# Project Document
# DWF-VIE-99-001

# Assisting the Development of Local Capacities to Prevent Typhoon Damage in Central Vietnam

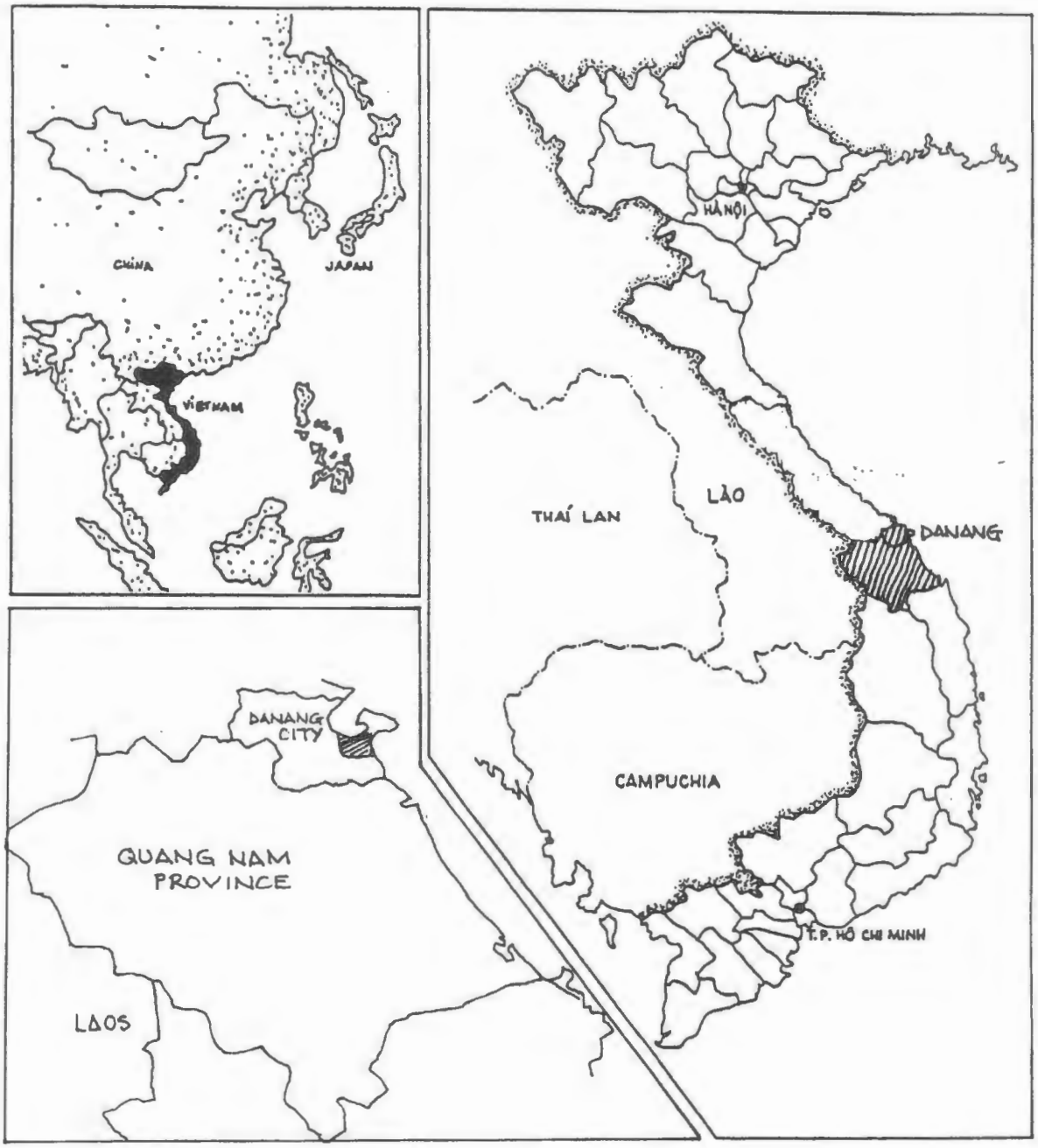
Project funded by
the International Humanitarian Assistance (CIDA)

March 1999

Alternatives
for a different world

Development Workshop

# Table of Contents


CHINA
JAPAN
VIETNAM
HÀ NỘI
THAÍ LAN
LÀO
DANANG
CAMPUCHIA
T.P. HỒ CHÍ MINH
DANANG CITY
QUANG NAM PROVINCE
LAOS

# 1. Executive summary

### *Project Title*

Assisting the development of popular capacity to prevent typhoon damage to housing, Central Vietnam

**Agencies:**
Alternatives & Development Workshop

### *Executing Agency:*

Development Workshop France (DWF)

**Contact Person**
John Norton
Development Workshop, B.P. 13, 82110 Lauzerte, France
Tel: (33) 563 95 82 34; Fax: (33) 563 95 82 42
E-mail: dwf@dwf.org
&
Alternatives, 3680 Jeanne-Mance, # 440, Montréal H2X 2K5
Tel: 514-982-6606, Fax: 514-982-6122 E-mail: mlambert@alternatives-action.org

### *Partners in Vietnam*

Command Section to prevent tempests and Inundation of Quang Nam Province,
Department of water management, flood control and storm preparedness in Danang city.
Thua Thien-Hué consulting and designing firm
ENDA Tiers-Monde (Vietnam) in Ho Chi Minh City

### *Localisation of project*

Provinces of Danang City and Quang Nam, south central Vietnam

### *Project duration*

3 years starting in march 1999

### *Beneficiaries*

Local population in coastal districts in Quang Nam Province and Danang Province, south central Vietnam

### *Budget*

$ 493 979 CANADIAN

### *Synthesis*

The proposed programme will assist in mobilising the population of two provinces in Vietnam to take preventive action in strengthening their homes against storm damage. Using a programme of village animation, the programme will work to change attitudes so that damage prevention in housing becomes a higher priority, whether building new houses, repairing or strengthening existing ones.

# 2. Context

### Vietnam's disaster vulnerability

Each year the central provinces of Vietnam are hit by storms, typhoons and flooding. Vietnam is considered one of the most disaster prone countries in the world[1]. On average 4 to 6 typhoons hit the coast each year, and in some years this rises to 10 and more in a year. Vietnam's topographical features (low-lying river deltas and coastal lands prone to flooding and mountainous areas to flash-flooding) mean that over 70% of the population is concentrated in the coastal zones and is at risk from water disasters.

Damage to houses is only one of many devastating effects of storm flooding and typhoons, but in humanitarian terms it could be considered to come second after loss of life and injury.

### Scale and incremental nature of damage

Housing and infrastructure damage in most years is dramatic both in numbers and in the effect it has on families and their living conditions and on the local and national economy. The table below[2] gives an example of the scale of damage which can occur in just a few days, here between 19 October and 26 November 1998, when storm 4, 5 and 6 struck the Central provinces of Vietnam in succession. The storms, combined with a cold front from the North and high tides to cause heavy rain in coastal provinces from Quang Binh to Binh Thuan. Average rainfall measured at about 200 to 600 mm. And up to 1 200mm in some places. In some provinces, the water level rose up to 2.8 meters above Alarm level III which makes this flood the biggest since 1975, similar to the historical (record) flood of 1964.

| Damage Category | Damage items | Unit | Flood, 19 to 22 October | Storm No. 4, 14 November | Storm No.5 & Cold Front, 20-24 Nov | Storm No. 6, 26 November | Total |
|---|---|---|---|---|---|---|---|
| *People* | People killed | No. | 53 | 27 | 174 | 13 | 267 |
| | People injured or ill | No. | 16 | 3 | 71 | 2 | 92 |
| | People missing | No. | 1 | 2 | 12 | 1 | 16 |
| *Housing* | Houses destroyed | No. | 611 | 325 | 8,598 | 287 | 9,821 |
| | Houses flooded and damaged | No. | 8,565 | 26,545 | 432,524 | 2,542 | 470,176 |
| *Education* | Schools destroyed | Room | 13 | 7 | 116 | 7 | 143 |
| | Schools damaged | Room | 69 | 45 | 1,296 | 74 | 1,484 |
| *Healthcare* | Medical facilities destroyed | Room | 0 | 0 | 4 | 0 | 4 |
| | Medical facilities damaged | Room | 5 | 0 | 91 | 9 | 105 |

Note: Cells containing zero values may indicate no damage or that no official report of damage has yet been received.
**Damage Summary, 28 November 1998, Central Provinces Vietnam**[3]

---

[1] Source: Disaster Management Unit, UNDP Project VIE/93/031. DMU also anticipates that the number of heavy storms and typhoons to hit Vietnam will increase both in number and intensity with global warming.

[2] See Annexe 1 on the Government report in November 1998 on damage in the central provinces.

[3] Extract of damage table following flooding in the Central Provinces (according to an official report by the CCFSC, issued to the DMU on 28 November 1998). Source : UNDP Project VIE/97/002, 164 Tran Quang Khai, Hanoi, Vietnam.

This level of damage is avoidable, and in smaller storms should not occur. During the last ten years, the Vietnamese authorities created programmes aiming at mitigating the damages, specifically to houses. However, most of the resources involved in these programmes are focussing on what should be done when the storm is imminent. Still now, almost nothing is done in term of preparation when a new house is built or repaired with the objective of mitigating the consequences of future typhoons

To the families concerned this means that as well as homes and belongings being lost, the investment that they had previously made in building or improving their homes - buying roof tiles or wooden doors and windows, for example - has in most cases also gone, so that the house they rebuild is invariably weaker than the one they had before. Under the circumstances, progress is very difficult.

# 3. The Project

### Preventive action

It is this context that is addressed by promoting preventive action for making property safer and more storm resistant. Such action aims to:

- avoid damage and loss, thus reducing loss of life and injury, and reducing risk of post disaster health problems;
- protect the small, incremental investments that people make in their homes; if these are saved they enable homeowners to ultimately achieve a durable safe house and workplace.

Damage prevention, even in reconstruction, goes hand in hand with protecting family and community investment in money, time and building materials. It is for this reason that the present programme places equal emphasis on promoting both: a "preventive action" reflex and the skills to carry this out so that people apply storm resistant techniques both when they repair and rebuild their homes and when they build new ones. In this way families can protect their incremental investment in the home in a sustainable manner.

### Sustainable impact

Learning from lessons after the severe 1985 typhoons, where project[4] actions comprised short interventions spread over a large region, the proposed programme focuses on concerted, village-level action over a longer period of time in a limited number of districts. This approach will enable the programme :

- to develop the awareness and skills relating to preventive action in each district to the point where the population can really access and benefit from this;
- to establish local teams skilled in the sustained management of the programme, before moving on to neighbouring districts; and thus to have a sustainable impact.

### Goal

The overall goal of the proposed programme is to assist in mobilising the population to take preventive action in strengthening their homes against storm damage. This implies:

- changing attitudes over time so that damage prevention in housing becomes a higher priority, whether building new houses, or repairing or strengthening existing ones; this change in attitudes needs to occur amongst the people, but also amongst technicians and decision-makers;
- even in immediate post-disaster conditions, paying attention to making buildings stronger and thus better able to resist the next typhoon - and in Vietnam the next typhoon is not a remote possibility, but a certainty.

---

[4] Programme launched in January 89 in Binh Tri Thien province (subsequently renamed as 3 provinces: Quang Binh, Quang Tri and Thua Thien) initiated on request from the Vietnamese government by UNDP/UNCHS Habitat, and designed and implemented by a consortium of Development Workshop (DW) and Groupe De Recherche et d'Echanges Technologiques in collaboration with the Institute of Building Design in Hué, and the Institute of Housing and Public Building Design in Hanoi.

The programme aims to develop a local based capacity for providing sustainable technical support through direct practical assistance mainly to people rebuilding and strengthening their homes.

In close collaboration with the provincial and district authorities, the proposed programme aims at working directly with the rural and urban poor in typhoon affected zones so that they are directly and actively implicated in the actions which concern them about how to strengthen their built environment.

**Specific objectives**

At local level (District, Commune and the target populations) to undertake activities for exchange, mobilisation and education about affordable actions for damage prevention, and to demonstrate through work on existing homes and infrastructure simple, practical methods for strengthening building with community and family participation :

- to help people rebuild stronger homes where these have been damaged,
- to help people further strengthen existing homes in preparation against future storms,
- to make sure that storm resistant techniques are methodically applied in new construction.

At provincial level to support the actions of the Disaster Prevention committees to provide assistance to the most exposed populations, through additional training for technical personnel and training in techniques for local communication and community exchange about methods for preventing damage. The latter draws on our previous experience of popular animation through theatre, puppetry, posters and through participatory events involving the population. The programme intends to show that through "lightweight" but regular intervention (few people, little equipment, good mobility) practical and pragmatic support can be provided to families at costs that can be sustained after the project period is over. It is expected that work in the pilot districts (see below) will subsequently be expanded to neighbouring coastal districts.

At national level: through the example of local programmes, work to strengthen the integration of strategies for 'prevention and strengthening' into the policy of the Central Committee for Flood and Storm Control (CCFSC) and through this to the provincial Disaster Prevention committees.

In addition, the project will also :

- increase knowledge about the potential and the limitations of the poor to improve resistance against storm damage, and in particular will identify the potential for introducing small targeted credit facilities for home strengthening in a future phase under separate funding;
- assess other specific damage prevention proposals and initiatives (such as safe harbours, village credit loan schemes - see below) in selected communes and districts in order to determine how these could be supported at a later date.

## Expected results

- The project will result in greater attention being paid to preventive protection of housing in the coastal zones;
- It will demonstrate that incremental improvements can be achieved even in quite frail structures that help to safeguard investment and lead to longer term stability;
- Although recognising that for many a storm resistant house is one made of concrete, masonry and clay roof tiles, it will show that safer houses can be achieved with less expensive materials that are easier to obtain yet able to resist damage in medium storms;
- The project will have contributed to developing local and district level skills in house repair and strengthening;
- The project will have developed and demonstrated means for exchange and communication that stimulate the participants and encourage action, and these methods will be available for use in neighbouring districts;
- Local authorities working through the Committees for Storm Preparedness will have been strengthened.
- Through achieving a grater degree of resistance against storms, savings will be generated that can be reallocated to family and community development.

## Beneficiaries

- Some 70 000 families will benefit directly from the actions of the programme, assuming an average of 30 000 families at greatest risk in the coastal zones of the target districts, although more in the rural areas;
- Beneficiaries particularly include women and their households (an above average number of households are managed by single women in Vietnam...), through access to safer and better shelter;
- The active members of the population will benefit through opportunities for professional training and development of employment opportunities;
- The population as a whole will ultimately benefit from potential realloaction of private resources (human and financial) currently devoted to reconstruction and repair falling as greater typhoon-resistance is achieved;
- Over the long term, the structure, philosophy and the experience of the provincial Disaster Prevention Committees will be reinforced.

# 4. Implementation

## Program Areas

### Testing the approach in different contexts

The diverse physical contexts, socio-economic bases and needs of the most vulnerable central provinces are an important consideration in developing a programme which will be sustainable beyond the period of external funding. Project support needs to address different social and physical environments, equally precarious, in order to show that the programme's actions can be both adapted and moved into neighbouring districts. The November 98 mission identified two neighbouring areas which fulfil this need :

- fishing community based villages in the coastal zone of Quang Nam;
- mixed economy peri-urban communities in Danang City.

These juxtapose the problems of an increasing reality in Vietnam of the drift from rural areas to the secondary cities, but the remaining financial dependence on the rural base.

### The fisheries based coastal zone

Duy Xuyen district, Quang Nam province, located on the Thu Bon river in the north of the province. Out of a population of 1 600 000, 50% live on the coast (and about 20 000 actually live on their boats), and of these about 700 000 earn their living mainly by fishing. A vast network of waterways run from north to south of the province behind a narrow coastal dune, with almost no protection from either wind or water damage to property. The local committee is focusing as a priority on early warning to fishermen (e.g. beacons and constructing refuges for boats). The Provincial committee would like to see more support provided to the population of the fishing villages to encourage them to strengthen their homes and villages, but they lack resources. Meanwhile people live in a variety of shelters built with a mixture of timber, thatch roofs and walls, clay roof tiles, tin roof sheets, wooden walls and occasionally shutters. In one village, Duy Nghia, a small storm in 1995 destroyed 50% of the houses. However, where basic precautions such as solidly tying down the roof had been observed, resistance was much better, and although timber and thatch dwellings are not officially considered 'storm resistant', in practice basic precautions greatly increase the resistance of these structures. And where selective investment has been made, such as tiling part of the roof, the chances that this investment will survive are significantly increased where strengthening has been carefully done. Village interviews also clearly show that house improvement is an incremental and gradual process, so that protecting what has been done at each stage is of paramount importance.

### Urban migrants in the peri-urban zones of Danang City

The third largest city of Vietnam, Danang increasingly experiences an inflow of farmers and fishermen searching for work and better living conditions, finding lodging in clandestine sites on beaches, in areas prone to flooding, and even in and around the cemeteries. Some of these previously clandestine settlements have been given legal status recently through lack of alternative after many years of occupation, but the inhabitants have shown little interest in following instructions to make their dwellings safer. Moderate typhoons, such as that in 1989, destroyed 48 000 houses in the town and seriously damaged a further 60 000. Recent flooding in November 1998 (Storm Dawn #6) again destroyed 50 homes and left many more damaged. Where land tenure has been provided, the City's Department of Water management and flood control and storm preparedness again stressed the need to find ways to encourage the population to make their homes safer, claiming that more formal instructions were not heeded by the inhabitants. Visits to Thanh Loc Dam neighbourhood showed houses constructed out of a

huge variety of both recuperated and purchased materials, and again showed the piecemeal nature of house development.

### Common and diverging characteristics

The two zones share the same basic shelter characteristics - houses in various states of transition from extreme fragility (in the majority), to much fewer solid structures. More marked than ten years ago are the number of dwellings where expensive roof materials are being used on parts of the roof, but frequently supported on fragile structures. This underlines the increase in house investment, and highlights the increased risk of financial loss. As building becomes more monetarised even for the poor, the domestic and national financial impact of each renewed disaster gets bigger. Case studies in Quang Nam showed that many households have rebuilt their house frequently, and that whilst some safeguard their investment and improve, many others regress after each storm to a weaker shelter.

Within the region the localised differences in economic or subsistence activity are an important factor in testing how dialogue and action with different local communities can be adapted to local situations and how these actions can be genuinely efficient in helping people strengthen their homes.

## Programme strategy

### Training of 1 coordinating and 2 mobile teams

The proposed programme will establish a central team based in Danang, potentially in the offices of the existing "Anti-BÃO"[5] committee. This will comprise the following staff :

- programme manager (engineer/architect) (1)
- organiser (communication/publicity/events) (1)
- interpreter (1)
- secretary, accountancy assistant (1)

### Mobile, project areas teams

A small mobile team will also be set up in each of the three project areas.
In Danang, this will consist of the following staff who will work in tandem with the coordinating team :

- building technician (1)
- driver/mechanic (1)
- In Quang Nam the mobile team will consist of:
- building technician* (1)
- "animation" organiser* (1) * = possible team leader
- driver/mechanic (1)

Each team will be equipped with means of transport. Each team will be trained to acquire skills that will enable them to make repeated visits to all the villages in their target district. There will be counterpart training for the local committee staff at the same time. The teams will be supported by animation teams (theatre groups, etc.) as required.

Training will be provided by Development Workshop, with inputs from the Thua Thein Hué Consulting and Designing Construction Company who worked on previous programmes, and benefit from ENDA VN's experience in community mobilisation.

---

[5] Anti-cyclone

## Exchange and animation, not "off the shelf" information

The accent is on exchange and communication with the population - a rigorously interactive approach - so that in each village animation activities work to stimulate short term and long term awareness of the need to take preventive action, and demonstrate how preventive action can realistically be applied on existing buildings.

Animation techniques using popular theatre demonstrated in the 1989-92 programme the level of interest that can be created through drama rather than presentation and role play. However, animation with a (theatre, puppet shows, debate, video shows, etc.) must be preceded by village vulnerability surveys, and followed by selected very practical intervention to strengthen existing buildings and provide guidance to builders. Village work by small mobile teams must respond to village level needs and realities. Demonstration must relate to achievable and affordable answers in the community. A modest budget is to be provided for these interventions, but through existing schemes such as the Bank for the Poor avenues will be explored for these to be replaced by selective credit schemes at a subsequent date. The principle of preventive action remains nevertheless a core theme more important than subsidising popular ability to strengthen, since the evidence shows that domestic capital is wasted in putting purchased materials on insecure buildings.

## Vulnerability assessment and potential

In each locality the team will assess the level of vulnerability and damage in terms of the village location, the buildings in the village, the existing infrastructure (schools, health posts and workplaces) and the materials and techniques that are or could be used for making the settlement and its buildings more resistant.

## Village animation

The team will then develop and adapt a programme of village animation. Dram and theatre is a vital, popular tradition: very simple means can be used to great effect, with the possibility of improvisation based on local, concrete situations. Puppet plays, mural displays, traditional entertainment, poetry competitions etc. have proved highly effective in communicating to the population[6]. Increasing popular recognition that home strengthening is a necessity that can be achieved realistically can exploit such channels of communication, and the audience will remember such "messages" long after the event.

## Key principles of typhoon-resistant building

Immediately after the animation programmes, the technicians in the team will illustrate key principles for building strengthening[7]. They will move to apply these principles in a few selected individual homes or public facilities and, working alongside the population, advise or carry out selective actions that will strengthen the building (putting in bracing, improving joints, strengthening roof fixings, reinforcing the bedding of supporting posts in the ground, making shutters and door fixings stronger, etc.). The mobile team will carry a small range of tools and materials, but these will be based on items that are realistically available in or near the locality. There will be a small fund to finance these integrated and interactive demonstrations.

## Follow-up

---

[6] See footnote 5

[7] The 89-92 programme identified 10 key principles of storm resistant building.

Each village or locality will be visited on repeated occasions, several weeks after the first intervention, and again to provide more support, to remind people of the message, and to help other people building or repairing their homes.

### Identifying other initiatives

In the course of visits to the villages, and in collaboration with the local committees, the team will also identify other ideas that the village community have about making their environment safer and ways that these might be achieved (outside the scope of the present project). For example:

- the financial viability of producing reinforced concrete columns (to increase flood and wind resistance in houses) for sale locally;
- the building of shelter harbours to protect small fishing vessels;
- the possibility of using either existing[8] or new village credit schemes to enable poorer families to finance the small, but genuine additional cost of "preventive damage" construction.

### Maximum mobility, minimum material support

The mobility of the teams will be paramount and will be ensured by using a small, a boat for Quang Nam, where there is a huge network of waterways and 3 motorbikes. The teams will visit every commune and village in the pilot district on a repeated basis. The main focus will be on housing, and here support will always be minimal in terms of capital or material inputs so that the focus remains on realistic actions that can be afforded. Help in terms of advice and hands on work will be shared between households with different levels of income or capacity.

Where public buildings are concerned, providing minimal financial aid, corresponding to the actual additional cost of the adding in preventive construction details, will not be ruled out.

### Feed-back, collaboration and handover

At district and provincial level, the mobile teams will collaborate regularly and directly with the committee for disaster prevention, both to align actions with other parallel programmes, and to co-ordinate follow on work in other districts in the province.

The teams will meet on a regular basis to exchange experience and refine the programme. The animation staff will collaborate in the development of village or community animation activities. Emerging out of the provincial activities, the program will hold workshops with the committees of neighbouring provinces and the central committee in Hanoi to enable better co-ordination of the project activities and their impact.

Continuous contact, exchange of experience and collaborative training will facilitate ultimate handover from the project teams to District and Provincial Committees, enabling them to continue.

### External inputs

---

[8] For example, the "Bank for the Poor" village loan scheme is already operational in one of the proposed project areas.

The programme emphasis on training and ultimate handover demands major blocks of external input time by Alternatives and Development Workshop, particularly at the start of the programme, and decreasing in years 2 and 3. Developing local skills and programme management capacity is a key component of the programme.

Project co-ordination (including field missions)

Missions will be undertaken by Development Workshop. Total mission time and co-ordination will be 6.5 months, decreasing from 3 months in year 1, to 2 months in year 2 and 1,5 months in year 3.

Additional field programme assistance and monitoring by Development Workshop

12.5 months in all, falling from 6 months in year 1, to 4 and 2.5 months in years 2 and 3 respectively.

**Project duration**

The project will have a three years duration, enabling sustainable impact on a concentrated target population.

**Timetable**

The project will be operational in Quang Nam (fishing villages/ small agriculture) and Danang City (peri-urban mixed economy). These are geographically close and will enable maximum efficiency in the setting up of the project structure and approach.

In sum, the following is the outline timetable.

**Phase 1**

| | |
|---|---|
| Months 1-3: | Preparation, survey, identification of "test communes". |
| Months 4-9: | Setting up and training of project area teams, equipment, and animation project. |
| Months 10-12: | Testing in a commune and evaluation of methods used. Feedback to and from both operational teams. |
| Months 13-20: | Extension into different communes and neighbourhoods in these pilot project areas (Quang Nam and Danang City), interim evaluation. |

**Phase 2**

| | |
|---|---|
| Months 20-24: | Project becomes increasingly independent in the third year, incorporating lessons learnt from the interim evaluation. Activities undertaken by Canadian agencies and the project team to share experience with neighbouring districts and provinces. |
| Months 25-36: | Programme active in several districts (one or two communes). |

**Timing of inputs**

Whilst bearing in mind that villagers need in many cases assistance as soon as possible for advice in reconstruction, the first year will primarily be devoted to :

- selecting team members and training them in the activities of the programmes
- finalising with team members animation activities and
- preparing the supporting materials and equipment.

Procurement for logistics will be mainly in-country, and thus reduce the waiting period. The first year will allow for the organisation and evaluation of preliminary village intervention in the most affected zones of the first two project areas

By the third year, the programme will have developed a regular rhythm, with repeated village visits, throughout the year and above all in the period just before and during the typhoon season.

The third year, whilst maintaining regular activities in the pilot districts, will make preliminary assessments of the needs in neighbouring districts which the teams will add to their activities in follow on years (operating under District and/or Provincial committees. )

# Logical Analysis Framework

## Developing popular capacity to prevent typhoon damage to housing, Central Vietnam (1)

| *Project structure* | Achievement indicators | Indicator evaluation methods | Hypotheses (H)<br>Risk (R) |
|---|---|---|---|
| **Overall objectives** | | | |
| Programme to mobilise the vulnerable population of the Central region of Vietnam (Quang Nam et Quang Tri Provinces, and Danang City) to effectively take efficient preventive measures to strengthen their homes at risk from typhoons, with the following aims: | | | |
| • to modify the attitude and the practices of the people, of skilled workers, of technicians, and of decision makers so that prevention becomes a priority in construction<br><br>• where reconstruction is taking place, to ensure that housing is strengthened, since in this region, the next typhoon is bound to be close. | | | • There are practical technical solutions which are suitable and realistic and which can significantly reduce typhoon damage to individual housing (H)<br><br>• There needs to be a vigorous intervention strategy to mobilise the population around an event (typhoon) which people can remember but which is often overlooked in the face of the struggles of daily life. (H) |

| **Immediate objectives** | | | |
|---|---|---|---|
| 1. At local level (District, Communes, Population)<br>To mobilise the population to take preventive action which is economically, technically and socially realistic, through awareness-raising activities, demonstration on individual housing, community and family participation, in differing contexts (coastal area fishing villagers, and a periurban population):<br>• to reconstruct damaged housing, using more typhoon resistant techniques<br>• to consolidate existing "transition" housing (which uses both traditional and modern materials)<br>• in include the basic principles of cyclone-resistant building in new | • In each of the areas involved, the development of a mutual help and "technical" advice system amongst the population affected by the programme<br><br>• The inclusion of the key points of cyclone-resistant building in building practices (design and implementation) | • Impact assessment (using participatory surveys) of mobilisation, demonstration and awareness-raising campaigns<br><br>• Technical evaluation of projects self-funded and self-built by the population<br><br>• Evaluation of skilled workers' practices | • Demonstration on individual housing "speaks louder" than on public buildings (H)<br>• Using the theatre tradition to portray concrete situations provides a real tool with which to mobilise the people (H)<br>• The possible influx of requests for the complete construction of "permanent" housing - which is not moreover specifically typhoon resistant (R) |
| 2. At Province level<br>• To assist the Disaster Prevention Committees to develop ways of helping the most affected section of the population (the poor), through technical and communication training | • A formal and practical capacity to provide "upstream" assistance (prevention) using trained staff and concrete resources | • Periodic seminar to evaluate skills and practices | • Assistance from local authorities and institutions for activities which are not necessarily "visible" (R) |

| | | | |
|---|---|---|---|
| 3. At national level<br>• To develop and strengthen the inclusion within strategies of the need (and the possibilities) for prevention amongst the sections of the population most affected by typhoons | • Links in national programmes, through programmes and activities focusing on prevention | • Taking part in meetings organised at national level | |
| 4. Feasibility studies of specific projects<br>Loans to strengthen housing<br>Protection programmes (e.g. safe harbours...) | • Projects implemented or funded | | • In the present context is it difficult to get help for damage (or for preventive measures) for individual housing, as opposed to collective damage (roads, buildings, harvests) (R)<br>• The project is firmly based on field realities in order to point other funders (local or foreign) in the right direction (H) |

**Developing popular capacity to prevent typhoon damage to housing Central Vietnam (2)**

| Project structure | | | Hypotheses (H)<br>Risks (R) |
|---|---|---|---|
| **Expected results** | | | |
| • A new attitude on the part of the target population to its building practices and options<br>• Effective and practical demonstration that improvements which are possible can safeguard building investments<br>• Demonstration that it is possible to strengthen "temporary" housing to withstand "normal" typhoons<br>• The introduction of participatory ways of communicating<br>• The development of local capacities to help the population in Districts and Communes<br>• Strengthened local cyclone damage prevention Committees<br>• The preparation of funding requests | | | • Technical demonstration established using the results of field work (1989-1992) (H)<br><br>• Unplanned and uncoordinated dispersal of activities, making the impact of this kind of intervention inoperable (R) |

| **Activities** | **Material resources / 3 years** | **Beneficiaries** | |
|---|---|---|---|
| • Organisation, training and management of a local co-ordination team and of 2 mobile teams to undertake activities in the villages<br>• Vulnerability studies of existing typical housing and its adaptation to the principles of typhoon-resistant construction, with help from the families<br>• Writing plots and theatre plays reflecting local contexts, with the participation of the communities<br>• Awareness-raising activities (surveys, theatre, video) in each Commune and village of the pilot District;<br>• Practical demonstration of how to strengthen housing in each village, providing technical advice and possibly strengthening materials<br>• Structured training of the staff and cadres involved<br>• Dissemination of the methods used and results obtained (regular newsletter, lectures, television broadcasts) | • Local teams (12 persons) with technical assistance (20 man/months) and equipment required for the programme activities:<br>• Equipment budget : 40 300 $<br>• Local team budget : 130 200 $<br><br>• Awareness raising demonstration etc. activities budget : 76 100 $<br><br>• Training and technical assistance budget : 202 500 $ | • The population of the pilot areas involved: the inhabitants<br><br>• All the Communes of the pilot District and of selected neighbourhood of Danang<br><br>• 300 ad hoc interventions (individual housing)<br><br>• Province and District Committees (2 x 30 persons.) | |

# Annex 1: Relevant Experience of Participating Groups

**Alternatives and Development Workshop have undertaken pre- and post disaster programmes in many countries:**

- Cyclone damage prevention programmes in central and northern Vietnam in the provinces of Thua Thien Hué, Quang Tri, Quang Binh, Than Hoa and Ninh Binh;
- Long term shelter assistance strategies for local agencies and communities in flood and storm disasters in Bangladesh;
- Post earthquake reconstruction and damage risk reduction in Iran, Guinea, Afghanistan and Pakistan, including support in Afghanistan in 1998;
- Post war infrastructure rehabilitation in Angola, through training and support to local NGO's and CBO's;
- Water supply and sanitation training and implementation programmes in Angola, Vietnam and Pakistan
- Environmental resource management, training builders to work with available resources in the Sahel.
- Support in rehabilitation for Nicaragua and Honduras following hurricane Mitch.

**The Thua Thien-Hué consulting and designing construction company (ex Institute for Building investigationnand design, Hué)**

A Hué based organisation previously the responsible institute representing the People's committee in Hué for matters relating to building and planning, and experienced in typhoon and storm damage prevention programmes through collaboration with Development Workshop, GRET and the Fondation de France, amongst other partners. There staff represent a tested resource in both the programme operation and local knowledge.

**ENDA Vietnam**

An international non profit organisation operating in Vietnam to help local authorities and associations working with grassroots groups on the basis of their needs and priorities, with a strong focus on people development activities and the environment.

# Annex 2 : Vietnamese Agencies Met in the November 98

Meetings in Hanoi were held with :

- the Central Committee for Flood and Storm Control
- the Disaster Management Centre in Hanoi
- the UNDP Disaster Management Unit.

Meetings in the provinces were held with :

- the Provincial Committee for the prevention and resist typhoons in Thua Thien Hué,
- the People's Committee of Quang Tri Province,
- the Command Section to Prevent and Resist the tempest and Inundation of Quang Nam Province,
- the People's Committee and the Office for the struggle and prevention of Typhoons in Quang Ngai province,
- the Department of water management and flood control and storm preparedness in Danang city.
- The Thua Thien-Hué consulting and designing construction company (ex Institute for Building investigationnand design, Hué)

The mission also met with staff of the Thua Thien Hué consulting and design company, who were collaborating partners with in the previous typhoon related programme.

# Annex 3 : Reference documentation

### Publications drawing on the Vietnam 1989-1992 project

- Norton, John, Key principles for strengthening buildings against typhoons - training and promotion of preventive action in Central Vietnam, in "Developing Buildings for Safety Programmes: guidelines for organizing safe building improvement programmes in disaster-prone areas" by Yasemin Aysan, Andrew Clayton, Alistair Cory, Ian Davis and Davis Sanderson, The Oxford Centre for Disaster Studies, publ. Intermediate Technology Publications Ltd., London, 1995.

- Norton, John (DW) and Chantry, Guillaume (GRET), Promoting principles for better typhoon resistance in buildings - a case study in Vietnam, in "Natural disasters: protecting vulnerable communities", Proceedings of the Conference held in London, 13-15 October 1993, ed. P.A. Merriman and C.W.A.Browitt, publ. Thomas Telford, London, 1993.

- Norton, John (DW), Chantry, Guillaume (GRET) and Nguyen Si Vien (IBD), Typhoon Resistant Building in Vietnam, MIMAR 37, December 1990.

### Communication media produced during the 1989-1992 project

The following materials were produced by the participants for communicating information to the various target groups of the programme:

- Full colour posters illustrating the ten key points of typhoon resistant design.
- Video "Our house resists the storm".
- Loudspeaker and radio announcement texts - on typhoon resistance, and on times of showing the video. Megaphone announcements for publicizing the video, used in the districts.
- Television presentations in Hué.
- Leaflet showing the ten key points of typhoon resistant building.
- Manual for technicians showing key points of typhoon resistant building.
- Technical dossiers for each of the three provinces on local techniques to be encouraged to achieve typhoon resistant buildings.
- A dice game based on the traditional horse racing game played with a board illustrated with the ten key points.
- A pack of cards also illustrating the ten key points.
- The design for a fan showing the ten key points of typhoon resistant design.
- Five poems about typhoon resistant design.
- Three demonstration buildings.
- An exhibition in Hué, mounted during the Public Information Campaign in April 1990 by the core team at IBD.

### Technical documents produced during the 1989-1992 project

Project Proposal: "Disaster preparedness and Rehabilitation in Binh Tri Thien Province (VIE/85/019), Sub-Project No.3 : Demonstration of storm-resistant building techniques. Development Workshop/GRET, August 1988.
Inception report: J. Norton: "Inception report and report on the formulation of the workshop", Development Workshop/GRET, February 1989, 26 pages + appendices.(UNCHS)