ACRONYMS

ADPC	ASIAN DISASTER PREPAREDNESS CENTER
CCFSC	COMMUNE COMMITTEE FOR FLOOD AND STORM CONTROL
CFSC	COMMITTEE FOR FLOOD AND STORM CONTROL
DCFSC	DISTRICT COMMITTEE FOR FLOOD AND STORM CONTROL
EK	EMERGENCY KINDERGARTEN
FEMS	FLOOD EMERGENCY MANAGEMENT STRENGTHENING
FMMP	FLOOD MANAGEMENT AND MITIGATION PROGRAM
INGO	INTERNATIONAL NON- GOVERNMENT ORGANISATION
MRC	MEKONG RIVER COMMISSION
NGO	NON- GOVERNMENT ORGANISATION
PCFSC	PROVINCIAL COMMITTEE FOR FLOOD AND STORM CONTROL
S&R	SEARCH AND RESCUE
UNICEF	UNITED NATIONS INTERNATIONAL CHILDREN'S EMERGENCY FUND
VND	VIETNAMESE DONG
VNRC	VIETNAM NATIONAL RED CROSS

CONTENTS

TABLES

FIGURES

FEMS ASSESSMENT REPORT ON SEARCH & RESCUE (S&R) CAPACITIES IN AN GIANG AND DONG THAP PROVINCE, VIETNAM

1. Background

The Mekong River Basin is home to approximately 60 million people and is second to the Amazon River Basin in terms of its rich plant and animal diversity. The majority of the Mekong Basin's inhabitants are poor fishers and farmers, who rely on the annual floods to provide favorable conditions for rice growth and productive fisheries. The flood season spans between June and November and although local populations have learnt to adapt and live with floods, the immediate tasks of the provincial and district authorities are still to ensure people's safety and protection of property and livelihoods.

Most of the socio-economic activities in the Mekong Delta, from transportation of supplies to harvesting of crops, require use of the Mekong River's complex network of waterways and tributaries. The challenge for the provincial authorities during the flood season is to maintain daily activities and use of the river for inhabitants, whilst ensuring continued safety in higher and more hazardous water levels. In order to meet this challenge the authorities need to adequately prepare search and rescue forces to respond to possible incidents and mobilize the necessary equipment, personnel and funds to support this. Many drowning cases in the recent past have been children who cannot swim and have been left unattended while parents are forced to go in search of work further a field, due to the floods. One of the roles played by the Provincial Red Cross in disaster preparedness activity includes assisting the PCFSC and DCFSC to create a pool of trained search and rescue volunteers to address this issue.

Under Component 4 of the Mekong River Commission's (MRC) Flood Management and Mitigation Program (FMMP), the Asian Disaster Preparedness Centre is working together with funding support from GTZ on the project 'Flood Emergency Management Strengthening' (FEMS), implemented in two districts of An Giang and Dong Thap Province, Vietnam. Under this project the capacities of provincial and district authorities as well as local disaster management authorities, are being strengthened to implement their annual provincial and district Flood and Storm Control Plans. Smaller sub-projects have been carried out to increase community resilience to flooding and enable people to better prepare for and cope with floods. These priority sub- projects have been targeted at reducing the risks of the most vulnerable and have included a Swimming Universalization program for school children, establishment of Emergency Kindergartens and provision of Search and Rescue training.

2. Current Status of Search and Rescue Capacities in An Giang and Dong Thap

The Mekong River Commission[1] issues daily flood forecasts and warnings throughout the flood season, using data from 23 forecast points along the river and disseminating them to National Mekong Committees, selected agencies and the public. This helps to ensure that communities receive advance notice of flood events and can take preparatory measures to protect themselves and their property. In terms of flood preparedness and response, the National Committee for Search and Rescue in Vietnam is the nodal body responsible for developing infrastructure and building safe sites for evacuation and temporary refuge. In addition the National Committee stockpile reserves for emergency situations, provide training to rescue teams and co-ordinate with provinces to strengthen capacities for search and rescue of victims. Local authorities mobilize available materials and man- power for relief and will evacuate people from severely inundated areas to safer locations during floods, if appropriate.

The Provincial Committee on Flood and Storm Control (PCFSC) with support from DCFSC, CCFSC, Commune Red Cross and Military Operation forces, have established a number of rescue posts along the Mekong River in Chau Thanh and Tan Chau Districts (An Giang Province) and in Thanh Binh and Tan Hong Districts (Dong Thap Province). These rescue posts are staffed by volunteers, from the Red Cross, Youth Union and other locally based organisations, with the aim of monitoring water levels and responding to flood related incidents by rescuing and administering fist aid to victims.

Under An Giang PCFSC's annual plan for 2006, Search and Rescue plans were developed to protect people and their property by creating a mechanism for action during natural disaster events. In this plan the Red Cross were identified as the body responsible for educating and raising the awareness of communities in flood preventative measures, building capacities and preparing necessary personnel, facilities and provisions for emergencies. In Dong Thap the Red Cross is responsible for providing rescue posts with life saving equipment such as life vests and buoys and every year they organise 10 first aid training courses at local level to enhance the skills of volunteer rescue workers. Under Dong Thap PCFSC's 5- year Disaster Mitigation Strategy (2006-10) the following activities have been identified to strengthen Search and Rescue capabilities: organise annual drills to improve professional competence and cooperation during disaster events; establish 3 nodal search and rescue stations in the 3 regions of Tan Hong, Thanh Binh and Thap Muoi; support the Red Cross in providing equipment to rescue posts and increase number of annual first aid trainings to 12, to include 360 people.

As outlined in An Giang's 5-year Disaster Mitigation Strategy (2006-10), there are about 434 search and rescue posts, of which 186 are key posts. An Giang has identified 39 posts that are highly eroded along the river- bank increasing the risk of accidents. The

[1] Information courtesy of the Mekong River Commission website (2005)

PCFSC has set aside 417 million VND for the provincial Red Cross to enhance capacities of rescuers and an additional 300 million VND for search and rescue equipment. Similarly, for the year 2006 alone, Dong Thap Province earmarked about 441 million VND for maintenance of rescue posts, of which there are about 406 distributed within the province. This work is to be carried out in conjunction with the Provincial Red Cross and Military Operation forces with assistance from local Red Cross volunteers and pioneering Youth Union members.

An Giang PCFSC have laid out specific recommendations in the 2006-10 plan for Flood and Storm Control and Search and Rescue to improve capacities and performance. The following measures relate to search and rescue posts and are quoted directly from the strategy:

1. Telecommunication network: perform regular examination before rainy and flood, storm seasons, including: circuit switching; transmitting and peripheral systems in use; grounding systems; anti-lightning devices of equipment; hanging cable and antenna pole; telecom Codan secondary systems; reserve equipment for rescue; plan of equipment replacement at critical points at sources; upgrade station buildings and telecom equipment security.
2. Short-wave radio system: Secondary network stations must keep equipment running 24 hours a day on 8 frequencies regulated by the Central level to retrieve information and maintain contacts between District radio stations with secondary stations.
3. For telegraph, fax and phone, priorities are given for serving the flood and storm control, search and rescue work, ensuring that planes of the Steering Committees for Flood Control, Search and Rescue at levels and the Hydrometeorology Forecast Center operate 24 hours a day.
4. Post network: prepare sufficient transport vehicles like speed boat, motor boat, forces, etc. and cooperate with civil vehicles to ensure post and goods delivery in flood season.

An overview of rescue post locations and numbers in the 4 FEMS target districts of An Giang and Dong Thap Province are shown below. Although there are additional posts outside the FEMS target districts these have been excluded for the purpose of this assessment.

Summary of rescue posts in An Giang and Dong Thap Province				
No.	**District**	**No. of posts**	**No. of key posts**	**Volunteers**
An Giang Province:				
1	Chau Thanh	42	20	403
2	Tan Chau	49	6	466
TOTAL:		**91 of 434**	**26**	**869 of 3000**
Dong Thap Province:				
3	Tan Hong	37	18	334

4	Thanh Binh	38	15	185
TOTAL:		**75 of 406**	**33**	**519 of 2350**

Table 1: Inventory of Rescue Posts in An Giang and Dong Thap (2007). Note: the totals show the number of posts/volunteers in the FEMS target districts compared to the overall number in each province.

3. Search and Rescue Training under the MRC-ADPC-GTZ FEMS project

3.1 Rationale

The need to strengthen search and rescue capacity, especially that of rescue posts has been well recognized by An Giang and Dong Thap PCFSC and DCFSC. As a result, their 5-year strategic plans and annual Flood and Storm Control Plans, emphasise capacity building of Red Cross Volunteers and Pioneering Youths as a top priority in search and rescue. Due to their limited technical and financial resources, PCFSC and DCFSC requested support from FEMS during a consultative meeting with their partners in April and May 2006, in order to conduct urgently needed search and rescue training during the flood season of 2006. In response to this request, FEMS project supported PCFSC and DCFSC in conducting 4 training courses as part of the implementation of their annual plan for flood storm control and victim rescue.

3.2 Achievements under FEMS

Under FEMS the four practical hands- on training courses, each of four day duration, were conducted in Tan Chau and Chau Thanh districts of An Giang Province and Tan Hong and Thanh Binh districts of Dong Thap Province. The objectives of the training were to provide participants with: an understanding of the detailed tasks of a rescuer; understanding of safety principles in search and rescue operations; practice in first aid skills; and preparation in advance of tools necessary for responding to specific emergencies. The training sessions were designed to be practical in nature, thus encouraging participants to practice life saving skills and not rely solely on theoretical knowledge to help them in emergency situations. The first aid training covered a broad range of health problems including animal bites, bleeding treatment, cardiopulmonary resuscitation and safe victim transfer.

SEARCH AND RESCUE TRAINING UNDER FEMS PROJECT

No	Province	District	Timeline	Number of Participants	Resource Persons
1	An Giang	Tan Chau	26-29 June 2006	30	* Provincial/District Committee for Flood Storm Control and Victim Rescue (PCFSC/DCFSC)
2	An Giang	Chau Thanh	12-15 July 2006	29	
3	Dong Thap	Tan Hong	04-07July 2006	30	* Provincial/District Military Operation
4	Dong Thap	Thanh Binh	21-24 August 2006	49	* Provincial/District Vietnam Red Cross
TOTAL	**2 provinces**	**4 districts**	**4 S&R courses**	**138**	

** Note: Participants are members of Rescue Posts (Red Cross Volunteers, commune Security Officers and pioneering Youths)*

Table 2: Summary of the dates, location and participant numbers of the 4 S&R Training courses in An Giang and Dong Thap under FEMS Project (2006)

The following points highlight specific successes from the training courses:

- A total of 138 (127 men and 11 women) participants drawn from the Red Cross Volunteers, Youth members and Commune Security Officers were trained in victim rescue due to flood drowning and first aid techniques.
- The Province/District Military Operations and the Vietnam National Red Cross trainers were the resource persons.
- VNRC Trainers have compiled a Search and Rescue Training Manual including 13 presentations that visualise the information given to participants. A Training Course curriculum on search and rescue is available in Vietnamese for further training.
- The Provincial and District Flood and Storm Control Committees and local People's Committee actively participated in the training courses to provide overall guidance in linking the capacity building exercises with the annual Flood Storm Control and Victim Rescue Plan of the target districts.
- Hands- on experience helps participants to better remember techniques learnt and builds their competence and confidence in emergency response skills.
- The simulation exercises were very popular and kept volunteers engaged and motivated, as they were able to put teaching into action and try techniques for themselves.
- After each day's training, the organisers and facilitators of the course met to discuss and assess the delivery style of the training, the capacity and expectations of the participants in order to adapt their methodology accordingly and increase effectiveness.
- Following the end of the training the co- organisers met together to review the overall approach to the search and rescue training.

3.3 Recommendations following FEMS training

The coverage of the training sessions was limited when compared to the total number of rescue posts in need of similar training, especially when the number of course participants from each district is compared with the total number of volunteers from each. Recommendations following the course included the expansion of coverage to include the maximum number of rescue post and volunteers. Other recommendations were as follows:

- A list of the trained participants and their contact details should be given to the district military office to be used as additional human resources during flood emergencies
- DCFSC should conduct further training for remaining untrained volunteers
- District Red Cross will help trained participants refresh and practice their skills taking maximum advantage of local resources in the area
- District Red Cross should consult with CCFSC to establish a search and rescue institution bringing together trained and untrained volunteers to strengthen capacity of emergency management at commune level.

4. Findings of FEMS assessment on search and rescue capacities

On 4-6th December 2007 an assessment was carried out by ADPC, with assistance from An Giang and Dong Thap Committees for Flood and Storm Control, Commune Red Cross and a selection of search and rescue volunteers, to determine the current status of rescue posts and search and rescue volunteer capacities. The expected outcome of this analysis is to provide an overview of existing needs and gaps with suggested recommendations for a future approach that will address these through a manageable, realistic process.

The assessment was undertaken in the FEMS target districts of Tan Chau and Chau Thanh Districts in An Giang Province and Tan Hong and Thanh Binh Districts in Dong Thap and was conducted through a combination of interviews[1], questionnaires and site visits. The subject of the interview questions focused around two main areas: rescue post operation, maintenance and status; and search and rescue activity, including FEMS or additional training feedback, capacity building projects and challenges remaining. The questionnaires for volunteers focus on training feedback, resource allocation of posts, search and rescue operations and occurrence of incidents.

The results of this study are included below with accompanying analysis and recommendations.

4.1 An Giang Province

PCFSC

The first interviewee was Mr. Pham Van Le of An Giang PCFSC. He explained that there are approximately 434 rescue posts in the province requiring roughly 3,000 volunteer members, who rotate in pairs to man a post during flood season. In An Giang responsibility for post equipping and maintenance is shared between several agencies. The Red Cross and PCFSC have each donated search and rescue equipment to the posts: more than 3,000 life vests and ropes given by PCFSC and first aid bags and training provided by the Red Cross. Mr. Le noted that only key personnel were trained in first aid and were expected to pass on their knowledge to the rest of the community. In terms of monitoring rescue posts, this is carried out in the 4 months of flooding by the Red Cross, who are also responsible for setting them up. When asked if there are enough posts to cover the flood inundation area, Mr. Le explained that based on the worst floods of 2000, PCFSC had determined that no more rescue stations are needed.

The FEMS training undertaken in two districts of An Giang in 2006 was said to be very effective as it built the skills of volunteers to respond in emergencies and due to its greater funding, Mr. Le said that it was more successful than the previous Red Cross trainings which were limited by resources. It was felt that the FEMS training had

[2] A set of questions was prepared for use in the interviews: one set for the Committees on Flood and Storm Control and a second set for rescue post volunteers; both of which are annexed at the end of the document as Annex 1 and Annex 2 respectively. However, some questions were adapted/omitted/added depending on their relevance and based on previous answers.

contributed to the overall plan of PCFSC to build capacity of rescue teams but that the supporting documents that were distributed should take a multi- hazard approach, incorporating issues such as soil separation, tidal waves and storms. Mr. Le also desired that search and rescue plans be tailored specifically to each community. No significant training has been undertaken since 2006 although one training per district takes place regularly on rescue procedures and skills. In the future it is hoped that FEMS training can be expanded to all 11 districts of An Giang or that more people, including Red Cross staff, can be invited to attend the two training sessions in Chau Thanh and Tan Chau districts.

4.11. Chau Thanh District

Interviews:

DCFSC

In terms of search and rescue activities, Chau Thanh DCFSC organise one annual search and rescue training and practical exercise just prior to the flood season. The DCFSC coordinate with the Red Cross and military to facilitate these trainings and candidates are selected based on good health, knowledge and ability to disseminate their learning upon return to their community. There are approximately 42 rescue posts in the district employing 403 volunteers. The maintenance of these posts is the responsibility of CCFSC's and although they are equipped with some life vests and ropes, these are in short supply due to limited funding. The main need expressed by the interviewees was to have more training and rescue equipment but also a fax machine for direct transfer of information as phones can be slow where reception is poor. At the moment official documents are sent via post, which creates delay and this is especially problematic where documentation requires subsequent implementation.

In addition to flooding, bank erosion and tornadoes have been identified as significant hazards. Although there is currently a system in place for posts to report incidents to the DCFSC and for DCFSC to provide early flood warnings to rescue posts, this may need to be expanded to incorporate multiple hazard warnings.

Can Dang CCFSC

The interviewees included the President of the Commune Red Cross, a representative from Military Operations force and the President of Can Dang CCFSC. When asked to outline the search and rescue activities in Can Dang it was explained that there are 2 key rescue posts in the commune which operate 24 hours a day during flood season. The commune consists of 5 hamlets, each of which has set up one rescue team to be mobilised when necessary in an emergency. The Commune Red Cross are responsible for regularly maintaining the rescue posts, as was stated in the DCFSC interview, but there is concern over the lack of equipment they provide, illustrated by the fact that some rescuers still have to use cans in place of life buoys.

The Commune Red Cross are one of many agencies that make up CCFSC and alongside the police and the People's Committee they all assist in flood related work,

each taking a different role. CCFSC mobilise and control personnel to man the rescue posts whilst the Red Cross undertake 2 training courses a year, one at provincial and one at district level. The Provincial Red Cross are responsible for distributing resources to participants of the courses but these resources often rely on funding from NGO's/INGO's, for example AusAid sponsored development of a flood booklet that was disseminated. Currently commune Flood and Storm Control Plans are dictated by the wider district plan, which is then adapted to suit the local context. No further plans are in the pipe- line but when asked to comment on the overall success of the plans and the rescue teams/posts, the CCFSC President replied that results were positive as there have been no fatalities in the last two years and in 2006 one adult and one child were rescued, although tragically, the rescuer died in the process.

Vinh An CCFSC

The interview with the Vice President of Vinh An CCFSC was brief but he explained that there are 10 rescue posts in the commune located in vulnerable areas where strong currents make rescue risky. Since rescue posts were established there have been fewer incidents and construction of dykes by the community has also meant that no boats have sunk as a result of flooding. The CCFSC were satisfied with the number of search and rescue teams in the commune but concern remains over the lack of equipment available to them.

Vinh Hanh CCFSC

The CCFSC outlined their responsibilities as: monitoring the flood situation in order to instruct the community on preparedness and mitigation measures; promoting the 4-on site motto; checking the 3 key posts; listing and monitoring at risk areas and disseminating information through public awareness campaigns such as emergency kindergartens and provision of swimming lessons for children. In the past two years no rescues, incidents or fatalities have been recorded but although man- power is sufficient, equipment is limited and this poses a problem in the event of more severe flooding in the future. Means of transport were identified as the greatest need, especially motor- boats with engines as these are faster, more efficient and enable greater manoeuvrability in rescue operations. In terms of how the posts function, there are two types of volunteer: usually posts are manned by members of the Red Cross or Youth Union but when these are not available or numbers are not sufficient, CCFSC stand in their place.

Questionnaire Results:

A total of six questionnaires[3] were completed in Chau Thanh District by a cross section of volunteers including Military Operation forces, Red Cross and Youth Union members. There was consensus on the first six questions, each volunteer in agreement that the FEMS training was sufficient and effective in preparing them for search and

[3] The answers to the questionnaires conducted in Chau Thanh and Tan Chau Districts are included in Annex 3 but a summary of the answers is provided in the text for convenience. Note: no questionnaires were undertaken in Dong Thap Province.

rescue activity and providing them with confidence in their ability to assist in rescue operations. Particularly helpful was the teaching of first aid skills, delivered by well-qualified trainers who used practical demonstrations and equipment to assist learning, making it easier for people to understand and grasp new concepts. The training, under FEMS, covered aspects of First Aid and rescue tactics including how to mitigate flood risk, respond in time and what to do if someone is electrocuted. It was felt by all volunteers that training should be repeated and improved by use of more equipment, greater funding and possibly incentives for participants. With regard to how often training should be repeated, answers varied from between once a year to once every three months.

Non of the volunteers were satisfied with the level of funding or equipping of the posts as life vests and ropes were the only resources mentioned, although they did agree that the establishment of posts has lessened drowning incidents. There seemed to be confusion as to whose responsibility it is to provide equipment and answers included Red Cross, People's Committee, Agricultural Office and mobilisation of resources from locals. The need for boats, funding and a salary for volunteer rescuers was specifically mentioned, especially as volunteers are limited in their earning potential due to their prior rescue post commitments.

All volunteers recognise the importance of sustaining search and rescue activities in the district for the purpose of reducing damage and loss to life, property and livelihood. There is already a good system of communication between posts and CCFSC and it appears that there are existing procedures in place to follow in an incident although no-one elaborated on these in the questionnaire. Out of the six people questioned, half of them have already been involved in a rescue and each of them stated that the FEMS training had given them confidence because they could apply their rescue and First Aid skills in these case.

Site visit to posts:

The aim of the site visits was to assess the state of the 10 most vulnerable posts in each district, however, for reasons outlined later it was not possible to visit this number and in Chau Thanh District only seven were viewed. These include the following:

1. Bon Tong Bridge
2. Can Dang Bridge
3. Bridge Ten
4. Bridge Five
5. Vinh Hanh Bridge
6. Muong Ranh Ferry
7. San Dot Ferry

Not all the posts were manned during the assessment, as it was not flood season, but where people were present, their comments were noted for reference. The posts visited on this assessment included five bridges and two ferry terminals and were a

combination of key and standard posts. At Muong Ranh Ferry, the volunteers on duty said they were happy with equipment levels but wanted a fixed salary for their work. They noted that it would be easier for locals to man the posts as they live locally and it is more convenient.

From a visual assessment of the seven rescue posts and through informal interview with volunteers, the following issues were identified as problematic:

- River bank erosion
- Inadequate staffing and shelter for volunteers
- Lack of salary or incentive for volunteers
- Limited supply of equipment
- Poor condition of equipment
- Inadequate storage of equipment
- Limited means of transport hindering effectiveness of rescue operations
- Need for further communication and information channels (eg. fax machine for document transfer and more effective early warning).

Figure 1: Bridge 10 - Illustration of river- bank erosion

Figure 2 & 3: Muong Ranh Ferry and San Dot Ferry - these two posts show an example of the available equipment

Figure 4 & 5: Can Dang Bridge - shows a typical bridge post and mid- flood water level can be seen

It was assumed for the purpose of the assessment that the posts visited were typical of the remaining unseen stations and that generalisations could be made on the basis of these seven. In view of this the cross- sectional glimpse suggests that there are problems with equipment, staffing, erosion and shelter, district –wide. In addition to lack of equipment it was evident that the condition of the equipment was very poor, probably due to inadequate storage and maintenance over time. When asked about this particular issue, volunteers explained that they would often store equipment in near-by houses so would regularly carry it to and from the post, causing daily wear and tear to progressively reduce its effectiveness.

River- bank erosion seemed to be a big problem around Bridge 10 but was also present at other locations. Erosion means banks are unstable and therefore the risks to people on the banks are heightened. Two volunteers at Bridge 10 explained that discussion was currently underway regarding measures to address erosion but whether or not action will be taken in the near future remains to be seen.

Although other issues exist the two priority areas identified for action under the Chau Thanh assessment are: **equipment provision/storage** and measures to **prevent erosion** so as to reduce the vulnerability of homes and people on the river- banks.

Limitations of Chau Thanh assessment:

Following the first days visit, reflection was taken on methods of assessment and data collection. It was noted that the assessment would be more fruitful during flood season as currently, there were not many volunteers on the posts and it proved difficult finding available volunteers to complete the questionnaire, hence the limited number distributed. In addition, when the questionnaire underwent translation some of the questions were adapted to 'yes or no' questions which meant that answers were not expanded upon.

Two further limitations to this assessment were: 1) as the assessment was undertaken by ADPC, volunteers were not forthcoming in their criticism of the FEMS training and were not willing to put forward ideas for improvement, suggesting the un-realistic likelihood that the training was beyond improvement; 2) as the posts are spread over a large distance it was difficult to visit as many posts as was hoped, resulting in only 7 visits.

The final challenge identified related to the number of interviews conducted which was high, as whenever a visit was made to a People's Committee office to pick up a guide, an interview was expected. This meant that interviews and answers became repetitive, although they also revealed some contradictions, which suggest that confusion exists between levels as to which organisation is responsible for what activity. The repetition of answers meant that no new insight was being gained but a lot of time was taken up which could have been better spent travelling to more posts. It was also evident that most of the individuals at the CCFSC interviews had very busy schedules, which they were keen to return to. For these reasons it was felt that the commune level interviews were not essential.

The following measures were decided upon in order to address these issues during the second day's assessment to Tan Chau:

1. Decision to carry out fewer interviews and to make it clear at the DCFSC level that no commune level interviews were needed
2. To reduce the number of posts visited as it was observed by DCFSC officials that most posts were similar in set up, location and equipment levels and therefore, it was advisable not to visit as many as 10 per district

3. To leave the questionnaires at the CCFSC and pick them up on return from visiting the posts as this way: it reduced the pressure on volunteers to complete them quickly; increased the chance of them considering their answers and being honest about FEMS training; it enabled CCFSC officials to find volunteers for the forms at greater leisure; and it diminished the need to wait at CCFSC or People's Committee offices until the questionnaires were filled and thus feel pressured to conduct an off-the- cuff interview during the intervening time.
4. Initially it was intended that questionnaires would be filled by staff manning the posts but as it became clear that most were not on duty (non- flood season), it was decided not to pressure officials to disturb volunteers at their houses. Instead if staff were found to be present then an informal interview would be conducted regarding their thoughts about the job and what challenges, needs they could identify.

4.12. Tan Chau District

Interviews:

DCFSC

In terms of rescue posts, there are 49 located in the district with approximately 2-9 per commune and one key post in the most hazardous area. The number of posts is adjusted according to severity of floods and there can be 8-12 volunteers per post working on rotation. As in Chau Thanh, the DCFSC are not satisfied with the level of equipment provided and they particularly emphasised the need for motorised boats as they only have one at present. Due to the strong currents that exist in parts of the Mekong, Tan Chau have had problems in the past with boats overturning and they want to avoid this reoccurring. In the past the Red Crescent have provided boats without engines and the government usually provides equipment to PCFSC who then distribute it evenly between districts. The DCFSC is responsible for maintaining the rescue posts with assistance from the military and Red Cross volunteers and they also mobilise local people to staff posts. Every year the DCFSC record approximately 10-20 rescue incidents, most of which have successful outcomes.

One of the interviewees was the President of the District Red Cross and the opportunity was taken to ask him about Red Cross search and rescue activities in Tan Chau. These were identified as: public awareness campaigns; strengthening of houses; rice storage for emergencies; moving people home after floods; and plans for improved safe- site facilities. The District Red Cross have had to facilitate one evacuation before but were hindered by lack of transport and have not yet, written up an evacuation plan as the severity of flooding will determine where people are moved to.

In relation to questions about the FEMS training courses, the DCFSC said the training was effective but needs to be of longer duration and repeated more often to include a larger number of participants. In the previous training only 2 individuals out of a possible 30-40 in each commune were invited to participate so there is a high likelihood that the majority of rescue volunteers have not undergone training.

Phu Qui Hamlet

This is apparently the most vulnerable commune in the district so the government are aware of the vulnerabilities that exist and have provided sufficient equipment to cope. The only resources still needed are a broadcasting system to disseminate information to communes and more reliable transport as the current motorised boats provided by the government have not proved very effective and a number could be seen dismantled or damaged in the hamlet.

Flood inundation lasts for about 6 months of the year so during this time traditional rice farming is stopped and families turn to fishing in order to provide food and income. However, there is a shortage of boats for fishing so communities need a lot of assistance in relief. Currently, there are permanent residential clusters and emergency kindergartens to reduce risk of people coming to harm in the floods but there is no school curriculum or teaching on flood awareness so children do not know about necessary preparedness and mitigation measures. Red Crescent, Care and World Vision all have projects being implemented in the district but the specific work this involves was not explained.

Questionnaire Results:

Similarly to the Chau Thanh questionnaire results, there was consensus on the first six questions: each volunteer in agreement that the FEMS training was sufficient and effective in preparing them for search and rescue activity and providing them with confidence in their ability to assist in rescue operations. The participants enjoyed learning First Aid skills, including bandaging and resuscitation and were impressed, not only by the detail included in the trainers reports, but also with their enthusiasm. One suggestion that was unanimous was the desire for training to be of longer duration and to be repeated every 6 months.

In relation to the rescue posts, there was a lot less confusion over who was responsible for maintenance and equipment provision, all of which is done by the District Red Cross. Although all posts had some equipment, namely life vests, buoys and ropes, all volunteers said this was insufficient but their main concern was lack of staff. Comments were made about the need for further training and capacity building of staff but a particular point of interest was that shifts should be shortened to enable volunteers to care for their families better, maybe by finding an additional job that earns money.

Each questionnaire reflected awareness that the district suffers from multiple hazards including storms, tornadoes, floods and soil separation. It is for this reason that search and rescue is deemed such an important activity in Tan Chau. Out of the five volunteers asked, three of them had been involved in rescue operations before and said that the FEMS training had given them the ability to do this confidently.

Site visit to posts:

Due to the remote location of some of the rescue posts, only five were visited in Tan Chau District. These were as follows:

1. Tan Hau A2
2. Intersection
3. Tan Hoa B
4. Tan Dong Hamlet
5. Phu Qui Intersection

The posts included: 3 bridges, one river- bank and an island created by the flood-waters. The main issues that can be seen after an initial assessment of the posts are:

- River- bank erosion and undercutting
- Lack of rescue equipment
- Inadequate equipment storage
- Inadequate transport means
- Inadequate number of posts in remoter areas
- Limited facilities at post

Figure 6 and 7: Highlight the problems of river- bank erosion and insufficient equipment at Intersection

Figure 8: Shows the limited extent of equipment at Tan Dong Hamlet and also shows the rock cage structure used to protect the bank from river erosion

Figures 9, 10 and 11: These photos of Phu Qui Intersection demonstrate its remoteness and the extent of its coverage. The final picture shows a local 'adapting to floods' and fishing atop the once- dry farmland

The posts in Tan Chau were more remote than those in Chau Thanh and were in areas still under flood- water. Similarly to the previous assessment, three of the posts were bridge structures, offering a useful view- point for rescue operations. However, one was located on a rapidly eroding river- bank edge, which at the same time as reducing the risk to the public also increases the exposure of rescuers; and two had limited access by road and facilities were poor. If an incident did occur in these areas it is unlikely the victim would receive medical attention on an adequate timescale.

The lack of equipment at each post was also worrying especially at Phu Qui Intersection where a small team of rescuers has to monitor a vast area of land, stretching to the border of Cambodia. This particular post is seen in the above photographs, which illustrate the size of the area under the post, serviced by a single motorised boat. When asked, the volunteers replied that theirs was the only post in the particular region, despite the fact that the government has identified it as the most vulnerable location in the district. This is a concern especially as the team only have one pair of binoculars to monitor an area intensively used by fishermen and other people making a living, on a daily basis.

In addition to greater provision and storage of equipment, the two priority areas for action in Tan Chau are: **improved transportation** (means and quantity) and establishment of **more posts** in remoter, more vulnerable areas.

Limitations of Tan Chau assessment:

The assessment in Tan Chau incorporated the lessons learnt from the previous days assessment and as a result less interviews were carried out and less posts visited. The questionnaires were left at the People's Committee building while the site visits were undertaken and less time was spent at each post so as not to hold up the volunteers. The only limitation faced in Tan Chau was that the guide, needed to provide direction to the posts, had not been informed earlier of his required assistance and so already had a prior commitment that he was made late for, due to the assessment. Although this did not seem to be a problem, it was not the intention of the assessment to

inconvenience individuals and the atmosphere was strained, as the site visits were hurried along. The reason this issue needed to be addressed was to maintain the close working relationship between ADPC, its partner organisations and the participants involved with the FEMS project and other flood programs.

To address this issue, ADPC's Vietnam office spoke to the PCFSC of Dong Thap and explained fully what the assessment for the third day would involve and what assistance was required. It was hoped this more detailed fore- knowledge would help clarify the purpose and needs of the assessment.

4.2 Dong Thap Province

PCFSC

There are approximately 406 posts in the province with an estimated 2,350 staff to man them. Resources for equipping these posts come from international organisations, provincial level and are mobilised from the communities themselves. PCFSC gets information from line agencies in localities and based on the needs they will apply to the government for equipment, however, what is available is limited.

In terms of PCFSC's role in flood and storm control, they are responsible for development of the 5- year Flood and Storm Control Plan (2006-10) which incorporates the achievements of previous years into the new strategy, building on past successes. PCFSC take a lead role in the 3 phases of flooding: before floods they prepare emergency supplies, protect crops and strengthen houses; during floods they respond by forecasting, disseminating information, evacuating people and building protective structures (eg. dams); and following flooding they help to overcome the impacts through maintenance work, re-building and provision of equipment and emergency supplies to victims.

Community clusters were set up in 2000 and 2001 but between 2003-2007 there has been no need although plans have been made to establish additional permanent clusters in the future. Swimming lessons, emergency kindergartens and rescue posts are all initiatives that have effectively helped to mitigate flood impacts in recent years and it is hoped that these activities will be expanded, particularly under the next phase of the FEMS project. There are a large number of children in the province but with help from Oxfam and ADPC the aim is to teach 350 swimming classes, reaching 11,500 children.

The Red Cross, Youth Union, Women's Union and military are all under the PCFSC and by maximising the benefits of this, local leaders in each of the agencies can be trained and sent back to their communities where they will subsequently pass on their recently acquired knowledge to specific target groups. Two specific areas of concern for PCFSC are increased public awareness and preparedness for multiple- hazard risks, as it was noted that the authorities/community have limited knowledge and capacity to cope with less frequently occurring hazards.

4.21. Thanh Binh District

Interviews:

DCFSC

There are 38 rescue posts including 15 key posts and approximately 185 volunteers in Thanh Binh District. The only equipment they have is life- ring and vests but ropes and boats are mobilised from the local area or People's Committee. The Provincial Red Cross are meant to provide equipment to the rescue posts but they have limited funds and not much help is offered from PCFSC, other than response. Similarly to the previous districts in An Giang Province, concern was noted at the lack of salary or financial incentive for volunteers, as many of them are from more rural areas and some are quite poor. On a positive note however, the relationship between rescue workers and DCFSC is said to be strong and there is a good system of communication whereby volunteers can report any concerns or needs of the post to the CCFSC and these in turn are passed to provincial level, if required.

In relation to other search and rescue activities in the district, a broadcasting system is used to disseminate flood preparedness information to the community and the Red Cross provide one First Aid training a year for about 30 rescue post volunteers over a one- week period. Other than this there are no other flood preparedness measures except for those undertaken by organisations such as ADPC, (emergency kindergartens, swimming lessons) and Oxfam, (Community Based Disaster Preparedness Program). Although there have been no real rescues in the last 2 years due to fewer, less severe floods, some boats have been submerged.

One suggestion that was supported by all three of the interviewees was development and distribution of an Asia- wide disaster awareness document, outlining the specific hazards affecting each Asian country and even some of the initiatives in place to reduce these risks and minimise impacts. The purpose of this document would be to improve people's general knowledge and awareness regarding the region they live and the document could include a Vietnam focus, sharing detailed information on current projects and specific hazard prone areas.

Site visit to posts:

For reasons explained under 'Limitations of Dong Thap assessment', only three posts were visited in the district, including:

1. Cai Tre Bridge
2. Tan My Bridge
3. Kinh Ranh Bridge

Figure 12: The view from the rescue post at Kinh Ranh Bridge clearly shows the extent of flooding along the river channel and highlights the need for constant surveillance during flood season

Figure 13: Kinh Ranh Bridge rescue post looks onto a dyke structure protecting houses along the river

All three of these posts were bridges and were in a stable condition however, there were no volunteers on duty and so no equipment could be seen. The water level was still relatively high so it was a surprise that no volunteers were present and this prevented the possibility of conducting informal interviews. The bridges provide a natural view- point from which to monitor daily activity and for this reason have been appropriately chosen for their location. The analysis was based on a very brief cross-sectional glimpse of three posts and therefore, is limited in scope. However, the main priority areas for action were identified as **equipment** and **staffing**.

4.22. Tan Hong District

Interviews:

DCFSC

There are 37 posts in the district, 18 of which are key posts and there are approximately 334 volunteers, according to the Summary of Flood and Storm Control Activities. Again, equipment levels are low with only life rings, vests and ropes but DCFSC determine how they will distribute equipment and then ask line agencies to provide services to posts, (for example the Red Cross provide food). Transport is mobilised at the local level. The DCFSC were forthcoming in their ideas for further resources, which included boats, loud speakers and waterproof flash lights. The issue of providing a salary was bought up again but it was suggested that incentives could include rice or cash.

Responsibility for the needs of the rescue posts is given to the leaders of hamlets and Red Cross and there is regular contact between volunteers and CCFSC. The majority of volunteers have been trained in First Aid, as 2 or 3 classes are conducted on a yearly basis for approximately 30-40 people. In 2008 it is hoped that the leaders of hamlets will be trained and the following year the members of the hamlet themselves. Tan Hong DCFSC highlighted some of the additional tasks undertaken by volunteers including preparation of funeral arrangements for flood victims and assistance to the poor. This post- flood activity was not mentioned until Tan Hong District, suggesting that these are unique roles taken on only in this district.

In 2000 there were more than 12 rescue operations, two of which involved Cambodian nationals who were swept downstream to Vietnam. Evacuations have also taken place in the past, although DCFSC acknowledged their dislike for the word 'evacuation' as it suggests an urgent response to a dangerous situation and their preferred strategy is to move the community on a step- by- step basis as and when flood waters require. These incidents demonstrate the importance of enhancing rescuer capacities through further training. The FEMS training on search and rescue was deemed very effective and Tan Hong would like to see this expanded in the next phase to enhance the skills of participants. In addition, the district authorities would like to see more purpose built emergency kindergartens set up, as currently most of them are in people's homes and lack suitable facilities. Lastly, DCFSC expressed the need for more swimming nets to assist with the implementation of the swimming universalisation program in Vietnam.

Site visit to posts:

The following four posts were assessed in Tan Hong District:

1. Go Da
2. Tan Dong Chi Bridge
3. Binh Phu Intersection
4. Thong Hat Bridge

Out of the four posts visited, three were bridges and one was at the intersection of a waterway. The last two posts in particular seemed to be in clearly hazardous locations, surrounded by fast flowing flood- waters and eroded banks. Some volunteers were on duty and were able to provide a brief of the general status and functionality of the posts.

Figures 14 and 15 at Go Da rescue post show the extent of erosion and extent of flooding respectively

Figure 16 shows a cross roads in the river, by Tan Dong Chi Bridge post, where strong currents create hazardous conditions for rescuers to work

Figure 17 shows the limited amount of equipment at Thong Hat Bridge rescue post. A single boat and single life ring can just be made out by the trees.

It was unclear due to communication difficulties, the extent of land monitored by each post, especially at the final post, which overlooked a larger area. However, it was clear that the level of equipment was insufficient in relation to the surveillance area and drastically needs increasing. An additional concern is the safety of the rescuers who are exposed to hazardous circumstances themselves.

Based on the visits to these four posts the priority areas for action identified are: **increased equipment levels**, enhanced **safety of post locations** and **more rescue posts** in most vulnerable areas.

Limitations of Dong Thap assessment:

The two assessments in Dong Thap were undertaken on the same day, as this was more economical considering the distance travelled to reach the study areas. It was hoped that the DCFSC and CCFSC offices would have delegated a guide to provide direction to the posts, however in Tan Binh District it was necessary to find the posts without assistance. In addition the Tan Binh DCFSC staff had another meeting to attend so the interview was cut short. Although this did not seem to affect the quality of the interview or the number of topics covered, it did prevent informal discussion from taking place, which in the past was found to be a fruitful secondary output. The absence of a guide also had negative consequences, as it was difficult finding the locations of some posts, limiting the number visited and reducing benefits gained from local knowledge.

The Dong Thap districts were in more remote locations than those in An Giang so it was not as easy to find volunteers to fill in questionnaires and it was decided that as the answers collected from the An Giang study had been similar, it could be assumed that volunteers in Dong Thap felt the same. Many of the rescue post volunteers were working elsewhere, taking the opportunity to earn an income and therefore there were no volunteers to interview. The lack of interviews and questionnaires mean the assessment was unbalanced, as it gave no opportunity for rescue volunteers in Dong Thap to voice their opinions or express any needs identified and as a result the majority of the conclusions drawn will be based on feedback from An Giang Province.

The final limitation of the assessment relates to the questions in the interview, which were often misunderstood or incorrectly answered. This was a problem encountered throughout the four assessments in An Giang and Dong Thap and was initially put down to language barriers and seen as an unavoidable difficulty. However, on discussion with the Vietnamese translator it was revealed that the problem didn't arise from mistranslated questions or misunderstanding by the participants but from avoidance of specific questions by the interviewees. This created difficulty when trying to obtain information regarding certain initiatives or plans and when considered it was suggested that the tactic might have been employed to conceal inactivity.

5. Recommendations for Follow up Activities for Search and Rescue.

Outputs: Over the three assessment days, four districts and 19 posts were visited within the 2 FEMS target provinces of An Giang and Dong Thap. An interview was conducted with the two PCFSC's and four DCFSC's as well as informal interviews with some CCFSC's, rescue post volunteer and Red Cross staff members. A total of 11 questionnaires were completed in An Giang although none were carried out in Dong Thap. From an initial analysis the outputs can be seen as successful because a substantial amount of information was collected from the interviews, including needs identified by volunteers and authorities.

The final collected data has been compiled and presented in this document and a detailed analysis has been carried out highlighting areas for action in the near future. The analysis, conclusions and recommendations are presented below.

5.1 Rescue Post Analysis

Of the 19 posts visited, the majority were bridges but they also included simple shelter constructions, part of someone's home and even river- bank edges. The assessment revealed that rescue posts are not purpose built but have been placed where there is already an existing structure, such as a home, or in locations which are particularly hazard prone. There was not often any marker to distinguish the post as a rescue station or indicate it's specific location, making it difficult to identify unless you have local knowledge.

Several of the posts were located in hazardous positions exposing rescuers to heightened risks and complicating potential rescues in areas where river banks are unstable due to erosion or where currents are particularly strong. A specific need, universal to every post, was for more equipment, especially transport and better storage to protect it from daily wear and tear. The facilities at each post were limited due to the fact that they have not been purpose built but integrated into the community at available locations and using existing resources. Another concern was providing shelter for volunteers, who are sometimes stationed in remote areas and subjected to heavy rains during flood season. Following visits to some of the remoter posts in the districts, it was evident that each post has a variable amount of land to monitor, with the result that some are responsible for vast coverage and may need additional posts to assist.

The issue of incentives for volunteers was raised at each interview and mentioned in questionnaires as being an important point for consideration. This is due to the fact that in the flood season work opportunities are limited as traditional livelihoods like rice farming are hindered and many people struggle to earn a living and provide food for families. Due to the commitment of staffing a rescue post, many volunteers cannot work for money elsewhere and therefore have no or limited income. The concept behind incentives is that volunteers can earn money whilst doing something valuable, creating job satisfaction and providing them with an income to support families.

An Giang

In An Giang the equipment that was specifically mentioned included a fax machine for faster, more efficient information transfer and motor- boats to enhance the capability of staff during rescue procedures. In one of the more remote posts with a larger surveillance area, there was only one pair of binoculars, enabling just one person at a time to monitor activities further a field and limiting any room for error.

One comment during an interview indicated that volunteers thought it better for locals to staff the rescue posts as it was more convenient for them living so near. If this suggestion was taken up and local volunteers are encouraged it would help to promote awareness amongst the most vulnerable communities as well as promoting ownership and engendering a sense of responsibility in the rescue staff. This could work to increase the effectiveness of the posts and teams. An additional factor bought up during an informal interview was the desire to shorten shifts, thus enabling volunteers to care for their families, either by increasing time spent with them or by providing available time in which to generate income to support their family.

Dong Thap

In Dong Thap the needs highlighted were very similar to those in An Giang. Specific equipment required included ropes, motorboats, flash- lights and loud speakers to broadcast early warnings and disseminate useful information in the community. As noted above, the more remote expanses of land, serviced by limited posts, would be better monitored if more posts were established and if additional staff were made available to assist surveillance. The recruitment of staff could be achieved through offer

of incentives, mentioned earlier, although it was pointed out that this could be done through the giving of cash or rice. The safety of volunteers is crucial to reduce unnecessary or additional injury or deaths. Safety could be addressed through a process of risk assessments and site analysis, so rescuers are aware of potential hazards and put measures in place to safeguard their health and life.

5.11 Conclusions

Drawing on the above points, the key issues identified are as follows:

- **Posts are not purpose built and therefore lack appropriate facilities for rescue operations**, for example, a person's home cannot be used as a permanent rescue base all year round as it would intrude on the family's privacy and living space.
- **Rescue posts are difficult to identify**, as there is no distinguishing marker. They should be more easily recognisable.
- **Some posts increase the risks faced by rescuers due to their unsafe locations,** surrounded by strong currents or on the edge of unstable river- banks weakened by erosion.
- **Posts do not always provide rescue volunteers with adequate shelter** to protect them from heavy rain or sun.
- **Erosion of banks makes them unstable** and increases the risk of those living on them.
- **Lack of equipment at the posts hinders effectiveness of rescue operations.** The most essential equipment needed is: motor- boats, loud speakers, flash- lights, ropes, fax machines, life vests/rings/buoys and binoculars.
- **Need for adequate equipment storage** to protect it against daily wear and tear and increase its durability.
- **Some, more remote posts, are responsible for a large surveillance area beyond their ability to monitor adequately given the limited resources and staff numbers.**
- **Need to introduce incentives to encourage, mobilise and motivate volunteers,** especially local volunteers living close to rescue posts.
- **Address the needs of volunteers regarding income generation, family care, shift duration and training.**

5.12 Recommendations

In response to the above points the following recommendations should be incorporated in to future activities:

1. ***Rescue post function and use.*** The function of rescue posts could be expanded, not only to monitor and undertake rescues but also to act as an education centre to disseminate information to the community. Construction of purpose built facilities would assist this new function, providing a permanent rescue station for members of the community, both adult and children to come to and learn about flood risk reduction, preparedness and mitigation measures. By establishing an all year round flood centre/post, this would enhance awareness, provide a greater role for the posts in education campaigns and encourage greater response from the community to understand and explore the issues and processes surrounding flooding.

These new flood centres would become an educational tool for the whole community and would ideally be equipped with flood booklets, brochures and posters explaining flood preparedness measures, the risks, hazards and consequences. The flood centres could also be a focal point for NGO partners to work alongside, providing advice and information on livelihood sustainability and protection, household safety measures and resilience building. In providing purpose built structures, the rescue posts would have a more defined presence in the community and a more distinguished role, which would in turn, enhance their accountability in flood activities. The centres would have greater capacity to fill a larger role and if they were permanent, they could take a two- fold approach, focusing on rescue and monitoring in the flood season and education in the non-flood season.

Rescue post/centres should be clearly distinguishable to attract attention from the community and so that people know where to go for advice or to report an incident. This is especially important for new members or visitors to a community. For this reason a clearly distinguishable marker should be selected as a universal indicator to identify all rescue posts/centres. There were one or two posts on the assessment that had Red Cross flags next to them but this was inconsistent.

2. ***Rescue post location and facilities.*** To ensure that the most vulnerable areas are served by an adequate number of posts, a site analysis of posts should be made by each district to determine the minimum number of posts needed in each commune, to ensure a suitable level of surveillance is maintained. This will depend upon the varying levels of exposure and vulnerability in each region. More staff may be required for larger areas or more posts may need to be set up so that responsibility for surveillance can be shared between them.

   In addition to the area of land covered by each post, the amount of equipment at each also needs to be addressed urgently. Universally there is a lack of life rings/vests/buoys, ropes, binoculars, flashlights, loud speakers and more essentially motor- boats. The lack of this equipment is currently worrying, as it will undoubtedly hinder any rescue operation undertaken. The shortage of boats means that operations are reliant on just one and if these are rowing boats then manoeuvrability is made difficult especially where manpower is limited. Volunteers also expressed their need for more effective communication means, especially fax machines, which can be used to transfer information, including warnings or large documents, quickly between posts and CFSC's. To supply these items, each commune should apply for further funding from PCFSC and if PCFSC do not have sufficient funds or resources to cater for the demand then investment should be sought from outside organisations or the Vietnamese Government, in order to sufficiently fill these existing gaps.

   Rescue posts should be sheltered enough to provide adequate protection to volunteers from intense sunlight or heavy rains. As erosion of banks is frequently a problem, posts should be located carefully so as not to inadvertently expose volunteers to additional hazards. To aid this process volunteers should be encouraged to conduct on-site risk assessments for each post so they are clearly aware of the risks present and how to minimise exposure to them.

In addition to shelter for volunteers, the posts should provide suitable protection for equipment against wear and tear. It was evident from the assessment that exposure to the elements had affected the durability of the equipment and reduced its original life- span. As a result performance will be less effective, reliability uncertain and the majority of equipment needs replacing or maintaining. This is an important factor when considering the recommendation above regarding the need for purpose built facilities, as the success of a rescue operation depends on both the competency of the rescuer and the performance of the equipment. If one of these is lacking it could have negative repercussions for the outcome of the rescue.

3. ***Volunteer responsibilities and incentives.*** The majority of volunteers are not able to sustain a job at the same time as balancing their commitment to rescue post duties. Therefore, the families of volunteers will suffer as a result of this commitment and that could lead to high turn over rates of staff as well as being a de-motivating factor. For this reason an incentive scheme is recommended to help motivate and support volunteers in their valuable work and promote greater job satisfaction so that they are not forced to leave in search of paid work. In the rural poor areas volunteers struggle to earn sufficient income to provide food for their families, as floods often prevent continuation of traditional livelihoods. In this case, incentives could include rice and food products or cash payments. Different reward schemes might be appropriate for different districts or provinces and that is best determined by each relevant authority.

   If the function and activities of rescue posts are expanded as recommended in the first point then the role of volunteers will be expanded to include education and awareness raising as well as rescue and monitoring during flood season. Therefore, it is necessary to provide subsequent training to rescue volunteers to enhance their knowledge of flooding and increase their first aid and rescue capacities. Rescuers should possess understanding of livelihood sustainability, alternative income generation and household safety measures so that they are well equipped for their additional role as educators. By increasing volunteer's capacity and understanding, not only is their competency enhanced and confidence built through knowledge attainment but also job satisfaction should increase as they help others to understand the issues surrounding floods. An incentive scheme will certainly add to job satisfaction.

4. ***Erosion of banks.*** River bank erosion was evident at most of the posts visited but in some locations the problem was being tackled through construction of rock gabions, to absorb the hydraulic impact of water against the banks. These rock cages were seen to provide stability to the river edge, improving safety for community members living on or using river- banks. To continue enhancing the safety of rescue posts a key recommendation is to extend bank defences to all vulnerable communes, especially near rescue posts as a stable bank is necessary to launch rescue operations from and provide safe working conditions for volunteers. In addition to rock cages, erecting warning signs at intervals along the river would be helpful in raising community awareness regarding the danger of unstable banks.

   In the future it may also be advisable for provincial, district and commune authorities to develop a set of land use planning guidelines that will keep

construction on river- banks to a minimum if they are recognised as posing a significant risk.

In summary then, these key recommendations have been put forward in view of the analysis made:

- Rescue posts should be purpose built and could be used as an educational centre
- Posts should be well marked so they are easily identifiable
- More posts established in remoter areas
- More equipment provided to all posts, including motor- boats, binoculars, ropes, life vests/buoys/rings, flash- lights and loud speakers
- Rescue posts should provide sufficient protection to volunteers and equipment from outside elements
- Rescue posts should be built on stable banks to reduce risks to volunteers
- A risk assessment should be conducted by volunteers so they are aware of hazards in the area and can take steps to reduce their exposure
- Introduce an incentive scheme to support volunteers and keep them motivated
- Provide additional training to enhance the capacity of volunteers and further their understanding on flood related issues
- Encourage the implementation of rock cages and bank defences along more of the river and erect warning signs to heighten community awareness regarding the danger of unstable banks
- Look into developing land use guidelines to protect the banks from heavy land use pressure

5.2 Search and Rescue Analysis –

Over the course of the interviews certain issues were recurring such as lack of funding and resources to distribute between districts and need for more equipment and training for rescue post volunteers. A concern that was also common to the 2 PCFSC's and 4 DCFSC's was that the majority of flood capacity building activities are being proposed and implemented by outside agencies, such as Oxfam, World Vision, UNICEF or ADPC. Although these various project activities have been successful and progress is being made in the area of flood risk reduction and preparedness, it also reveals the limited level of activity initiated and sustained by CFSC's.

In addition there seemed to be confusion between different levels as to which organisation is responsible for which activities, so there is no clear system of accountability in place. This means that when there is a gap identified, responsibility is passed between agencies and it is not addressed particularly quickly. This could be seen particularly with regard to post maintenance and provision of equipment to posts.

Specific concerns of the CFSC's related to the need for further training for volunteers, not just key personnel but expanding it to include a broader cross-section of participants and the need for more resources as they have a limited supply.

An Giang

Specifically in An Giang comments relating to the FEMS training focused on expanding it to all 11 districts of the province and conducting it at more regular intervals and for a longer duration. As mentioned previously, it was suggested that participation could be broadened to include volunteers from outside the FEMS target districts. In addition training requires a constant source of funding so that it can effectively be maintained, enabling volunteers to access regular refresher courses as well as provision of training to new volunteer staff. In order to secure funding, support will need to be found from a reliable donor that is familiar with the region's hazard history and will take a long-term approach to flood mitigation.

The concept of multiple hazards was raised in two different contexts during the An Giang study, once in relation to training documents that need to take a multi- hazard approach and once in relation to early warning. Although current training documents do exist, they are limited in that they only relate to flooding. During the assessment it was suggested that these documents should show recognition of the multiple hazards affecting the Mekong Delta, aside from floods. This may mean up-scaling project activities in the future to incorporate some of these additional hazards. Regarding early warning, a similar principle was applied in that there is no current system of warning for hazards other than flooding and it could not only prove more cost effective to combine a multi- hazard warning system but could also reduce the amount of damage incurred from other hazards.

In relation to other flood preparedness activities, desire was expressed to see the development of a school flood curriculum and a broadcasting system that can be used to disseminate relevant warnings and flood information to the community. There was some discontent arising over the lack of pro-activity in relation to future search and rescue plans and many volunteers were unaware of current Flood and Storm Control Plans. This suggests that the motivation for flood mitigation and search and rescue activities is present but is not being fully realised by CFSC's.

Lastly, it was uncovered that despite evacuations being undertaken in the past, the Red Cross do not have an established evacuation procedure to follow. Whilst this has not been a problem up until the present, floods cannot always be predicted and do not always conform to people's expectations and therefore it is wise to develop and disseminate an evacuation plan that the community can familiarise themselves with so they do not need to rely on last minute instructions from Red Cross officials. This is also advisable if communication methods fail and information cannot be related in sufficient time. Establishing a plan helps to cement it in people's minds so that flaws and gaps can be seen prior to use and addressed.

Dong Thap

In Dong Thap the CFSC's are also keen to expand FEMS activities such as swimming lessons, emergency kindergartens (EK's) and permanent clusters. This could be done through construction of purpose built EK's with better facilities for children that take their additional safety needs into consideration. More swimming nets are needed to aid the swimming universalisation program for children, as swimming pools are limited, especially in remote areas. The CCFSC's particularly emphasised the need for more support from PCFSC in terms of resources, funds and direction but also expressed the need for DCFSC to take a more pro-active approach to flood mitigation and search and

rescue activities, so as not to always rely on external organisations to initiate and implement programs.

As in An Giang it was noted that awareness of less frequent hazards should be promoted, as communities are less familiar with preparedness measures and how to deal with these other hazards. Similarly it was suggested that a document on Asia-wide risks and hazards should be developed as a training resource to provide volunteers and authorities with additional knowledge on the multiple hazards that affect the country and the rest of Asia; broadening their understanding of physical processes and raising awareness on country- wide mitigation initiatives.

The last point that was reiterated during different interviews was the need for more training, not just to include hamlet leaders and authority figures but local members of the community too. Although disasters often impact on a wide- scale, their effects are usually felt more severely at local level, where resources and capacity to cope is limited. Therefore, by broadening the cross- section of participants to be trained and by holding more frequent training courses, the resilience and coping strategies of communities will be significantly enhanced to the benefit of all levels. It is a common fact that it is more cost effective to invest in preparedness and mitigation activities than response as the initial investment will prevent as much damage being done in the wake of a disaster.

5.21 Conclusions

Drawing on the above points, the key issues identified are as follows:

- **Lack of proactive approach from PCFSC in initiating preparedness activities**
- **Lack of sufficient funds to purchase rescue equipment and support sustained training at local level**
- **Insufficient equipment distributed to rescue posts**
- **Little or no awareness of Vietnam and Asia- wide hazards, especially those occurring less frequently**
- **Unclear definition of roles and responsibilities at different levels, especially regarding post maintenance and distribution of equipment**
- **FEMS training is limited in its coverage, duration and participant cross- section**
- **Early warning system only in place for flooding, not multiple hazards**
- **Currently there is no school curriculum to teach children about the risks of flooding**
- **Knowledge of Flood and Storm Control Plans is limited and little is known about future search and rescue plans**
- **No evacuation plans developed by the Red Cross**
- **Little support to the community from PCFSC, maybe due to their limited resources**

5.22 Recommendations

In response to the above points the following recommendations should be incorporated in to future activities:

1. ***Proactive approach.*** A more proactive response is required from all authorities involved in disaster risk reduction and mitigation to ensure that effective preparedness activities are sustained even when NGO's and other organisations withdraw from the region following completion of a project implementation. Local Flood and Storm Control authorities and agencies that deal with flooding and search and rescue need to demonstrate a more proactive approach in organising, initiating and implementing preparedness programs and activities. In addition they should take a more practical approach to raising funds and attracting investment to support these activities.

   It was revealed that in terms of Flood and Storm Control, the public's understanding of agencies roles and responsibilities was very limited, especially in relation to whose duty it is to maintain posts and ensure they are properly equipped. To address this issue, which is highly important if communities are to know where to obtain information, PCFSC should determine and clarify the individual roles of each organisation or body involved in flood risk reduction and should compile these in a document and ensure the information is widely disseminated and available to members of the public. This not only assists organisations to better plan activities around specific areas of responsibility but it also ensures accountability and transparency to the communities they work within, so that oversights and remaining needs can be traced to individual sources.

   Lastly, this proactive response, which is so urgently required, should extend to the provision of more equipment for posts, support for community- based activities and development of future plans for risk reduction. A reoccurring issue arising from most interviews and questionnaires was that PCFSC and other relevant authorities were lacking in their initiative to develop these to the extent that search and rescue activities seemed dependant upon the presence and support of outside agencies and the possibility of them struggling when these withdraw, is a real threat. Similarly, it is recommended that the Red Cross develop evacuation plans for use in emergencies, taking into account different scenarios and preparing for a range of possibilities.

2. ***FEMS training.*** In terms of search and rescue training under FEMS, the extent of coverage needs to be expanded to districts outside of the current target region and should take place roughly every six months and for a longer duration, maybe even a full week. The feeling expressed by participants of past trainings was that refresher courses are needed so that first aid and rescue skills are not forgotten. This is especially essential as first aid can save lives. A common grievance was the limited range of participants chosen for training, consisting mainly of hamlet leaders but not encompassing all rescue post volunteers. This means that competency of individual rescuers is dependant on those who have been trained, passing on their newly acquired skills to other volunteers and passing them on accurately. To tackle this a broader selection of volunteers should be chosen and participant numbers increased to accommodate the needs identified. In addition, it was suggested that an Asia- wide document be developed to increase community and volunteer awareness of hazards affecting all parts of the region, possibly to include good practices. This aims to enhance general knowledge and understanding of hazard risks and how to cope with less frequently occurring hazards.

3. ***Expansion of public awareness activities.*** Public awareness activities need to be continued and expanded, in particular the swimming universalisation program for school children and emergency kindergartens, which require more swimming nets to be purchased and construction of purpose built EK's. There needs to be wider understanding amongst the community on the content of Flood and Storm Control Plans and how these are applied. Development of a school flood curriculum is recommended to enhance the awareness of school children on flood risks and preparatory measures. Lastly, an early warning system needs to be developed to include multiple hazard warnings so that the public can still be warned of less frequently occurring hazards.

In summary then, these key recommendations have been put forward in view of the analysis made:

- Greater pro-activity by Flood and Storm Control authorities to: initiate and organise mitigation and preparedness activities; raise funds or attract investment to support training and equipment provision; develop future plans including evacuation plans; and disseminate to the wider community the roles and responsibilities of each official body involved with flood risk reduction.
- Conduct further first aid and search and rescue training, to take place at least every six months for a longer duration, with a wider coverage and to include a broader cross- section of participants.
- Develop an Asia- wide hazard document that increases awareness on hazards in the region.
- Develop a school curriculum on flood preparedness, risks and mitigation measures.
- Provision of more swimming nets and construction of purpose built EK's in order to expand the work under FEMS.
- Develop an early warning system for multiple hazards.
- Promote greater understanding of Flood and Storm Control Plans.

Based on the findings of this document, the recommendations should be used to direct and guide development of the next logical framework for the upcoming phase of FEMS. The above recommendations relate specifically to search and rescue activities in Vietnam and propose suitable suggestions to be incorporated in the future, based on the outcome of interviews and questionnaires conducted with volunteers and local authority figures working in Flood and Storm Control. The needs identified in this report have been expressed by various individuals and have also arisen through on-site assessment and therefore are widespread in their desire to promote change.

Annex 1

Questions for PCFSC/DCFSC

Rescue Posts:

1. What different types of rescue post are there?

2. How many posts are there in each commune/district/province?

3. How many rescue posts have been set up in the last 5 years, compared to the number planned? (by PCFSC, DCFSC, VNRC, Military Operation)

4. How many people man each rescue post?

5. How are rescue posts maintained? What state are they in?

6. How many staff are manning each post? Are there sufficient numbers?

Search and Rescue activities:

7. How were the past FEMS trainings received and were they effective? What was the response from participants?

8. How could training have been improved?

9. Has there been any follow up activities or training since the four FEMS S&R training sessions?

10. How did FEMS search & rescue training contribute to the overall provincial and district strategy in undertaking search and rescue operation and have PCFSC/DCFSC been able to link this with existing Flood and Storm Control Plans?

11. What are the on-going S&R activities in the districts/provinces –not under FEMS and how can these be expanded to other districts/provinces?

12. How are PCFSC/DCFSC supporting the S&R initiatives of other organisations/bodies, eg. Red Cross, Military Operations? (please provide detail)

13. Are the S&R initiatives in the province/district being recorded in a database for reference?

14. How are PCFSC and DCFSC helping to build capacity of S&R teams?

15. What struggles do you face, in terms of resources/labour/institutional set up etc?

16. What gaps and needs exist in the continuation of S&R activities, especially if expansion is required?

17. What successes and achievements have occurred?

18. How are resources managed? Do you have evacuation route plans, maps of rescue posts, list of trained personnel and inventory of existing resources/equipment?

19. If not, why not?

20. How have past and current S&R trainings and activities affected number of drowning cases recorded? Does these numbers reflect a positive image of S&R functions?

Annex 2

Questions for Volunteers

FEMS training:

1. Did you feel that the FEMS training was sufficient to prepare you for S&R activities?

2. Do you feel confident that you could provide first aid to an injured person using your current skills?

3. Did the training cover all the topics that you consider important for S&R related activities?

4. Was there anything you would have liked to learn that was missed out?

5. Did you find the training session interesting and engaging? Were there enough visuals and practical activities used to keep your attention and help you understand?

6. Was there anything that you did not understand?

7. What did you particularly like and dislike about the FEMS training?

8. Can you write down 2 points that you learnt on the training that you did not know before?

9. Do you think there should be any follow up training (eg. re-fresher course) and if so how often do you think this should take place?

10. What suggestions would you make for future training activities?

Maintenance of rescue post and equipment:

11. Who is responsible for maintaining this rescue post?

12. Are you satisfied with its condition? Why or why not?

13. Have the rescue posts improved safety? Are there less drowning cases then before?

14. What existing S&R equipment do you have? Is it enough?

15. Who helps to provide you with this?

16. What problems are there in terms of resources/equipment/staff?

17. How could rescue posts be improved?

18. What additional resources would you like to have?

19. Are there an adequate number of staff to assist in S&R?

Search and rescue operations:

20. Do you know what other S&R activities are going on in the district?

21. Why do you think it is important to have S&R teams and rescue posts in the district?

22. Is there a procedure you follow in an incident –eg. do you report back to DCSFC or Red Cross regularly to assess progress/problems etc. or record incidents?

23. Do you have any communication with other rescue posts?

Incidents:

24. Have you had to rescue anyone before or been involved in any search and rescue incidents?

24a) Yes – how many, what happened, do you record the incident(s) somewhere?

24b) No – would you feel confident rescuing someone with your existing skills? Why/why not?

Annex 3

An Giang Volunteer Questionnaire		
Participants	**Tan Chau answers**	**Chau Thanh answers**
1. Did you feel that the FEMS training was sufficient to prepare you for S&R activities?		
A	Yes	Yes
B	Yes	Yes
C	Yes	Yes
D	Yes	Yes
E	Yes	Yes
F	-	Yes
2. Do you feel confident that you could provide first aid to an injured person using your current skills?		
A	Yes	Yes
B	Yes	Yes
C	Yes	Yes
D	Yes	Yes
E	Yes	Yes
F	-	Yes
3. Did the training cover all the topics that you consider important for S&R related activities?		
A	Yes	Yes
B	Yes	Yes
C	Yes	Yes
D	Yes	Yes
E	Yes	Yes
F	-	Yes
4. Was there anything you would have liked to learn that was missed out?		
A	No	No
B	No	No
C	No	No
D	No	No
E	No	No
F	-	No
5. Did you find the training session interesting and engaging? Were there enough visuals and practical activities used to keep your attention and help you understand?		
A	Yes	Yes
B	Yes	Yes
C	Yes	Yes

D	Yes	Yes
E	Yes	Yes
F	-	Yes

6. Was there anything that you did not understand?		
A	No	No
B	No	No
C	No	No
D	Yes	No
E	No	No
F	-	No
7. What did you particularly like and dislike about the FEMS training?		
A	Liked learning First Aid and resuscitation skills	Liked the short answers, First Aid skills and knowledge and seeing equipment
B	Liked enthusiasm of trainers but training was too short	Thought training was easy to understand and liked the practical methods used
C	Liked First Aid and bandaging	
D	Thought that the trainers reports were meticulous and suitable but trainings need to be longer	Skills to rescue people
E	Reports are detailed but trainings should be longer	Trainers were well qualified and easy to understand. Liked the visual aids used
F		Has learnt to understand First Aid more deeply and can rescue people now
8. Can you write down 2 points that you learnt on the training?		
A		Learnt about plans to mitigate flood risk and how to respond to a flood in time
B	Learnt resuscitation and First Aid	Learnt First Aid skills
C	Learnt the skills to rescue people from the river	
D	Learnt First Aid skills and how to rescue people	Learnt skills to rescue people
E	Learnt First Aid, resuscitation and skills to rescue victims from river	Learnt First Aid skills
F		Learnt to rescue people from drowning and from electric shocks
9. Do you think there should be any follow up training (eg. re- fresher course) and if so how often do you think this should take place?		
A	Yes	Yes, every 3 months

B	Yes, every 6 months	Yes, every year
C	Yes, every 6 months	
D	Yes, every 6 months	Yes, every year
E	Yes, every 6 months	Yes, every 6 months
F		

10. What suggestions would you make for future training activities?		
A		Trainings every 3 months, provide more equipment and funding and increase expenditure on S&R activity
B	More time	More skills on rescuing victims
C	More time	
D	More time	More trainings
E	Longer	Organise training more frequently and provide money for participants
F		
11. Who is responsible for maintaining the rescue posts?		
A		Commune Red Cross
B	Red Cross	Commune Red Cross
C	Red Cross	
D		Red Cross
E	Red Cross	
F		
12. Are you satisfied with their condition? Why or why not?		
A	No, not enough equipment	No, lack of equipment and money
B	Not enough equipment	No, lack of expenditure and equipment
C	Not enough equipment	
D	Not enough equipment	
E	Not enough equipment	
F		
13. Have the rescue posts improved safety? Are there less drowning cases then before?		
A	Yes	Yes
B	Yes	Yes
C	Yes	-
D	Yes	Yes
E	Yes	Yes

F	-	Yes
14. What existing S&R equipment do you have? Is it enough?		
A		Shortage of equipment
B	Life rings, vests and ropes	Not enough
C	Life vests, rings, ropes and a boat but not enough	
D	Life vests, rings, boat, flash light	Not enough
E	Life vests, rope, life rings, boats (not enough)	Not enough
F		Not enough - already have life vests and rope but need more
15. Who helps to provide equipment?		
A	DCFSC	Agricultural Office and Red Cross
B	District Red Cross and mobilise from locals	District Red Cross
C	District Red Cross	
D	District Red Cross and mobilise from locals	People's Committee of the Commune
E	District Red Cross and mobilise from locals	Mobilise from locals
F		Red Cross
16. What problems are there in terms of resources/equipment/staff?		
A		Lack of equipment
B	Not enough staff	
C	Not enough staff	
D	Not enough staff	
E	Not enough staff	
F		Lack of equipment
17. How could rescue posts be improved?		
A		More equipment
B	Build up the skills of rescue teams	Support expenditure and provide enough equipment
C	Rotate the standing shift so people can look after their families better	
D		Provide salary or money for participants
E	More training for staff	More people on duty and provide more equipment
F		

18. What additional resources would you like to have?		
A		
B	Money	Funding
C	Money	
D	Money	
E	Money	More equipment
F		Boats

19. Is there an adequate number of staff to assist in S&R?		
A	Yes	No
B	Yes	Yes
C	Yes	-
D	Yes	Yes
E	Yes	Yes
F	-	Yes
20. Do you know what other S&R activities are doing on in the district?		
A	-	-
B	Yes	-
C	Yes	-
D	-	Yes
E	Yes	Yes
F	-	Yes
21. Why do you think it is important to have S&R teams and rescue posts in the district?		
A		To rescue in time
B	Because the district frequently suffers from floods, storms and soil separation in flood season	
C	Because the district frequently suffers from floods, tornadoes and soil separation	Because these teams are the force for rescuing people
D	District regularly suffers from floods and tornadoes in flood season	To mitigate damage to property and human beings
E	Often suffer from tornadoes and soil separation	Because it is necessary to ensure the protection of property and life
F		
22. Is there a procedure you follow in an incident eg. do you report back to DCFSC or Red Cross regularly to assess progress/problems or record incidents?		
A	Yes	Yes

B	Yes	Yes
C	Yes	Yes
D	-	Yes
E	Yes	Yes
F	-	Yes

23. Do you have any communication with other rescue posts?		
A	Yes	Yes
B	Yes	Yes
C	Yes	-
D	Yes	Yes
E	Yes	Yes
F	-	Yes
24a. Have you had to rescue anyone before or been involved in S&R? If yes, what happened and was the incident recorded?		
A		2 people
B		Yes, rescue at Bon Tong Bridge and Can Dang in 2000
C	Yes, in Tan Phu hamlet	
D	Yes, one rescue in A2 hamlet	Yes
E	Yes, a lot of incidents	No
F		
24b. If no, would you feel confident rescuing someone with your existing skills? Why or why not?		
A		Confident because he knows First Aid
B	Yes I would be confident because I was trained under FEMS	
C	Confident because of training	
D	Confident	
E	Confident	Yes because he can apply rescue skills
F		