TCP/IND/6712
Field Document No. 5

TECHNICAL COOPERATION PROGRAMME

TRAINING IN SEA SAFETY DEVELOPMENT

ACTIVITIES PROGRESS REPORT

BASED ON THE WORK OF

Paul Calvert
FAO Coastal Fisheries and Sea Safety Specialist
(3rd Mission : 13 October – 25 November 1998)

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
BANGKOK, 1998

The Food and Agriculture Organization is greatly indebted to the organizations and individuals who assisted in the implementation of the project by providing information, advice and facilities.

Table of Contents

ANNEXURES

Mission Schedule

The Team Leader travelled to Delhi on 13 October 1998 for meetings with FAOR and also with the Fisheries Development Commissioner. From there he proceeded to Hyderabad on 14 October. In Hyderabad, meetings were held with the Director of Fisheries, NPD Joint Director (Marine) Fisheries and the Director of Doordarshan. It was not possible to meet the Relief Commissioner as he was fully engaged with the flood crisis in the State. However, a letter appraising him of the current progress and plans of the project was left for his attention (Annex 1). The team leader then left for Kakinada by overnight train arriving on 16 October. The team leader was in Kakinada from 16 October to 20 November following up all aspects of the project including the following: SSEO training and field work, meetings with the District Collector, FAO Monitoring Officer's visit, Balusuthippa Shore Station construction, VHF installation and training, lifefloat finalisation and production, nava selection for diesel engines, SSAG equipment, and workshop preparation with the National Consultant and Regional Deputy Director of Fisheries. On 20 November the Team Leader proceeded to Visakapatnam by car with the National Consultant. In Visakapatnam SSAG equipment samples were inspected after which the team leader travelled by air to Hyderabad on 21 November for follow up meetings with the Relief Commissioner (Annex 2), Director of Fisheries, Joint Director (Marine) NPD, Director of Doordarshan and AFPRO.

Meetings in Hyderabad

The meetings held in Hyderabad at the start and end of the mission were extremely valuable in bringing the new Director of Fisheries, D S Murty IAS, and the new Joint Director (Marine) NPD, Y Sundaraya, up to date on the details of the project activities and objectives.

At the end of mission meeting, the Director of Fisheries issued to RDD Kakinada letters regarding:

(a) bringing DoF staff from other districts for exposure to SSEO/SSAG Disaster Preparedness work, Lifefloats and VHF Radio Communications. (b) providing fieldmen for the Balusuthippa Shore Station - at least one with immediate effect to report daily on progress of construction work (c) strict and timely scheduling of VHF Radio beneficiaries on training courses and presenting craft for installation.

The importance of obtaining clearance for additional VHF channels was also stressed. National Consultant (Radio Communications) please send a new letter stating the importance of at least four additional channels to Director of Fisheries copied to Dr Yadava and FAOR for urgent action.

It was not possible to meet the Relief Commissioner at the start of the mission as he was fully engaged with the co-ordinating flood relief caused by the cyclone and heavy rain in West Godaveri. The NPD and the consultant met him on 24 November. He was appraised of the current progress on the project and also discussed Cyclone 6B (page 7 refers) and communications. He endorsed the opinion that All India Radio (AIR) should have right-up-to-date information to broadcast weather/cyclone bulletins to the general population and also that education be given to them to understand and make best use of it. (See letter of 25

November to Relief Commissioner Annex 2) He has seen the OXFAM Bangladesh Cyclone videos which were first shown at the SSEO Course Part I. (Although useful in indicating a peoples' response, they are obviously Bangladeshi scenes and poorly focused for work in Andhra Pradesh). The Relief Commissioner was interested in the video that this project will produce.

Noted that the State Cyclone Contingency Plan of Action (CCPA) has recently been reviewed and copies will be available shortly. The changes are not, apparently, very significant. He also permitted us to make copies of the cyclone contingency plans for East Godaveri District. NPD to please copy to FAO Project Office and RDD to share with the SSEOs.

SSEO Second Part Training Course

This was from 26 October to 6 November. The course was formally inaugurated by the Director of Fisheries with the NPD also present. One DoF SSEO and five NGO SSEOs had been replaced since the first course. In the case of the department the old participant also came on this course as he is now working in the State Institute for Fisheries Technology (SIFT) and will subsequently use the experience to teach other DoF staff in collaboration with the ten DoF SSEOs (in rotation) who will have built up invaluable practical skills and experience during the project. Details of the course will be provided as a resource manual - a compilation of papers from the training course - by course organiser OXFAM by the end of November.

A list of SSEOs and the scores they achieved in a number of before and after questionnaires on the course is shown in Annex 6

The RDD made the recommendation that FDOs (Fisheries Development Officers) from the other coastal states of Andhra Pradesh be brought for exposure to and initial training in the work of SSEOs and SSAGs and also the Sea Safety VHF and lifefloat work. This valuable suggestion was taken up right away with the Director of Fisheries who has issued a letter to accomplish this by January.

SSEO Fieldwork

This commenced on 12 October after approval for full time work by the DoF SSEOs was received from the Director of Fisheries on 10 October. Thus, with Diwali festivities coming in-between, about eight field days were achieved before the SSEO Training Course Part II started on 26 October.

After the SSEO training course part II, fieldwork recommenced on 9 November according to the guidelines given in Annex 9 with detailed monthly plans being produced by the SSEOs and the SSEO field co-ordinator (See monthly plans and reports from ACTION).

The end date for this work has been agreed as 31 March 1999.

It has also been noted that in addition to liaison with the Mandal Revenue Officer (MRO), Village Administrative Officer (VAO) and Sarpanch, (see Annex 3, Letter to District Collector) the nearest DoF Fieldmen should take an interest in the work of the SSEOs and SSAGs. Regional Deputy Director (RDD) and Assistant Directors (ADs) to kindly take necessary action to ensure this participation.

Life Floats

After development of the prototype by O. Guldbransen FAO Consultant Naval Architect, the National Consultant Marine Engineer and the Sri Ayyappa Boatyard made a second version incorporating grab handles as part of the moulding. Finally a very accurate plug was made incorporating the best features from which two moulds were taken. Quotations for making the lifefloat to this specification (see Annex 4) were called for from six yards. Three responded and the two lowest accepted. FAOR will place orders for an initial batch of 30 lifefloats, 15 from each of these two yards, Kolli Fibres and Sri Ayyappa Boatyard. The price quoted is Rs 5800 and delivery within 30 days of order. These are to be distributed by the Department of Fisheries on free of cost basis and installed on mechanised boats that have not received VHF sets. It is intended to produce a total of 100 lifefloats for distribution before the end of the project.

VHF Shore Station Balusuthippa

The consultant visited this site along with the RDD, Executive Engineer, and Deputy Executive Engineer of the Special Project Unit (SPU) Fisheries Department on 22 October. The building foundations, pillars and floor slab which it had been agreed would be made level from their severely listed condition of June/July 98 were found to be reasonably level. Assurances were given by the SPU Executive Engineer that all was now well to proceed. However, inspite of numerous promises and assurances, no progress was forthcoming in the subsequent weeks in spite of meetings and correspondence (Annex 5 shows the most recent) and regular enquiries by the RDD Kakinada and Director of Fisheries Hyderabad. The urgency of completing this work was stressed with the Director of Fisheries and NPD in Hyderabad, and the Director had insisted on daily reports on progress. Inspite of this there was no progress throughout this mission period.

On 25 October the SPU Executive Engineer assured the Director of Fisheries that the roof slab at Balusuthippa would be completed by 15 November.

The consultant visited the site again on 18 November with an Assistant Engineer of SPU Fisheries Department. It was evident that there had been no progress since the last visit of 22 October.

This was discussed on 23 November with the Director of Fisheries in Hyderabad and he immediately arranged for the Chief Engineer, Ports, to accompany the NPD and EE SPU to the site on 28 November to make specific recommendations on how the DoF should proceed.

The problem with this building is that it is obviously located in a rather unsuitable site in unknown, but obviously unstable, soil conditions despite the results of the soil tests done before construction. It has been dogged by changes of supervisor and lack of adequate design inputs from the outset. The result is that no engineer is or has taken responsibility for it and nobody knows what exactly has been done up at the various stages.

Extremely firm action on the part of the GOAP/Department of Fisheries is urgently required together with qualified professional advice specific to this structure and the soil conditions there in all seasons.

NOTE: In a telephone call to the Director of Fisheries in Hyderabad on 11 December he informed that they had been advised by a consultant to abandon the existing site and building. It is proposed to set up the vhf shore station in the new cyclone shelter in Balusuthippa instead. The consultant suggested that the DOF seriously consider moving the 90' lattice radio mast to an adjacent position to optimise the range of the radio and also not to waste this piece of capital equipment. NB. The cost saved on not completing the shore station building could be used in making new foundations for the mast and for dismantling and re-erecting it nearby the cyclone shelter. In any event the old location was, in the consultant's opinion, an odd one, the cyclone shelter being far more appropriate and the place where people are likely to be and need communication to and from in an emergency.

VHF Shore Station Kakinada

The radio room is to be permanently arranged and given a professional appearance. The operators will maintain logbooks, wall charts (Indian Meteorological Department - IMD) for marking cyclone tracks and coastal (Admiralty) charts showing station ranges and stations and for locating fishing boat positions. Instructions on handling emergency calls, re-broadcasting of weather bulletins are also to be displayed. A transistor radio is part of the essential station equipment to enable monitoring of weather bulletins and cyclone warnings from AIR. Two VHF sets will be kept in the shore station so that channel 16 will be constantly monitored. A stand-by aerial must also be permanently installed in case of failure of the main aerial. A generator set is to be installed to ensure operation even throughout prolonged power failures. Three sets of raincoats, boots, and hats plus a torch, are also to be provided for the operators. Once Balusuthippa Shore Station is completed it is to be similarly equipped.

VHF Installations on Mechanised Boats

At the time of the consultant's arrival in Kakinada only 2 VHF sets had been installed in mechanised boats despite 52 sets having been received in Kakinada during the prior visit. By the time the consultant left, 41 had been installed. A further 50 sets have been ordered at the end of November, and the National Consultant and the DoF will need to work diligently to ensure the training and installations are undertaken promptly so that the final batch of 50 sets can also be ordered and installed within the project period.

The DoF have undertaken to ensure that a beneficiary list of 50 plus 25 waitlisted is maintained and that the beneficiaries understand that the training and sets are completely free. (A loss of earnings payment of Rs200/day is made to each of the two crew members attending the course). Also the DoF will ensure that the appointed persons attend the two day training courses and installation appointments on the prescribed dates. Failure to do so will result in the VHF set being allocated to the next in line on the waitlist.

The installations are also to be improved under the supervision of the National Consultant (a toolkit has been purchased to remove the necessity of borrowing inadequate tools for each boat for each installation). The ergonomics of using the set and also positioning it and the mike so that it is not vulnerable to knocks from the crew in normal use and rough weather must be considered. The manufacturer's installation recommendations including those for adequate air circulation for cooling must be followed. Well secured and tidy wiring and HF cable routing is essential. It not only looks good but will reduce the chance of vibration or careless snagging putting the set out of action.

Channel 16 and Channel 15

All VHF sets are to be programmed to show the true marine channels on the display. That is Channel 16 and Channel 15. The designation of these channels as 1 and 2 must be changed urgently, on the existing sets, in the training material and in the training courses.

Additional Channels

Sanction for additional channels must be urgently pursued. Already, with 41 boats (currently designated "channel 2") and the Kakinada Shore Station, Assistant Director (3 sets) and RDD all operating on channel 15, the channel is becoming crowded. Other users such as ONGC (Oil and Natural Gas Corporation) are complaining that the channel is jammed with fishermen traffic. Although this may be partly due to the fishermen using the set more than necessary in the early stages, this novelty factor may decline in time. However by the project end in April there should be 150 sets operational and hopefully others will consider purchasing their on sets. Channel 15 is going to be overloaded. Additional Channels are essential.

Radio Discipline

In the same vein, to reduce overloading, strict radio discipline must be taught and enforced. The DoF must take an active role in this (RDD and AD please note). Messages must be kept brief and only essential messages should be transmitted. The VHF should not become a chatter line. It should also not become a substitute for the telephone ashore. The installation of sets at AD Fisheries offices is to assist in co-ordination of activities in emergencies but the DoF should be the first to set a good example in radio discipline. This point does not negate the urgent requirement for more VHF Channels to be sanctioned through WPC.

SSEO Equipment

The Storm Safety Extension Officers have been equipped with raincoats, boots and hats of their own choice.

SSAG Equipment

The SSAGs (25 members each) are to be equipped with raincoats, PVC boots, and yellow hard hats. Each group will receive 5 torches, two transistor radios, two battery operated megaphones, first aid kit. The option on signal rockets still remains open subject to trial in January. Quotes have been received and recommendations made to FAOR to proceed.

National Workshop

The dates for this have had to be moved slightly from 1-3 February to 7-9 February as the Fisheries Commissioner has other engagements on the earlier days. NOTE THIS HAS AGAIN BEEN CHANGED TO NEW DATES OF 4 - 6 MARCH 1999. The workshop venue is being booked by the National Consultant for these new dates. Details of the workshop logistics and arrangements have been discussed (Team Leader, National Consultant and RDD) and the National Consultant has drawn up a budget for this. It has been copied to FAOR.

Recommend FAOR and National Consultant liaise closely with the Fisheries Commissioner and his office regarding invitations to the workshop as these letters should go out in December.

It is recommended that the DoF arrange for the NPD and RDD Kakinada to be in Visakapatnam three days before the workshop for organising all preparations with the Team Leader, National Consultant and DoF Visag. (Director of Fisheries please note.)

Diesel Engines for Navas

These 12 engines are to be installed in good 30+ feet Navas in villages where there are very few, or no, motorised Navas, more shrimpseed collectors and greater distance to shrimpseed collection sites. The detailed criteria are given in Annex 7. The supplier has been approved and installation is to proceed under the supervision of the National Consultant Marine Engineer. The first nava is being selected from BPV Palem, meeting the criteria. The other eleven are to be distributed strictly to the criteria. This will be fairly easy to decide once the SSEOs complete Situation Analysis work in the villages by 27 November.

1. Action by RDD : expedite selection based on the given criteria and Situation Analysis results.
   NOTE: FEEDBACK FROM THE SSEOS SUGGESTS THERE ARE FEW NAVAS OVER 30' AND ONLY 28' NAVAS ARE COMMON.

2. Action : NATIONAL CONSULTANT MARINE ENGINEER TO PLEASE CLARIFY AND ADVISE WHETHER 12 SUITABLE BIG NAVAS CAN BE LOCATED IN NEEDY VILLAGES OR WHETHER IT IS APPROPRIATE TO SEEK QUOTATIONS FOR SMALLER ENGINES, PROPELLORS SHAFTS ETC.

Cyclone Disaster Preparedness and Training Video

Doordarshan Director appointed their Programme Executive (Mr Giri Rao) to prepare introduction and background material for the video for viewing and discussion on the consultant's return in mid-January. It was also agreed that he would make a preliminary visit to Kakinada, organised through NPD, before then to meet DoF and the SSEOs and travel to some of the villages to gain experience of the work. He will also assist the Video Liaison Team of SSEOs with the story line they are developing to share with the consultant before end of December.

Cyclone 6B

On 14 and 15 November a deep depression in the Bay of Bengal intensified into a severe cyclonic storm threatening Kakinada but finally crossing the coast just south of Visag. It was feared it would cross Kakinada at about 6 or 7 in the evening which would also coincide with high tide.

Regular bulletins were being broadcast by All India Radio in Telugu from Vijaywada and Vizag. For example the bulletin at hrs. 12:30 on 15 November indicated that the cyclone was 250 km South-East of Vizag and moving in a North-Westerly direction. Winds of 150 - 180kph would be expected to damage pucca houses and trees, and communications were expected to be disrupted. The cyclone was expected to cross the coast between Kakinada and Kalingapatnam by evening. All collectors were requested to evacuate people from vulnerable areas immediately. All India Radio would be broadcasting bulletins every half an hour.

At hrs. 14:10 All India Radio broadcasted that the severe cyclonic storm was reported at hrs. 11:30 to be 200 km South East of Vizag and moving steadily North-West, probably crossing the coast between Kakinada and Kalingapatnam by evening or night.

One wonders why AIR is not able to broadcast more updated information. The cyclone position provident was 3 hours old and the cyclone was certainly already much closer. Surely AIR has the widest coverage, being able to reach everybody with a transistor radio and therefore the population would benefit from receiving information which is right up to date.

Signal Number 10 "Great Danger" was flying at Kakinada Port from hrs. 09:10 on 15 November. This is the most extreme signal. Many trawlers were seen to be steaming up Salt Creek to take refuge from the imminent cyclone. There was heavy rainfall and the streets of Kakinada were under several inches of water in most places. Signal Number 7 had been flying since hrs. 03:50 that morning and Signal No.3 for the past two days.

The report showing the sequence of development and action taken for cyclone 6B given in Annex 8 was provided by the Relief Commissioner in Hyderabad.

The Revenue Department and Fisheries Department had both despatched their officers to carry warnings by jeep (equipped with loud-speaker) to the coastal villages on 14 evening and 15 early morning.

The project team decided to go to all project villages between Kakinada and Bhairavapalem to see whether all of them had received a warning message, from whom; and what action they had taken. Four SSEOs from the DoF stationed locally were called out and willingly joined in this task. V. Ram Mohan Rao and ACS Reddy covered the villages from Kakinada to Talarevu. Raghuram and the consultant with Sidhardha Vardhan headed straight for Bhairavapalem, picking up another SSEO, Peddi Babu, on the way. The team crossed the ferry into Bhairavapalem and then returned covering the villages from there back to Talarevu.

On the way the team listened to another Telegu AIR bulletin at hrs.16:30 which again announced that the storm was 200 km South-East of Vizag, wind speeds 150 - 180 km per hour and waves upto 2 metres high. (It was not clear whether this really meant waves of 2 metres or a storm surge of 2 metres - see later note on Waves and Storm Surge).

Why, at hrs. 16:30, was AIR still giving the hrs. 11:30 position of the cyclone? The cyclone actually hit just South of Visag at hrs. 18:30. Is AIR not being given the latest information? Surely it is possible to let AIR have information that is no more than half and hour old.

Buys-Ballots Law, which states that if you stand with your back to the wind the centre of the depression lies on your left, is an extremely useful one and many would benefit from knowing and using it. Buys-Ballots Law showed us that at hrs. 16:30 the centre of the cyclone was already at least "level with" (east of) Kakinada.

Waves and Storm Surge

The difference between Waves and Storm Surge is very significant but the consultant is not sure that there is any clarity or differentiation of these terms in Telugu or English in the understanding of many users and listeners. The terms waves, storm surge and tidal waves appear very often to be used in a muddled and unclear way meaning different things to different people.

The cyclone creates many waves and a single storm surge.

Storm surge is a general rise in the sea level caused by the cyclone driving a large body of water ahead of itself. (The low atmospheric pressure is not a major contributor to this effect.)

Storm surge is exacerbated by the coastal topography. In other words if the storm surge arrives at a river delta, the water will rise still further as it crosses from deep to shallow water and funnels into all the river mouths and channels. Water levels can rise even further

as the storm surge meets heavy run-off coming down the river from torrential rains accompanying the cyclone.

Waves are a disturbance of the sea surface caused by the wind. The longer the wind blows, the harder it blows and the longer the distance it blows over, the bigger the waves. Wherever the wind blows over water there will be waves.

Waves are superimposed on the storm surge. Both waves and storm surge are super imposed on the height of tide. In other words, a two metre storm surge with two metre waves occurring at high tide, would be worse than the same occurring at low tide.

Interpretation of Weather Bulletins

It appears that the Telegu equivalents of North and South are reasonably widely understood. Possibly E and W too. But NE and SW in English or Telegu are probably pretty baffling to many listeners in the villages. Education is required. To announce that a cyclone lies 450 km SE of Visag and is likely to travel in a NW'ly direction and cross the coast between Kakinada and Kalingapatnam can be misleading to someone not educated to interpret this information as it is intended. The distance and directions may not create a clear mental picture of the situation. The names Cyclone, Visag, Kakinada, Kalingapatnam are the key points likely to register. Having some knowledge of the typical size of a cyclone, the wind patterns in it and the typical speed of advance help to create a much better picture in the mind of the listener. This is an area where the SSEOs can do some good work with the SSAGs later in the project.

Survey of Message Receipts for Cyclone 6B

Our findings on this quick survey were based on the following questions:

1. Who brought the message and when?
2. What was the message?
3. Have any boats gone for fishing?
4. Are any shrimp seed collectors out?
5. What actions have been taken?

Bhairavapalem

(16:55 IST)
Yes they had received a warning. By AIR on 14 evening and by Mandal Revenue Officer (MRO)/Mandal Development Officer (MDO)/a Village Administrative Officer (VAO) at 9am on 15 November.
The messengers told them that there was a severe cyclone and they should evacuate the village immediately and no one should go to sea.
All fishing boats were at the village.
All shrimp seed collectors were at the village.

The village elders had decided not to evacuate the village as people did not want to leave their boats and houses. They also felt that the greatest danger was past now. They asked instead that the MRO provide them with dry rations (instead of the tamarind rice offered) for 1440 families. If the wind had still been in the East, they would have evacuated. But because it had moved into the North, they decided it was not necessary. They also told us that an FRP Nava had been lost in heavy waves whilst entering the river at Kitapalam. Three out of eight of the crew were missing and presumed drowned (During the next day it was heard that they had in fact survived along with the boat). The project VHF set still not set up, yet as they were planning to install it on top of the new Rajiv Gandhi Foundation Cyclone Shelter. But as the building was to be inaugurated on 25th November by Sonia Gandhi, they were waiting until then. However they said that they were constantly listening to transistor radio.

Pedigagimoga

(17:20 IST)
They had heard about the cyclone at hrs. 21:30 on 14th through TV and at hrs. 02:40 on 15th through MRO, VAO and AD Fisheries.
They were told not to go to sea, and so anyone who was going stopped.
No shrimp seed collectors out.
They say that if the wind is in the North East they will take refuge in pucca houses and the cyclone shelter.

Pedavalasala

(17:30 IST)
Receives warning through TV on 14th evening and revenue Department came at hrs. 02:00 on 15th.
12 non-motorised Navas each with two men were at sea or in creeks, having left the village on 14th morning. All other villagers and shrimp seed collectors remained at home as per instructions.
They had no news of the Navas that were out, but said on the 16th that they would go in search of them. They hadn't told the MRO these boats were out (they should have done).
(The next day it was heard that some of the boats returned and that the others were known to be on the way)

Lakshmipatipuram (Chinagagimoga)

Warning received from MRO on 14th evening and at hrs. 02:30 am on 15th from AD Fisheries.
15 non-motorised Navas still at sea each with 2 persons aboard.
Shrimp seed collectors all at home.
No cyclone shelters in this village. People take refuge in houses only. (All these craft eventually returned safely).

Upalanka

Received message from MRO and VAO at hrs. 22:00 on 14th. Again from AD Fisheries at hrs. 22:30.
No boats out fishing.
No shrimp seed collectors out.
All village alerted by Sarpanch and VAO.
Listening to transistor radios to monitor weather bulletins.

Cobetichetupeta

Message received at hrs. 00:00 midnight from MRO, FCS president and Maidusecham (Sarpanch).
Informed all the village by tom-tom.
No boats gone for fishing.
No shrimp seed collectors out.
TVs and radios in the village being monitored. (One person reported to have died from 'the severe cold')

Matlapalem

Message received at hrs. 00:00 midnight by village Munsiff (VAO).
8 people had been in the bay in a Nava. But the village had sent another Nava to call them back on 14th morning.
Village listening irregularly to radio for message.

Rammanapulam

Not received any message from anyone but they knew about the cyclone from the radio, and the FCS president had alerted all the people not to go for seed collection or fishing.

Dindi

No message received so far (hrs. 18:00 on 15th)
Everyone remained in the village.
Listening to transistor radio.

Pedda Bodu Venkataya Palem

Message received at hrs. 23:00 on 14th from MRO and again in the morning. The Sarpanch was informed of the severity of the cyclone.
25 non motorised Navas were still at sea having gone for fishing on 13th November. Village elders had used the village PA (Public Address) system to warn villagers of the cyclone. 20

families were moved to cyclone shelter from the most vulnerable areas. 3 Navas returned to the village during this visit by the SSEOs and informed that all the others were on their way (The SSEOs reported that their new coats had helped identify them and many people had quickly gathered around them.)

China Bodu Venkatapalem

Message received at hrs. 23:00 from MRO and again in the early morning. They had used the village PA system to inform all villagers.
8 Dhonis and 15 Navas were in the bay fishing, but they had been informed by a PBV Palem (Village of Pedda Bodu Venkataya Palem) Nava that they were all on their way back. 10 families had been shifted to the village school rather than the cyclone shelter since the latter was in bad condition (again the new coats proved effective).
18:50 IST on 15th

It is interesting to note that Ramanapalam and Dindi did not get messenger warnings and they are also the two villages of all these that do not have road access but necessitate a walk to reach them.

Tides for Kakinada

Date	Time (IST)	Height (m)
14.11	0532	1.51
	1814	1.56
15.11	0622	1.55
	1853	1.67
16.11	0702	1.60
	1927	1.76

ANNEX 1

Mr B P Achariya IAS
Relief Commissioner
Government of Andhra Pradesh

Paul Calvert
FAO Project Team Leader
Training in Sea Safety
Development Programmes,
FTO Building, Dept Fisheries
Kakinada. East Godaveri

16 October, 1998

Dear Mr B P Achariya,

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

I trust this letter finds you well. Unfortunately we were unable to meet during my brief stopover in Hyderabad. Quite understandably you were busy with relief actions with respect to the heavy rains in the state and the deep depression that crossed the West Godaveri coastline.

We shall no doubt be able to meet during my next visit to Hyderabad possibly in about three weeks time.

This letter is to give you a brief overview of the FAO project in Kakinada being undertaken in collaboration with the Department of Fisheries.

Background
The project was initiated as a result of the high loss of life amongst fisherfolk in the November 1996 cyclone in East Godaveri. Balusuthippa and Bhairavapalem and surrounding hamlets were amongst the worst affected resulting in this project being focused there.

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 is focusing 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 do not get caught out in severe conditions)

VHF Radio Communications
For both groups we intend to work to increase their confidence, comprehension and response to cyclone warnings and improve their ability and diligence in monitoring them. Wider use of transistor radios and two-way VHF radio communication systems will be encouraged and demonstrated. (100 VHF sets, provided by the project, are to be 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 will be 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.

Lifefloats
Additionally we intend to provide up to 100 lifefloats to trawlers. 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. The lifefloat easily supports ten men in the water.

In the 1996 cyclone most fishermen drowned, after their trawler capsized, because no floatation devices were available (Craft are observed to contradict Marine Fishing Act regulations stipulating the carrying of lifejackets and lifebouys). However experience shows that very few crews know how to correctly don a lifejacket. Also the standard lifejackets are usually unsafe being very old, the materials rotten and no longer waterproof and having limited duration of buoyancy. The crews have no confidence in them and the owners do not ensure they are carried. The lifefloat on the other hand sits on the roof of the wheel house and is easily accessible and its use is instinctive. It can be produced locally and relatively inexpensively. (around Rs 7000 and considerably cheaper than ten lifejackets). Initially pressure from crews may see its more widespread installation but later legislation might favour this over other forms of life saving equipment.

Note it is the fishermen on these craft that the project is reaching out to in these two initiatives. They are from poor and marginalised communities. The owners on the other hand are more often wealthy and could generally afford this equipment to make life safer for their crews. Encouragement and pressure from authorities and crews and ultimately legislation should persuade them to fit these two pieces of equipment, VHF and lifefloat, as standard.

Community Disaster Preparedness in Fishing Villages and Hamlets
In efforts to reduce the vulnerability of shrimp seed collectors we see that it is important that they are brought back from the out lying and low lying areas before conditions deteriorate to a point where this becomes impossible. As mentioned above the village is much safer place than the shrimpseed collection grounds. Disaster preparedness training in the villages is underway in a pilot scheme being implemented through a team of 20 Storm Safety Extension Officers (SSEOs) trained by the project. These SSEOs will mobilise volunteer Storm Safety Action Groups in up to 30 pilot villages. They will facilitate 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.

These plans will have two main components developed and rehearsed by the community Storm Safety Action Groups:

1. Preparation to be done in the weeks before the cyclone prone periods and
2. Actions to be taken in the event of an imminent cyclone

they will be location specific but will include:

- Safe collection and storage of food fuel and water at safe houses and cyclone shelters in the weeks before the cyclone prone periods.
- Continuos monitoring of weather bulletins and sharing in the community.
- Plans for helping sick, infirm, aged, handicapped persons and pregnant women in the event of a cyclone.
- plans for retrieving shrimpseed collectors from the outlying areas and bringing to cyclone shelters and safe houses.

Basic Equipment
The project will be providing the Storm Safety Action Groups (SSAGs) with some basic equipment such as transistor radios, yellow hard hats for protection and identification as managers in a crisis situation, etc.

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. The project has 12 diesel engines which we will install in Navas at villages with significant numbers of people engaged in shrimp seed collection but with very few motorised navas. The beneficiaries of these engines are to agree to use their navas for retrieval of shrimpseed collectors, under the co-ordination of the SSAG, in the event of a cyclone.

Video
A video promoting diligent monitoring of weather bulletins and of making sound preparations in the village in the pre-cyclone weeks is also planned. The Director of Doordarshan in Hyderabad has offered full support in producing this material.

Workshop
During 1-3 February 1999 a workshop entitled "Measures to Reduce Loss of Life Among Fisherfolk during Cyclones" will be held. This will review the events of November 1996 and seek to learn from them. It will also seek to draw on the responses to similar events in other countries and the experiences gained in this project. The workshop intends to produce concrete recommendations on reducing loss of life amongst fisherfolk during these type of natural disasters.

We very much look forward to your active participation in this, inviting you to present a paper entitled Cyclone Contingency Plans and Procedures at the State and National Level (15mins). A formal invitation and request will be forthcoming from the Fisheries Development Commissioner, Dr Y S Yadava, in due course.

I do hope that you find all the above of interest. It is of course a pilot project of only one year, but we intend that it will demonstrate a number of useful principles and approaches that will compliment and assist the work of the Revenue Department.

I look forward to your response and comments and hope that we will get the chance to meet and discuss these issues soon.

Kind Regards,

Paul Calvert
FAO Project Team Leader

cc District Collector East Godaveri Mr Satish Chandra IAS
Director of Fisheries Hyderabad Mr D S Murthy IAS
Joint Dir Fisheries Hyderabad Mr Y Sudaraya (National Project Director)
Regional Deputy Director Fisheries Kakinada Mr B V Ragavulu

ANNEX 2

B P Achariya, IAS
Relief Commissioner
Hyderabad

25 November, 1998

Dear B P Achariya,

This is a brief note to thank you for information on the East Godaveri Cyclone Contingency Plan of Action and for our discussions yesterday.

I attach, for you information, some of the material produced in our recent training course conducted in collaboration with OXFAM in Kakinada. It outlines the work that our Storm Safety Extension Officers (SSEOs) will doing between now and the end of March 1999. I would be happy to send you more on this if it is useful.

I fully endorse your ideas on inviting AIR and Doordarshan for discussions on enhancing their weather and information broadcasts to fisherfolk. Also for training and awareness programmes for fisherfolk to better understand and interpret the weather bulletins. There is no doubt that training in the villages is going to be essential. An educational video of this could be made and used to accelerate the process and permit easier repetition over the TV networks and by extension officers of Department of Fisheries, NGOs etc.

Promoting much wider use of transistor radios in coastal craft and villages is really essential. I would suggest in this context a small water resistant card or laminated map of the Bay of Bengal be distributed and, along with some training, be used by leading fishermen and key villagers to plot the track of the cyclone. It is quite clear from our experiences so far that these groups generally do not understand the details of weather bulletins and cyclone warnings. The card, in Telegu, should show key features, Lat. and Long., principal directions, times of normal AIR weather bulletins, scale of distance, typical size of a cyclonic storm, wind directions within it, typical speed of advance, etc. Ideally it should fold and be kept attached to the transistor radio. On the back it could have a list of actions to take during the approach of a cyclone and other advisory information. The user can mark his or her own village and fishing ground on the chart.

Ideally Doordarshan and the satellite TV stations should show a simple map of the Bay of Bengal with key locations (eg Visag, Kakinada, Machilipatnam etc shown.) and depict the progress of the cyclone and its projected path. This should be shown at increasingly regular intervals as depression intensifies. (Satellite dish aerials are appearing increasingly in these remote fishing villages). This way even village viewers can follow its progress pictorially and also see how the track and projected path develops over time. The names of the places marked on the map could be made to illuminate or flash on the screen as the names are read out by the broadcaster to reinforce the message but also to help illiterates to understand the locations. Colloquial Telegu should be used for these broadcast and every effort made to cope with variations in dialect.

I hope these suggestions are useful. If you do have any interactions with AIR and Doordarshan before I come back in mid-January do let me know how they go.

Kind regards,

Paul Calvert
FAO Consultant,
Team Leader TSSDP

ANNEX 3

Satish Chandra IAS
District Magistrate and Collector
Kakinada, East Godaveri

10 November, 1998

Dear Satish Chandra,

Letter to Sarpanch, VAO, MRO
The SSEOs now move into the field and will soon be encouraging volunteers from each project village to form Storm Safety Action Groups. They are all enthusiastic about the challenge ahead and also keen that the work links in effectively with the Government machinery. We would ask you to be kind enough to write a letter to the Sarpanch, VAO and MRO associated with each of the project villages authorising and encouraging them to take a participative interest in this work and lend it their support.

A list of the villages and the names of the SSEOs working in each one is attached. I also attach copies of a recent Overview Update, details of the SSEO's work plan and how they are going to go about it. Maybe these papers could also be shared with these officials to clarify the approach. I would be willing to talk to them if you think it necessary. Alternatively they could all come together one Saturday on a mutually convenient date with the SSEO team

Meeting to Discuss Cyclone Warning Dissemination.
It was a pleasure to meet you on Thursday evening. I would like to come and see you again to brief you on project progress and also to discuss the CCPA and cyclone warning dissemination generally. When would be convenient for you?

MRO Manikyalarao
This letter is to thank you for providing your MRO Manikyalarao to speak to our Storm Safety Extension Officers. His presentation, interactions and frankness were very well received.

CCPA
Where can we obtain copies of the Cyclone Contingency Plan of Action so that each of the SSEOs can have their own copy? If you have any stock here in Kakinada and can spare 24 copies it would be much appreciated.

With best wishes and kind regards,

Paul Calvert
FAO Consultant
Team Leader TSSDP

cc:
FAO:
Mr P Raghuram, FAO National Consultant (Communications)
GOAP:
Mr Y Sundarayya, NPD, Joint Director of Fisheries (Marine) Hyderabad
Mr B V Raghavulu, Regional Deputy Director of Fisheries

ANNEX 4

To:

Date:

Dear Sir,

Glass Fibre Life Float for Mechanised Boats

You are invited to visit the FTO Building Opposite Fishing Harbour on

.....to view a sample of the lifefloat and subsequently to provide a detailed quotation showing itemised estimate, including material specifications, for the following work:

Fabrication of fifteen lifefloats for marine use and to a standard and quality not less than the FAO sample shown at the FTO Building opposite the Fishing Harbour. Production to be supervised inspected by FAO Consultant Marine Engineer Mr Baburao Vemagiri, Kakinada.

You are to use the mould provided by FAO on free of cost basis which is supplied to ensure a standard size and form of lifefloat.

The material specifications and build quality you are to follow are given below:

1. Isopthalic polyester resin of IRS / Lloyds specification must be used throughout. QUANTITY 19 kg and Gelcoat 3 kg
2. Chopped Strand Mat (CSM) of IRS / Lloyds specification QUANTITY 8.5 kg
3. The lay up must consist of four layers of 450 g/sqm CSM no other fillers are to be added.
4. Pigment colour is to be International Orange of Korax make only
5. New Polystyrene foam must completely fill the entire body of the float.
6. The float body, handles and all details must be smooth with no protruding fibres or sharp edges
7. The two halves of the float are to be joined with two layers of 450 g/sqm CSM after removal of gel coat. The PVC pipes for the headrope are to be bonded to the float body with two layers of 450 g/sqm CSM
8. The holes in the flange which form the Handholds are to be cut according to the markings on the mould. The float body, where the hand hold has been cut out is to be bonded as in point 6 above.
9. The raw edges of the handhold flange and the joint of the handle is to be sealed with tissue mat inside and out.
10. The netting mesh size must not exceed 80mm in the walls and 50mm in the bottom. It is to be made from 6mm dia new UV Resistant Gareware rope. The depth of the walls is to be 500mm when stretched.

11. New Gareware UV Resistant Rope of 10mm dia must be used for the headrope of the net connecting it to the float and also for the grabropes around the outside of the float.
12. The rod used for the bottom of the net must be 9mm diameter and of non-magnetic stainless steel.
13. Four strips of white reflective tape are to be applied (two on top two on bottom) the size of each being not less than 150mm x 40mm.
14. The fishing boat number and the initials TSSDP are to be painted in Black on top and bottom of the float in 120mm high letters and numbers eg FKKD 123. TSSDP.
15. The float must be fully water tight and this is to be proven by submersion to a depth of 300mm for 30 minutes.

The FAO Consultant Marine Engineer, who has the authority to accept or reject the lifefloats, will advise on all details.

The quotation should be submitted to Paul Calvert, FAO Team Leader, at the office address given below before 19 November 1998

Sincerely,

Paul Calvert
FAO Consultant - Team Leader
Training in Sea Safety Development Programmes

ANNEX 5

V. Suryanarayana
Executive Engineer SPU
Fisheries Department
Kakinada

Paul Calvert
Team Leader
TSSDP
TCP/IND/6712
Kakinada

9 November, 1998

Dear Sir,

Balusuthippa Shore Station Building

Further to your kind letters of 3, 4, and 6, November 1998 let me take this opportunity to clarify for all concerned the following points:

Project Requirement and Responsibility:
A single storey shore station building at Balusuthippa, with the floor slab above the flood / storm surge level, will fulfil the requirements of this project. The building should be technically and structurally sound in all respects and not subject to subsidence.

The design and construction of the Balusuthippa shore station building are the responsibility of the Department of Fisheries, GOAP. The FAO is responsible only for installing VHF Radio equipment in the completed building and training the operators.

I acknowledge that the subsidence of the building is unfortunate but that you are now making every effort to overcome this situation. No doubt in your latest proposal you will have taken into account the additional weight of the earth infill on the foundation slab, the weight of the additional random rubble foundations and the bearing capacity of the soil at that depth. However, might I suggest that if you have any doubt about the integrity of the foundations you obtain the on-site assistance of specialists who can provide you with documented technical advice on how to proceed.

I thank you for the drawing of your proposed single floor shore station building. Perhaps it could benefit from the inclusion of the proposed additions to the foundations. The details for the access ramp, bathroom, toilet and suns shades might also be added.

With kind regards,

Paul Calvert
FAO Consultant
Team Leader TSSDP

cc:*GOI:*
Dr Y S Yadava Fisheries Development Commissioner
FAO:
Mr P Rosenegger, FAO Representative India and Bhutan
Mr P Raghuram, FAO National Consultant (Communications)
GOAP:
Mr D S Murthy IAS, Director of Fisheries, Hyderadad
Mr Y Sundarayya, NPD, Joint Director of Fisheries (Marine) Hyderabad
Mr B V Raghavulu, Regional Deputy Director of Fisheries
Mr Suriya Narayana, Executive Engineer, State Project Unit
Mr Veerabhadra Rao, Deputy Executive Engineer, State Project Unit

SSEO LIST and some course results Nov 98

ANNEX 6

Name of SSEO and Affiliation	VILLAGE	Score Before/After Max Score 6 Appreciation of VHF Radio Communications (P Raghuram)	Score Before/After Max Score 5 Formation, Characteristics and behaviour of Cyclones (Brigadier Rao)	Score Before/After Max Score 5 Emergency Medical Care (Gurudut Prasad)	Score Before/After Max Score 5 (Appreciation of Small Craft Stability.2 Nov 98. Calvert) NS=Non Swimmer	Score Before/After Max Score 15 (Course End Quick Questionnaire 6 Nov 98) Calvert/Muraldharan
Mrs. Persis FDO	Pedavalasala	2-5	3-4	2-1	0-5 NS	14
A. Nageswara Rao Sravanthi	China Valasala	2-4	0-1	---	1-4 NS	Did not Attend
	Lakshmipathipuram					
V. Rama Mohana Rao FDO	B.C.V Palem	---	3-4	1--	0-4 NS	10.5
B.L. Narasimha Raju FIRM	B.P.V Palem	2-4	4-3	1-2	1-4 Swimmer	11
	Ramannapalem					
G Satyavati Devi FDO	Gadi Moga 1 + 2	3-5	3-4	1--	1-5 NS	9.75
Sreerama Murthy FIRM	Uppalanka	2-4	---	1-1	1-5 NS	10.5
P. Rama Mohana Rao FDO	K.Challangi Peta	3-5	3-4	2-2	1-5 NS	14
A.C.S. Reddy FDO	Matla Palem	3-4	3-4	2-1	0-5 Av.Swimmer	13.5
	Dindi					
Sidhardha Vardhan FDO	Bhirava Palem1 + 2	2-3	2-4	2-0	1-5 NS	13.75
P. Muralidhar	Neelapalli	1-4	1-5	1-2	1-5 NS	12.67
V. Peddi Babu FDO	G.Mulapolam	0-4	2-3	0-0	0-5 NS	12
G Saikumar Sravanthi	Guthenadeevi	2-5	2-3	2-1	2-4 NS	12.58
	Kesanakurru					
P. Sreeramulu FDO	Gogullanka	0-4	3-3	1-1	2-3 NS	11.33
ChVVSatyanarayana Artic	Pata Injanam	---	1-2	3-2	1-5 NS	10.33
	Ganesh Nagar					
P. Rama krishna Raju FDO	Balusuthippa hamlets:	---	3-4	3--	2-5 Swimmer	13.25
Radhika Ch	Patyapeta	1-6	1-2	1-3	1-5 NS	7.67
	Madhyapeta					
	Kothapeta					
B. Muneswara Rao FDO	Getcha Kayala Pora	1-5	2-3	0-1	1-5 BasicSwimmer	8.75
E. Seeta Ratna Kumari Arise	Nagapatnam	0-4	2-3	1-1	2-5 NS	8.33
	Marichettu Colony					
D Chiran Jeevi Creators	Masanithippa	1-4	1-3	0-2	3-5 NS	8.50
G Someswara Rao Sakthi	Neelaravu	2-4	2-2	1-1	1-5 NS	7.50
	(Pora)					
	Pandi					
	Pallam					
		Average Scores Out of 6 Before 1.59 (26%) After 4.35 (72%)	Average Scores Out of 5 Before 2.16 (43%) After 3.21 (64%)	Average Scores Out of 5 Before 1.31 (26%) After 1.31 (26%)	Average Scores Out of 5 Before 1.1 (22%) After 4.45 (89%)	Average Scores Out of 15 Before <2 (<10%)* **After: 11.05 (74%)** **Worst: 50% Best: 93%** * Assumed

ANNEX 7

Regional Deputy Director Fisheries
Kakinada

October 30, 1998

Dear B V Raghavulu,

12 Diesel Engines for Navas

I recommend that the FAO Consultant Marine Engineer Mr Baburao proceeds with the first installation (to O Gulbransen's recommendations) by way of demonstration at the earliest and that the remaining 11 engines are installed soon afterwards. The first action is to locate a suitable craft. Recommend DoF identifies and shortlists a number of suitable Navas from Cheriyanam* in conjunction with Mr Baburao and select one that satisfies the criteria below.

(Cheriyanam* is selected at this point as it clearly has a shortage of motorised navas and high numbers of shrimpseed collectors. As the SSEO fieldwork proceeds the actual data for all project villages will guide allocation of the remaining engines)

BPV Palem later selected as needy and nearby for quicker demonstration of the first installation.

All the villages/craft/owners selected for engines from the project should meet these criteria

The village should have
- larger numbers of shrimpseed collectors
- none or very few motorised navas already available in that village
- longer navigable distance to shrimpseed collection site(s)

The locations which have a high number of shrimpseed collector, fewest number of motorised navas and greater navigable distance between village and collection sites should be selected. This must be done strictly on a fair basis and it may be that a village deserves more than one engine using this basis for selection.

The beneficiary should:
- be an active fisherman
- not have earlier benefited from a Government scheme for craft, gear or engine.
- have their own nava of suitable size for the Kirloskar 20 hp engine (33')
- the nava should be new or fairly new and suitable for mechanisation (FAO Consultant Marine Engineer to decide).
- be willing to have the double universal joint / thrust bearing system of installation in his boat.
- be the member of a society / cooperative

- agree unreservedly to give full support to the Storm Safety Action Group in his village especially with regard to retrieval of shrimpseed collectors in the event of a cyclone.
- agree to bear the cost and risk of bringing the nava to Kakinada beach, including beaching for, and launching after, mechanisation. He should also provide diesel fuel and approved grade engine oil for the engine trial.

The technical suitability of each nava will be assessed by Mr Baburao. Recommend that the DoF then arrange with the owner to bring the navas to a suitable location for engine installation which will be under the supervision of FAO Consultant Marine Engineer Mr Baburao.

Sincerely,

Paul Calvert
FAO Project Team Leader

cc National Project Director, JD Marine, Mr Y Sudaraya
Mr Baburao, FAO Consultant Marine Engineer

B V Raghavulu
Regional Deputy Director of Fisheries
Kakinada

7 November, 1998

Dear B V Raghavulu,

Regarding the 12 Diesel Engines to be provided under the project.

There should be an agreement letter signed by the beneficiary (and by the society if it can be done that way) that states that the beneficiary/society agrees to use his/her/their Nava for rescue purposes in the event of a cyclone or other disaster as per the guidance of the Storm Safety Action Group in the village.

He/she/They must also agree not to sell or dispose of the engine or use it for any other purpose than for propulsion of the selected Nava. Nor should it be transferred to any other nava.

A suggested format is attached

Regards,

Paul Calvert
FAO Consultant
Team Leader TSSDP

Agreement to Installation of Kirloskar Diesel Engine and Agreement to Utilise it for Rescue of Shrimp Seed Collectors and others in the event of Natural Disasters.

I/we ..... s/o (d/o).....

..... s/o (d/o).....

..... s/o (d/o).....

..... s/o (d/o).....

..... s/o (d/o).....

of society .....

of village..... and mandal.....

hereby agree to accept the installation of

Kirloskar Engine No.....Type ..... hp.....

in my/our wooden Nava.

I/we are the sole owners of the nava in which the engine is to be fitted. I/we fully agree to the method of installation proposed by the FAO and to be supervised by the FAO Consultant Marine Engineer

I/we accept that the responsibility and all costs of bringing the nava to the location agreed with the FAO Consultant Marine Engineer, beaching, launching, test run and return to home village are entirely my/our own.

I/we agree, with my/our nava (with FAO installed Kirloskar engine), to go for rescuing shrimpseed collectors or any others vulnerable groups in the event of natural disasters.

I/we also agree to participate in Storm Safety Action Group activities, including rehearsals of disaster drills with my/our nava (with FAO installed Kirloskar engine).

Signed .....

.....

Date .....

Signed Society President/Secretary .....

Witnessed

Regional Deputy Director of Fisheries Kakinada

Date .....

ANNEX 8

TROPICAL CYCLONE 06B - SEQUENCE OF DEVELOPMENT AND ACTION TAKEN

LOW PRESSURE AREA OVER CENTRAL BAY OF BENGAL DEVELOPED INTO A DEEP DEPRESSION BY 0830 HOURS ON 14TH NOVEMBER 1998.

COLLECTORS OF COASTAL DISTRICTS WERE ALERTED TO TAKE PRECAUTIONARY MEASURES IN THE FORENOON OF 14TH NOVEMBER AND TO MONITOR WEATHER REPORT.

THE DEEP DEPRESSION TURNED INTO A CYCLONIC STORM BY 1430 HOURS ON 14TH.

ON RECEIPT OF ALERT BULLETIN FROM C.W.C. VIZAG. THE COLLECTORS OF SRIKAKULAM, VIZIANAGARAM, VIZAG, EAST AND WEST GODAVRI DISTRICTS WERE ASKED TO OPEN CONTROL ROOM AND TO PREPARE FOR EVACUATION OF PEOPLE; IF NECESSARY.

THE CHIEF MINISTER REVIEWED THE SITUATION AT 6:30 PM AND INSTRUCTED FOR TAKING ALL PRECAUTIONARY MEASURES.

THE CYCLONE TURNED INTO A SEVERE CYCLONIC STORM BY 2330 HOURS ON 14TH.

COLLECTORS OF THE AFFECTED DISTRICTS WERE ASKED TO DEPLOY THE TEAM OF OFFICERS IN THE VULNERABLE AREAS FOR EVACUATION.

COMMUNICATION LINKS SET UP FOR VULNERABLE AREAS AND EVACUATION STARTED IN THE AFFECTED DISTRICTS.

THE SYSTEM TURNED INTO A VERY SEVERE CYCLONIC STORM AT 0830 HOURS.

COLLECTORS OF AFFECTED DISTRICTS ALERTED ABOUT LIKELY CROSSING OF THE CYCLONE BY 15TH NIGHT BETWEEN KAKINADA AND VIZAG.

SITUATION REVIEWED BY THE C.M. AT 12.30 P.M.

CRISIS MANAGEMENT COORDINATION MEETING CONDUCTED BY THE CHIEF SECRETARY AT 4.00 P.M. AND INSTRUCTIONS GIVEN TO VARIOUS DEPARTMENTS FOR PRECAUTIONARY MEASURES.

ROUND THE CLOCK MONITORING OF THE SITUATION TAKEN UP BY RELIEF CONTROL ROOM.

SENIOR OFFICERS SENT TO THE AFFECTED DISTRICTS.

THE CYCLONE CROSSED THE COAST BY 18:30 HRS SOUTH OF VISAKHAPATNAM.

DEWARNING ISSUED BY 20:30 HOURS ON 15.11.98.

THE SYSTEM WEAKENED RAPIDLY AND MOVED TOWARDS RAIPUR (MP) BY 16.11.98 MORNING.

ORDERS ISSUED FOR DISBURSEMENT OF RELIEF IN CYCLONE AFFECTED AREAS AT THE ENHANCED RATE ON PAR WITH RECENT FLOODS (20kg of rice, 5lts of kerosene, Rs 500/- for clothes, utensils, Rs. 12 per day expenditure for relief camps).

ANNEX 9

WORK PROGRAMME FOR SSEOs

9 November - 31 March 1998

SITUATION ANALYSIS
(RRA/PRA Techniques)
Orientation of SSEOs; getting to know the village in some detail. Beginning to build a rapport with the people. Identifying potential SSAG volunteers to help in the situation analysis.
9 Nov - 27 Nov 1998

TWO DAY BUILDER COURSE
FOR SSEOs
Emergency Medical Care, Emergency Rescue, Evacuation Methods in Village and of Shrimp Seed Collectors, Relief Camp Management.
30 Nov and 1 Dec

FIELD TRAINING OF SSAGs
Same content as Above
2 Dec 98 to 31 Mar 99

CONTINGENCY PLAN AND MAP
SSAGs at work, with help from SSEOs, developing detailed Contingency Plan and associated map for their village
2 Dec 98 to 31 Mar 99

DISASTER DRILL REHEARSAL
VIDEO
SSAGs in action demonstrating that their plan works, they believe in it and it is realistic. Production of a video about Cyclones, Disaster Preparedness and SSAGs (with Doordarshan) (Guidelines as given to Video Liaison Team)
All complete before end Mar 99

SITUATION ANALYSIS

COMPONENTS	METHODS
Overall Village Layout • Habitats (if possible show all houses/types) • Population (at least households and families) • Elevation / Vulnerability • Infrastructures (e.g. Cyclone Shelter, Temple, Mosque, Church, DW Tanks, Schools, Health Centre, Post Office, Telephones, PA System, Roads, Electricity. Ferry Point, etc.)	*Social Mapping* *Interviews with small groups and sub-hamlets*
Resource Details • Resources in and around the village (e.g. river, sea, mangroves, creek, agricultural land, shrimp farms, bunds, low-lying and elevated areas) • Fishing Resources (craft, gear, types, numbers, ownership)	*Resource Mapping,* *Transect,* *Small Group Interviews*
Occupational Details • Families engaged in different types of fishing (e.g. river, sea, shrimpseed collection, mechanised boat crew, migratory fishing, marketing, etc.) • Families engaged in Other Occupations (e.g. Government Service, Store, Agricultural Labourer)	*Social / resource Mapping,* *Small group and sub-hamlet interviews*
Seasonality Factors • Fishing Activities (seasonwise, especially during the cyclone months) • Agriculture • Migration Patterns	*Seasonality Analysis*
History of Disasters (e.g. Cyclones, major disease outbreaks, floods)	*Time Line*

Guiding Outline for a Community Developed Contingency Plan

1. Building on the findings of the situation analysis

At this stage the SSAG should be fully established after helping with the Situation Analysis (SA) and undergoing the Training Courses. The SA must now be reviewed by the SSAG and the community who can now improve it, fill in omissions, or oversights so that they take full ownership of the information themselves.

2. Addition of Micro-details to the Situation Analysis

SSAG and community with the help of SSEOs will now:

- **develop the SA, with micro-details, householdwise (population, vulnerable groups such as aged, pregnant or disabled, etc.)**
- **exact number of craft, gear and identify people in different occupations and their whereabouts during the cyclone seasons**

(Use methods such as interviews with all the different occupational groups, house to house surveys or sub-hamlet surveys)

Now the community and the SSAG have a frame for developing their Contingency Plan with your help

3. Facilitate the development of the Community Contingency Plan by helping the SSAG and community work out and write down the answers to the questions below

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".

HAVE A GREAT TIME!

BE HAPPY!

AND SEE THAT YOUR SSAGs WILL SEE THAT EVERYONE IS MUCH SAFER NEXT CYCLONE...

Disaster Preparedness Training Modules

Training Module I EMERGENCY MEDICAL CARE (EMC)

- Necessity of EMC in Disasters
- Principles of First Aid
- Wounds
- Shock
- Snake bite
- Burns and scalds
- Fractures
- Scorpion Stings
- Bandages, Uses and Demonstration
- Water Purification Methods, Demonstration
- Artificial Respiration, Demonstration
- Manual Carries;
  single man, double man, improvised stretcher, Demonstration
- Pressure Points, Demonstration

Training Module II EMERGENCY RESCUE (ER)

- Occurrence of Cyclone, Flood and Flash Flood with relevant case study
- Warning Systems
- Evacuation Procedures
- Improvised floating devices
  Two Bamboos and two pots / plastic cans
  Ladder
  Pair of Trousers stuffed with Hay
  Two wooden planks rope and bamboos
  8 or more Bottles and rope
  6 or more dry coconuts and rope

Training Module III: RELIEF CAMP MANAGEMENT

- Identification of safer places
- Relief camp arrangements
- Construction of pit trench latrines
- Cooking place
- Food service area - precautions
- Personal hygiene
- Team responsibilities

Training Module IV: VILLAGE CONTINGENCY PLAN DEVELOPMENT

- Participatory Approach
- Identification of Vulnerable Groups in the village by the people themselves
- Contingency plan by the people themselves
- Responsibility sharing
- Identification of low lying areas
- Identification of elevated areas
- Identification of Cyclone shelters, Panchayathi Buildings, Schools, Hospitals and Government Buildings.
- Map of the village incorporating the details given by the villagers and resources identified by them.
- Booklet preparation

Training Module V. DISASTER DRILL

ANNEX 10

Itinerary and Persons Met

Itinerary

	Arrive	Depart
Trivandrum		13 Oct
Delhi	13 Oct	14 Oct
Hyderabad	14 Oct	16 Oct
Kakinada	17 Oct	20 Nov
Visag	20 Nov	21 Nov
Hyderabad	21 Nov	25 Nov

Persons Met

Hyderabad

Mr. BP Achariya IAS	(New)Relief Commissioner GoAP
Mr. DS Murty IAS	(New)Director of Fisheries GoAP
Mr Y Sundaraya	(New) NPD Jt Dir (Marine)GoAP
Mr. R Venkateswaru	Director Doordarshan Kendra Hyderabad
Mr. Sri Shree	Dep Dir Doordarshan Kendra Hyderabad
Mr. Giri Rao	Prog Exec Doordarshan Kendra Hyderabad
Mr. EL Narayana	Asst Stn Dir (Ag Progs) Hyderabad
Mr Rama Rao	FDO Dept of Fisheries

Kakinada

Mr Satish Chandra IAS	Collector and District Magistrate
Mr. DS Murty IAS	(New)Director of Fisheries GoAP
Mr Y Sundaraya	(New) NPD Jt Dir (Marine)GoAP
Mr CM Muralidharan	Fisheries Specialist AFPRO
Ms C Mohana	OXFAM
Mr P Raghu Ram	FAO National Consultant Radio Communications
Mr. Baburao Vemagiri	FAO National Consultant Marine Engineer
Mr BV Raghavulu	RDD Fisheries
Mr Y.Prakash Rao	DD Brackish Water Fisheries
Mr Suresh	DD Training SIFT
Mr. Prasad	**Exec Sec. ARTIC**
Mr Gurudutt Prasad	Exec Sec ACTION
Mr Gangadarao	Proprietor Sri Ayyappa Boatyard
Mr. Koteswara Rao Koli	GRP Boatbuilder Kolli Fibres
Mr. Silarapu Rama Rao	Gen Sec Mechanised Fishing Boat Owners
Mr. Jaganath Rao	DoF
Mr. Venkata Raju	DoF

Vishakapatnam

Mr Hakim Medhi	Medhi Trading Pvt. Ltd.