

Report of a Workshop to Discuss Phase II and Plan Phase III of the DFID RNRKS Monsoon Post Harvest Fish Losses Research Project, March 1999.

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Summary

A two day workshop was held in Chennai on 8-9 March as part of the DFID RNRKS Post Harvest Fisheries Research Programme Monsoon Fish Losses Project R6817. The workshop had two purposes: discuss the findings of the second phase of fieldwork, which focussed on micro level fish loss assessments and loss reduction interventions; and identify further activities to be fed into the planning process for the third project phase, focussing on field testing interventions with small-scale processors (SSPs).

Activities to test simple interventions based on coping strategies and technical improvements to SSPs practices, which would either reduce losses, add value or reduce risks was identified by participants as a key focus for Phase III. As a result MCOF and NRI, during a post-workshop planning session, focussed on activities regarding this option. A log frame for Phase III of the project was subsequently drawn up and the outputs for Phase III were identified as:

- A methodological approach for secondary stakeholders to improve their understanding of fish losses in the small scale processing sector of India produced and disseminated.
- Policy document on monsoon losses distributed to national and state govt. and relevant NGOs
- Report of research results disseminated to secondary stakeholders.
- Dissemination material aimed at SSP produced and distributed.

Introduction

A two day workshop was held in Chennai on 8-9 March as part of the DFID RNRKS Post Harvest Fisheries Research Programme Monsoon Fish Losses Project R6817. The workshop was attended by twenty one secondary stakeholders from College of Fisheries Mangalore, Central Institute of Fisheries Technology, fisheries development consultants and government fisheries staff. A list of workshop participants is given as Appendix 1. The workshop had two purposes: discuss the findings of the second phase of fieldwork, which focussed on micro level fish loss assessments and loss reduction interventions; and identify further activities to be fed into the planning process for Phase III of the project, focused on field testing interventions. Participants were provided with a draft of the Phase II Fieldwork Summary report prior to the workshop. More information on Phase II of the research can be obtained from this report.

The workshop began with a welcome address by the organiser Prof Mohan Joseph of College of Fisheries, Mangalore, the in-country project co-ordinator. A brief overview of the history, purpose, outputs and activities of the research was given by the author.

The rest of day one was taken up with research team site presentations and ensuing discussions. The data presented by the research team is that found in the Phase II fieldwork report. A summary of some of the key data given during the presentations is presented in tabular form in this report.

The second day was devoted to a group project planning activity and follow-on presentations. Post-workshop, College of Fisheries Mangalore and NRI drafted a work programme for Phase III including a log frame, which is given as Appendix 2. The following is an overview of the key discussion points that emerged during days 1 and 2, the group planning activity on day 2 and the post-workshop planning session.

Workshop Discussion Points:

During Day 1 of the workshop a number of points were raised by participants either directly or indirectly related to the research. Some points were for general discussion others were in the form of questions to the project team. The following is a summary of the main points related to losses; socio-economics, and interventions.

Losses

The Department of Fisheries (DoF) of Tamil Nadu (TN) are promoting interventions identified by the DFID Post Harvest Fisheries Project to reduce losses in the State i.e. the introduction of autos to help transport of fish for women fish vendors. Losses are obviously an issue for DoF TN and their representative suggested that large losses were said to occur on the east coast of TN during the monsoon season, especially when bumper catches are landed. Cuddalore was said to be one site where losses have been observed. The area could be the focus of future loss assessment work.

The project has generated micro level data specific to a few individual villages. How applicable this data is to a geographical area is not known, but the qualitative data now available to the project would provide the basis for designing quantitative validation in future. And that validation across a wider geographical area could be achieved by focussed group studies and/or short statistical surveys (a Phase III activity is to validate qualitative data by quantitative methods over a wider geographical area).

Losses occur for a variety of reasons. At this stage in the research it would be a useful to prioritise the why, where, when, how, what for monsoonal losses. Comparing loss according to sun drying and salting would also improve the current understanding. As would a clearer picture of the variables which appear to be influencing the level of loss between individual processors. Variables include individual care during processing, the experience of the processor, turn around of product, and quantity of fish processed. It is this data which could be the focus of future validation work.

The Phase II report was said to lack data on the wider issues which are influencing losses such as the availability and used of ice and the level of infrastructure development.

The losses due to blowfly needs to be clarified. It transpired that blowfly was not necessarily the problem and that it was the length of time the fish spends in brine and the subsequent deterioration in the quality of the finished product that was the issue. It

would be interesting to determine why in Kerala, where fish can be kept in brine for long periods of time, there are less problems of quality.

Socio-economic

Whilst the definition of poverty may vary from State to State in India, it was not clear from the Phase II work where small-scale processors stood in terms of poverty level. It was suggested that in Indian terms SSPs were unlikely to be below the poverty line and that, if malnourishment was a factor of poverty, then fisherfolk generally would not qualify under that criteria.

It would be useful to include a recognised bench mark of poverty with which to gauge the SSPs situation. This would allow comparisons to be made between SSPs in different states and would clarify the target group in terms of DFID's poverty focus priority (Phase II report to be revised accordingly).

It was mentioned that the Phase II fieldwork had focussed on some of the poorest members of processing communities, a target group that even the DFID PHFP had not been able to target. In other words the project is seen by some to be working with the poorest of the poor, in terms of the Indian marine fish processing sector.

Lack of alternative income generating opportunities was said to be pushing single women into processing. Although a full understanding of the reasons for this is lacking. Marginalised women are also said to be involved in prostitution. Increased commercialisation of the fisheries sector was also said to be contributing to the marginalisation of families and people within sector. The ratio of people dependent on income from a single fishing craft was said to have increased significantly. Per capita income had decreased.

Male unemployment has increased in some areas due to less labour intensive fishing methods. On the east coast men now sit at home while the women earn by processing. Compounding the problems in the sector, profitability is not increasing, workloads are increasing, and the focus is turning to small previously under-utilised species which are associated with higher losses. In Kerala, where opportunities appear to be more, men processors have left the processing sector for work overseas.

Also in Kerala, large scale processors are being marginalised as quantities of raw material available for processing have declined. SSP were said to be less vulnerable in this respect since the quantities of raw material dealt with were much lower.

More information on the implications of caste would be useful in understanding entry and exit from the sector and related unemployment issues.

Interventions

Existing coping strategies used by processors could form the basis of appropriate interventions to reduce loss. There appears to be scope for SSPs to learn from their large and medium scale counterparts as well as from themselves. The team mentioned that in Andhra Pradesh and Orissa barriers exist which may limit the natural transferability of coping strategies. And that there was said to be a lack of

communication between processors (the project could therefore have a role to play in communicating coping strategies to SSPs).

Data from Phase II shows that SSPs operate with low margins indicating that it will be difficult to successfully introduce expensive technical interventions. It was pointed out that technical interventions could leave the more vulnerable processors, often women, worse off and marginalised. As effective technical ideas and interventions are adopted by large scale operators who have more leverage in terms of marketing and resources. The importance of linking any interventions to the market was also stressed.

Before deciding on which interventions could be field-tested, the next phase of the research would look more closely at stakeholder perceptions of intervention options.

Rack dried fish were said to attract a higher price in Orissa and that this one a reason why drying racks had taken off in some villages in the State.

More specifically, it was suggested that in Kerala SSPs should be encouraged to produce grade 1 manure as oppose to lower grades which fetch less in terms of price. The discussion concluded that there is only a demand for grade 1 manure during the monsoon but that a more detailed assessment of demand should be made before any recommendations could be made.

Any successful interventions identified by the research would be welcomed. It was suggested that one secondary stakeholder that may be interested in the research results is UNICEF.

Intervention Options for Phase III

M S Ashok of Catalyst Management Services presented an outline of a possible approach to take regarding intervention to reduce losses. This centred on an all encompassing holistic approach, which suggested that further research may be necessary.

The marginalisation effect that interventions can have on small-scale processors was re-emphasised. Whilst a holistic approach would be a sound way forward, such would be beyond the scope of this project. The constraints of time and resources, mean that specific attention needs to be focussed on the purpose of the project, which is to look at value addition and loss reduction measures.

It was mentioned in this respect that the transferability of existing coping strategies may form a more realistic basis of a next phase.

The DFID Post Harvest Fisheries Research Programme aim was stressed during this session. The aim is to generate new knowledge on interventions, which will benefit the poor. The strategic nature of the programme was stated, in that it will generate results, which are applicable on a wider scale.

Overview of Key Data From Phase II

The second day of the workshop began with a summary of the key data and an overview of some of the issues discussed during the presentations. The key data from the presentations is given in Table.

Table Summary of Site Data

| | Andhra | Orissa | Kerala |
|-----------------------------|---------------------------------|--|---|
| Physical Loss | 3/5 - maggot | 3/5 - maggot, pigs,dogs | 2/3 (but small) |
| Quality Loss | 2/5 - maggot | 2/5 - | main loss - downgrading to manure |
| Perceptions of Loss | resigned to, recognise physical | resigned to, recognise could be overcome | Only leftover material processed, recognised, inevitable |
| Significance of Loss | Yes | Yes in those affected | Moderate |
| | | | |
| Turnover | 500-3000 upto 2000 | 200-3000/wk | approx 2000/wk |
| No. SSPs | 8-20 6-20 | 15-50 | 10-15 - |
| No. Processors | 30-86 17-45 | 55-200 | 53-60 |
| Features | women , sell daily | sell by head load in nearby village, women, single headed? | 2 curing tanks, hire labour, mainly women, fresh fish traders |
| | | | |
| | | | |

| | | | |
|-----------------------------|---|---|---|
| Coping Strategies | salt rather than sundry, do not buy sun drying species if rain, keep fish in brine, buy semi-processed material, use a lot of salt, borrow/savings, avoid sardines, use gamaxin, deal in fresh fish | borrow, reduce intake and quality of food, send children away, return to AP, save, quick turnover, grind salt, hold fish in brine, cow dung, gamaxin, washing soda, vigilance, small batches, racks, salt, learning | fresh fish traders, labourers, family support, wash fish, use salt twice, borrow, by-product income, good communications, ice, process manure - less risk, opportunities greater, salt ratio high, avoid sun drying. |
| Income | 10,000-51,000 /annum | 9000-41,000 | 39-49,000 |
| Deficit in Monsoon | 4/6 . | 3/5. | ? |
| Trends | SSP increasing, raw material reducing, size fish reducing, cpue increasing, increasing demand for poultry feed, prawn seed collection | SSP increasing, increase in total output of processed fish, use of drying racks increased, losses reduced, cpue reduced | losses reduced, increase in proportion of fish sold fresh, next generation opting for jobs in city, demand for processed fish declining, volume of fish reducing, manure production now imp |
| Marginalisation | no evidence of SSP | | Large processors |
| Cost salting | 25 /kg | 15 | 6 |
| Margin | 27% | 12-45% (39%) | 27-80%(66%) upto 300% after long storage |
| Cost sun drying | 28 kg | 19 | 7 |
| Margin | 20% | 15-24(31%)?? | 7-80% (52%) |
| Constraints | space, income of family less during monsoon, sickness drain on finances, male alcoholism | space, unable to advance 5-6000 Rs to fishermen to secure supply of raw material, less raw material available due to increased competition, limited family assistance, cost of credit high | raw material supply in monsoon, cannot store for long period of time, monsoon reduces opportunities, threat from outside traders for fresh fish, high cost of credit, lack of support for SSPs |
| Intervention options | Faster drying processes, alternatives to sun drying, better drying facilities - racks, yards. Use less salt, washing before processing. | Drying racks already used, stop cat loss, cleaner product leading to better prices. | Interest in improving processing & increasing returns. Improvements in processing and handling. reduce transport delay between landing and processing. Use of ice. Improved chappa layout. Technical consultancys. Combat blowfly infestation. Improved manure. |

| | | | |
|--|--|--|---|
| | | | Better handling of anchovies. Dryers. Drying racks - economical on space. Saving mechanisms. Group/institution formation. |
|--|--|--|---|

Group Activity

Participants were given a group activity to undertake which was designed to generate ideas for consideration during the Phase III planning process. The task centred on the development and presentation of a project proposal for a next phase of research. The proposal was to contain the following:

- a) A clarification of your understanding of the problem of monsoon losses – i.e. who are effected, where is the problem, why do losses occur, how significant are losses.
- b) Summarise the loss reduction intervention(s) to field test and describe how they relate to the funders Purpose.
- c) Provide a justification as to why you are focussing on the intervention(s).
- d) List the activities you propose in order to field test the intervention(s).
- e) Outline how the impact of the intervention(s) would be measured.
- e) What are the risks, which may stop implementation or effect the impact of the project/activities.
- f) Provide a list of essential budget items.
- g) List the key stakeholders and indicate how they will be involved and to what extent.
- h) Show how you will disseminate and promote the results of the project.
- i) Indicate how proof of uptake of the project results will be measured.

More details of the activity can be found in Appendix 3 . Participants were divided into groups and each was asked to present their proposal to the whole group. The presentations are given below. A further proposal submitted by an individual to the project leader after the workshop is also given.

Group 1

Proposed three interventions to improve quality of processed fish reflecting the low margins of processors and their limited ability to take a risk and invest in new ideas/technology. However, the ideas were not specifically targeting the problems highlighted in the report.

The group's presentation was based on the following:

a) Neem

- Sites - local institution
- Concentration/support
- Addition to production costs
- Underwriting costs
- Market acceptance (evidence available)
- Evolution of a package of best practices

Used in conjunction with best practices, neem was proposed as a substitute for gamaxin, which is presently used to control insect infestation. Although the form with which it should be applied was not known and that field trials should be done to examine this and its efficacy in more detail.

It would be necessary to examine whether neem was appropriate in terms of the added cost of production, its availability to SSPs and the effect it would have on the final product in terms of consumer acceptability and safety. The risks were that neem may not be widely available and that consumers may not accept the products.

Local institutions should be used as the mechanism with which the idea should be tested.

b) Mats

- Reduction of losses through the use of drying mats
- Sites - local institutions
- alternate materials
- addition to capital costs
- market acceptance
- evolution of package of best practices

Combined with best practices, mats are a low cost technology which makes the drying process more efficient and enables the processors to produce a sand free product and to collect fish quickly when rain threatens.

The question would be - would the technology add significantly to the cost of production.

c) Directory of Wholesalers

- preparation/compilation of market lists
- translation into local languages
- distribution among grassroots organisations

A lack of information on dried fish wholesalers was seen as a key constraint to improving SSPs market competitiveness. A directory of wholesalers made available to local grass roots institutions was seen as a useful tool to facilitate marketing.

This could be put together by a desk study.

The discussion focussed on CIFTs on going research into the use of neem and other natural insecticides such as lemon grass oil and camphor. Neem oil has been used to repel flies from brining tanks, camphor had been used in packets of dried fish but it was found that camphor was absorbed by the product.

Other interventions were discussed. The use of natural agricultural pesticides was mentioned - garlic, chilli and that so far there was only anecdotal evidence of the efficacy of these. It was suggested that the crop post-harvest project in India be contacted to see if they have had success using such.

Another possible intervention could focus on promoting best practices such as good chappa management.

The improved dryer idea was explored by the group but it was decided that the technology was not cost effective for SSPs.

It was pointed out that when choosing interventions several important questions should be answered:

- How will the product be affected?
- Are there markets for improved quality products?
- Does the primary producer benefit?
- Is the cost of investment compensated for by extra cost of investment?

Group 2

Group 2 divided into two sub-groups.

The first sub-group (2a) proposal was as follows:

a) Understanding of the Problem

- SSP is an important livelihood activity
- SSPs are mainly women
- magnitude of loss significant
- loss leads to imbalance to security

b) Loss Reduction - Intervention

- creating awareness, enabling loss recognition
- training in technical improvement
- providing essential inputs

- integration of the community with SSP activities

c) Justification for Intervention

- to achieve the above objectives
- existing Programmes are inadequate to address these problems of the SSPs
- technical improvement, reduction in loss
- overall improvement in living standards
- consumer safety

d) Activities for Interventions

Level I - organisational

- needs assessment vs. validation
- grouping SSPs
- planning technical intervention and social improvement
- monitoring and evaluation

Level II - Action Plan (Monthwise)

| | |
|------------|--|
| 1st | identification of villages |
| 2nd | identification of self-help groups with the support of women development organisations |
| 3rd | preparing project proposals for funding by mandatory institutions |
| 4th | trainer's training programme by CIFT etc. |
| 5th | training programme for SSPs |
| 6th | propagation of schemes |
| 7th - 10th | installation of equipment ; practical implementation of scheme; collection of data |
| 11th | processing and evaluation of results |
| 12th | final report |

e) Measurement of Impact due to Intervention (Possibilities)

- gain in knowledge/GENERATION OF KNOWLEDGE
- improvement in income
- quality improvement of processed fish
- loss reduction
- infrastructure development
- public opinion
- level of empowerment and HRD

Cost

- awareness campaign
- training
- equipment
- travel
- stationery, other charges

- institutional charges
- literature, AV aids
- office equipment
- seed capital

Stakeholders

- SSP
- Community
- Market
- Consumer
- Development Agencies
- NGOs
- Sponsors

The second sub-group (2b) presentation recognised that the target group mainly consists of women, who are poor, vulnerable, single, have limited choice in terms of income generating opportunities, limited capital, less access to infrastructure, less control, and as a last resort turn to processing.

The key problem was seen as maggot infestation during sun drying and that this was having a significant effect on SSPs livelihoods.

But that losses were said to be occurring or influenced by the following:

- Factors which inhibit adoption of coping strategies
- Maggot infestation
- Dependency
- Quantities of fish handled
- Availability of family help
- Experience of the processor
- Sharing of information
- Infrastructure improvement

e) Recognising that there was a need for validating the results of Phase II. Intervention would be focussed on groups with which packages of technical and social intervention activities would be developed to address constraints and enable a sharing of information.

Additional Proposal

In addition to the group outputs, an individual also presented a third draft/outline proposal, which is given below.

Losses are due to occasional showers or continuous rains which prevents sun drying (direct sun drying and salt drying varieties). If the material is not taken out from salt brine timely either the product could loose its quality or spoils due to maggot infestation which is unfit for human consumption or for any other purpose.

N.B. - though the loss in monsoon income in Orissa village is 2% the result is more than A.P. village (had the losses not occurred additional food security of 13-89 days available) since the SSPs are poorest the loss is significant affecting their annual profit and loss APC.

Since the losses are due to prevention of open drying because of rain the alternatives to reduce losses will be:

- 1) New drying process methods should be adopted i.e. even when it raining salt drying/drying can be done.*
- 2) To divert the processors to utilise raw material for value addition products on small scale with linkages with super markets nearer and big towns viz; pickles, fish meat (ready to cook and eat) and other products with easy and sustainable techniques. That is more to say divert some of the processors to take up this as an alternative when rain is suspected.*
- 3) For sun drying varieties which are not fit for salt drying a quick easy method be adopted as an alternative like coconut dryer on a trial and error basis.*

The SSPs are no at other alternatives except to borrow loans from non-formal sources with high interest rates due to losses as formal used it is not forthcoming due to various reasons.

A good existing NGO/CBO/Dept. or combination of NGO, Dept. or CBO Dept. who are having good rapport with the interviewing villages be utilised for either formation of new self help groups or to strengthen the existing self help group with main thrust as savings even with very lesser amounts and encourage them to take up group activity rather than independently.

Educate the villagers activities to be taken up for reduction of losses (AVs), convince them to accept them as experience shows that fishermen/women won't accept new technology easily.

A small capital amount to each of the SHG member be made available through revolving fund in the beginning to be repaid to the group with simple interest rate below 10% p.a. managed by the group, maintain alcs, closely monitored otherwise group leader may misuse funds routing through her.

Supervising/catalyst agency should see that all members are aware of the group activities and they should be in a position to raise their voice even with the group leader going wrong.

Slowly organise the group to take up joint processing and trade so that they will have good bargaining power in market forces.

Infrastructure be made available to them.

Train them to maintain it properly

Train them locally in other income generated activities to be taken up in leisure time to supplement their family income in addition to processing.

To train them in easy new technology of drying even with it is raining.

To train them to take up value addition products.

Marketing chain be developed with nearby town and supermarkets for value addition products

Establish suitable mechanism to organise/supervise/guide/suggest solutions for difficulties.

Evaluate progress periodically and timely corrective steps suggested.

The self-help group members (SSPs) be clearly educated that for every lapse all are responsible so that they will be very cautious.

Quality control aspects be educated to SSPs to avail of the advantages of more profit.

Smoking activity be also tested in these villages by giving wide publicity through Avs in towns/villages which include consumers.

Impact measurements by less frequency periodical reviews say in each quarter.

Risks: the SSPs may loose interest in the activity after adoption of intervention technology if their income is not increased.

The middle/big processors may come in the way as it will be altneat to them if the SSPs unite. They may try that raw material is not easily (fish) available to SSPs for some time. This is a critical period for sustainability of this pilot project.

Essential:

- (i) XXXX of NGOs/CBOs/TADA to Dept. staff*
- (ii) Revolving forward to SHGs*
- (iii) Construction of community drying platform to SSPs exclusively whenever possible*
- (iv) new drying equipment (even when there is rain) to continue in all seasons*
- (v) Items required for value addition preparation*
- (vi) Instruments for diversified activity to take up alternative work and also in leisure time*
- (vii) Trainings*
- (viii) Community storage shed for SSPs with an office room for meetings and records*
- (ix) Literature/AVs on the activities for better understanding by SSPs/consumers/general public with in de publicity*

Key Stakeholders:

- (i) SSPs*
- (ii) Traders*
- (iii) Consumers/customers*
- (iv) Village elders who take major decision in community*

Dissemination: *traders be invited, explained the activity and seek support.*

Propagation among public, fishermen, villages, audio visuals with the help of Dept. of Public Relations.

Measurement of Uptake: *by evaluating periodically as already proposed by experts*

(i) economist; (ii) social scientist (iii) fisheries. Some study as in stage II to be carried out.

Phase III Planning

After the workshop a brief meeting was held between MCOF, NRI, CMS and other field team members. This brainstormed the possible options for Phase III.

Interventions focussed on improving the livelihoods of SSPs were seen as the following:

1. Disseminating information that would improve the market and credit awareness of SSPs.
2. Simple interventions based on coping strategies already used by some SSPs and identifying what needs to be in place if these are to be taken up and what the constraints are to uptake. A way of kick starting this would be to brain storm for technical and other issues.
3. Development of a tool for use in India which could be used to assess loss and identify appropriate interventions.
4. Exploring the possibility of insurance policies for SSPs to cover losses during the monsoon.

This latter idea was discussed in detail subsequently was seen as being impractical for SSPs. The difficulty in proving the loss for insurance purposes was seen as a major drawback.

College of Fisheries, Mangalore and NRI during a planning session the day after the workshop, focussed on point 2 - simple interventions based on coping strategies and technical improvements to SSPs practices which would either reduce losses, add value or reduce risks. The overall objective being to improve the livelihoods of small scale processors. This approach would also feed into point 3, the development of an approach to assessing losses in India. A log frame for Phase 3 of the project was drawn up and this is given as Appendix . Activities within the log frame are elaborated on below.

Menu of Appropriate Intervention Options

A basket or menu of simple appropriate interventions based on coping strategies and observations made by the field team was developed. In deciding what was appropriate and what wasn't the group relied on the data provided in the two previous qualitative field studies. Particularly data on:

- existing coping strategies
- SSP socio-economic profile
- reasons for loss

A further important influence on the focus of the menu was the project purpose: appropriate value-added and loss reduction technologies and processes developed, packaged and promoted.

The first menu of options/interventions is shown in Table 2. It consists of the following, some of which are concepts and some of which are tangible processes/activities. The emphasis was on the technical rather than non-technical issues:

Table 2 Menu of Intervention Options

| Physical Loss | Physical & Quality Loss | Quality Loss | Others |
|--|--|--|--|
| Hang fish in baskets to protect during storage | Correct quantity of salt | Improve aeration of fish during drying | Cut costs of production ie buy salt in bulk (groups) |
| | Use of mats to move fish out of rain quickly | submerge fish in brine | pickles, cutlets |
| Improving fish collection during drying ie cot | Reduce drying time | | Awareness of Govt savings schemes |
| | Low cost folding drying rack. | | Appropriate packaging |
| Covering with nets (crows) | Changing brine more often | | Sorting out valuable species (acetus/anchovies) |
| | Vigilance when drying | | |
| | plastic sheet to cover fish | | |
| | palm leaf f or drying | | |
| | adding extra salt | | |
| | covering vat with plastic sheet | | |
| | | | |

It was felt that this menu could be added to and that it should also include more non technical options, which even if the project was not in a position to test, it would be research to find out what these are and the constraints to uptake. These non-technical issues may be more appropriate than the technical issues identified.

Insect infestation has been identified as a problem and there is evidence that some processors use agricultural insecticides during processing and storage. Whilst there are insecticides which WHO have cleared for use on fish, it was decided to leave this type of intervention out of the project as it is not known whether such allowed insecticides are available in India and whether they would be appropriate for SSPs.

Natural insect repellents could be identified as part of the participatory planning process. If a safe natural insecticide is available then this could be included in the

menu. Although, by good processing practice it may also be possible to reduce the problem of insect infestation without the need for insecticides.

Target Communities

Although, there was no consensus at the workshop that the project should focus on particular areas, it was felt by Prof Joseph, that Andhra Pradesh and Orissa should be the focus of Phase III and that the SSPs in Virundhahkandi (Kerala) were much more advanced and less deserving than their counterparts in the other two states. It was decided to focus on three villages in each state: the villages previously worked in plus two villages, which may or may not have been covered in previous research.

It will be important when describing the logical direction the research has taken to provide a reasoning based on available data as to the choice of Andhra and Orissa over Kerala.

Participatory Planning with Stakeholders

It was proposed that a participatory planning exercise would be conducted with the SSPs and major stakeholders. The objective of this exercise would be to take the menu of options to the target group and allow them to decide whether anything in the menu of options is applicable to their situation and whether some/all/none would be interested in testing/using what would be acceptable and who would be interested in field testing. Likewise who the key players will be in terms of stakeholders and how they should be involved, if at all. Some adaptation of interventions may be necessary to the local situation and this would be done in conjunction with the SSPs. Similarly, simple tools may need to be developed to assist in using certain interventions such as measuring brine concentration. The next step would be to field test and measure the impact the particular interventions had on the processors income and livelihood in general terms.

The project would be in a position to then field test some of the interventions (technical), but others, which did not fall under the remit of the project or which would be difficult to test in the time available or which the SSPs rejected would be left out.

There may also be interventions which the SSPs reject, but which the project feels may be applicable, and the project may wish to explore encouraging the field testing of these.

The planning process would also enable the project to identify the constraints to the uptake and adoption of interventions which SSPs did not feel were applicable or possible under their current circumstances.

The involvement of an appropriate locally based NGO or appropriate grass roots focussed organisation in the planning process as well as in the field testing and monitoring was seen as very important component to the success of Phase III.

When describing the menu of options it was agreed that the project must make sure that the SSPs are fully aware of the sort of interventions that the project is proposing and that one way of achieving this could be to produce visual materials such as a video or slides or photos to show to SSPs. A further method which could be used be

which may be impractical, would be to take processors who are already using interventions to meet SSPs in communities where such may be applicable.

Cost sharing to encourage SSPs to test interventions is not appropriate for the Indian situation.

Field Testing

Field testing of interventions would be either a quantitative scientific approach where controls would run alongside improved processing. Or would be done qualitatively, if it proved difficult to set up such controlled experiments. Likewise it may be possible to combine both a quantitative and qualitative approach to measuring loss reduction and the impact the interventions have on SSPs livelihoods. Load Tracking may be one systematic approach which could be used to determine before and after scenarios.

Field testing would be accompanied by on the ground monitoring by the partner local organisation. Feedback would be channelled to the in-country co-ordinator and then to NRI.

Impact could be measured in terms of increased incomes in SSPs., a reduction in risk and or a reduction in post-harvest losses during the monsoon.

In-country monitoring would also be done by NRI via periodic visits - every three months (resources permitting), with the next visit planned for June.

Following the meeting Ann Gordon from NRI's Social Sciences Department contributed produced a file note to guide the field trials. This is given as Appendix 4.

Seasonal Scoring

An improved understanding of the seasonality of losses could be produced via seasonal scoring exercises with groups and individual SSPs. This could also be used to firm up other qualitative data.

Validation of Qualitative Data on Loss Levels

So far the research has generated a wealth of qualitative technical and socio-economic data on individual processors in a few selected villages. There is a need to cross check that this data is representative of small-scale processors and losses across a larger geographical area. Such validation could be undertaken after the next monsoon season in coastal areas of Andhra and Orissa.

Outputs and Dissemination

It was decided that an article on the Phase II work be produced for INFOFISH.

The final outputs of the project should target both primary and secondary stakeholders. The latter at various levels within India. Secondary stakeholders being sub-divided into policy makers (state level), the research community and NGOs. Primary stakeholders being the SSPs and coastal communities.

A list of stakeholders, both primary and secondary is given below.

- Co-operatives
- Ice factory
- NGO
- Money lenders
- Financial institutions
- CoF
- NRI
- SSPs
- Head loaders
- Traders
- Village leaders
- SSP families
- Transporters
- Fishermen
- Agric labourers
- Unemployed
- DoF
- State Agric Universities
- Development Agencies
- Consumer
- CIFT
- Boat owners
- Commission agents

It was felt that the research would provide the basis for a future methodological approach for loss assessment and intervention in the small scale fish processing sector of India.

Phase III would identify appropriate interventions which will reduce losses and or improve the livelihood of SSPs during the monsoon identified and disseminated at policy, research and primary stakeholder levels.

Likewise, by exploring interventions an improved understanding of the constraints to uptake of these would be formed and that this information would be relevant to further initiatives within the sector and should also be disseminated.

Four outputs from Phase III were identified. These are given below.

- A methodological approach for secondary stakeholders to improve their understanding of fish losses in the small scale processing sector of India produced and disseminated.
- Policy document on monsoon losses distributed to national and state govt. and relevant NGOs
- Report of research results disseminated to secondary stakeholders.
- Dissemination material aimed at SSP produced and distributed.

The idea of organising exchange visits to raise awareness of successful appropriate interventions among the SSP community was discussed. Whilst it was felt that this may be impractical for SSPs and difficult to arrange with Phase III, the discussion

broadened out and the idea of producing video footage of potential interventions was agreed to be a better mechanism for dissemination.

During the workshop Dr Lingaraja of the Tamil Nadu Department of Fisheries provided a list of potential organisation that may be interested in the research results. The list is given as Appendix 5.

Risks and Assumptions

Four risks were identified during the planning session these were:

- No interest in uptake of any ideas.
- SSPs lose out if more attracted into the sector.
- SSPs at bottom maybe squeezed out of market if quality of other SSPs improved.
- Interventions may increase labour

The assumptions centred on the participatory planning exercise and that this approach would reduce the risk of respondent fatigue and lack of co-operation and that appropriate interventions that are acceptable to SSPs can be identified by them from the menu.

Appendix 1 List of Workshop Participants

| Name | Address |
|------------------------|---|
| Dr L. N. Srikar | Professor, Dept. of Fishery Biochemistry, University of Agricultural Sciences, College of Fisheries, Mangalore 575002, Karnataka Phone: (824) 439256 |
| Mr N. S. Sudhakar | Associate Professor, Dept. of Fish Processing Technology, University of Agricultural Sciences, College of Fisheries, Mangalore 575002, Karnataka Phone: (824) 427898 |
| Mr P. Sreeramulu | 7-8-28, Velamuri Vari Street, Ramaraopet Kakinada 533004, Andhra Pradesh |
| Mr Venkatesh Salagrama | Integrated Coastal Management, 8-10-6 Kamaladevi Street, Gandhi nagar, Kakinada 533004, Andhra Pradesh Phone/Fax: (884) 64851 E Mail: VS@VENKAT.XEEVGA.xeemail.com |
| Mr P.K. Vijayan | Scientist, Central Institute of Fisheries Technology, Kochi, Kerala Phone: (484) 666880 E Mail: root@cift.ker.nic.in |
| Dr Krishna Srinath | Scientist and Head, Extension, Information and Statistics, Central Institute of Fisheries Technology, Kochi, Kerala Phone: (484) 666880 Email: root@cift.ker.nic.in |
| Dr Imam Kasim | Scientist, R.C. of CIFT, Oceanview layout, Pandurangapuram, Andhra Pradesh Phone: (891) 567856/567040 Fax: (891) 567040 |
| Mr Ashok | Catalyst Management Services, 179, 6th Main, KEB Layout, 1st Stage, Geddalahalli, Bangalore 560 094, Karnataka Phone (80) 3419616 E Mail: cms@giasbg01.vsnl.net.in |
| Mr Shiv Kumar | Catalyst Management Services, 179, 6th Main, KEB Layout, 1st Stage, Geddalahalli, Bangalore 560 094, Karnataka Phone (80) 3419616 E Mail: cms@giasbg01.vsnl.net.in |
| Mr Binod Mohapatra | Samantara Street, Ganjam 761026, Ganjam Dist, Orissa Phone: (6811) 64368 Fax: (6811) 64420 |
| Mr Narendranath | Bhimavari Street, Bapatla, 522101 Guntur Dt, Andhra Pradesh Phone: (8643) 24553 (pp) |

| | |
|-------------------------|--|
| Ms Gomati | 3/3D Kumani Thoppu, Collectors Office Road, Trichy 620001, Tamil Nadu Phone: (431) 463730 Fax: (431) 41300 |
| Ms Kamila | 27, E.B. colony, Airport Post, Trichy 62007, Tamil Nadu Phone: (431) 458778 |
| Mr George Mathew | No. 8, 11 main, Raja Annamalaipuram, Near Chennai Kaliappa Hospital, Adyar, Chennai-600018, Tamil Nadu Phone: (44) 4936031 E Mail: mathewgx@state.gov |
| Mr A.D. Issac Rajendran | Joint Director of Fisheries (Retd.), 183 Beraca Road, Nammalwarpet Chennai 600 012, Tamil Nadu Phone: (44) 618584 |
| Ms Meera George | No. 8, 11 main, Raja Annamalaipuram, Near Chennai Kaliappa Hospital, Adyar, Chennai-600018, Tamil Nadu Phone: (44) 4936031 |
| Dr Lingaraja | Joint Director, Office of the Director of Fisheries, Govt. of Tamil Nadu, Teynampet, Chennai, Tamil Nadu |
| Ms Jyothi D'Cunha | School of Social Work, Roshini Nilaya, Mangalore 575 002, Karnataka Phone: (824) 433464 |
| Dr Mohan Joseph | Professor and Head (Also, Coordinator, Monsoon Post Harvest Fish Losses Project), Dept. of Fisheries Resources and Management, University of Agricultural Sciences, College of Fisheries, Mangalore 575 002, Karnataka Phone: (824) 439322; 433464 E Mail: root@afsib.kar.nic.in |
| Ms Ann Gordon | Natural Resources Institute, Chatham Maritime, Kent ME4 4TB, United Kingdom Phone: +44 (1634) 883071 Fax: + 44(1634) 883706 E Mail: ann.gordon@nri.org |
| Mr Jock Campbell | Integrated Marine Management Limited, 1 Southernay West, Exeter EX1 1JG, United Kingdom Phone: +44 (1392) 434143 Fax: +44 (1392) 433645 E Mail: IMM-Fish@compuserve.com |
| Mr Ansen Ward | Project Leader, Monsoon Post Harvest Fish Losses Project, Natural Resources Institute, Chatham Maritime, Kent ME4 4TB, United Kingdom Phone: +44 (1634) 883555 Fax: +44 (1634) 883551 E Mail: a.r.ward@re.ac.uk ansen.ward@nri.org |

Appendix 2 Phase III Logframe

MONSOON LOSSES PHASE III LOG FRAME

| | OVI | MoV | Assumptions |
|--|---|---|--|
| Goal | | | |
| Yields from coastal fisheries for small pelagics and coastal demersal species in Asia efficiently utilised for human consumption | By 2005 in two target core or niche countries where demand exists; -post harvest losses reduced by 50% in selected fisheries -proportion and value of landings utilised for human consumption increased by 10% | Reports of target institutions. National production statistics. Evaluation of fisheries post harvest programme. Research programme reports. Monitoring against baseline data. | Climatic conditions remain favourable. Enabling environment (policies, institutions, incentives) for the widespread adoption of new technologies and strategies exists. |
| Purpose | | | |
| Appropriate value adding technologies and loss reduction processes in small-scale fish processing developed, packaged and promoted. | Decisions made by beneficiaries based on research conclusions Adoption of research results into govt policy or support from govt, NGO and private sector for research results Initiation of interventions | Reports from beneficiaries Govt, NGO reports, statements, publications and surveys Private & public sector project documents | Traditional small-scale fish processing sector does not change radically Wet season losses remain an important problem in artisanal fisheries in developing countries Stakeholders act to implement loss reduction or value adding activities. |
| Outputs | | | |
| 1. A methodological approach for secondary stakeholders to improve their understanding of fish losses in the small scale processing sector of India produced and disseminated. | Copies of peer reviewed methodology distributed to key stakeholders | Peer reviewed article published | Resources available or devoted to future loss reduction work Methodology accepted by secondary stakeholders. Future research plans and projects use the methodology |
| 2 Policy document on monsoon losses distributed to national and state govt. and relevant NGOs | 20 copies of document produced by March 1 st 2000 | Report of meetings with DoF. Hard copy of Document sent to DFID PHFRP Manager. | DoF accept research findings and willing to incorporate into state policy/decision making process |
| 3 Report of research results disseminated to secondary stakeholders. | 30 copies of report distributed by March 31 st 2000 | Acknowledgement of receipt of report by key stakeholders. | Stakeholders accept research results. and incorporate findings into future work plans |
| 4 Dissemination material aimed at SSP produced and distributed. | 100 copies of booklet sent to NGO/extension staff in AP & O | Acknowledgement of receipt by distributors. | SSP agree with the message given in the material. and show willingness to change |

| Activities | OVI | MOV | Assumptions |
|---|--|---|---|
| 1. Workshop Chennai March 1999 to assist planning of Phase III | | Report Phase III log frame | Researchers identified for Phase III activities available for fieldwork. |
| 2. Article for publication on Phase II | March/April 1999, AW&MJ | Published article | Journal identified which is willing to accept an article for publication |
| 3. Menu of appropriate technical and non technical interventions based on SSP coping strategies and team observations developed. | By 5th April, McoF | Menu sent to Project Leader | Appropriate interventions can be identified. |
| 4. Menu circulated to post-harvest and intervention specialists for comments and menu revised accordingly. | Mcof to distribute to workshop participants with pre paid envelopes replies by 15th April (MJ, Sri, Sud) | Letter accompanying menu Respondents comments | Some workshop participants respond. |
| 5. Video of improved processing practices and coping strategies produced for raising awareness among SSPs of possible interventions. | MCoF approx Rs 25,000 Completed by May 31 | Video | SSPs are shown video. |
| 6. Participatory planning with key stakeholders to identify appropriate interventions for field testing and SSPs interested in field trials.. | April 20 to May 10 th MJ & CMS + Gomathi? 3 villages in AP 3 villages in O | Report of site meetings | SSPs are identified who are interested in field testing interventions in the menu |
| 7. Revised Phase II report produced | Phase II team report revised by CMS and be with Project Leader by April 30 th | Disk version of Report with NRI | Suggested revisions have been incorporated |
| 8. Adaptation of interventions to local situation | McoF | Hard copies of communication with project leader | Adaptations are feasible within time frame of project |
| 9. Field testing planned . | Planning meeting India June 7-8 June field teams meet in Chennai & MJ&CMS to design field trials + site visits (shreramalu, VS, Binod, L Nayak, MCoF, CMS, Gom) | Meeting report | Agreement on framework for trials reached. |
| 10. Phase II report completed | June NRI & McoF Finished & ready for distribution by July 31st | Report | Objective peer review comments received |
| 11. Field testing implemented from July onwards. | June 14-30 Team 1 & Team 2 set up field trials Team 1 VS, Srikar, Gom, Shreramalu, Team, 2 VS, Sud, Gom, Binod, Laksman Nyak | Team reports | SSPs and key stakeholders participate in the trials as expected. |
| 12. Monitoring of fieldwork by local counterpart | July, August, Sept Shreamalu to monitor in AP Orissa – Lakshamn Nyak, | In-country Co-ordinator reports to Project Leader | Counterpart monitors as per his or her terms of reference. |

| Activities | OVI | MOV | Assumptions |
|---|--|--|--|
| 13. Monitoring visit | August 9-13 NRI&MCOF & Venkatesh (Srikar & Sudhakar) | Report | Field trials are found to be going as planned. |
| 14. Field trials terminated at end of monsoon. | Trails end September 30 th | Communication from counterpart to Co-ordinator | |
| 15. Impact of interventions on loss reduction and livelihood established. Adaptions, refinements needed to interventions clarified. | <u>October 11-22</u> Ann Gordon(?) + technical person (?) | | Sufficient processing has taken place during the monsoon to enable valid results to be obtained. SSPs able to participate in assessment |
| 16. Qualitative data on losses validated by quantitative survey in coastal areas. | CMS in October after monsoon | Report produced by end of November | Respondents provide true data |
| 17. Seasonal scoring exercises conducted with SSPs to establish annual loss cycle. | CMS in October after monsoon | Report produced by end of November | Respondents provide true data |
| 18. Workshop to present and review findings of Phase III and to plan dissemination of results. | January 10-11 th | Report | Participants attend the workshop and are properly briefed on Phase III and contribute to discussions |
| 19. Document on research aimed at state level policy makers produced. | Feb MCoF, NRI | | Document is tailored to suit requirements of policy makers |
| 20. Project presents document to key DoF personnel in Hyderabad & Bhubaneshwar | March McoF | Meeting report | DoF and project staff able to attend meeting |
| 21. A final report for secondary stakeholders produced which describes whole project including objectives, methods, processes, outcomes, results, workshops produced (published material included as Appendix). | Jan NRI&MCOF before March 31 st | Report | List of key stakeholders (recipients) is drawn up. and each receives a copy of report |
| 22. A paper on methodological approach to assess fish loss and determine intervention in the small scale fish processing sector published for peer review | Feb Project team | Published article and peer review comments | Journal identified which is willing to accept an article on methodology Peer review comments favourable |
| 23. Demonstrations of interventions to NGOs & SSPs | March McoF | Report by Co-ordinator | Participants indicate positive interest |
| 24. Cartoon story of dos and don'ts including script plus posters produced. | Feb MCoF by March 1st | Story book and posters | NGO and village leaders accept and distribute material. |

Appendix 3 Group Activity

Objective

Provide the project management with participant ideas for consideration during the Phase III planning process. Enable participants to contribute towards Phase III activities.

Task

After undertaking a baseline socio-economic and technical survey of post-harvest fish losses in the monsoon season you are invited to submit a proposal for the funding of a next phase of 12 month duration, which is to focus on field testing interventions to reduce losses. The team is asked to submit its proposal to a panel of advisors representing an NGO, who will interview the team to determine whether the proposal is acceptable for funding or not. The NGO is looking to develop value added technologies and loss reduction processes for small-scale fish processors who process during the monsoon and incur losses. This could be described as the NGO's purpose.

The NGO require that a proposal contains the following information otherwise it will be automatically rejected:

- a) A clarification of your understanding of the problem of monsoon losses – i.e. who are effected, where is the problem, why do losses occur, how significant are losses.
- b) Summarise the loss reduction intervention(s) to field test and describe how they relate to the funders Purpose.
- c) Provide a justification as to why you are focussing on the intervention(s).
- d) List the activities you propose in order to field test the intervention(s).
- e) Outline how the impact of the intervention(s) would be measured.
- e) What are the risks which may stop implementation or effect the impact of the project/activities.
- f) Provide a list of essential budget items.
- g) List the key stakeholders and indicate how they will be involved and to what extent.
- h) Show how you will disseminate and promote the results of the project.
- i) Indicate how proof of uptake of the project results will be measured.

The proposal should be presented to the panel using either/or flip charts or OHPs. Proposal preparation time = 1.5 hours. Presentation time = 30 minutes per group.

| Group 1 | Group 2 |
|--|--|
| Srimalu (general) Dr Srikar (Technology) George Mathew (Socio-economics) Vijayan (Technology) Rajenderan (General) Kamila (gender/intervention) Gomathi (intervention) Sudhakar (Technology) M S Ashok | Shiv (marketing) Binod Mohapatro (intervention) Venkatesh (general, intervention) Durairaj (research) Nay? (general) Kasim (technology) Krishna Srinath (intervention) Meera (gender) Ann Gordon Jyothi D'Cunha |

Project Appraisal

The team should present their proposal with the aid of flip charts and/or OHP transparencies.

Panel will interview each team and decide whether funds will be released.

The panel will look for the following positive attributes:

High stakeholder participation

High likely impact

Appropriate in terms of purpose

Good multi-disciplinarity

Poverty focus

Clear dissemination strategy targetting both primary and secondary stakeholders

(the panel should weight each attribute accordingly, beforehand)

Notes

The exercise should be introduced to the whole group.

The baseline data the teams need to draw on is that which has been presented and is available to them. Hard copies of the exploratory report and phase II report should be made available for reference.

The panel members would circulate during the proposal preparation session and provide guidance to teams.

A follow-on exercise would be for the panel to conduct a SWOT analysis of each proposal.

In terms of DFID focus there is a need to focus on the poor – make sure this angle is addressed.

The results could feed into the development of a log frame for Phase III to be discussed after the workshop.

The results would have to be balanced with primary stakeholders ideas.

The after presentation discussion could be widened out to cover policy & institutional framework for adoption/support for loss reduction measures.

GROUP SESSION – WORKSHOP CHENNAI, 8-9 MARCH.

A Project Proposal

After undertaking a baseline socio-economic and technical survey of post-harvest fish losses in the monsoon season you are invited to submit a proposal for the funding of a next phase of 12 month duration, which is to focus on field testing interventions to reduce losses. The team is asked to submit its proposal to a panel of advisors representing an NGO, who will interview the team to determine whether the proposal is acceptable for funding or not. The NGO is looking to develop value-added technologies and loss reduction processes for small-scale fish processors who process during the monsoon and incur losses. This could be described as the NGO's purpose.

The NGO require that a proposal contains the following information otherwise it will be automatically rejected:

- a) A clarification of your understanding of the problem of monsoon losses – i.e. who are effected, where is the problem, why do losses occur, how significant are losses.
- b) Summarise the loss reduction intervention(s) to field test and describe how they relate to the funder's Purpose.
- c) Provide a justification as to why you are focussing on the intervention(s).
- d) List the activities you propose in order to field test the intervention(s).
- e) Outline how the impact of the intervention(s) would be measured.
- e) What are the risks which may stop implementation or effect the impact of the project/activities.
- f) Provide a list of essential budget items.
- g) List the key stakeholders and indicate how they will be involved and to what extent.
- h) Show how you will disseminate and promote the results of the project.
- i) Indicate how proof of uptake of the project results will be measured.

The proposal should be presented to the panel using either/or flip charts or OHPs.

Proposal preparation time = 1.5 hours

Presentation/discussion time = 30 minutes per group

Appendix 4 Field Trial Guidelines

Proposed Phase III activities of the monsoon losses project

File note by Ann Gordon, 23 March 1999.

Background. The most important activity proposed is the field testing of loss reduction strategies. These strategies comprise (a) “coping strategies” already used by some processors, and (b) loss reduction methods identified by the research team.

Purpose of field trials. These trials could serve several purposes, viz:

- to identify constraints to uptake of loss reduction methods
- to test the financial and technical feasibility of the proposed methods
- to estimate the losses *prevented* by adoption of these strategies
- to pave the way for informal (processor to processor) technology transfer
- to facilitate local adaptation of technology.

The purpose of the trials will have a bearing on the most appropriate approach to the trials and data collection – so it is important to state clearly what information you hope to generate.

My own view is that it will be difficult to generate reliable data on physical and monetary losses prevented – and for this reason I would be disinclined to invest much effort in this, if it were my project. Instead I would focus on testing “willingness to adopt” – and would then use this as an indicator of an improvement in livelihoods. The improvement might be in aggregate income, or reduced risk, or less variable income, or in some other quality of life aspect (working conditions etc). I suspect that the best way to collect these data would be through a combination of observation, focus groups and individual interviews.

Since many of the technologies to be tested are already used by some of the processors, I think it would be useful to generate information on their wider relevance and constraints to uptake. I could envisage a table with columns for:

- description of technology
- situations in which it is most useful
- potential constraints to uptake.

The last column would not be hypothetical – rather constraints that arise for some processors but not for others. Your menu approach (ie offering a menu of technologies) tends to assume that different processors face different resources and constraints – so a technology may have wider relevance, but nonetheless be out of reach of some processors.

Ownership. The trials will undoubtedly take up considerable time of the research team and participating processors. Moreover, a sense of ownership on the part of processors will contribute to the validity of the results – and its absence could lead to

gaps in your information or misinformation. A sense of ownership and responsibility, on the part of the processor, is most likely to result in her doing her utmost to protect her income (and make appropriate use of the resources, including technology, available to her).

There is no blueprint for fostering ownership and genuine involvement – but the importance of this must be stressed. It could make the early stages of the trials particularly time-consuming – especially if multi-site trials are proposed. It will certainly require considerable two-way dialogue between the research team and fishing communities. This was the context in which I suggested there may be scope to have other processors explain the techniques they use – this might “bring them to life” a bit, and help processors see the relevance of the proposed technologies. A video might help – but arranging processor-to-processor visits might be better still (time and resources permitting).

During the planning meeting, it was proposed that improved technology could be loaned or given to processors for trial use. The danger with this approach is insufficient commitment by the processor – so if you do use this approach, you will have to be careful to distinguish between possible poor results because the processor was not particularly committed, and poor results because the technology is inappropriate.

Depth versus breadth. During the planning sessions in Chennai, a large number of technologies were proposed with trials at several sites in southern India. There was discussion of transferring technology (a) within the same community (b) to other sites in the same state, and (c) to other states. This is a potentially ambitious programme given the size of the research team and the relatively short period of time in which the trials are to be conducted. It clearly calls for some prioritisation in terms of sites or data collection. Again, a clear statement of purpose will help in defining appropriate geographical and data coverage.

Types of information, observation, recall and record. As stated above, I think it will be difficult to obtain reliable quantitative information on the volume and value of losses. It is probably neither feasible nor desirable to place a constant monitor in the community to collect data – and collection of data from processors’ own records or recall is likely to be subject to considerable error. However, it should be possible to collect reliable qualitative information (for instance on perceptions of the technology, possible constraints etc) – providing care is taken to cross-check with other questions, and direct observation, using individual interviews and group meetings.

Poverty focus. The discussions in Chennai indicated that this project is very concerned with poverty focus – and is trying to target a group whom we believe to be particularly poor and vulnerable. At the workshop we discussed at length the definition of an SSP – and noted that there were some (generally minor?) differences in this definition between sites.

I think it would be very useful to clearly characterise your target group – even if this profile has to be flexible to some extent (eg., processing volumes in the range..., exhibiting at least three of the following five characteristics... etc). You could then use this to make sure that processors involved in field trials, or contributing to your

data collection and feedback, fall in your target group. It may also help you identify ways in which this group might be “self-selecting”. For instance, very poorly remunerated activities (sometimes including very labour-intensive activities) may only appeal to the poorest. You can then use this information to identify technologies which are of exclusive relevance to your target group.

Appendix 5 Dissemination Contacts From Dr Lingaraja – Department of Fisheries, Tamil Nadu.

| | |
|---|--|
| Joint Director of Fisheries (Research) Deputy Director of Fisheries (Ex) | For implementing the schemes (Racks) |
| Managing Director Tamil Nadu Fisheries Apex Co-operative Federation Banpet Saidapet - chennai | They have schemes on Fish Drying platforms Dry fish business |
| The Project Director Bay of Bengal Programme St Mary's Road Alwapet - Chennai | Pioneering research works, case studies Demonstration of modern technology for Fisherwomen |
| The Project Co-ordinator UNICEF Nandanam Chennai | Health Roof water Conservation Public hygiene Fisherwomen education |
| The Executive Director Tamil Nadu Womens Development Corporation Nandanam Chennai | Training for Self-help groups Arranging funds for small scale business to fisherwomen |
| The Director The Department of Social Welfare Secretariat Chennai - 600 009 | Giving financial assistance to fisherwomen |
| National Institute of Ocean Technology (Dept. of Ocean Development) Neelankanai Chennai | Mandatory for Ranching alternative job |
| The Ministry of Food Processing and Industries New Delhi | Giving funds for vehicles, ice plants, fish curing, canning etc. |
| The Secretary, Tamil Nadu Backward XXX Development Corporation Secretariat Chennai | Giving funds for fisherwomen towards working capital |
| Dr Sakthival Aquaculture foundation of India 40 Kapaleaswarai Koir St. 40 Neelankanai Chennai | Consultant |