

Summary of Mangrove Disaster Preparedness Programme and Its Impact

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Vietnam in General

Vietnam is located in the Indochina peninsula in the South East Asia. It is a very long and narrow country lying on the eastern sea board. It borders China to the North and Lao, Cambodia to the West. Mountains and hills cover four-fifth of Vietnam Territory with Truong Son range stretching over 1,400 km. The most populated areas in Vietnam are the lowland alluvial plains such as the Red river and Mekong river deltas.

Resources are mineral: coal, oils etc

Economic activities Agriculture and forestry products then industrial product and services: tourism, etc

Its tropical climate varies a lot from the North to the South: 4 seasons in the North and two seasons in South.

There are 54 ethnic group in Vietnam 88% are Viet people in lowlands in contrast 5.5 millions of 53 minority ethnics are living in mountainous areas. 80% of the population are speaking Vietnamese language, national language. Minority Ethnics speak both Native and Vietnamese languages.

According to an assessment the global warming and climate change would cause a sea rise up to one- third of the Red rivers delta in Vietnam.

Annually, there are 4- 6 typhoons striking Vietnam, but this cycle changes, some years there are few typhoon coming toward Vietnam. In 2001 there are 3 typhoons. That make the forecast becoming more difficult and Vietnamese people would not pay enough attention for typhoon and damages caused by a sudden typhoon would be heavier if no more DP activities especially in the northern coast of Vietnam

According to recent statistics, more than 6,000 people died and economic losses amounted to approximately 2.3 billions USD in the period 1996- 2002, only 9 months of 2003 USD 33,5 millions.

Vietnam Red Cross (VNRC) is a mass organization and is considered the core body in all humanitarian work in Vietnam. The Red Cross (RC structure has four levels - national, provincial, district and commune; altogether there are 4.7 million members and 2.5 million RC youth and volunteers.

VNRC has its own statute that is in line with Vietnamese law and with the Seven Fundamental Principals of the Red Cross and Red Crescent Movement.

Since 1990 VNRC considers disaster preparedness one of its core tasks with focus on community based disaster preparedness (CBDP) (or four spot activities) in order to enhance the communities' capacity to be prepared for - and respond to disasters.

Mangrove DP programme

A world wide approach to disaster management by Red Cross Societies has opened new avenues from relief and rehabilitation to development work for disaster reduction.

Since 1994 until present, the Danish Red Cross (DRC) has been supporting Vietnam National Red Cross in implementing Disaster Preparedness Programme. Starting as 'The Coastal Environmental Preservation Programme' in Thai Binh in 1994, the programme was extended in 1997 to include the province of Nam Dinh. The phase III, now renamed Disaster Preparedness programme and covering 2001-2005 pursued the development objective: *'That the vulnerability and suffering of selected communities is reduced, in accordance with the fundamental principles of the Red Cross and Red Crescent Movement'*.

Similarly, the Japanese Red Cross, through the Federation supported a pilot project in 1997 covering the six provinces of Quang Ninh, Hai Phong, Ninh Binh, Thanh Hoa and Nghe An. Following the pilot project, the programme was pursued in 1998 to 2000 and expanded to Ha Tinh province. The phase III covers 2001-2005 continues to achieve the above development objective.

The Mangrove/DP programme main objectives are to protect sea dykes and people's live and property, to build the capacity of the Vietnam Red Cross in Disaster Preparedness and to improve the coastal environment and to create job and income for vulnerable people.

Since 2001, the Red Cross started understanding that the Mangrove Programme is not only a response to disasters but also to the global climate change. The behaviors of typhoons, tropical depressions, heavy rains, droughts and severe cold in Vietnam changed because of the global climate change: the ENSO, global warming, El Nino and La Nina. The cycle of typhoons and floods changed in Vietnam. In the year of El Nino, there are less typhoons and tropical depressions (2 or 5 per year) but the damage is very severe because of the possibility of un-seasonal and strong intensity typhoons. The number of typhoons and tropical depression affecting Vietnam is on the rise in La Nina year. In 1996 though La Nina occurred with normal intensity, Vietnam still suffered from severe disasters. Northern provinces, after ten years free from the impact of the intense storm, in 1996, only within 3 weeks from late July to August, suffered from two intense storms and on tropical depressions which caused heavy rain, flooding and severe damage to Northern provinces. Many damages to the sea dyke in Northern Vietnam. Average number of dead people by disaster in El Nino years is 817 per year much high than the one in non ENSO years. Number of houses destroyed during ENSO period (8 years) reached 10,059,420 equivalent to 38% of total houses destroyed by natural disasters in 21 years

Experiences from Thai Binh and Nam Dinh provinces in 1996 and 1997 proved that mangroves planted by the Red Cross initially for the environmental issues became a good green wall to protect sea dykes against typhoons waves. That means no flood to agriculture fields, and people. Fishing boats can use mangroves as shelter during typhoons. Numbers of dead people reduced. In 2003, two typhoons strike Northern Vietnam in July and August but only 4 people died, no floods for rice fields and the typhoon forces weaken rapidly. Action research in 1997 by Japanese scientist discovered that a sea wave of 1.5 meters high goes through a mangroves of 1,500 meter wide reduced to nearly zero. Mangroves are considered as effective protection of the sea dykes during typhoons time and normal time.

To replant mangroves, the Red Cross has used the Community based Disaster management approach. It is an integrated Approach where the three main components such as the resources, organization Development and new ideas by providing training, education are integrated in the Programme to come out with a more holistic delivery of services.

Therefore the community is playing an important role and actively involving in the implementation. Many training courses and public awareness have been carried out to assist the local community in fulfilling their role such as planting training courses, DP training courses for teachers and children, for local staffs.

Local communities held competition events to raise public awareness by drawing, theatre drama, folklore songs etc...

The communities directly protect mangroves by establishing their guarding teams, who take care of mangroves just after the plantation.

Because of climate change, hazards are becoming more sudden onset, complex and dangerous. Then the Red Cross has expanded support to other priority needs of the community as typhoon resistant houses, water and sanitation since 2002 in Disaster Management Programme.

Main activities are as below

1. Planting and protection mangroves, up-land trees (for protection purpose as well)
2. DP training for RC staff, local authorities' officers at grassroots levels and teachers and children at school,
3. Capacity building activities in term of planning and management skills for RC staffs
4. Awareness raising about mangroves and DP through events such as planting ceremonies, technical training courses, talks about mangroves painting competitions, drama theatres, workshop etc, mass media such as newspaper, television, leaflets, speakers systems
5. Advocacy: workshop, studies about mangroves by mangrove research center
6. Providing necessary equipments to VNRC at various levels
7. Building and repairing typhoon resistant houses for vulnerable families since 2002 in Nam Dinh province only

Up to date Programme results

- Over 18 thousand ha have been planted with mangroves in 8 provinces, which can protect over 100 km of sea dykes (Length of sea dyke system are about 3,200 km in Vietnam) using mainly three mangroves species: Kandelia, Rhizophora and Sonneratia species.
- Over 70 planting ceremonies have been organized in 8 provinces since 1997
- Over 7,750 of poor households in 89 communes of 25 districts 8 provinces directly involved in planting mangroves. They earned above USD 20/ha
- Over 130 technical training courses since for nearly 10,000 people about Red Cross and mangroves
- 160 RC staffs at district and provincial level were trained about Disaster management
- 3,014 teachers at primary schools in 8 provinces were trained about DP and they trained appx.174,000 children about DP
- Over 100 RC youth volunteers from six provinces were trained in DP and mangrove dissemination skills
- One Action Research on socials impacts of Mangrove Programme done in 2002
- More volunteers and members: savings of children at schools to help vulnerable friends, families. "Super weighted pig" 1000- 10.000 kg/pig. The amount of cash raised will be donated to the poor and vulnerable people.
- Programme impact and result have been regularly broadcast on television, radio and newspapers, especially through the loudspeakers systems at community level
- 482 strong houses have been constructed and given to vulnerable families

Programme impact

The programme impacts on coastal environment and socio-economic are obviously felt and seen. All the impacts are mostly based on information and observations given by local people and authorities, as well from the research reports of Mangrove Ecosystem Research Center.

Coastal environment

Bio-diversity: Action research by MERC in Vietnam shows that bio-diversity in coastal environment is abundant. The main reason of the abundance is mangroves forest providing habitat for many species of insects, crustaceans, gastropods, molluscs, amphibians, reptiles, and birds:

Insects (fly, spider, dragonfly, butterfly, ladybug, grasshopper...): 118 species.

Crustaceans (crab, shrimp) and Molluscs (oyster, clam, scallop...): 138 species

Amphibians (frogs, toads): 10 species

Reptiles (snakes, lizards): 17 species

Birds: 109 species

The local people were very impressed by the re-occurrences of birds in coastal and river mouths mangroves forest, especially in grown-up mangroves. The same study provided information of the diversity of flora in mangroves forest with hundred of species.

Increase mud flat and land reclamation: The increase of alluvium at river mouth areas is a natural phenomenon and it is easy to understand if the speed of this process increases because of mangroves. The role of mangroves in the increasing alluvium process is acknowledged in a number of written reports from provinces visited. The same opinions were also given by local people and authorities during the interviews.

Written report of Dong Hoang commune (Tien Hai dist., Thai Binh) shows that, in 1999, the speed of increasing alluvium process is around 5 centimetres to 7 centimetres/year in area there was all mud. In 2000, the mud density was higher. A guard man observes that in Nga Thuy commune (Nga Son dist, Thanh Hoa), the mud land area could be extended about 100 m per year.

Mitigate dyke erosion: Reducing wave energy and protecting dyke from wave attack are obvious effects of mangroves. The sole information to be used in this report for assessing impacts of mangroves to dyke erosion mitigation is the reduction on annual expenditures for dyke maintenance given by various local authorities.

The average reduction of annual expenditures for dyke maintenance is about from 600 millions VND to 700 millions VND/km of dyke.

Socio-economic Impact: Most of people stated that their economic situation is now getting better than before. The main reason for this improvement is the increase income from programme's activities such as planting, guarding, collecting sea products and job created by fish and shrimp ponds service works. All of pond owners interviewed said that they directly benefited from mangrove forest.

Increased pond operation: Strong green belt protection of mangroves encouraged people to invest and develop fish and shrimp farming because they felt assured of being protected by mangroves. Actually, almost all the fish ponds are directly protected by the mangrove forests. Due to this effective protection, each pond owner can save pond maintenance cost from 2 million to 2 million and half VND/year (data given by pond owners in Thai Thuy District, Thai Binh).

Increased sea product collection: The positive impact of mangroves on aquatic productivity is the increasing abundance of aquatic species, as observed by sea product collectors. The increase in number of baby crab is recognizable in the past years. Adding to this observation is the comment in report of Thai Binh RC showing that the pond owners in Thai Binh now do not have to buy baby crab from other provinces. After 2000, all seedling crabs are now supplied by local collectors.

At the beginning of collecting season, within a morning working in mangroves, collectors could earn from 30,000 VND to 50,000 VND from selling baby crab. Even at peak time, collectors could earn 120,000 VND in one night working, as given by collectors at provinces such as Thai Binh, Nam Dinh and Thanh Hoa.

Seedling-crabs appear mostly in the period from October to November. Besides, there was lots of seedling crabs with smaller size from every June to middle of July. Around 3 millions VND are received in every collecting season, especially by some lucky households who could earn nearly 15 millions VND

The local people also catch fish and shrimps by using dang net. The guard men of Nga Thuy commune (Nga Son dist., Thanh Hoa) said that from the sale of value fishes such as Bop fish, they could gain about 20,000 VND/night. Those that could not be sold are source of their daily protein food.

Organization of planting households: Mangroves planting activities mobilized many responses from thousands of household in beneficial regions. Through the mangroves planting, local people indeed joined in the disaster preparedness activities with community-based participation.

The households selected by community signed contract directly with commune PMB for planting from 2 hectares to 5 hectares of mangroves. These household also are responsible for participation on planting technical training course and propagation planting techniques to other members in their family or another households who be hired to plant (normally, the selected households hire some of their neighbour households to plant mangroves and share equally the gained money).

The participation of mangrove planting was not only for economical benefit but also improved the co-ordination, management, organization and experience exchanging between households and the awareness of benefits of mangroves. Households which participated in mangroves plantation activities also have good awareness and basic knowledge of disaster preparedness.

Income generation for planters, guards, and RC and PC officers: All the beneficiaries highly appreciated the incomes that they gained from mangroves plantation, protection activities, and allowances for doing programme activities from the donors.

Many poor households in Vietnam have never received such big amount of money. Remunerations from planting were usually spent on necessities such as electrical fan and medicines. Some households invested on household economic such as buying breeding pig, calf for making future profits.

Depending on the assigned areas of mangroves protection, the guard men can earn a monthly salary from 100,000 VND to 180,000 VND. Remuneration of guarding work becomes more important since this is regular income within one or two years. During this period, the guard men can join in other production activities of his family. The salary had been spent on the valuable items for his family such as TV.

Actually, the allowances for RC staffs and PC officers at various levels participating in DP programme have contributed to the improvement of their family life and have encouraged them in having better working attitude.

Better housing environment: A house always occupies the most important role in Vietnamese. This has greater value for the vulnerable households along the sea edges. Housing support activity has an essential social impact because beneficiaries are often the most vulnerable households that normally include the women, the elderly and those who are sick.

The strong brick house with durable tile roof provides a safe shelter with better living conditions for the vulnerable household. It protects them from disasters such as flood and rainy season, as well as from cold in winter.

Appreciation and valuation of mangroves: All officers and the people in the commune level are very aware of the significance and benefits from the mangroves forest. All the school children met presented their knowledge on the value and role of mangroves forest for disaster preparedness, community development, environment protection and sustainable development. This is very important since the children will be the future owners of mangroves and other coastal resources.

The mangroves has also attracted the attentions of non- beneficiaries such as workers, shop-owners, farmers and the like.

Emergence of possible livelihood projects: The improvement made by Mangrove plantation and DP programme also created the need of livelihood projects. Combination and integration community based development projects can create more opportunities for pure and vulnerable households to alleviate poverty, sustain and improve their living standard.

There are a number of possible projects that can emerge as an outcome of mangrove plantation which can be the focus of future development such as honey production, duck raising, sea equipment and materials production, fish and shrimp production.

Community participation

- Procedure for community participation:

Selection criteria

Selection of planters by local village people

Supports from non selected members for selected members for planting mangroves

Local people participated in planting ceremony and in checking the quality of mangrove plantation

- Protection of Mangroves by the community guarding team

Selection of guarding members

protection of mangroves by guarding team

protection of mangroves by local community members

- Mangrove public awareness campaign at schools and at community

Local people and children sing songs and play theatre dramas about mangrove plantation and care

- House design has been advised and commented by local people

- local people actively involved in selecting beneficiaries

- local people provided labours for construction of houses

- local people involved in monitoring and supervising the building of houses.

- local people participated in ground breaking ceremonies.

Partnership development and process

In a slowly and solid process, VNRC – MARD as governmental partner at all levels for land allocation and forest management

- IO and INGO such as WB, OXFAM GB, ACMANG, OXFAM HK, MERC, WWF, EJF, IUCN involving in mangrove plantation and conservation for information sharing and overlapping avoidance.
- Mass media such as newspapers, television for protecting mangroves against shrimp farming
- UNDP cooperated with VNRC to carry out CBDM training for commune staff and school children in 3 provinces of Quang Binh, Quang Tri and Quang Nam
- Alliance Sweden children Fund (ASCF) provided DP training to Committee for Flood and Storm control staff from 7 provinces of Yen Bai, Thanh Hoa, Ha Tinh, Quang Tri, Thua Thien Hue, Binh Thuan and Tien Giang
- CRS also provide DP training to 2 provinces of Bac Can and Nghe An
- Oxfam Hongkong facilitated DP training for Red Cross and other sectors staff and school children in Hatinh, An Giang and Dong Thap.
- UNICEF cooperated with VNRC to produce public awareness materials, posters “Living with floods” and video film alike.
- A NDM- partnership established in 2000 for better coordination among NGOs working on the disaster preparedness and response for no duplication.
- A UNDMT, UN Disaster management team was also set up and the UNDP in Vietnam taking the coordination role. The team consists of UNICEF, WHO, the Federation of Red Cross and Red Crescent Societies (IFRC), Vietnam Red Cross and Central Committee for Flood and Storm Control (CCFSC).