

MONSOON FISH LOSSES - PHASE TWO RESEARCH, ISSUES FOR DISCUSSION

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The purpose of this filenote is to consolidate the position of the research and present the objectives and activities of the next phase of fieldwork to be conducted in 1998/99.

The filenote is based on and derived from:

- the conclusions and findings of the exploratory study report by Joseph et al 1998 which contributes to Output 1 of the project - “a technical and socio-economic assessment of wet season post-harvest fish losses in India described”.
- discussions during a workshop in Chennai (Madras), February 1998 attended by NRI, Central Institute of Fisheries Technology (CIFT), DFID Post Harvest Fisheries Project, Department of Fisheries Tamil Nadu, Catalyst Management Systems and the College of Fisheries Mangalore.
- subsequent discussions between the exploratory study research team and NRI.
- discussions between the project leader and Social Sciences Department of NRI

According to the Project Memorandum the next phase of the research should address Output 2 of the project which will firm up the issues surrounding losses identified during the exploratory studies and identify interventions for loss reduction to be pilot tested. Pilot tests are due to begin early 1999.

Output 2 - Case Studies (from the Project Memorandum)

The second phase of the research will be focused studies conducted by the research team. Due to the “process approach” nature of the research it is not possible to say exactly how long this next phase will take. But it should be a maximum of 8 weeks active data collection and participatory research. It is expected that both informal and formal data collection methods will be used. The exact details of the

second phase will be clear once the exploratory phase has been completed. However, it is anticipated that this phase will examine the bottlenecks and key issues relevant to post-harvest losses identified in the exploratory phase. This will include both socio-economic and technical focus. The research will be topical and ultimately lead to detailed case studies.

A participatory approach will be used for data collection and the discussion of interventions which will alleviate causes of loss. It will be important to identify who will “pay” for the costs involved with intervention. This will require detailed studies of market dynamics. Researchers will work with beneficiaries (processors and traders) and organisations who will be involved in uptake and promotion such as the ODA PHFP, CIFT and local NGOs. Potential interventions will be characterised and vetted by cost-benefit analyses and the clarification of social acceptance, using a qualitative approach such as participatory rural appraisal.

A draft “Case Study” report will be produced and passed to NRI and other advisers for comment. The report will include descriptions of potential interventions. A final report will be produced and circulated. The research results will be fed back to the research communities and their comments sought.

Overview of the Exploratory Studies

The original motivation for the research stemmed from the premise that “significant losses during the drying of small pelagic fish occur during the monsoon seasons in certain coastal areas, with many of the processors affected by these losses thought to be women”.

Both physical and quality losses still occur (they do in every fishery) but they are generally seen by processors as a normal aspect of operations and compensated for and are mainly associated with sun drying as oppose to wet salting. Processors also have their own loss mitigation strategies. They cover fish with plastic sheeting to protect from rain and add more salt if wet salting.

During capture and on board craft, physical losses were found to be minimal and less prevalent than in the past. Rising demand, stagnant/ declining catches, better access to markets, availability of ice, increasing role of traders (esp. large companies) at the landing centre seems to have checked this loss. At Colachel discards of fish due to glut landings and a lack of demand were noted.

Physical losses occur during processing, especially sun drying. Small pelagics which are usually sun dried are particularly susceptible to monsoon losses. Small processors see these losses as 'normal' and 'natural' and compensated for by higher prices in monsoon or in the next cycle. Large processors see the risk as covered by higher returns across the season. Joseph et al 1998.

The estimated combined physical and quality loss to small scale processors was found to range from minimal (Kuthenguly) to 20% in terms of turnover. At Puthiyappa large-scale processors of by-catch lose up to 20% of their turnover each, which in monetary terms is Rs 200,000 per processor. At the same time these processors indicate that the loss is not significant to them and the profits more than compensate for it.

In terms of quantities of fish physically lost, at Colachel an estimated 300 tonnes of file fish (*Balsitades* sp) are discarded due to a lack of demand at landing. In the same village 56 tonnes of fish is lost during processing. During processing at Danaipeta 2 tonnes is discarded, Jaggurjapeta and Subbampeta combined 12 tonnes, Chandrabhaga 2 tonnes, New Bakshipalli 2 tonnes, Virundukandi 5.4 tonnes and Puthiyappa 19 tonnes.

The loss in Colachel is due to glut landings. The loss at the other sites is mainly a result of poor drying conditions.

It is difficult to judge whether losses are as significant as they were in the original research premise. Anecdotal evidence from the research team suggests that they are not as significant as they were. This is backed up by the statement regarding a general reduction of losses over time.

The exploratory studies have by definition examined losses at the macro level and the figures are indicative. There is scope to conduct micro level studies to examine the economics of small-scale processing and to explore further, loss in relation to net

margin. And how loss varies between processor. This would add to the overall understanding which is the objective of the research.

Although the general perception of processors is one that loss is normal, no attempt has been made to discuss the potential to reduce the loss that does exist. Discussing possible interventions with stakeholders and an analysis of intervention options is something which should be done to confirm whether anything can be done to reduce loss.

Processing activity during the monsoon season is reduced. In eight out of nine villages the exploratory studies found that small-scale processors, most of which are women, are marginalised during the monsoon. The reasons are low catches, high demand for fish that is landed from fresh fish traders and the risk of loss during processing. Processors either seek alternative income sources (which includes working for larger scale processors) or they use up savings and borrow money to see them through this time of year.

The role that the risk of loss plays in marginalisation has not been fully explored. What scope is there for intervention to enable processors who cant now operate to operate during the monsoon?

In addition interventions will be explored and the projected economic feasibility of the results will be assessed as will the cost-benefit and social acceptance.

Previous Intervention Work

There have been a number of attempts at interveining in the post-harvest fishery sector aimed at loss reduction especially at improving product quality. It will be important during the next phase of the research to incorporate the lessons learnt from these past experiences. A key model to guide the identification and planning of interventions will the guide being currently produced by the DFID PHFP.

Significance of Losses

Research so far has looked at the total value of physical, quality and market force losses and it is possible to use this data to show the importance of losses as a percentage of the total catch, average loss levels per operator have been estimated.

Post-harvest fish losses have been found to occur during the monsoon at all sites, especially at the processing stage, however, it has not been possible to fully establish how significant the losses are at the micro level i.e. to those processors involved. Currently the figures presented for losses in value terms seem large in some cases, and at a macro level, this suggests that something needs to be done. However, we do not yet know how these **losses relate to total turnover** for the processor, the percentage of **gross margin** effectively lost, or the effects on **total profit**.

For example at the moment it is not clear whether even if losses appear relatively small in monetary terms they may over the course of time, if they exceed gains, erode the capital base of the processor.

Processors generally appear to accept physical and quality losses as a normal aspect of operations and that what is lost in one batch is made up for in another. It is not clear how far this is **an awareness issue** and how far it is related to in built mechanisms which **cope with loss**. If the losses are seen as a normal part of the business cycle, it is not clear **how these are absorbed**.

The fact that the exploratory research has shown that losses are not perceived as a problem does not necessarily mean that they are not significant or that nothing can be done to reduce them. This is borne out by the experiences of DFID PHFP in promoting the use of ice boxes by traders. After it was demonstrated that ice boxes are financially beneficial to traders and that loss is reduced and gains made, then the “before ice box” situation was perceived as a problem. We may have a similar situation where processors lack an awareness of their losses, which may be more significant than they realise.

The exploratory research tended to take processing as a discreet activity and as a consequence little is understood about the role of **other income generating activities** of processors and processing households.

While it is important to know the financial significance of losses, the **effects which losses** have on the way in which the **household copes throughout the monsoon** would help to put the loss data into a wider perspective. In considering the significance of losses to the household, this research could be **tied into research** on the **marginalisation** of women processors during the monsoon season.

Case Study Research

Potential Hypothesis

“The revenue lost to the processor because of physical, quality and opportunity cost losses during the monsoon season is significant in relation to total earnings and intervention could reduce the loss”.

Micro level studies should focus on **measuring the monetary equivalent** of the physical and quality loss experienced by individual processors **in relation to turnover, gross margins, costs and profit**. If loss is shown simply as a percentage of turnover it will not give a meaningful insight into the significance of loss as costs and prices will vary between sites and will affect margins. At some sites the costs of marketing fish in the monsoon season may well rise due to the added logistical difficulties. Therefore **loss in relation to margin** will be a crucial indicator. It may be that margins will be lower in the monsoon because losses are high or they may be larger because higher prices for dried fish are attainable. Outside the monsoon margins may be less but because losses are less the profit remains acceptable. A comparison between **loss during the monsoon and loss outside of the monsoon** season at the micro level would give a more informative understanding of the general significance of losses. Likewise, a better understanding of **how losses vary over time** according to individual processors.

The type of financial data required to achieve this is extremely sensitive and difficult to obtain. An informal approach to data collection linked with research into

marginalisation is likely to be a more successful data collection approach. Once a rapport has been established with processors during research of the less sensitive issue of marginalisation then the respondent(s) would be interviewed on the more sensitive issue of the financial side of processing.

Whilst losses may be significant to all processors and of equal monetary value, they may be **more of a problem for some processors** than other. Hence it would be useful to **focus on households** rather than individuals as losses to some processors may be cushioned by the income from other household members. Households where the processor is the main breadwinner will be more sensitive to monsoon losses than those where there are alternative income sources.

Processors will be interviewed according to random samples. The processors/households will be stratified according to: large-scale, small-scale, male and female.

Stratification should bear in mind the possible difficulties in standardising scale of operations since someone who is classed as a large-scale processor one day might be a small scale processor tomorrow if a significant amount of capital is lost.

Research methodology would need to consider the number of households to include in the survey, the type of household to include, frequency of visits to the households and topics to cover in interviews. Carried out in conjunction with the marginalisation research, when the latter reaches the stage of case study households, questions could be incorporated to examine **loss significance in the overall processor budget**, as well as to provide a more **detailed insight into the perceptions of loss**.

It is strongly recommended that the research be led by an (preferably local) economist with some experience of sensitive household interviewing. If working with a WID specialist on the marginalisation research, the economist undertaking this project does not necessarily need to be female. If there is any doubt over the experience and abilities of the person, an NRI economist should be involved initially in setting up the project and accompanying the local economist on the first village visits.

Research aimed at providing a better understanding of losses at the micro level in India will have implications for other loss research work such as that of NRI in West Africa. The results in India could form the basis of **a model/tool for use in fisheries** in other parts of the world.

Marginalisation

The exploratory research indicates there is marginalisation of small scale women processors, particularly during the monsoon season. Marginalisation is seen as a problem by processors because it causes them to lose an element of independence as well as a source of income.

Marginalisation forces processors:

a) to seek alternative employment either as labourers for other processors or as labourers in seasonal agricultural work or urban areas.

c) out of employment and to borrow money and or use up savings.

Marginalisation is being caused by:

- I. reduced landings and increased competition for fish at the landing centre with large scale processors who can afford to buy in bulk at higher prices (large processors have easier access to credit, are more able to store the processed fish to wait for price peaks and are able to access different markets according to price)
- 1• reduced landings and increased competition at the landing centre with fresh fish traders
- 1• reduced landings during the monsoon so increasing the degree of competition
- 1• difficulties women processors have in competing for fish with male counterparts
- 1• risk of loss during the monsoon too great causing processors to opt out of processing

In some villages it was observed that women sit all day at the landing centre waiting to purchase fish, but find it difficult to buy because of reduced landings and competition from large purchasers. Clearly, any concerns which these women might have about the risks of losses are outweighed by the need to continue in the sector, however difficult. It may be that the alternative employment opportunities for them are limited, or that they do not have income from other family members to rely on.

In other villages, the women processors no longer go to the landing centre at this time. They are choosing not to continue processing in the monsoon season, and at present we do not know why this is, but it is possibly because the risks of losses outweigh the potential benefits from remaining in the sector. Alternatively it could be that employment opportunities for them are greater.

Some small-scale processors may in fact be better off not processing during the monsoon if they have access to alternative income generating activities and these provide a better source of income than processing.

It is not clear whether all processors are forced to leave the sector or whether some leave of their own accord for alternative income opportunities. The importance of loss as a reason for marginalisation needs to be clarified. Which processors are affected and to what degree? Are certain types of small-scale processors marginalised while others are not? Are those that are marginalised finding alternative sources of income?

Marginalisation of small-scale women processors during the monsoon is at present a grey area and research could identify whether indeed they would like to continue in the sector during the monsoon but are prevented from so doing because of competition, or whether they are afraid of the risks involved and choose to minimise their losses by staying out of the sector at risky times. If the latter is the cause of their marginalisation, interventions can look to reducing the chance of losses during the monsoon season.

The situation is made more complex by the fact that there appears to be a general trend away from processing.

During the exploratory studies workshop it was suggested that a greater proportion of the fish landed generally are distributed fresh.

Danaipeta, Andhra Pradesh - Exploratory Findings

Small scale processors cannot obtain enough fish. They wait all day for fish but it is taken by the Kerala traders. There is a danger that they are becoming marginalised.

There are 5-8 large processors in this village, but the rest are small (approx. 50). 90% of processors women. The sector is becoming industrialised - more fish is being sold fresh and the remainder is going to large processors. The large processors can deal with different markets to obtain the best price whereas the small processors are not able to do this and have to take what they can get in the local markets. Some small processors have been given drying racks but have no fish to dry on them.

Marginalisation is likely to increase. Estimated number of processors has reduced by 10% per annum over last few years. Not just because of the monsoon.

The question of whether it is worthwhile intervening to encourage traditional processing if it is becoming less important therefore should be addressed. Should interventions focus on encouraging non processing activities. Should processors be encouraged to market fresh fish for example?

Research Hypothesis

“Small scale women processors do not compete for fish in the monsoon season because they are afraid of making physical, quality and opportunity cost losses”.

Case Study Approach

To test the research hypothesis, the focus will be on why some women continue to process despite the problems faced and others don't. A short questionnaire could be used to research this issue initially. The role that losses have in the decision whether to process or not will be examined. A systematic ranking exercise could be one tool used to investigate this last issue, likewise a questionnaire approach could be taken initially.

These issues could also be examined by a desk study. Work has already been done by others on the marginalisation of small-scale fisherfolk in India, such as that by Nayali Nayak, the Indian Committee for Sustainable Fisheries, Krishna Srinath of CIFT/ICAR and Ann Gordon of NRI.

A short desk study of this work focussing on the small-scale processing sector and evidence of losses during the monsoon being implicated in marginalisation would be an initial activity of the next phase. This could be done by Ms Gomathia and Ms Kamilla, both former employees of the DFID PHFP.

Focus group interviews with women will form the core of the field research. These would aim to gain a greater understanding of the problems which influence processing activities in the monsoon season. Initially, the aim would not be to present the women with the idea of “monsoon losses” and find out whether they suffer from them, but to see whether they volunteer information on the risks of sundrying at this time of year. It should be possible from group interviews whether women are trying to stay in processing in the monsoon, or are trying to find alternatives and why.

The interviews should lead into the idea of interventions to reduce losses. The research should establish the background for interventions and establish the:

- 1• structure of processor households (to understand any family support structures),
- 2• household labour requirements of women
- 3• informal credit systems used by women processors
- 4• site specific information on alternative income opportunities available to women

This latter point raises the issue of how broad a remit the research is governed by.

The research would aim to highlight comparisons between the following household types:

a) where there is a fish processor, successful at continuing in the sector throughout the monsoon season.

b) households where the processor finds it difficult to continue in the sector in the monsoon, but for whatever reason, still continues to do so.

c) households where the processor has moved out of the processing sector into other employment, or where the processor is no longer involved in processing but the income shortfall is made up by another family member or savings/loan.

The type of household could be determined by a short questionnaire survey.

“Case study” household interviews would be used to identify the views on losses and how they affect and are dealt with by each group.

An experienced local women in development specialist should work alongside an intervention specialist to undertake the fieldwork and she should be consulted on methodology before the project begins. Careful monitoring of the work at each stage should ensure the quality of research is acceptable.

General Approach to Case Study Research

A questionnaire survey of processors at sites in Orissa and Andhra Pradesh using a short questionnaire (maximum 10 questions) would provide a more systematic characterisation of those who process fish during the monsoon season. The data would assist in identifying processors for follow on informal research.

The questionnaire would include:

3 socio-economic questions

3 questions concerning losses

3 questions on perceptions and needs

Data on the sample size of processors at each site is available from the exploratory research.

Groups of processors will be identified as a result of the survey. Groups of processors and non processors would then be engaged in discussions on the significance of losses, marginalisation and ideas for interventions. The non processors would act as a control group and would include people who are active in the fishing community. Some of whom may have been processors at one time and who may now have better livelihoods. The comparison between processors and non processors could identify ideas for interventions. Groups would be asked for their intervention ideas. Researchers would be required to put forward their ideas for discussion.

The researcher team involved with conducting the informal phase of the research should include someone who has knowledge of planning and implementing interventions. The team should also include a WID specialist (Kamilla, Gomathi or Catalyst). A technologist from Mangalore College of Fisheries should also on the research team.

Monitoring specific households using a formal or informal approach during the monsoon season and outside the monsoon season would cross check the results of group and individual discussions.

Local NGOs exist in the site areas and could be asked to conduct data collection. An organisation such as Catalyst Management Services in conjunction with the College of Fisheries Mangalore would oversee the data collection exercise on the ground.