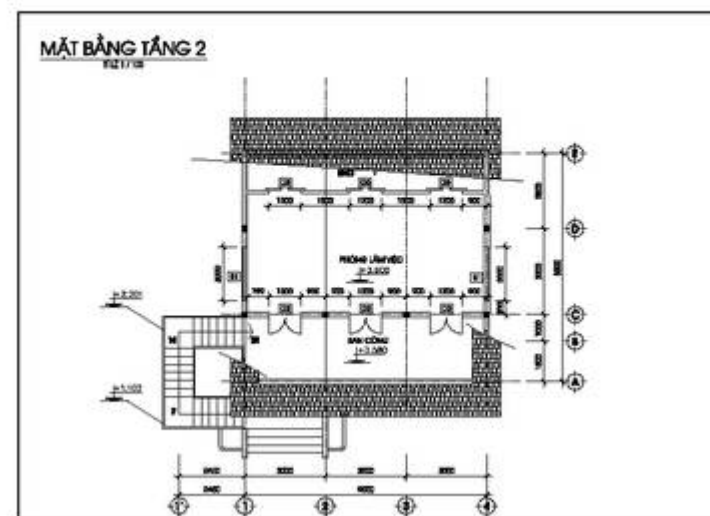
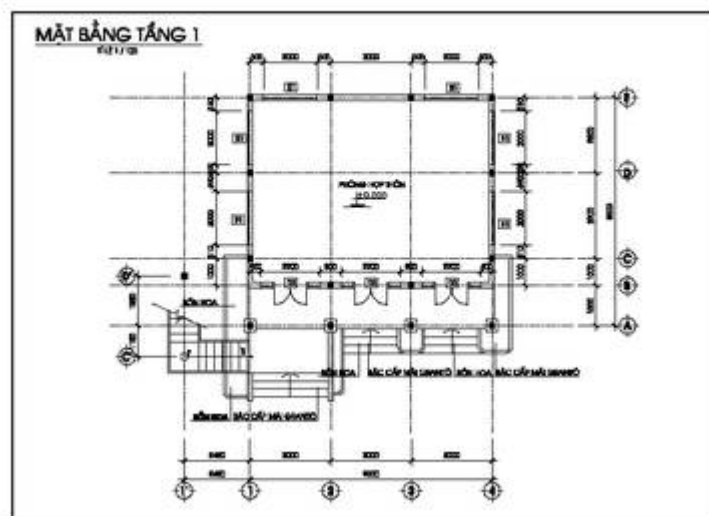
The 10 key points

1. Choose the location carefully to avoid the full force of the wind or flood (typhoon & flood).
2. Build a house with a simple shape to avoid negative pressure.
3. Build the roof at an angle of 30° to 45° to prevent it from lifting off.
4. Avoid wide roof overhangs; separate the veranda structure from the house.
5. Make sure the foundations, walls, roof structure and roof covering are all firmly fixed together (typhoon & flood).
6. Reinforce the triangular bracing in the structure, strengthen walls to increase stiffness. (Typhoon & flood)
7. Make sure the roof covering is attached to the roof structure to prevent it from lifting.
8. Match opposing openings (typhoon & flood).
9. Use doors and windows that can be closed.
10. Plant trees around the house as wind breaks and reduce flow of water (typhoon & flood).

Note: These were originally developed and tested in the course of the DWF/GRET implementation of UNDP/UNCHS programme VIE /85/019 "Demonstration of typhoon resistant building techniques" 1989-1991.



CULTURAL HOUSE – 2 STOREYS



DW Transferring 'Safety' awareness and skills

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DỰ ÁN PHÒNG CHỐNG BÃO DW

nguyên tắc xây dựng nhà ở vững cơ sở bão

the ten key points of typhoon resistance

1. Chọn địa điểm cư trú ở nơi tránh tác động của gió.
2. Xây dựng nhà ở có hình dạng đơn giản để tránh áp lực âm.
3. Xây dựng nhà nghiêng với một góc 30° - 45° để tránh khạc bị tốc mái.
4. Tránh làm mái đua rộng, mái trên nên tách rời phần nhà chính.
5. Đảm bảo rằng các bộ phận trên mái, tường, kết cấu mái và kết cấu bảo vệ đều được liên kết và neo giữ chắc với nhau.
6. Các tường hệ tam giác nâng và đứng (thang chống chéo) của khung sườn.
7. Đảm bảo các tấm mái được gắn chặt vào cấu trúc mái và tránh khỏi bị tác động.
8. Kích thước các lỗ cửa ở các tầng đều như nhau.
9. Cửa đi, cửa sổ phải kín, đủ then chốt để khóa, chống được.
10. Trồng cây xung quanh nhà để chắn gió.

Rumah Aman

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