

Monsoon Season Post Harvest Fish Losses Research Workshop And Site Visits to Orissa and Kanyakumari

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Glossary

BOBP - Bay of Bengal Programme

CAT - Centre for Appropriate Technology

CIFT - Central Institute of Fisheries Technology

CMFRI - Central Marine Fisheries Research Institute

DoF - Department of Fisheries

NGO - Non Governmental Organisation

NRI - Natural Resources Institute

ODA - Overseas Development Administration

ODA PHFP - ODA Post-harvest Fisheries Programme

PRA - Participatory Rural Appraisal

RNRRS - Renewable Natural Resources Research Strategy

RRA - Rapid Rural Appraisal

Sangam - society

SIFFS - South Indian Federation of Fishermen Societies

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Summary

1. Research of post-harvest fish losses during the monsoon season in India was identified as a priority for research at an ODA Needs Assessment Workshop held in Madras in 1995. NRI and the College of Fisheries, Mangalore are collaborating on a recently funded research project to generate and disseminate a concise understanding of such losses. The first in-country activities are a planning workshop and visits to research site areas described in this report.
2. The workshop was attended by a number of national post-harvest fisheries specialists. The workshop focused on planning the first field data collection exercises later in the year. These were summarised in the project memorandum, but were strengthened with ideas from workshop participants.
3. Slight changes to the timing of project activities were suggested. Research site areas were chosen by group scoring. Relevant potential collaborating organisations in site areas were identified. The topics to be covered by the field studies were discussed as were the research methodologies, the requirements of the research team and related initiatives in India.
4. After the workshop two out of the four proposed research sites were visited by an NRI/College of Fisheries Mangalore team. The site areas were Orissa and Kanyakumari. The objective of the visits was to raise awareness of the research, identify data collection sites and make preparations for the field studies later in the year.
5. In Orissa, the Konark area was chosen as the focus for data collection. This was because small-scale processing activity was predominant in the locality and links were established with a grass roots NGO based in Konark - the Coastal Peoples Development Agency. The Department of Fisheries in Orissa were also very supportive of the research, with the Deputy Director verbally committing the Department to assisting the research team later in the year.
6. The visit to Kanyakumari identified one data collection site and work will continue to identify another site.
7. One of the activities of the visits was to identify the core research team which will conduct the exploratory studies later in the year. Prof Mohan Joseph of College of Fisheries Mangalore has been identified as team leader. Catalyst Management Consultants of Bangalore will be approached regarding a marketing/economics expert. However, it proved rather difficult to identify a suitable "woman in development" person. The people approached were already committed to other work. The search for such a person continues - see Action Points below.

Action Points - Workshop

Identify core team (A Ward, V Papadopoulos (see site visit report))

Arrange contracts with core team once identified (A Ward)

Arrange financial responsibilities/accounting procedures (A Ward)

Draft budgets for fieldwork (A Ward)

Desk study to be completed and disseminated (V Papadopoulos)

Team leader - arrange briefing/orientation for core team in June (Mohan Joseph)

NRI to write to organisations identified in field to request assistance/collaboration (A Ward)

Letter for field team to carry to explain research (A Ward)

Short article on project for ODA PHFP Newsletter (A Ward)

Workshop report (distributed to all participants) (A Ward)

Action Points - Site Visits

Draft terms of reference to be forwarded to core team leader (Prof Mohan Joseph) for comment. (A Ward (see Appendix 6))

Contact Catalyst Management Consultants of Bangalore to establish whether Mr Shiv Kumar will be available for the exploratory studies. (A Ward)

Identify a women in development core team person who has informal data collection skills and experience of working with fishing communities (A Ward, D King, Rathin Roy (BOBP), M Jospeh)

Brief Mr Sudhakara (Mangalore College) in post-harvest fish loss assessment so that he can participate in the orientation of the core team (A Ward)

Provide Prof Joseph with a checklist to pass on to Mr Fernandez of Shanthi Dan to assist him identify another site in Kanyakumari (A Ward)

Visit Kakinada and north Kerala as per visits to Orissa and Kanyakumari and send Mr Ward a report of the visits (M Joseph)

Prof Joseph to liaise with CIFT Calicut during the visit to North Kerala.

Introduction

8. An ODA Post-harvest Fisheries Research Needs Workshop held in Madras in 1995 identified the need for research to develop an understanding of post-harvest fish losses during the monsoon season in India. A research proposal by NRI and the

College of Fisheries Mangalore, which focused on losses in the small-scale fish drying and curing sector, was accepted by ODA and funding for the work began in February 1997. This report describes the first in-country activities of the project: a planning workshop and visits to two research site areas.

Workshop

9. A 2 day informal workshop was held in Madras, 26-27 February, to discuss and plan with a group of national post-harvest fisheries and development specialists, the implementation of the recently funded RNRSS Monsoon Fish Losses Research Project.

10. The workshop was arranged with the assistance of the ODA Post-harvest Fisheries Programme, which is based in Madras, and was attended by eleven national post-harvest fisheries specialists from various governmental and non governmental organisations. Two NRI staff were present, as well as the ODA PHFP Programme Manager. A list of workshop participants is given as Appendix 1 and a workshop itinerary given as Appendix 2.

11. The objectives of the workshop were:

- Present an overview of the proposed research to post-harvest fisheries specialists
- Provide a forum for discussion of the research to aid planning field and dissemination activities
- Raise awareness of the project

12. The overall research outputs of the project are to generate a concise understanding of post-harvest fish losses which occur during the monsoon season in India. This will be achieved by exploratory as well as focused field studies. Furthermore, interventions to reduce losses will be pilot tested in the final phase of the project.

13. Much of the workshop focused on the exploratory studies, the first main activity of the project. These studies will be conducted later in the year, at 4 site areas, during the monsoon season. The site areas were clarified at the workshop and are:

- Kanyakumari
- Orissa
- Kerala (north)
- Kakinada (north)

14. Mr Ward outlined the objectives of the workshop and then went on to explain the background to the project, the proposed dates for implementation and the project objectives. A copy of the overheads used is given as Appendix 3.

15. Ms Papadopulos then gave a summary of the findings, so far, of the socio-economic desk study she has been commissioned to undertake. A copy of the overheads used is given as Appendix 4. A draft of the completed desk study will be completed by end of March and issued as a separate report.

16. Mr Ward then facilitated the remainder of the workshop with assistance from other participants. The main report describes the salient points from the workshop and will be used as guide to the exploratory research later in the year. The report is written chronologically, in line with the workshop sessions (see itinerary Appendix 2). Most of the material presented for discussion was derived from the project memorandum.

Site Visits

17. After the workshop two out of the four research site areas identified at the Madras workshop were visited by Ms Papadopulos and Mr Ward of NRI and Dr Mohan Joseph and Dr L N Srikar of College of Fisheries, Mangalore from 3 - 13 March 1997. The site areas were Orissa and Kanyakumari (Kakinada and north Kerala will be visited later). The objectives of the visits were to raise awareness of the research among relevant institutions, identify villages or sites at which exploratory studies will be conducted later in the year and identify local level field support either in the form of institutions or individuals.

18. The terms of reference for the visits are below:

- Make contact with relevant government and non governmental organisations and individuals in each site area and explain the forthcoming research.
- Identify local collaborating organisations in each site area which will act as a “go between” between project and fisherfolk. Obtain oral/written commitments. Discuss formal arrangements that need to be made in order to firm up collaboration.
- Identify potential research sites within research areas. Visit at least two sites in each area and raise awareness of the project at the local level with communities. This should be done without raising expectations of communities or organisations.
- Search for and review secondary source data on post-harvest fish losses available at organisations and institutes.
- Identify local counterparts to be co-opted onto the core team.
- Discuss and draw up draft terms of reference for the exploratory studies.
- Discuss and draft a visit report before 15th March.

19. A list of people and organisations met during the visit appears as Appendix 5.

20. The main report gives an overview of the criteria which were used to choose sites followed by a summary of the main findings of the visits. The data on the sites visited is derived from observations made by the visiting team and the results of semi-structured interviews with a small number of key informants at each site.

21. Draft terms of reference for the exploratory studies produced during the visits appear as Appendix 6. These will be sent to the core team leader - Prof Mohan Joseph of College of Fisheries Mangalore, for comment.

MAIN REPORT - Workshop

Socio-economic desk study - discussion

22. For the desk study completed in the UK prior to the visit, a small amount of published literature on the socio-economics of post harvest fish losses in India had been found. This was supplemented with more general information on socio-economic factors which should be taken into account when considering any interventions in the processing sector.

23. Some points were raised by participants, some of which have already been addressed in the project memorandum. Those not addressed were:

- Improvements in the processing sector may encourage new entrants thereby marginalising those already operating in the sector.
- Consideration needs to be given to whether the project aims to improve processed fish quantity, quality or both. Price effects of quality improvements on the poorer sectors of society should be considered.
- Any research on quality effects on price would be difficult to undertake due to the variations in price offered to different customers (researchers) by market retailers.
- Consideration should be given to the fish meal plants which may suffer as a result of improvements in the fish drying sector.

Key Activities of the Research Project

24. The proposed timetable for research is given below. Participants suggested these dates should be slightly modified to take account of the timing of the monsoon (changes shown in italics):

Exploratory studies	June to October 97 (<i>June to November 97</i>)
Workshop	December 97
Case study fieldwork	April to August 98 (<i>June to November 98</i>)
Workshop	October 98 (<i>December 98</i>)
Pilot studies	January to July 99 (<i>January to October 99</i>)
Workshop	November 99 (<i>December 99</i>)
Dissemination	January to March 2000

Research Site Selection

25. A selection of possible fieldwork sites were put forward for discussion. These had been suggested to Mr Ward by various people involved in the fisheries sector in India. They were as follows:

- East coast
 - Kakinada (40 km north)
 - Orissa (40 km south of Chhatrapur)
 - Nagippattinam (Tamil Nadu)
- West Coast
 - Kerala (Quilandy to Tellicherry)
 - Karnataka (Malpe to Gangoli)
 - Gujarat

26. It was necessary to select four sites from these or any other sites which the Workshop group were to suggest. Other sites put forward during the Workshop were Orissa north, Digha (West Bengal) and Kanyakumari.

27. All nine sites were scored in ascending order of importance by the participants as a group using the following criteria:

1. Length of monsoon
2. Intensity of monsoon
3. Scale of processing
4. Quantity of fish landed
5. Availability of secondary source data
6. Institutional base (NGOs, DoF etc.)

28. The results of this exercise are shown in Table 1.

Table 1 Scoring Research Sites

Criteria - - >	1	2	3	4	5	6	Total	Rank
Kakinada	5	3.5	5	5	3	5	26.5	2
Orissa (S)	5	3.5	4	3	1	5	21.5	4
Orissa (N)	3	3.5	5	4	3	5	23	3
Digha	3	2	5	2	1	1	12	8
Nagapattinam	3	3	3	3	3	4	19	6=
Kanyakumari	5	4	5	5	3	5	27	1
Kerala	3	5	2.5	4	1	3.5	19	6=
Karnataka	3	5	2.5	3	3	3.5	20	5
Gujarat	2	3.5	1	1	1	2	10.5	9

For example 5 = longest monsoon season, 1 = shortest.

29. Hence the results from the ranking showed the following to be the most popular choice of site:

- Kanyakumari
- Kakinada
- Orissa (N)
- Orissa (S)

30. Orissa (S) was omitted from the list to save having two research sites in the same area and this was to be replaced with Karnataka or Kerala. Out of these two, Kerala was chosen because of the relatively higher fish landings.

31. Although the ranking matrix showed Kanyakumari to be the first choice for research sites, it was felt that there may be some difficulty in working in the same area as the already well established ODA-PHFP. Duncan King (ODA PHFP) advised that to work through the same NGO as the ODA programme, Shanthi Dan, may over stretch the organisations' human resources. Therefore an alternative collaborating organisation should be identified if research is to be conducted in Kanyakumari. Alternative sites in Kanyakumari should also be identified.

32. Alternative NGOs in Kanyakumari were discussed and it was concluded that Kottore Social Services Society (KSSS) or Centre for Appropriate Technology (CAT) (see below) may meet the necessary requirements. Contact should be made with these organisations during the post workshop site visits.

33. The final site choice was as follows:

Kanyakumari
Orissa (north - Paradeep)
Kakinada (north 40km)
Kerala - Quilandy to Tellicherry

Relevant Organisations in Site Areas

34. The participants went on to identify NGOs, governmental, research and academic organisations in each of the chosen sites.

Kanyakumari

Shanthi Dan

Department of Fisheries (including FCS - fishermen co-operative society)

Central Marine Fisheries Research Institute (CMFRI)

KDFSF (Kanyakumari District Fishermen Sangams Federation)

CAT (Centre for Appropriate Technologies)

KSSS (Kottore Social Services Society)

Kerala

Department of Fisheries
District Rural development Agency
Beach Blossoms (NGO)
Muslim Education Society (MES)
Central Institute for Fisheries Technology (CIFT)
Fisheries Technical Station
Mangalore College of Fisheries

Orissa north

Department of Fisheries
Fisherfolk youth groups
Fishermen co-op society
Project Swarajya
PREM (?)
Fishery training centre Balithata

Kakinada (Danavaipeta - Uppada)

Department of Fisheries
DRDA (District Rural Development Agency)
Andhra Pradesh Agriculture University (APAU)
CMFRI
CIFT, Vizag
CIFE (Central Institute of Fisheries Education)
State Institute of Fisheries Technology
ODA-PHFP
Nava Nirmana Samithi (NNS), Uppada
Fisherfolk youth groups

Data Requirements in Exploratory Stage

35. The following summary of the topics to be covered by the exploratory studies was presented:

- types of loss
- indicative loss levels
- reasons for losses
- qualitative aspects of losses
- characterisation of socio-economics of small-scale fish processing sector
- marketing dynamics
- perceptions of losses by fisherfolk
- loss reduction strategies and effects
- barriers to intervention

36. The group were asked to suggest additions, removals and changes to this list. Below is a resume of the main points arising from the ensuing discussions.

37. As a preliminary to identifying the types of loss experienced by fish processors in the wet season, an understanding must be achieved of the way fisherfolk perceive fish loss.

38. The workshop group agreed that the losses to focus on should be physical or financial, including market losses (when the price in the market drops as the day progresses) and quality deterioration losses.

39. The question however arose as to who is affected by losses. This led to much discussion on whether the research should focus solely on the small scale processing sector or whether it should be widened to include participants on either side of the processor in the distribution chain. Some felt that time was insufficient in the first stage for any widening of the research goals, while others said that it would be inconclusive to complete the study without considering others in the chain who may be more seriously affected by monsoon losses.

40. The consensus was that although the main focus of the study should be on the small scale processing sector, the exploratory studies should aim to generate an overview of losses in the production and marketing stages, even if this is cursory. Any issues of relevance to the processing sector arising at this stage could be further investigated in the case studies of the second research stage.

41. One of the themes to be investigated is the qualitative aspect of losses. Under this heading, the group listed several points and hypotheses to be considered during the research process:

- Current handling methods and practices in handling material in both monsoon and non-monsoon periods
- Importance of non-fishing activities - social and vocational in the monsoon period?
- Higher rate of illness amongst fishermen/women during the monsoon perhaps reduces their processing activities
- Impact of losses on the life of the processors
- Credit during the monsoon

42. The question of small scale processing of by-catch from mechanised craft remains a grey area and thought needs to be given to whether or not this should come under the remit of the research project. This issue needs to be discussed further with the RNRRS Programme Manager.

43. Interventions are the focus of later stages of research. However, during discussions the following broad issues which can influence the success of interventions in the processing sector were mentioned:

- Time
- Social
- Cultural
- Technical
- Conservatism
- Economic

- Environmental

Research Methods

44. Discussion on the various methods for undertaking the research during the exploratory phase revealed that all participants agreed on informal data collection techniques as the most appropriate data collection approach. PRA was suggested as the method of data collection with a minimum time period of one week in each site (village) required, taking into account the potential logistical difficulties caused by the monsoon.

45. The participatory nature of the research was highlighted with the recommendation that data collected should be validated with the community involved. It was noted that ODA PHFP have used case studies in the past to look at various processes, for example, in order to follow the operations of a fish processor from the time the fish is purchased until the time it is sold. This operation may be observed four or five times in order to improve the quality of the data.

46. Two questions arose with regard to the one week PRA in each research site; firstly, in some cases the fishing community may move from the research site for parts of the monsoon period and hence not be around when the research team visits - in which case are losses likely to be significant or occurring anyway? Secondly, the monsoon intensity differs in the different sites at different times and agreement should be reached on the timing of the visits in relation to the intensity of the monsoon (see below).

Participation of Stakeholders

47. Various points were noted here regarding inclusion of stakeholders in the research process and decision making. It was suggested that:

- key operators should be involved at the exploratory stage of data collection.
- the exploratory studies should include a stakeholder analysis to:
 - identify important players during the exploratory phase
 - identify problems
 - indicate perceptions
- data generated by PRA during the exploratory studies should be validated with the site communities

48. It was also mentioned that the potential loss to stakeholders resulting from interventions, which the project proposes, needs to be considered, although interventions are the focus of the later stages of the project.

49. It was also suggested that it will be important to make regular contact with all fieldworkers i.e. persons or organisations in the site areas who are assisting the core team.

Timing of the Research Visits

50. The group identified the extent of the monsoon season in each site area and suggested possible timings for the exploratory studies.

Kerala

Monsoon period 1 June - 1 September
late October to November (N.E. monsoon - unpredictable)

Fieldwork should be finished by 20 June but can recommence from 15 - 30 August.

Kanyakumari

Monsoon period Late June - August
October / November

Fisherwomen activities occur in July and this would be the ideal time for fieldwork. Alternatively, October and November.

Kakinada

Monsoon period Mid June - late August
Mid October - November (N.E. monsoon)

Ideal time for fieldwork would be July / August. In November, the communities migrate because of the weather.

Orissa (N)

Monsoon period 20 June - mid September
Mid October - mid November (N.E. monsoon)

October / November - calm but rainy.

The Team

51. There was agreement that a core team of specialists should be selected to undertake the exploratory studies in all four sites, in order to maintain consistency in data collection. This core team would co-opt local facilitators on an ad hoc basis, as and when needed, from organisations in the research areas.

Skills required of the core team

52. The core team to conduct the exploratory studies should, as a whole, possess:

- Informal data collection experience
- Fisheries knowledge
 - quality
 - local knowledge
 - handling
 - artisanal knowledge
- Awareness of gender issues
- Marketing / economics skills
- Language skills (Malayalam, Telegu, Oriya, Tamil)

53. It was difficult to reach a consensus on the ideal core team size. A two-person team consisting of a fisheries specialist and a gender specialist, both with informal data collection skills, was suggested. Alternatively it could be a four person team, consisting of these two, plus a marketing economist and an informal data collection

specialist. The final decision should be made according to person availability, skills combination of different individuals and the project budget. Mr Ward would take responsibility for the selection following the two week site visits.

54. In addition, the prospective team members need to be available for the period of the research. They should be able to call on subject specialists on an ad hoc basis, and NRI staff should be prepared to contribute skills and knowledge as required.

55. It was recommended that the core team undergoes an orientation exercise prior to conducting exploratory studies and it was suggested that a national NGO may be able to undertake this task. The orientation would include a n overview of PRA/RRA. A “trial run” of a PRA exercise was suggested in order to familiarise team members with the techniques involved. The team should however already consist of people who have some experience or exposure to informal data collection.

Skills required of the co-opted (local) team

56. The core team should draw on local counterparts in the site areas who have the following skills:

- Local language and team language
- Experience of informal data collection
- Good communication
- Knowledge of community - perceptions, culture
- Commitment

57. The team leader selected should be responsible for identifying local counterparts, arranging logistics, and visiting research sites in advance of the research team to make final preparations for the team’s visit.

Other Initiatives in India

58. In order to avoid repetition of work, the need was stressed to identify any initiatives ongoing in India, with a remit similar to that of the this project. While no direct overlap was identified, several projects and publications were mentioned which could compliment this research, and vice versa. These are:

- a) Catalyst Marketing Studies, Andhra Pradesh and Orissa marketing study for processed fish
- b) Study of dried fish marketing in the N.E. of India - Catalyst Management Services / Ann Gordon, NRI
- c) Central Institute of Fisheries Technology - working on quality loss
 - financial loss data of interest / relevance
 - later interest in any technological intervention
 - scope for quality improvement in dried fish (histamine?)
- d) Department of Fisheries, Tamil Nadu - dried fish work in Kanyakumari
- e) South India Federation of Fishermen’s Sangams - oil sardine study

f) Mangalore College of Fisheries - experimenting with coconut dryer for drying fish

59. It was noted that contact should be made with Ann Gordon, NRI, regarding the relevance of the work she is currently managing on marketing initiatives in the fish sector in India (see reference b above) to this project. Also, a visit should be made to the Peoples Community Organisation (PCO) centre in Trivandrum to review their literature sources on women in fisheries.

Project Administration

60. The ODA PHFP is seen as one of the target institutions for this research. The programme is also willing to provide some support in the implementation of the research.

61. Duncan King (ODA PHFP) gave a summary of the arrangements between NRI and ODA PHFP for financial management of the project and outlined the contribution which ODA PHFP will be able to make. This will mainly consist of logistical support, in terms of making travel arrangements, arranging institutional visits and assisting with field visits, although they will not be able to directly undertake any of the field research.

Action points

62. Another Workshop will be held in December (possibly in Mangalore) to discuss the results of the exploratory studies and the next stage of the research (case studies). All the participants at this workshop will be invited to attend. This group will be seen as an in-country advisory body to the research.

63. In the meantime, the following short term action points were put forward by participants to be completed prior to the exploratory studies:

- Identify core team (A Ward, V Papadopulos)
- Decide on timings of studies (A Ward, Mohan Joseph)
- Arrange contracts (A Ward)
- Arrange financial responsibilities (A Ward)
- Budgets for fieldwork (A Ward)
- Literature review to be completed (V Papadopulos)
- Team leader - arrange briefing (Mohan Joseph)
- Loss assessment briefing (A Ward)
- NRI to write to organisations identified in field (A Ward)
- Letter for field team to carry (A Ward)
- Transfer of funds (can take 6 weeks) (A Ward)
- Short article for ODA PHFP Newsletter (A Ward)
- Workshop report (distributed to all participants) (A Ward)

Main Report - Site Visits

64. Two site areas were visited: Orissa and Kanyakumari. For the exploratory studies an attempt was made to identify villages which were purely artisanal, both in terms of

the fishing and processing sectors. This meant the exclusion of sites where mechanised craft (trawlers) landed fish and where by-catch was processed.

65. However, observations revealed that in some villages, such as Chandipur and Paradeep in Orissa, by-catch processing is a major activity for small scale processors as well as the more large scale operators. This coupled with anecdotal evidence from SIFFS that post-harvest losses connected with landings from the mechanised sector of Kerala are more significant than those found in the artisanal fishery have provoked a re-think regarding the sites for exploratory studies.

66. It is suggested therefore that in Kakinada and Kerala the choice of sites should be more influenced by the characteristics of the processing sector rather than the characteristics of the fish supply sector.

67. There were some rather obvious differences between the fishing villages visited in Orissa and those of Kanyakumari. Firstly, the level of development and infrastructure was much more advanced in Kanyakumari. Villages in Kanyakumari had a more permanent feel to them, whereas migration is more common in villages in Orissa. Secondly, fish drying and curing was a more important activity in Orissa - in terms of dried product produced and numbers of people employed.

Orissa

68. The visit to Orissa consisted of site visits to Paradeep, Chandipur and Konark. In addition, the team met the Deputy Director of Fisheries for the state in Cuttack, along with several other senior Department officials.

Department of Fisheries, Cuttack

69. In principal the Deputy Director agreed that the Department of Fisheries would be willing, if required, to provide support and assistance for the research. However, NRI should make a formal request to the Department by writing to the Director of Fisheries. Copies of correspondence should be made to the Deputy Director.

70. The Deputy Director suggested that the research should concentrate on areas away from Paradeep which has already been the focus of much research work. Ironically, Paradeep is likely to be one of the main fish drying centres of the state.

71. Balasore District was identified by the DoF as a alternative research area to Paradeep. Chandipur being a key fish drying centre of the District.

Paradeep

72. There are four key villages/drying centres close to Paradeep:

- Ghangolia
- Sandhkuda
- Vimnasi
- Balibutha

73. The team visited Sandhkuda just to the south of Paradeep. This village appears to be well established on government land, with several fisherfolk organisations (co-operatives).

74. There are approximately 200 fish processors who salt and sundry ribbon fish and scianids. Much of the fish originates from the mechanised boat and trawler sector of the nearby harbour. Some country boats also land fish nearby. The dried products are mainly destined for human consumption.

75. Landings are lower during the monsoon period, mainly because of bad weather hampering fishing activity.

76. Several processors commented that a problem occurred during the monsoon period due to maggot infestation. Another problem was cited as being the reduction of land by standing rainwater which restricted the area available for drying.

77. There was evidence that insecticides are being used to control beetle infestation.

78. This site has been the focus of previous research work, possibly due to the easy accessibility of the village. There was a feeling from some of the processors met that “the government is not doing anything for us”. This was in relation to the capture sector which is the focus of subsidisation in various guises.

79. The local DoF staff appeared to have a good rapport with the villagers. The staff mentioned that they were at the moment proactive in trying to ban trawling during the monsoon period, as a conservation measure.

80. There are two important fish drying villages which are further away from Paradeep. These are:

Jambu (30km)

Ksairnasi (30km)

Chandipur

81. Two villages within the environs of Chandipur were visited. The main drying zone adjacent to the landing area consists of 146 households, the majority of which are Muslim.

82. Ribbon fish, scianids and a variety of other fish species landed as by-catch by shrimp trawlers are purchased by processors at auctions held by the trawler owners. The fish are then sun dried in clearly defined drying yards. Salting is only practised during the monsoon season. And a better price can be obtained for the non salted product.

83. Much of the dried product is purchased by visiting traders, and is marketed in the northern states and Bangladesh.

84. The fish landings are seasonal, with the peak landings occurring from August to December. Less fish is landed from March to June. This fluctuation in landings is mirrored by the amount of fish processed. Drying does take place during the monsoon and processors are prepared to risk losses at this time as trade is profitable. There was evidence that insecticides are used to control insect infestation - gammaxin, normally used in rice cultivation was said to be used by some processors.

85. There were said to be approximately 100 traders in the village who auctioned fresh fish. One of the larger traders said that on average he would deal in 3 to 4 tonnes of fish. About 25% of this would be bought by processors for drying. The more valuable species would be packed in ice and taken to Calcutta. There were approximately 14 ice plants in the locality.

86. The DoF are actively discouraging the landing of small by-catch fish by shrimp trawlers. This has implications for the drying sector and the potential relationship between the researchers and the DoF. Fish processors were complaining that encouraging the dumping at sea of by-catch threatened their livelihoods.

87. There was some debate by the team as to the status of the drying community. On the one hand it was felt that the processors could not be classed as artisanal in the sense of subsistence level production. They were more organised in a business sense. On the other hand the organisation of this group and their apparent success in dried fish processing would be a valid reason to study the community in more detail. Lessons learnt could be useful assets in the design of intervention strategies at a later date.

88. There were other drying centres in the area which could be the focus of field research, for example nearby Bahahalpur and Dhamar.

Konark

89. There are approximately 160 women who purchase and dry oil sardine, rainbow sardine eel and other species in Chandrabhaga village near Konark. The fish are landed by traditional craft on the village beach, before being salted for 24 hours and then sundried. Shark meat is also salted (wet cure) for the Kerala market.

90. The dried product is either transported to market or traders visit the village and buy. Access to the village is by road.

91. Most fish are dried during the winter period (Oct to Jan). During the monsoon period as much fish as possible is sold fresh to avoid the problems associated with

drying. Some fish are however processed at this time and losses do occur due to colour change and insect infestation. One lady mentioned that she incurred a loss of 3000 Rps last year on fish which she had bought to process, because of intense rain at Humma market. Observations revealed that after landing fish are damaged while being removed from the nets.

92. There is already a savings scheme in the village initiated by a local NGO and the ODA PHFP which used by some women's groups. At the moment some women are saving to purchase ice boxes.

93. The local NGO is the Coastal Peoples Development Association, which was established in 1990, has 10 field staff and works in 15 local villages. The main goal of this organisation is promoting community self help. In principle the Director was very supportive of the idea of assisting the research where possible. He stated that "my aims are the same as the research aims".

94. Chandrabhaga is only one of many villages in the area. It is relatively easily accessible and if research is done in this area then it will be important to visit sites which are more inaccessible at which fish are processed. One such village is Baladia to the north of Chandrabhaga.

Conclusions

95. Of the three potential research site areas visited Konark was chosen by the team as the site for exploratory work. The basic reasons given are:

- The potential support of a local grass roots NGO will facilitate field work and augment any later intervention development.
- The processors are small scale comparatively and rely on a traditional fishing sector for raw material as opposed to trawler by-catch.

96. At Paradeep the DoF support was strong and processing was carried out at the individual level on a small scale. However, Paradeep has been the focus of research in the past (not on losses) and the DD of DoF was keen for further research to be conducted in other areas of the state.

97. Even though the DoF support is strong, the processing sector in Chandipur was felt to be more commercially organised and orientated and less small scale.

Kanyakumari

98. It was recommended by ODA\PHFP that the research should not overlap with their work in Kanyakumari with Shanthi Dan, a local NGO. Discussions with Shanthi Dan identified several sites in Kanyakumari District where the organisation was not working. Some of these villages were then visited.

Arogyapuram

99. Arogyapuram is a well developed fishing village to the east of Kanyakumari town. Access is by a good tarmac road. There are 10 fish processors working in the village. Only a small amount of fish is dried. Most is sold fresh.

Manakudy

100. Some fish drying activity occurs at Manakudy, a well established village to the west of Kanyakumari town. Women fish dryers do incur losses during the monsoon, particularly of anchovy. Fresh fish trading appears to more important.

101. CAT had introduced improved drying technology some 10 years ago. This was unsuccessful for various reasons.

Pallam

102. There is a strong resistance to drying in this village. Fish is sold fresh through the co-operative society. BOBP withdrew from this village due to anti drying decision by villagers.

103. During the last monsoon season no glut landings occurred and no fish was dried. Catches in general are declining.

Kuttapli

104. There are approximately 60 people who process fish out of a total of 700 families in Kuttapli, a village to the east of Kanyakumari town. All the processors are women, they first and foremost deal in fresh fish. What cannot be sold fresh is dried for sale next day.

105. Drying is practised on a small scale, although during the monsoon more fish is landed and losses do occur, especially of anchovy.

106. Communications to the village are relatively good, with a regular bus service. The village has many permanent structures and like many other villages in the area is predominantly Christian.

Kuthenguly

107. One of the most remote villages along this stretch of coast east of Kanyakumari, Kuthenguly has one sangam and between 60 and 70 people who process perch, lizard fish and rays.

108. During August when landings are especially high dried fish to the value of 100,000 Rps can be processed in a week in the village. Losses do occur, especially during the monsoon period.

Ovari

109. Very small amounts of fish are dried in Ovari, a village some 35km east of Kanyakumari town. Most fish landed is sold fresh by the sangam.

110. During the monsoon period catches are low as fishermen find it difficult to fish, and demand for fish is high. At this time even more fish is marketed fresh.

Centre For Appropriate Technology (CAT)

111. Based in Nagercoil with an office staff of 10 and field staff of 20 people, CAT are presently involved in house construction in fishing villages as well as the design and extension of toilets, cooking stoves and headload containers.

112. CAT conducted trials in Manakudy of an improved fish drier about a decade ago. The drier was said to be too small a capacity and was only useful for a limited period during the monsoon.

South Indian Federation of Fishermen's Societies (SIFFS)

113. There are three tiers to this Trivandrum based organisation, whose main objectives are the provision of inputs to fishermen and credit. Inputs include engines, boats, nets and ice boxes.

114. Sangams (societies) at the village level are the grass roots end of SIFFS. The sangams in a particular area come under a district federation such as the Kanyakumari District Fishermen's Federation based in Nagercoil. The district societies are then coordinated by the head office in Trivandrum.

115. Another SIFFS objective is research and development of improved technologies. This coupled with an interest in becoming involved more in the post-harvest sector makes SIFFS a likely target institution for the research outputs.

Conclusions

116. Because of the level of processing activity at Kuthenguly coupled with anecdotal evidence that losses are occurring during the monsoon period it was decided to choose Kuthenguly as a research site. Another reason why Kuthenguly was chosen was because it is a village where Shanthi Dan are not working. (Shanthi Dan is the NGO that the ODA PHFP are working with. And at the Madras workshop it was decided that the research would not overlap with the work of Shanthi Dan and ODA PHFP).

117. Since none of the other villages visited had a significant level of processing, or they were villages where Shanthi Dan were working, it was decided that Mr Fernandez of Shanthi Dan would be asked to visit three other villages on the west coast (where Shanthi Dan are not working) to assess their potential as research sites. NRI will provide a checklist to guide Mr Fernandez in the field.

118. The objective for the exploratory studies in Kanyakumari will be to choose two villages - one on the east coast and one on the west coast.

Core Team

119. It was decided that the core team for the exploratory studies should consist of three specialists. Prof Mohan Joseph will be team leader and general fisheries specialist. The other team members will be an economist/marketing person and a "women in development" specialist.

120. Post-harvest fisheries backstopping will be provided by Mr Sudhakar of College of Fisheries, Mangalore and CIFT as and when required. CIFT have already agreed to providing field support for the study in north Kerala. Mr T S Unnikrishnan Nair the in-charge of CIFT's Calicut station is willing to work with and assist the core team in the field.

121. Catalyst Management Services of Bangalore already have a call down contract with the ODA PHFP and have recently completed a study of dried fish marketing in Orissa and Andhra Pradesh. The organisation has experience of informal data collection methods and one of the group attended the two day workshop in Madras. Catalyst will be approached regarding the position of marketing specialist for the core team.

122. Identifying a "women in development" specialist proved difficult with the task still not completed by the end of the visit. Various people and organisations were approached in order to identify a suitable candidate for the team. The organisations approached for suitable candidates included: ODA PHFP, Centre for Development Studies, SIFFS, PCO. On the whole the results were inconclusive.

123. Ms Kalavathy - former BOBP anthropologist was asked whether she would be able to participate in the studies. Or whether she would participate in the two day team orientation workshop which will precede the first study in June. At which she would brief a "yet to be identified" person, who has less experience, but with guidance could undertake the field studies. Kalavathy would then work alongside the candidate for five days during the first field study and later assist with data compilation.

124. She was unable to give an immediate answer regarding either of these scenarios due to the possibility of other commitments, but she will confirm her availability in early April.

125. Another prime candidate for the team is Ms Kamilla, a former BOBP "woman in development" specialist. Although she attended the workshop, she is currently in full time employment and is unfortunately unavailable. However, she remains interested in the research and could provide advice on an ad hoc basis.

126. Discussions towards the end of the visit with Rathin Roy (BOBP) and Mr King of the ODA PHFP identified an alternative strategy which may be more practical than trying to find one person to undertake all four studies. This was to recruit a person in each site area and give them a two/three week contract. The consistency of data collection would still be possible since two core team members would remain to complete all the studies.

127. The search for a woman in development specialist continues. Rathin Roy of BOBP is to make enquiries and contact Myrada, a Bangalore based development organisation specialising in PRA. He will also contact World Vision in Madras and Ajanta Subramainin a socio-economist based in Kanyakumari.

128. Duncan King will make enquiries at the fish marketing workshop in Madras organised by Ann Gordon.

129. Prof Mohan Joseph will make enquiries at the Institute for Social Sciences in Mangalore.

130. The TATA Institute for Social Science and Development in Bombay will also be contacted as will the British Council in Madras by Mr Ward.

131. It was agreed that when the core team conducts the exploratory studies Mohan Joseph will be responsible for briefing and drawing up the terms of reference for the local co-opted staff.

Action Points

- Draft terms of reference to be forwarded to core team leader (Prof Mohan Joseph) for comment (A Ward)
- Contact Catalyst Management Consultants of Bangalore to establish whether Mr Shiv Kumar will be available for the exploratory studies. (A Ward)
- Identify a “women in development” specialist core team member who has informal data collection skills and experience of working with fishing communities (A Ward, D King, Rathin Roy (BOBP), M Joseph)
- Brief Mr Sudhakara (Mangalore College) in post-harvest fish loss assessment so that he can participate in the orientation of the core team (A Ward)
- Provide Prof Joseph with a checklist to pass on to Mr Fernandez of Shanthi Dan to assist him identify another site in Kanyakumari (A Ward)
- Visit Kakinada and north Kerala as per visits to Orissa and Kanyakumari and send Mr Ward a report of the visits (M Joseph)
- Prof Joseph to liaise with CIFT Calicut during the visit to North Kerala.

Appendix 1 Workshop Participants

Mr N Shiv Kumar	Catalyst Management, Bangalore
Dr L N Srikar	College of Fisheries, Mangalore
Prof Mohan Joseph	College of Fisheries, Mangalore
Mr N S Sudhakar	College of Fisheries, Mangalore
Mr P K Vijayan	Central Institute of Fisheries Technology, Cochin
Dr D I Khasim	Central Institute of Fisheries Technology, Vizag
Mrs A Kamila	Agriculture Man Ecology, Trichy
Mr V Salagrama	ODA PHFP, Kakinada
Mr D King	ODA PHFP, Madras
Mr I Rajenderan	ODA PHFP, Madras
Ms V Papadopulos	NRI
Mr A Ward	NRI

Appendix 2 Workshop Itinerary

Appendix 3 Overhead Notes

Appendix 4 Socio-economic Workshop Presentation

Appendix 5 People Met - Orissa and Kanyakumari

Orissa

Mr Binod Mohapatro, ODA PHFP Local Officer (Orissa)

Cuttack

Dr S Ayyappan, Director, central Institute of Freshwater Aquaculture, Bhubaneswar

Tapan Kumar Behera, Deputy Director Fisheries, Orissa

Mr B C Misra, Asst Director of Fisheries, Marine, Balasore

Mr L Sahu, Asst Director of Fisheries, Ganjam District

Rakhal Mishra, Assist Director of Fisheries, Marine, Kujang

Parthad Roy, Deputy Superintendant Attached to Deputy Director of Fisheries

Senior Research Officer

Mr Behra, Extension Officer to Senior Research Officer

Paradeep

Rakhal Mishra, as above.

Bishnu C Pattnaik, Oriental Dry Fish Industries

lady fish drier?

village leader?

Chandipur

B C Misra as above.

Mr Roy, Fisheries Officer, Chandipur

Konark

Lachhman Nayak, Director, Coastal Peoples Development Agency

S K Pradhan, Fishery Extension Officer, Astaranga

P K Bhuyan, Fishery Extension Officer, Konark

Kanyakumari

Dr S Priyavrathan, Programme Executive, South Indian Federation of Fishermen Societies, Trivandrum.

Mr J N B Rajan, Fisheries Research Cell, Peoples Community Organisation, Pettah, TC 36/291 (2), TVM - 695024. Tel 464318.

Eliyana Vijaya, Womens Forum Organiser, Trivandrum

Dr P Natarajan, Dept of Aquatic Biology and Fisheries, University of Kerala, Beach PO, Trivandrum-7

Dr Santhana Kumar, Deptment of Zoology, Hindu College, Nagercoil

Mr Ros, Admin Officer, CAT, Nagercoil

Mr Rajan, Manager, CAT

Paul Calvert, ITDG, Trivandrum

Mr Paskarais, Inspector of Fisheries, Kanyakumai

Mr Fernandez, Shanthi Dan, Nagercoil

Mr Maraidasan, Ex\Chairman, SIFFS, Manakudy.

Rev Sister Gleva, Kuttapli

Father Joseph Kumar Raja, Kuthenguly

Mr S V Anthony, President of Panchayat, Ovari

Mr Ephriam, Information Officer, SIFFS.

Appendix 6 - Terms of Reference for Exploratory Studies (Draft)

Using informal data collection methods, the research team should interview key informants such as fishermen, processors, traders, auctioneers and other people who may be knowledgeable about the post-harvest sector. The findings at each site should be validated with the community before the team leaves.

A progress report should be submitted to NRI within 5 days of the team leaving a site area. The report should contain a brief overview of the main findings.

The following is a guide to the issues/topics to be covered by the study. This should not be viewed as an exhaustive list:

a) Post-harvest Fish Losses

which stages of the distribution chain losses are occurring i.e. landing, processing, marketing

type of loss i.e. physical, quality or market force

grading of dried product - size, quality

reason for loss - ranked

proportion of fish lost per operator

frequency of loss

seasonality of loss

loss compensation measures

b) Post-harvest General

use of ice

species landed

species processed

processing methods

use of salt

storage - location, time, conditions

packaging

introduction of improved processing methods

changes/trends over time in post-harvest sector

changes in landings over time/season

c) Marketing

markets for dried product

characterise marketing/selling process

quality and price

grades

role of trader

contracts between processor and trader

consumer preference

d) Socio-economics

characterise the monsoon season
general development of site
use of credit
number of processors/fishermen/traders
stratification of processors according to scale of operations
gender
time analysis of processor
migration patterns
non fishing activities of key players
seasonality of activities
land ownership/availability
illness
perceptions of loss
impact of losses
perception of loss in relation to other issues - ranking

Report

A draft report of the studies should be compiled by Prof Mohan Joseph of College of Fisheries, Mangalore. The draft should be submitted to NRI by October 10th 1997. The report should consist of :

acknowledgements
contents
executive summary
introduction
main report
appendices

The introduction should describe the where, what, why, when and how of the work. It should contain an overview of the data collection methodology.

The main report should be divided into site areas. Each site area should be described according to headings a, b, c and d above.

The report should first and foremost present the data collected. Any opinions or generalities contained in the report should be supported by facts. Analyses and conclusions will be firmed up during and after a workshop in December 1997.

The report should be enhanced by the inclusion of case studies and diagrams (hand drawn). Diagrams should be referred to in the text of the report and used to support statements made. If possible photographs should also be included.

The appendices should include a list of people met and the terms of reference for the studies.