



SUPPORTING LOCAL
CAPACITY DEVELOPMENT

APPUI AU DÉVELOPPEMENT
DES CAPACITÉS LOCALES

Vietnam: Typhoon WUTIP (N°10)

Assessment



“Post WUTIP Safe Roofing”

Development Workshop

Hue, 3rd October 2013.



Typhoon WUTIP - Event summary

On the 30th September 2013 typhoon WUTIP made landfall on the coast of the provinces of central Viet Nam , principally affecting the provinces of Ha Tinh, Quang Tri and above all Quang Binh, the latter the worst hit province. The storm was rated at Category 1 level, with wind speeds up to category 13 and reaching 167Km/hr. The typhoon is considered to have been the strongest since 1985 (Cecil) in the affected area.

The storm forecasting was both on time and accurate, and the government had time to make good preparations. More than 106 000 people were relocated to safer areas and evacuation shelter. To date, only twelve deaths are reported.

Although there was heavy rain, there has been relatively little flooding and low damage to crops. However, the high winds have created havoc, including destroying many rubber trees and plantations. By far the worst affected sector has been damage and destruction to housing, and to infrastructure (electricity network, roads...).

Rapid assessment

DWF put an assessment team in the field on 1st October (Quang Binh) & the 2nd October (Quang Tri) to discuss with local authorities, each provincial Department of Construction(DoC - existing DWF partners) and to jointly inspect the level and type of damage to housing, public buildings and ancillary structures.

Damage was reported at 07h00 the 2nd October and these numbers are still rising:

- Houses destroyed: 389 (Q.Binh 345); unroofed 195 801 (Q. Binh 156 517)
- Schools and other public buildings: 1 121 buildings or part of buildings (mostly partially unroofed)

In the case of unroofed houses and public buildings, belongings and contents have equally been damaged. In the most affected communes the authorities consider that 100% of houses have been unroofed, a figure which tallies with damage figures checked against housing stock figures.¹

Damage analysis

The joint DWF/DoC team visited both housing and public buildings (mainly schools). In some villages, over 80% of buildings had major damage to roofs of houses; classrooms have also lost their roofs and other public buildings have been damaged. Where the building has been unroofed, in some cases the remaining structure has not been strong enough and has collapsed.



Damage can be classified by type of roofing material.

- Fiber cement roof sheeting: very high level of damage. Nearly all roofs covered with fiber cement roof sheeting have been badly damaged or totally unroofed. These sheets do not resist high winds and break.



¹ * 2009 Census of population and housing, See Annexe.

- Tiled roofs: many roofs partially damaged, mainly near ridges and eaves. Where vertical ribs have been used on tile roofs, damage has been more limited or non-existent.²
- Corrugated metal sheet roofing: damaged where no restraining bars have been used, relatively little damage where restraining bars had been used.

Immediate recovery

Families are already receiving basic food and medical supplies and water treatment tablets.

Some families have already received a 2 Million Dong (70€) hand out from the Government as compensation for loss of roof and other damage.

Households and local authorities/parents started working immediately on repairing roofs on the 1st October. These repairs consist in i) replacing fired clay (or cement) roof tiles, putting them back as before; ii) replacing fiber cement roof sheets: purchase in shops or receive at the people's committee), with no prevision to stop and future damage; iii) At this stage (1/10), very few corrugated metal roofs had been repaired.

Proposed support: Post WUTIP Safe Roofing

Initial recovery of unroofed houses will be rapid and many buildings will appear to be repaired. This appearance is however an illusion: the level of vulnerability remains unchanged. No measures have been taken by families nor guidance provided to ensure that repairs undertaken will be able to resist a repetition of the impact of typhoon WUTIP. It therefore remains that many families are not able to take advantage of the short term post typhoon repair effort – expenditure, support and effort – to reduce the level of risk and potential future loss that they face.

DWF proposes to address this shortcoming in a rapid action to provide mobile support to families in the most vulnerable communities in the Districts of Quang Trach and Bo Trach in Quang Binh Province, in the district of Ky Anh in Ha Tinh Province, and in the district of Vinh Linh, Quang Tri Province. All three districts have suffered very heavy damage and their location on the coast leaves them severely exposed.

Objectives:

- Reduce social and material insecurity in homes after the impact of Typhoon WUTIP.
- Assist typhoon WUTIP victims to integrate safer roofing in the reconstruction process.
- Reduce continued vulnerability and risk of loss.

Action:

- Addresses 50 communes in four districts in three provinces (Ha Tinh, Quang Binh, Quang Tri);
- Establishes a mobile "Safe roofing" technical support unit composed of DWF + Thua Thien Hue artisan trainers, and members of three Provincial Departments of Construction.
- Provides direct technical support to communities/local builders
- Commune training: Half day/ 1500 builders on safe roof construction (30 builders*50 communes)
- Strengthening kits given to 500 families
- Practical demonstration: 3 houses strengthened per commune (200€ each), total 150 poor families;
- 40 collapsed houses rebuilt
- District awareness and training (4 districts)/ one demonstration action on an existing public building to be strengthened in each district (mainly schools buildings);
- Indirect beneficiaries: 100 000 Families/500 000 persons;

² Note that these vertical ribs on tiled roof houses were reintroduced to Quang Trach District by DW& GRET in 1990 under the project VIE/85/019 "Demonstrating storm resistant building techniques" 1989 – 1992 (UNDP).

- Operate over six months;
- Gender: The proposed action addresses all members of families – men, women & children and the aged. Direct beneficiary families will be selected according to poverty, gender, disability and need.

Links with other actions/sustainability.

The proposed action has direct links with the DWF/Dipecho project ECHO/DIP/BUD/2012/93006 “Support to the National Programme of Safe Housing in Disaster Prone Areas of Central Viet Nam” and preceding Dipecho programmes operated by DWF in Vietnam. Under the present Dipecho DWF programme that supports the Ministry of Construction Programme 716 for Safe Housing in Disaster Prone Areas in Central Viet Nam, DWF has worked with the Departments of Construction in Ha Tinh, Quang Binh and Quang Tri provinces; the Atlas of House Vulnerability and Strengthening is under publication now for each of these provinces, and 3 model safe houses have been designed by each Department of Construction and built in their province.

Annexe: Population & housing stock *

Province	District	Population	Urban	Rural	Housing stock							
					Total	Permanent	Semi-Permanent	Less permanent	Simple	Built < 1975	Built 1975-1999	Built 2000-2009
Ha Tinh		1 230 000			325 000	79%	12%	5%	4%	6%	53%	41%
Quang Binh	Ky Anh	172 000	10 000	162 000								
		845 000			198 000	82%	13%	3%	2%	3%	55%	42%
	Quang Trach	204 000	8 000	196 000								
	Bo Trach	178 000	17 000	161 000								
Quang Tri		600 000			145 000	60%	30%	6%	4%	1%	48%	51%
	Vinh Linh	86 000	16 000	70 000								

Total 4 districts 640 000

* 2009 Census of population and housing

Damage from several typhoons in Central Vietnam

Typhoon	Unit	Xangsane (Bao 6)	Ketsana	Wutip (Bao 10)
Date		1-Oct-06	29-Sep-09	30-Sep-13
Level		Cat 10 - 11 (89-117 km/h)	Cat 9-12 (75-133 km/h)	Cat 13 (>133 km/h)
Provinces most affected		Danang (50%) Thua Thien Hue (28%) Quang Nam (17%)	Quang Ngai (34%) Quang Nam (25%) Kontum (14%)	Quang Binh Ha Tinh, Quang Tri
Evacuation	Household	40 000	26 000	29 000
Victims	Number	69	172	9
House collapsed	Number	19 700	12 000	389
Houses unroofed / damaged	Number	250 000	295 000	195 000
Public facilities damaged	Rooms / units	3 800	20 000	1 100
Damage	Million US\$	650	715	250 *

Only Damage in Quang Binh *