



**TCP/IND/6712**  
**Field Document No. 7**

# **TECHNICAL COOPERATION PROGRAMME**

## **TRAINING IN SEA SAFETY DEVELOPMENT PROGRAMMES**

**BASED ON THE WORK OF**

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**(5th mission : 24 February – 24 March 1999)**

**FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS**  
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## Summary

The Team Leader's fifth mission was made from 24 February to 24 March 1999.

The project is due to complete by 30 April 1999. All activities are reasonably well on schedule to achieve this target. During this mission outstanding activities were reviewed with project partners, continuity and dissemination of the work by the partners after withdrawal of FAO were discussed, a video on community disaster preparedness was made and the often scheduled workshop on Measures to Reduce Loss of Life During Cyclones was held with considerable success in Visagkapatnam from 4-6 March.

Travelling via Bombay on 24 February evening enabled arrival in Hyderabad on 25th for a meeting with the Director of Fisheries and NPD, and with Doordarshan, before catching the evening train to Kakinada. The outstanding actions listed in the TL's 4th Mission Report were discussed with DoF and actions agreed; particularly expediting VHF Radio installations and completion of the Balusuthippa Shore Station Building. On arrival in Kakinada, the reporting consultant/team leader (TL) met with local OXFAM Programme Coordinator and visiting DRA Consultant (Dutch Relief and Rehabilitation Agency) who are collaborating on a Development and Disaster Preparedness project with local NGOs. Visited two of the project Storm Safety Action Groups and Storm Safety Extension Officers (SSEOs) on I.Polavaram and participating NGO ARTIC's office to discuss continuity from an NGO perspective. On 27th the SSEO Review meeting was held in the remote village of Masanithippa (one of the project pilot villages and also where the majority of shrimpseed collectors had died in 1996). Clarity of objectives and format for the village contingency plans were refreshed and also discussions held with local shrimpseed collectors. The District Collector joined the meeting in the afternoon to see the project work first hand. He was accompanied by the sub-nodal project officer (Regional Deputy Director of Fisheries).

Mr Jeremy Turner, FAO Senior Fisheries Industry Officer, visited Kakinada for pre-workshop discussions. He took the opportunity to inspect Kolli Fibres remedial work on the order of 15 lifefloats and Bharat Marine Accessories third diesel engine installation in a nava.

During this mission all the Storm Safety Action Group (SSAG) equipment was finally assembled ready for distribution. This included finalisation of orders and deliveries of first aid kits and bicycles, the printing of SSAG raincoats and application of FAO stickers to SSAG equipment.

The workshop in Visagkapatnam, "Measures to Reduce Loss of Life (Amongst Fisherfolk) During Cyclones" was held from 4 - 6 March 1999. The Team Leader and National Consultant Radios and FAO Senior Fisheries Industry Officer all presented papers (see Workshop Report) and prepared displays of the project activities. The consultant/TL has prepared a draft Workshop Report.

On 8 March the consultant and the National Consultant in Communications (NC(C)) returned to Kakinada, and Jeremy Turner and Dr Radhakrishna departed to Delhi via Hyderabad. The consultant/TL travelled to Balusuthippa on 9th with a set of SSAG equipment to work with SSEOs and SSAGs in preparation for SSAG Video. The following three days were spent with the Doordarshan team setting up interviews with SSAG members and SSEOs and shooting footage for the video in the village and in Kakinada.

On 15 March there was an SSEO weekly review meeting where it was agreed that SSAG Community Cyclone Contingency Plans would be submitted in Telegu on 31 March with village maps. On 7 April they would be submitted in English and on 17 April SSEO fieldwork under the FAO project would end. The urgency of locating navas through the SSAGs for motorisation was stressed. The OXFAM/AFPRO review of SSEO fieldwork was announced for first week of April.

On 17 March evening the consultant departed to Hyderabad by overnight train. In Hyderabad he reviewed the SSAG - Community Disaster Preparedness Video at Doordarshan Kendra on 18 March. On 19 and 20 March the consultant attended the OXFAM National Disaster Preparedness and Management Workshop: on 21-24 March the consultant had meetings with department of Fisheries to agree final actions on the project (see annex 2); with Doordarshan directors for finalising video and telecast dates; with the new Relief Commissioner to plan meetings in April in Kakinada and field exposure to SSEO/SSAG work for Revenue Department staff from other coastal districts of Andhra Pradesh by way of continuity and dissemination of the project work. The consultant/TL visited AFPRO and planned details of the final AFPRO/OXFAM review of SSEO fieldwork due in first week of April (see annex 1). The consultant/TL also visited a video animation company in Hyderabad with a view to developing some of the footage collected in Kakinada of mechanised boat defects into a sea safety video. However the expertise does not appear to be adequate without heavy supervision from the TL, so this idea was dropped for the time being. FAO HQ may consider how to develop the idea of an animated video showing instability, free surface effect, flooding of engine spaces, foundering, broaching etc. Time was also spent preparing the draft workshop report and paper to present at the OXFAM workshop (See annex 3)

It was agreed with the Director of Fisheries that the post of Sub Nodal Project Officer for the FAO project would remain with Mr BV Raghavulu, who has been promoted from RDD Kakinada to Joint Director (Principal of the State Institute of Fisheries Technology, Kakinada) for the duration of the project.

From the discussions held it is clear that the DoF and Revenue Departments are keen to propagate and sustain the SSAG concept in East Godavari and other coastal districts of AP. The NGOs too are planning to continue support to the SSAGs already formed and to extend community disaster preparedness in other villages as part of their development work.

## **1. Lifefloats**

The 15 lifefloats from Sri Ayyappa Boatyard have been received at the project office and two distributed by the Minister For Cooperation, Dr Satyanarayana, and Minister of Fisheries, Sri Chandra Sekara, on 13 March. The balance order for 70 units has been placed on Sri Ayyappa Boatyard and production is proceeding in two shifts to try to complete the work by mid- April. The 15 lifefloats from Kolli Fibres were accepted after remedial work and were to have been delivered to the FAO project office after space had been created there by despatch of SSAG equipment to distribution centres (after 20 March). The FAO Lifefloat mould was retrieved from Kolli Fibres and sent to Sri Ayyappa Boatyard to aid production there. Distribution of the lifefloats will proceed in April after the majority of VHF sets have been distributed. The reason for this is that both items are now being given on a first come first serve basis contingent upon the boat registration fee of Rs1000 having been paid. Naturally the first choice is a VHF set, so once these are exhausted the lifefloats will go.

## **2. Diesel Engines for Navas**

An order for supply and installation of twelve 10 HP diesel engines with double universal joint and thrust bearing has been placed on Bharat Marine Accessories, Kakinada. Three 20hp installations have been completed but no more large navas can be located that are associated with the SSAGs in the 30 project villages, hence the move to 10 hp engines. The first of the 10 hp installations (in a nava from the Kesanakuru SSAG) was completed by 20 March and the SSEOs are accelerating their search for more suitable navas.

## **3. VHF Radio Installations**

With some boat owners agreeing to pay their registration fee of Rs1000 the way is finally open for distribution of VHF Sets. During this mission 34 sets were distributed and the final order of 50 sets (making the total 152) was placed on SIMOCO for immediate delivery (expected by end March).

The National Consultant (Communication) (NC(C)) is expediting the training of operators with the assistance of Mr Venkata Rao (DoF staff member who went to SIMOCO in Calcutta for training in March). NC(C) is also ensuring the Balusuthippa shore station is operational by end of March. He has to leave the project at the end of March and will therefore complete his reports and installation of VHF sets in Gogulanka, Masanithippa, Bhairavapalem and District Collectors office, retrieval of SSEO Field Coordinator and AD Fisheries VHF sets, and all associated training by that date.

The power supply to the Balusuthippa shore station is to be installed. The DoF with NC(C) assistance will ensure this is complete by end March. The Hon Minister Mr Sompal and the FAOR are expected to come and formally inaugurate the shore station in early April.

#### **4. SSEO Fieldwork**

This work is now projected to close by 17 April. The Field Coordinator and SSEOs have to ensure that the SSAG plans from 30 villages are completed, with village maps, in Telegu by 31 March. Then by 7 April they should be available in English. The remaining time up to 17 April is for rehearsals, first aid kit training, reviews and continuity discussions. The OXFAM/AFPRO Review will take place in the first week of April (see Annex 1). The Sub-Nodal Project Officer has been promoted to Joint Director and Principal of the State Institute of Fisheries Technology in Kakinada. He will however still participate in this review and the new RDD will participate also to learn about the work.

#### **5. SSAG Equipment**

The outstanding equipment, bicycles and First Aid Kits including locally made splints, have been received. NC(C) is to prepare a laminated card to be kept inside the First Aid Box lid detailing the contents and their use in Telegu. The SSAG raincoats have been printed with English and Telegu SSAG name. FAO stickers have been applied to the SSAG equipment. Storm Safety Action Group Equipment Kits have now been sent to three locations for distribution. These are the ARTIC office on I Polevarum, DoF Office at Talerevu and the ACTION office at Katrenikona. Two kits were distributed from the FAO Field Office, one kit to Uppalanka SSAG by the Fisheries Minister, Minister for Cooperation and Director of Fisheries on 13 March and another to Neelapali SSAG by the FAO Consultants on 14 March. The ministers also distributed partial kits to three more SSAGs close to Kakinada (BPV Palem, Peddavasala and Gadimoga).

The distribution to the remaining SSAGs will take place during April at various functions organised by the DoF and SSEO field coordinator and attended by local MLAs. Three kits will be handed over to the three SSAGs at Balusuthippa by the Hon Min. Mr Sompal during his visit to inaugurate the shore station in April.

Each SSAG Kit comprises:

- 25 Raincoats with rain hats
- 25 Hard Hats
- 25 Pairs of Rubber (PVC) Boots
- 5 Box Torches with Batteries
- 2 Hand-held Microphones with Batteries
- 2 Transistor Radios with Batteries
- 2 First Aid Kits
- 1 Bicycle

#### **6. Video**

A five member Doordarshan video team arrived in Kakinada on 10 March and proceeded with the consultant/TL and NC(C) to Balusuthippa for producing the SSAG Video. Filming



continued on 11 March. On 12th March the team filmed shrimpseed collectors, VHF radio operations, mechanised fishing boat defects and lifefloat use in Kakinada. They stayed on for 13th March to cover news items for DoF (Workshop Strategy for Development of Fisheries in AP and SSAG Kits distribution). The consultant/TL reviewed the rough edit of the video in Hyderabad on 18 March and invited the Doordarshan team to show it in this form at the OXFAM National Workshop on Disaster Preparedness and Management. It was extremely well received as it probably represents the only Community Cyclone Disaster Preparedness Video in AP or possibly in India. Doordarshan will complete the video and documentary to the TL's guidelines by 9 April, by which date the consultant/TL plans to return to Hyderabad for viewing and approval. Telegu and English master copies are to be supplied to the consultant/TL for reproduction and distribution by FAO to all interested departments and NGOs. Doordarshan plan to telecast the video on or soon after 10 April. They will show it again in April and twice in early May by way of raising awareness about cyclones and community disaster preparedness. As and when cyclonic storms develop in the Bay of Bengal they will re-telecast it. (The Indian Meteorological Department (IMD) are suggesting a higher than usual probability of cyclones in the Bay during May due to the unseasonally high temperatures being experienced currently in April in AP).

## **7. GOI / FAO Workshop on Measures to reduce Loss of Life During Cyclones**

The GOI / FAO Workshop in Visagkapatnam on Measures to Reduce Loss of Life During Cyclones was successfully completed during 4 - 6 March 1999.

This workshop provided a forum to share the experience of a wide range of experts, government and non-government officers involved in cyclone prediction and disaster management and relief. It brought in the experience of experts from the Philippines and Thailand, from IMD and Coastguard, from the fishing community and the Department of Fisheries, from Central and State Governments and participants in the FAO project. Ten papers were presented and discussed by the participants. These papers covered cyclone warnings, forecasting, disaster preparedness and awareness, safety of mechanised fishing vessels and gender concerns in disaster preparedness and management.

The two and half day workshop produced a set of recommendations to the Government of India on how to reduce loss of life amongst fisherfolk during cyclones. These recommendations from four working groups are included in a separate report prepared by the consultant/TL. They intended to improve the speed and quality of communication of cyclone warnings to the fishing communities at sea and on land. Also to promote community based disaster preparedness and for government to improve the opportunities for communities to take local shelter rather than resort only to large scale evacuation. The recommendations, approved with minor modifications in plenary on the morning of day three, also suggest legislation and education to improve safety at sea for mechanised boat crews. The working groups were as follows:

1. Cyclone Contingency Plan of Action; Communication from State to Fisherfolk
2. Evacuation and Protection

3. Improved Safety at Sea for Small Mechanised Fishing Vessels
4. Fisherfolk Storm Safety Action Groups / Disaster Preparedness

## **8. OXFAM National Workshop on Disaster Preparedness and Management**

This two day workshop was also a success and drew together a good cross-section of some 40 people from Government and NGOs (see list of persons met). Notably the newly appointed AP Commissioner for Relief, Mr Bhaskar Prasad IAS, participated on both days of the workshop. The workshop investigated cyclone warning and response with particular reference to the most vulnerable. It explored how rehabilitation, reconstruction and development work maximise aspects that minimise vulnerability in future and is sensitive to the real needs of the victims and vulnerable groups. It also explored improving links between government and NGOs and civil society in all these activities. Two working groups made recommendations for further action by NGOs and Government under the following topics: Risk/Vulnerability Mapping; Baseline Information on Social, Economic and Health Status in Vulnerable Areas; Damage Assessment, including an inventory of reusable materials; Government Policy; Coordination. The paper presented by TL is attached as annex 3.

## **9. Outstanding Actions in TCP/IND/6712**

- Distribute all SSAG equipment *Action: FAO Team and DoF*
- Fabricate 70 more lifefloats *Action: Consult Marine Engineer*
- Distribute 100 lifefloats *Action: DoF and FAO Team*
- Install twelve 10hp diesel engines *Action: DoF, SSEOs, Consultant Marine Engineer*
- Train approx 150 VHF trainees *Action: DoF, National Consultant Communications*
- Install approx 70 VHF sets (of which 8 ashore,; DC., Balusuthippa(2), Bhairavapalem, Gogulanka, Masanithippa, RDD, and recall field coordinator's VHF) *Action: DoF, Consultant Communications*
- Obtain 30 SSAG Village Contingency Plans in English and Telegu *Action: SSEO Field Coordinator*
- Demonstration of 30 SSAG Village Contingency Plans *Action: SSEO Field Coordinator*
- Finalise Video, telecast, reproduce and distribute *Action: DoF, TL, Coordinator*
- Commission Balusuthippa Shore Station *Action: DoF, National Consultant Communications*
- ACTION reports as per LoA. *Action: SSEO Field Coordinator*
- Visagapatnam Workshop approve and distribute report. *Action: FAO*
- Project Reports *Action: TL*

Ms C Mohana  
Programme Coordinator  
OXFAM  
Kakinada

Dear Mohana

Heard you would be on your way to Hyderabad this evening so here is a letter for you by email. This superceeds an earlier email I copied to you today.

Hope you got some breathing space after the workshop and visit of DRA. I met Murali yesterday and we discussed the review. I have made these notes which I would ask you to share with him again when you meet. We also discussed the idea that you and he would cover different villages thereby getting results from more of them. This really would be preferable. RDD is willing to come and thus for example you and RDD could go to some villages and Murali and Gurudut to others. You could then meet and collate and report on the final day.

Note the key objectives of the OXFAM/AFPRO review will be to:

- See that the Community Cyclone Contingency Plans are complete.
- That the plans are “alive” and SSAG members really know their jobs in a practical sense
- That the plans do cover the points in the Contingency Plan Guidelines (attached)
- That the SSAG understand the plans are dynamic i.e. to be updated periodically.
- That there is a real sense of ownership of the plans and their contents
- Ascertain how far other people in the village know about the SSAG and the plan
- How far, if at all, people in the village have been changed by it i.e. do they know specifically what they would now do if there was a cyclone?
- Are the SSAG members aware that they should be creating that awareness (i.e. that any person, man woman or child in their village should know where they have to go and who else would be there with them).

Kind regards,

Paul Calvert  
Team Leader TSSDP FAO

## CONTINGENCY PLAN GUIDELINES

A Community Contingency Plan needs to be able to answer all the following questions:

What actions and responsibilities do each of the SSAG members and members of the community have to take to ensure that:

- There is a sound liaison with the Sarpanch, VAO and MRO
- All available sources of cyclone warnings and weather bulletins are monitored
- Everyone will get timely warning messages
- Everyone in the community has a safe place to go and knows where it is
- Everyone knows what to do in the event of a cyclone occurring when they are at home, at their work, in the village or away from it, day or night.
- Everyone will have food, water, fuel and light during and after the cyclone
- Every vulnerable person gets special help and attention
- Disaster drills are rehearsed in the pre-cyclone month
- The community contingency plan is maintained and updated as situations change. (New births, deaths, migrations, new craft, new buildings, etc.) Also that improvements in procedures are also made in the light of experience and fully shared and rehearsed with the community.
- All safety equipment is taken care of, maintained and understood by responsible persons
- Safety navas are alert and correctly equipped by their crews
- Shrimp seed collectors and other outlying groups are brought back to the village
- Security of abandoned homes and possessions is ensured
- First aid is given where required
- Special needs of women and children are met.
- The news and weather developments are monitored on radio, TV, etc. as available

You will think of many more questions as you embark on the process. Many more have already been given to you in the handouts on “VISION FOR STORM SAFETY EXTENSION OFFICERS’ WORK” and “Some Notes for SSEOs”.

THE COMMUNITY CYCLONE CONTINGENCY PLAN OF ACTION WILL ANSWER ALL THE ABOVE QUESTIONS. IT WILL TAKE THE FORM OF SIMPLE BOOKLET WITH THE FOLLOWING SECTIONS:

### ACTIONS AND RESPONSIBILITIES OF THE SSAG SUBGROUPS AND MEMBERS

#### I. PRE-CYCLONE MONTH (ie BEFORE CYCLONE)

1. Warning Group
2. Shelter Group
3. Rescue Group (Evacuation)
4. First Aid Group
5. Relief Group
6. Other

II. DURING CYCLONE (ie WHEN THERE IS A WARNING IN FORCE AND A CYCLONE IS APPROACHING OR STRIKING)

- 1.Warning Group
- 2.Shelter Group
- 3.Rescue Group (Evacuation)
- 4.First Aid Group
- 5.Relief Group
- 6.Other

III. AFTER THE CYCLONE HAS PASSED

- 1.Warning Group
- 2.Shelter Group
- 3.Rescue Group (Evacuation)
- 4.First Aid Group
- 5.Relief Group
- 6.Other

IV. VILLAGE MAP

This will show the vulnerable groups, safe places etc.

V. NAMES of the members

VI. VILLAGE DETAILS

Continuity Details (In other words what the SSAG members are going to do to ensure the SSAG stays together and active)

**Follow up Notes for DoF shared at 23 March Meeting in Hyderabad with Director of Fisheries and NPD.**

1. All SSEO Kits are being distributed in March except for the three for Balusuthippa which are being held for Minister Sompal to give at the opening of the Balusuthippa Shore Station in late March or early April.
2. There is still much urgency required to complete installation VHF sets and the associated training of operators. The final batch of 50 sets is ordered and arrival from SIMOCO is imminent.
3. Raghuram will be in Kakinada until end of March. He has still to install 50 marine sets and two in Btippa Shore Station, one in Gogulanka, one in Masanithippa, one in Bhairavapalem, one in DC's Office, one at RDDs Office. One in SIFT building and one in an SIFT boat for training purposes in future. The VHF sets on temporary loan to the SSEO field co-ordinator and AD Fisheries are to be retrieved and used in one of the aforementioned locations. Training is to be given to operators at all these locations.
4. Lifefloat production is in full swing. DoF has received 30 and 70 more will come from Sri Ayyappa Boatyard during the month of April. Distribution of them should also be completed by DoF before the end of April 99. This puts DoF under some pressure since the current mode of distribution is first come first serve (for VHF sets and Lifefloats) after paying boat registration fee. Obviously people are preferring to take VHF sets and only when these are exhausted will the lifefloats go.
5. All thirty SSAGs will provide through their SSEOs their contingency plans and maps by 31 March in Telegu and by 7 April in English.
6. OXFAM and AFPRO along with RDD (NPD is also welcome) will travel to the villages in the first week of April to review this work.
7. TL will return to Kakinada on 10 April and complete gaps in these visits. He will be in Hyderabad on 9 April to review Doordarshan video and meet Dir. Fisheries and NPD)
8. Dir. Fisheries to please provide written instructions to DoF in Kakinada to the effect that the DoF SSEOs are to continue their work u to 17 April. This will avoid any confusion over the earlier agreed date of 31 March.
9. The Relief Commissioner is keen to call District Collectors from coastal districts to Kakinada to have a meeting on Disaster Preparedness and Management and field visits to SSAG villages on 18 and 19 April. The video would also be shown then. Dir. Fisheries to please contact him in this regard.

10. The Video produced of the SSAGs is to be telecast by Doordarshan twice in April (after 10th) and twice again in the first week of May. If any cyclonic conditions develop earlier Doordarshan will again telecast this work by way of raising awareness and alerting the fishing communities. FAO will make copies of the video for DoF and NGOs after it has been telecast.
11. Please provide a list to TL of persons to whom copies of the Baseline Survey has been circulated to from Hyderabad and Kakinada and the number of copies received by NPD and RDD.
12. TL is prepared to give a workshop on sea safety to Inspectors (DoF/Ports/MMD) Boat Crews, Owners and Builders in April if requested. One day at SIFT would be sufficient.

Note the key objectives of the OXFAM/AFPRO review will be to:

- See that the Community Cyclone Contingency Plans are complete.
- That the plans are “alive” and SSAG members really know their jobs in a practical sense
- That the SSAG understand the plans are dynamic i.e. to be updated periodically.
- That there is a real sense of ownership of the plans and their contents
- Ascertain how far other people in the village know about the SSAG and the plan
- How far, if at all, people in the village have been changed by it i.e. do they know specifically what they would now do if there was a cyclone?
- Are the SSAG members aware that they should be creating that awareness (i.e. that any person, man woman or child in their village should know where they have to go and who else would be there with them).

Paul Calvert  
Team Leader TSSDP FAO

FAO Project: Training in Sea Safety Development  
Programmes to Reduce Loss of Life Amongst Fisherfolk  
during Cyclones

Paper Presented at the  
OXFAM National Workshop on Disaster Preparedness and Management  
19 - 20 March 1999 Hyderabad

Paul Calvert  
Team Leader FAO Consultant



## **FAO Project TCP/IND/6712: Training in Sea Safety Development Programmes - to Reduce the Loss of Life Amongst Fisherfolk During Cyclones**

### **Background**

The project was initiated at the request of the Government of India as a result of the high loss of life amongst fisherfolk in the November 1996 cyclone in East Godavari. Balusuthippa and Bhairavapalem, two villages on the delta, and surrounding hamlets were amongst the worst affected resulting in this project being focused there. This report recounts work done during the project particularly during the period April 1998 to March 1999.

### **Most Vulnerable Groups**

A baseline survey commissioned by FAO and undertaken by AFPRO shows that of the 1435 fisherfolk lost the vast majority were from two categories. 830 were shrimpseed collectors lost from the outlying sand banks and islets and 569 were fishermen lost at sea from capsized trawlers. *The study shows that very few lives were lost in the villages.*

For these reasons this project has focused its efforts on reducing the vulnerability of these two most affected groups. Namely the shrimpseed collectors and the fishermen on trawlers going for multi-day fishing. (Fishermen of navas and other craft generally go for much shorter fishing trips and, having watched the weather signs, generally did not get caught out in severe conditions)

### **VHF Radio Communications**

Wider use of transistor radios and two-way VHF radio communication systems has been encouraged and demonstrated with a view to improving communications for safety at sea. 150 VHF sets (cost less than Rs18,000), provided by the project, are being installed, mainly in trawlers but also in fishing villages. The latter will be mobile sets which could be relocated in other villages if required. The District Collector's office and the Department of Fisheries in Kakinada will also have a set each. Two continuously manned VHF Shore Stations with 30m antenna towers complete the network for this pilot project. The system operators are being trained to communicate timely and appropriate warnings to the villages and trawlers in addition to general weather and fishing information at other times of year.

For the trawler fishermen, direct communication about weather conditions and the ability to communicate with their colleagues on other craft is intended to assist them in taking more appropriate action in the face of deteriorating weather. The system has already proved itself on a number of occasions being instrumental in bringing help to disabled craft or alerting boats not to go to sea.

### **Lifefloats**

The project will provide 100 lifefloats to mechanised boats. These will be distributed during March and April 1999. The lifefloats are based on an established US Coast Guard design adapted by FAO's Naval Architect for fabrication in local boatyards. A prototype has been tested in Kakinada and meets the approval of the boat owners, fishermen and Department of Fisheries. Thirty units have been made locally and another 70 are currently under production. The lifefloat easily supports ten men in the water. At a cost of under Rs6400 (less than half that of 10 lifejackets) it is a very attractive option. Among the other advantages are that it keeps the men together in the water boosting morale and it can support two incapacitated crew members in a central basket. It is highly visible making search and rescue easier. It is always ready for use being stowed on the wheelhouse top - lifejackets are rarely carried although required by law, crews rarely know how to wear them safely and even if carried are stowed away below decks where they have perished or are inaccessible in an emergency. In 1996 most crew members died because they had no means of staying afloat. The lifefloat is a most appropriate solution to this. Initially pressure from crews associations (of which there is an unfortunate and remarkable lacunae) may see its more widespread installation but later legislation is envisaged to ensure that it is carried as mandatory equipment. Enforcement of this will be made easier due to its obvious visibility on the wheelhouse top.

### **Sea Safety**

Two small workshops were held at SIFT in Kakinada by the FAO Naval Architect on sea safety and deficiencies in construction and operation of mechanised boats that compromise sea safety. Recommendations were made for simple and low cost improvements in these areas. The lifefloat was demonstrated and also, since they are mandatory equipment the correct donning of lifejackets was taught. However the dangerously poor condition and design of many lifejackets was noted to seriously undermine their value as safety equipment even if they had been carried by boats in the 1996 cyclone.

### **Community Disaster Preparedness in Fishing Villages and Hamlets**

In efforts to reduce the vulnerability of shrimp seed collectors it is imperative that they are brought back from the out lying and low lying areas before conditions deteriorate to a point where this becomes impossible (ie seas too rough for small navas to ply). As observed above the village is a much safer place than the shrimpseed collection grounds. To this end disaster preparedness training in the villages was undertaken in a pilot scheme implemented by a team of 20 Storm Safety Extension Officers (SSEOs) trained by the project with collaboration from OXFAM Kakinada. The SSEOs were from the Department of Fisheries (10 Fisheries Development Officers) and local NGOs (10). (ACTION, ARTIC, ARISE, CREATORS, FIRM, SAKTHI, SRAVANTHI, VJNNS). In spite of a stipulation that at least half of the SSEOs be women we were only able to recruit 4. Their inputs have been most valuable in bringing fisherwomen into the process and future programmes should insist on, and train, more women extension officers. This is of course no slight on the men who have also done excellent work but who also found it far easier to mobilise women in the

villages if their extension team was male and female. These SSEOs have mobilised 750 volunteers in 30 Storm Safety Action Groups SSAGs in 30 pilot villages. In each Storm Safety Action Group the 25 members are divided into 5 sub-groups; *Warning Group, Shelter Group, Rescue Group, First Aid Group and Relief Group*. Every effort has been made to maximise the participation of women in these groups. The extension officers have facilitated the development and rehearsal of a **community developed contingency plan of action** for each village. These plans are intended to compliment the Government Cyclone Contingency Plan of Action and the work of the local Revenue officers and will be shared with them through the District Collector. More details of such plans are given later in this paper.

### **Basic Equipment**

The project has provided the Storm Safety Action Groups (SSAGs) with some basic equipment such as transistor radios, megaphones, torches, first aid kits and yellow hard hats for protection and identification as managers in a crisis situation. They have also been supplied with raincoats and boots to facilitate their work in wet and cold conditions. The boots also protect against snake bites which are more prevalent during flooding.

### **Diesel Engines to assist Rescue of Shrimpseed Collectors**

Retrieval of shrimpseed collectors from their collection grounds is constrained by lack of motorised craft in some villages. Even with an engine it may take one or two hours to reach the sites. Without engines the time between warning and retrieval could easily be inadequate to effect a rescue. The project has a number of diesel engines which are being installed in Navas of SSAG members or volunteers at villages with significant numbers of people engaged in shrimp seed collection but with very few motorised navas. The beneficiaries of these engines undertake by agreement to use their navas for retrieval of shrimpseed collectors, under the co-ordination of the SSAG, in the event of a cyclone.

### **Video**

The Director of Doordarshan in Hyderabad offered full support in producing and screening a video promoting community disaster preparedness. This is currently under editing. It is anticipated that copies of it will be available to Government Departments and NGOs as an aid to raising awareness and promoting preparedness by end of April 1999.

### **Workshop**

During 4-6 March 1999 a workshop entitled "Measures to Reduce Loss of Life Among Fisherfolk during Cyclones" was held. This reviewed the events of November 1996 and also drew experience from Thailand and the Philippines. The workshop produced concrete recommendations to the GOI on reducing loss of life amongst fisherfolk during these type of natural disasters. These recommendations were generated by four working groups on the following topics: Cyclone Contingency Plan of Action; Evacuation and Protection;

Improved Safety at Sea for Small Mechanised Craft; Fisherfolk Storm Safety Action Groups and Disaster Preparedness. These recommendations are shortly to be published and circulated and presented to GOI.

### **What was our Storm Safety Extension Officers' Vision?**

1. That Fishing Communities become very much more aware of:

- The causes, nature and behaviour of cyclones and the effects they induce and why their track is hard to predict. (And having increased confidence in the IMD/AIR weather reports and cyclone warnings).
- What the fishing communities themselves can do to be better prepared for cyclone disasters.
- How the Government machinery will interact with the fishing communities in such emergencies

2. That the SSEOs would, by working closely and participatively with volunteers, facilitate the development of Storm Safety Action Groups in each village well able to co-ordinate their own **community developed contingency plan of action**. That the SSAGs and village community very much feel ownership of, and commitment to, the plan they have developed themselves.

The measure of success will be how well the SSAGs are able to sustain and demonstrate the contents of their village plan. (rather than how impressive it looks on paper!).

We hope that they will not have to put their plans to the ultimate test, but if they do, we believe that the diligence of the SSEOs in this work now and SSAGs in future will save lives and minimise suffering.

### **Community Developed Contingency Plan of Action**

Although many parts of the **community developed contingency plans of action** may be similar each will probably display a number of specific details which are appropriate to their location and their situation.

The plans will have three main components:

1. Pre-Disaster: Preparation to be done in the weeks before the cyclone prone periods and
2. During Disaster: Actions to be taken in the event of an imminent cyclone and during the strike itself.
3. Post Disaster: Actions to cope with and alleviate the effects of the disaster.

The actions and responsibilities of the five sub groups (*Warning Group, Shelter Group, Rescue Group, First Aid Group and Relief Group*) and the members are detailed and enumerated in the plan for each of these three stages.

All the components of the plan require SSAG and community commitment, responsibility and a sense of ownership. They should feel clear and happy about their roles and responsibilities and be competent to undertake them.

(if the three main components are very well planned and rehearsed the actions required during and after the disaster will follow more naturally and be much easier to manage).

Under Pre Disaster Preparation are all the activities that should be done calmly and without threat or under urgent, imminent danger. They are likely to include such activities as:

1. Collection of Drinking Water
2. Collection of Food (Rice, Atta, Oil, etc.
3. Collection of cooking fuel
4. Collection of candles/oil lamps
5. Saving all these items in safe places for use in the event of a cyclone. They should be of an agreed quality and kept safely. Community decisions will be required on what should be done with them if the cyclone season passes without them having being used. Should they be safely returned to each family after the cyclone prone period is over and fresh items collected close to the next period, or perhaps agreed for use in a village festival, or even sold and the proceeds used for improving or adding to Disaster Preparedness equipment in the village?
6. Collection of special provisions for women, infants, and sick or handicapped persons.
7. Securing homes and personal property where ever possible.
8. Inspection of safe places ('Concrete' houses, cyclone shelters, school buildings etc.) to ensure they are ready for sudden use.
9. Inspection of any safety equipment (such as ropes, sound signals, light signals, plastic sheets, first aid kits etc.). Agreement on where it is to be kept and who is responsible for taking care of it and using it in an emergency.
10. Inspection of boats which will go to retrieve shrimpseed collectors and other outlying groups. Check the skills and readiness of their crews and that engines are in good order and fuelled. That basic safety equipment is on board.
11. All Storm Safety Action Group members/volunteers to Rehearse their responsibilities.
12. Remind community of the actions to be taken and check that they know where they have to go and what they have to do in the event of a cyclone/stormsurge/flooding.
13. Round the clock monitoring of weather bulletins and sharing of the information with the community. Cautions and advice to vulnerable groups.
14. Ensuring all vulnerable person's whereabouts are known, what actions are to be taken to help them and who is to do it. Examples are pregnant women, the elderly, infirm and handicapped, the sick, unattended young children etc.

15. What the Government will do and how the village interacts with that, although emphasis for this plan is what the village does itself
16. Protection plans for personal effects and livelihood equipment and stock.

Under **Actions** During Disaster the following are likely to be included:

(Rehearsal of such actions in fair weather should form part of Preparation and help to promote calmness and efficiency in a real emergency)

1. Helping vulnerable groups to reach the safe places as soon as it is evident that conditions are deteriorating badly and refuge must be taken.
2. Retrieving shrimpseed collectors from outlying and low-lying areas before the conditions become serious and the boats cannot ply to get to them.
3. Organising the places of shelter so that all are taken care of, especially women and children. That weather and news bulletins are continuously monitored and shared with the people, food, water and fuel is fairly managed.
4. Preventing panic and crushing in highly crowded shelters etc.
5. Ensuring First Aid is given to those in need of it including care for those in various levels of shock.
6. Ensuring that VHF Radio or telephone is operated by a responsible person (perhaps with two standby messengers for relaying messages?)
7. Others include: morale, sanitation, privacy for women.

Post Disaster Activities include:

1. Management of relief efforts
  2. Food and water supplies
  3. Sanitation
  4. Care of the homeless and bereaved
  5. Care of the injured and removal to hospital
  6. Assisting with claims and enumeration.
  7. Information and Communication
  8. Reconstruction and rehabilitation.
- These plans must be shared closely with the MROs locally so that they are well acquainted with them and can support the SSAGs and interact with them. These plans should compliment the State Cyclone Contingency Plan of Action. They should effect a significant reduction in vulnerability of each fishing community to a cyclone even if the existing machinery fails to reach them. When the Government machinery does reach them it should provide them a clear and tidy and already organised set up to interact with.
  - Note: the baseline study commissioned by FAO and undertaken by AFPRO (and probably your own research in the villages too) shows that the vast majority of lives lost in the Nov 1996 cyclone were amongst shrimpseed collectors on outlying and low-lying land and amongst fishermen at sea on trawlers who had set out to sea some days before

the cyclone. Navas and other smaller craft were not at sea because they had read the local weather signs and stayed at home. The report shows that there were very few deaths in the villages and that this was the most realistic safe place to be. However that is not to say that there was not a lot of suffering in the villages, there was indeed considerable suffering. This is why it is deemed extremely important to develop good plans in each village to minimise the effects of the disaster by being more prepared for it. i.e. To know where you and friends are to take shelter. To know that you have saved drinking water and food for the difficult days after the cyclone when help may still be trying to reach you. If each village has a good plan like this it also makes it much easier for the government machinery to assist and focus its efforts and resources more effectively.

### **Integration of Disaster Preparedness into all Development Activities.**

This FAO project has, necessarily, according to its remit, concentrated on DP and Sea Safety. With the short time available it has concentrated on and given a concerted push to community-based DP and sea safety in East Godaverii. This work is a demonstration of what can be done in mobilising village level community based contingency plans and raising awareness amongst communities and Government and No-Government agencies of what is achievable. However it is quite clear to all concerned that disasters, cyclone disasters in particular, are usually few and far between. This work must now be synthesised with the host of other development activities essential in these communities such as education, health, hygiene, sanitation, water, communication and housing. In all of these activities there needs to be a thread of disaster preparedness awareness. Education programmes for adults and children, formal and informal should teach about cyclones, storm surge, predictability and tracking in terms that can be understood. Communications to the villages needs to improved, both road and telecommunications. These needs to be done with regard to the vulnerability of these services to cyclones for it is at these times their reliability and durability are most crucial. In housing programmes we are already seeing a big swing towards cyclone resistant construction. However this should be reviewed to ensure that the designs really are appropriate and are not incorporating unnecessary features or overuse of steel and concrete. The filler-slab technique being used quite widely in Kerala should be considered. It is most appropriate, strong, lighter weight and less expensive than conventional slabs.

### **Understanding the Warnings on AIR**

I come here to the key point I want to emphasise in this paper. This is that virtually everyone can have access to up to date cyclone warnings from the IMD via AIR. The warnings are available just for the want of a relatively inexpensive transistor radio and some batteries. The radio can cost as little as Rs 400. It can be carried by migratory fisherfolk anywhere, it can be carried to sea on the smallest of craft (in some 2000km of sailing a 16 foot boat the only access to weather information the author had was a very cheap transistor radio wrapped in a plastic bag. This simple piece of equipment ensured that he was invariably in a safe place whenever a storm was close).

However there is a good reason why this valuable information is not made use of by vulnerable communities here in India. Understanding, or rather a lack of it. People in the villages do not understand the forecasts. Where there is partial understanding there is invariably a great deal of mistrust and scepticism. Because they do not understand the science and process of prediction they feel that AIR/IMD are invariably “wrong” in their predictions. This is of course not the case. IMD are as right as anyone can be. The fisherfolk’s conclusion that IMD are “usually wrong” stems from a lack of understanding about what IMD is doing and how cyclones behave. Fisherfolk trust their own indigenous weather knowledge and much of it is very sound. However, with education they could combine their indigenous knowledge with the quality information coming from IMD through AIR. (TV can and should be used much more to give cyclone warnings and weather bulletins, but I emphasise the use of radio here since it is portable and can be carried with the fisherfolk anywhere.)

This education is a challenge to all of us at this workshop.

There is work to be done on both sides

1. How far can the AIR/IMD forecasts and warnings be modified to be locally specific and locally understood? Or additional bulletins added specifically aimed at fishing communities.
2. What education must be given to increase comprehension and confidence in the warnings in the villages?

Television and educational videos could be used to demystify the unpredictable behaviour of cyclones and what IMD do to track them. They could be used to explain the terms and information given in a forecast. Extension workers interacting closely with the communities can learn and teach a lot in this area. Village level surveys and interaction could be used to ascertain what simplifications could be made to tailor forecasts to the fishing communities.

I propose that we set up a project to address this area of Disaster Preparedness in a number of pilot villages. I would suggest that the Warning Groups in an number of the SSAGs created under the current project be selected for this work. The project would assess the feasibility of improving comprehension and confidence in the IMD/AIR warnings and also at the feasibility of recommendations of how to modify the warnings and weather bulletins for the fishing community. One of the recommendations arising from the working groups at the FAO/GOI workshop was that the appropriate District Collector(s) should actually give messages and instructions to the vulnerable villages (by name) over AIR.



**Itinerary**

24 February	Trivandrum - Bombay
25 February	Bombay - Hyderabad
25 February	Hyderabad - Kakinada overnight train
2 March	Kakinada - Visakapatnam
8 March	Visakapatnam - Kakinada
17 March	Kakinada - Hyderabad overnight train
24 March	Hyderabad - Bombay - Trivandrum

**Persons Met:**

Hyderabad

DS Murty IAS Director of Fisheries

Y Sundarayya NPD, Jt Dir Fisheries (Marine)

Sudhir K Mahon, Disaster Management Expert AP Hazard Mitigation and Cyclone Recovery Project

B Rasheed Communications Expert AP Hazard Mitigation and Cyclone Recovery Project

Giri Rao, Programme Executive, Doordarshan

OXFAM Workshop

M Sahoo IAS Secretary Finance and Head Disaster Mitigation Unit

P Bhaskar Prasad IAS, AP Relief Commissioner

Dr Vinod K Sharma, National Centre for Disaster Management

John Gwynn OXFAM National Director

Roy d'Silva OXFAM Hyderabad

C S Reddy Director CARE Hyderabad

Tushar Bhattacharya OXFAM Calcutta

Humberto van der Star, Head of Projects DRA, Netherlands

Dr Unnikrishnan OXFAM

Rajendra Desai, Civil Engineer, Latur

Mr S Suri, National Inst. Amateur Radio

Brig. DV Rao APARD

Ms Rupa Mukerji TARU

GK Bhat TARU

M Showry Raj AP Disaster Reduction Forum

Babu Thomas, Addl Emerg. Officer CASA

Murlidharan AFPRO

Shivaramakrishna SAKTHI

Ms Sharada, SAKTHI

Ben Witjes Team Leader APWELL

Supriya Bhalerao, Books for Change

others listed elsewhere omitted

Kakinada

Minister For Cooperation Dr Satyanarayana  
Minister of Fisheries Sri Chandra Sekara  
Satish Chandra IAS District Magistrate and Collector East Godavari  
BV Raghavulu Sub-Nodal Project Officer Regional Deputy Director Fisheries  
P Raghuram, National Consultant (Communications) FAO  
Baburao Vemagiri Nat Consultant Marine Engineer FAO  
Gangadarao Proprietor Sri Ayyappa Boatyard  
Koteswara Rao Kolli, Proprietor Kolli Fibres  
Raju, Manager Bharat Marine Services  
Gurudut Prasad, ACTION  
Ms C Mohana OXFAM  
Mr HR Prakash ARTIC  
Mr Durgesh Prasad SRAVANTI  
All 20 SSEOs  
Mr Venkatarao, Diesel Mechanic DoF  
Giri Rao, Programme Executive, Doordarshan  
M Maheswar Reddy, Production Assistant Doordarshan  
Ahmed Hussain, Cameraman, Doordarshan  
A Satya Sekhar, Eng. Assistant, Doordarshan  
S Satya Narayana Murthy, Lighting Assistant

Visagkapatnam

As per workshop report

