

Mangrove replanting

Disaster preparedness and many other benefits

Dang Van Tao and Nguyen Hung Ha

(International Federation of Red Cross and Red Crescent Societies - IFRC)

Introduction

The Vietnam Red Cross (VNRC) is a mass organisation and is considered the core body in all humanitarian work in Vietnam. Since 1990, the VNRC considers disaster preparedness one of its core tasks with focus on community-based disaster preparedness in order to enhance the communities' capacity to respond to disasters, such as cyclones.

Within this framework, in 1994, Vietnam's Red Cross adopted a pro-active approach to storm surges by launching a programme of mangrove tree reforestation and management. Vietnam's mangrove forests had been seriously degraded by intensive socio-economic development. The main objectives of mangrove planting are to protect sea dykes and people's lives and property, to build the capacity of the Vietnam Red Cross in Disaster Preparedness to improve the coastal environment and to create job and income for vulnerable people.

Since 1994 Red Cross members, volunteers and local people planted more than 22,000 ha of mangrove forest in the coastal zone of Vietnam, which helps provide a defensive ribbon of forest. VNRC has worked with related ministries and governmental bodies and obtained the approval from the Prime Minister of the country to continue caring, managing and protecting the planted mangrove forest.

Role of the community

To replant mangroves, the Red Cross makes use of an integrated approach, in which the community plays an important role and is actively involved. To assist the local community in fulfilling their role, many training courses on, for example, how to plant trees have been given to local staff, teachers and children. Furthermore, local communities organised awareness-raising activities, such as drawing competitions, theatre drama, folklore songs etc. The communities are also involved in the maintenance and protection of the mangroves, by establishing teams, who take care of mangroves just after the plantation. Because of these activities, the people at the commune level, including children, are very aware of the significance and benefits derived from the mangrove forests.



Children planting mangroves, the trees will help prevent land erosion. (photo: International Federation of Red Cross and Red Crescent Societies - IFRC)



Mangroves are salt-tolerant evergreen coastal forests providing many services, one of which is protection against cyclones & flooding. They are found in most of the tropical and subtropical countries (photo: Tjark van Heuvel)

Box: Red Cross/Red Crescent Climate Centre (RCCC)

Madeleen Helmer: Director RC/RC Climate Centre, The Hague, the Netherlands

The Red Cross/Red Crescent Climate Centre (RCCC) was established in 2002 to support the 186 national RC/RC Societies to better address the humanitarian consequences of climate change. The projected increases in precipitation, drought, sea-level rise, heat waves and more intense storms are likely to lead to more disasters, insect plagues and diseases. These will likely affect the most vulnerable people, the poorest of the poor, most. The Preparedness for Climate Change programme of the RCCC is implemented in more than 60 developing countries. Key components of this programme are increased cooperation between the RC/RC and knowledge centres like the meteorological offices. This leads to appropriate adaptation measures in the main RC/RC programmes related to disaster management, disaster risk reduction, food security, health and care.

The RCCC is supporting a strengthened early warning and early action approach, through matching available climate information at all timescales (from climate change scenarios to seasonal forecasts to weather alerts) with appropriate early action (from mangrove planting, to contingency planning to evacuation). Climate change is no longer a distant risk but integrated in existing disaster risk management practice.

The RCCC observes that often adaptation measures are translated into 'hardware' measures like dykes, infrastructure and building codes. Through many years of experience the Red Cross/Red Crescent has learned that a good combination with 'soft ware' (people centered measures: risk awareness education, health and care measures, early warning system) is essential to strengthen the resilience of people against the unavoidable impacts of climate change.

For more information: www.climatecentre.org



Mangrove planting to reduce effects of typhoons and flooding risks: the Vietnam Red Cross has planted over 22,000 hectares of which nearly 9,000 ha cover muddy sediments along the seaward side of over 100 kilometers of sea dykes in eight provinces (2010). Here, a group of Vietnam Red Cross volunteers from the Hai Phong branch makes a routine check on the condition and growth of the mangrove trees. (photo: Yoshi Shimitzu, International Federation, 2003)

Benefits

Mitigate dyke erosion

Planting mangroves is a proven technique, which helps to protect coastal communities and environments by reducing the impact of strong waves. The complex root system of the mangrove trees buffers the forces exerted by storm waves, improves the resistance of the earthen dikes and decreases soil erosion. In 1997 a Japanese researcher observed that a sea wave of 1.5 metres high moving through a wide mangrove ecosystem, was reduced to nearly zero. The value of mangroves became clear in 2003, when two typhoons struck Northern Vietnam. Only four people died, no rice fields were flooded and the typhoon forces weakened rapidly.

Socio-economic benefits

Reforestation has brought income for poor families living in coastal areas from directly participating in plantation and forest protection. Most of people state that their economic situation is now getting better than before. The main reason for this improvement is the increased income derived from the programme's activities such as planting, guarding, collecting sea products and the jobs created by fish and shrimp pond service works. All of the pond owners interviewed said that they directly benefited from the mangrove forest.

This economic benefit is one of the most important factors helping to ensure the sustainability of the project.

Fishing industry

Mangrove tree reforestation also benefits Vietnam's fishing industry. The fish, shrimps, prawns, and crabs that populate the coastal areas now have an increased number of secure spawning areas to rear their young. The increase in number of juvenile crabs, for example, has been clearly recognisable in the past years.

Increased pond operation

People were encouraged to invest and develop fish and shrimp farming in areas secured by protective belts of mangroves. In fact, a good number of the fish ponds are now directly protected by the mangrove forests. Due to this protection, each pond owner can save pond maintenance costs from 2 million to 2 million and half Vietnam Dong/year (data given by pond owners in Thai Thuy District, Thai Binh).

Bio-diversity

The mangroves forest provides a valuable habitat for many species of insects, crustaceans, gastropods, molluscs, amphibians, reptiles, and birds. Local people were very impressed by the re-colonisation of birds in the mangroves forests of coastal and river mouth., especially in mature mangrove areas.

Increase mud flat and land reclamation

The increase of alluvium at the river mouth is a natural phenomenon and it is easy to see that the speed of this process increases because of the presence of mangroves. In muddy areas, an elevation speed of between 5 and 7 centimetres sedimentation per year occurred!

Future

Mangrove forests are becoming increasingly important, as they mitigate the negative impacts of climate change, which is predicted to be especially severe in Vietnam. Disaster preparedness through mangrove plantation and the protection of mangrove forests from logging remains a major activity of the Vietnam Red Cross (IFRC, 2009).

Some programme results in Vietnam

- Over 22 thousand ha have been planted with mangroves in 8 provinces. These mangroves can protect over 100 km of sea dykes (the length of the sea dyke system is about 3,200 km in Vietnam). Mainly three mangrove species were used: Kandelia, Rhizophora and Sonneratia species;
- Over 70 planting ceremonies have been organised in 8 provinces since 1997;
- Over 7,750 of poor households in 89 communes were directly involved in planting mangroves. They earned above USD 20 per hectare;
- Over 130 technical training courses were organised for nearly 10,000 people;
- 160 RC staffs at district and provincial level were trained about disaster management;
- 18,000 teachers at primary schools in 8 provinces were trained and they trained nearly 600,000 children about disaster preparedness.

References

- Nguyen Hung Ha, 2003: Summary of Mangrove Disaster Preparedness Programme and Its Impact. The International Conference on Total Disaster Risk Management, 2-4 December 2003.
- International Federation of Red Cross and Red Crescent Societies, 2008: Annual report Viet Nam
- Annual Report- IFRC&RCSocieties- Vietnam, Appeal No. MAAVN001, 30 April 2009: <http://www.ifrc.org/docs/appeals/annual08/MAAVN00108arn.pdf>

Websites

- IFRC - International Federation of Red Cross and Red Crescent Societies: <http://www.ifrc.org/>
- Red Cross/Red Crescent - Climate Centre: <http://www.climatecentre.org/site/home>
- Vietnam Red Cross: <http://chuthapdo.org.vn/redcross/en/home/index.jsp>