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**PAPUA REGION WOMEN'S WORKSHOP ON FISH PROCESSING AND MARKETING
(ICOD Project #880201)**

(Port Moresby, Papua New Guinea, 4-15 September 1989)

REPORT

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Papua Region Women's Workshop on Fish Processing
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We are also indebted to the Papua New Guinea Government, which made available as workshop co-ordinator a staff member from the Women's Affairs Division of the Department of Home Affairs and Youth, and provided two resource personnel from the Department of Fisheries and Marine Resources. We are also grateful to the Government for providing two vehicles for use during the workshop.

We thank the University of Papua New Guinea, and the Head of the Department of Fisheries, for providing the venue, and excellent facilities, for the full two-week period of the workshop. The Department also supplied a senior staff member as a resource person and gave valuable secretariat and laboratory staff assistance.

The South Pacific Commission acknowledges the general support of the Papua New Guinea Government, its efforts to improve the status of women in fishing village communities, and its intention to provide further support and funding for women's activities in fisheries development in the future, as stated by the Minister for Fisheries and Marine Resources in officially opening the workshop.

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1. Introduction

In many parts of the developing world the valuable role women play in fisheries, as part of their normal day-to-day activities in their fishing communities, has been acknowledged for some time. Assistance has been, and continues to be provided to them, through extension services, workshops, financial support for cottage industry projects, etc., to help them with their unique and specific needs.

In Papua New Guinea and the rest of the Pacific, however, the role played by women in fisheries has, until recently, been largely ignored, and very few of the many development activities in fisheries have taken the needs of women from coastal communities into account.

The Women's Division of the Department of Home Affairs and Youth in Papua New Guinea recognised the important contribution made by village women in processing, distribution, marketing and sometimes harvesting of fish, and the problems faced by women engaged in these activities. It therefore requested the South Pacific Commission to organise a workshop on fish processing and marketing to cater for their needs.

The Papua Region Women's Workshop on Fish Processing and Marketing, which was held from 4-15 September 1989 in Port Moresby, with financial assistance from the International Centre for Ocean Development (ICOD), was the first activity of its kind in Papua New Guinea and indeed in the region.

2. Background

On receipt of the request from the Women's Division, Department of Home Affairs and Youth, SPC's Pacific Women's Resource Bureau approached ICOD for funding assistance. ICOD approved the proposal and made available the necessary funds.

The aim of the workshop, as stated in the Memorandum of Agreement signed between ICOD and SPC, was as follows:

The general objective of the workshop is to assist Papua New Guinea to develop human resources at the community level by enhancing the skill and knowledge levels of women leaders in the fishery sector.

The specific objectives of the project are to:

- (a) train women participants in the techniques of small-scale fish processing and marketing;*
- (b) encourage participants to develop and establish small-scale pilot projects on fish processing and marketing in their respective areas;*
- (c) provide training to the participants in terms of project fund raising and general project administration i.e. small business management.*

A three day planning meeting was held in Port Moresby, 18-20 April 1989, to discuss and finalise the administrative and technical organisation of the workshop. The meeting was attended by the SPC's Women's Programme Officer and Fish Handling and Processing Officer, together with representatives from the Department of Youth and Culture (Women's Affairs

Division); women leaders from various non-government organisations; the Department of Fisheries and Marine Resources; and, the Department of Fisheries, University of Papua New Guinea.

Topics discussed included the dates and venue for the workshop; level of the participants; accommodation for the participants; workshop syllabus and timetable; workshop evaluation; follow-up programme; and administrative, budgetary and material needs. This was a very useful exercise, as some of the women from non-government women's organisations were able to explain in detail some of the problems village women face in fish processing and marketing, which assisted with defining the technical components of the workshop.

The workshop took place at the University of Papua New Guinea from 4-15 September, 1989.

3. Description of the workshop

3.1 Participants

The workshop was attended by 22 participants from the six Papuan provinces of Papua New Guinea: 5 from Central Province; 3 from Gulf Province; 3 from Milne Bay Province; 4 from National Capital District; 4 from Oro Province; and, 3 from Western Province. Two of the participants were Women's Affairs employees of the Government, while most were community women's organisers, who are not government employees but are paid a very small monthly stipend as unofficial extension officers assisting women in their home villages. None of the participants had any tertiary education, while about half had some secondary education. The rest had varying levels of primary education. Participants are listed in Annex 1.

Although 30 participants were originally to attend the workshop, according to the Memorandum of Agreement, this figure was reduced to 25 during the April planning meeting. The reason for the reduction was that the workshop was designed to be highly practical and therefore it would have been difficult to cope efficiently with larger numbers. Unfortunately three participants expected to fly into Port Moresby from the Provinces failed to arrive.

3.2 Resource personnel

Resource personnel for the workshop were drawn from various departments within Papua New Guinea and from SPC. The principal organisers came from the Women's Division, Department of Home Affairs and Youth, and from SPC's Pacific Women's Resource Bureau. Technical resource personnel were secured from various Government and University departments in PNG, with the addition of SPC's Fish Handling and Processing Officer. All resource personnel were supplied at no additional cost to the workshop. Annex 2 lists the workshop organisers and resource personnel.

3.3 Workshop venue and facilities

All formal teaching sessions and practical classes were conducted at the Department of Fisheries, University of Papua New Guinea. A lecture room, a scientific laboratory and fish processing wet room were provided for most of the classes. There was also more than sufficient room outside for building a simple fish smoker and putting up fish drying racks for the demonstrations and project work. Much of the seafood processing and storage equipment, with some materials and teaching aids, was supplied by the UPNG Fisheries Department, which provided invaluable staff support to help set up demonstrations, practicals and video/film shows. Office space, computers, printing and photocopying facilities were also provided.

3.4 Workshop content

The syllabus for the workshop, finalised during the April planning meeting in Port Moresby, is shown in Annex 3. A provisional timetable was drawn up prior to the workshop, but not finalised until discussions had been held with the participants themselves during the first day of the workshop. The aim of this was to provide a workshop to meet the women's particular needs as closely as possible. Requests for specific items were made, such as beche-de-mer (sea cucumber) processing and a visit to Tilapia ponds in Port Moresby, and the timetable was adjusted accordingly within the time constraints available. Further adjustments were made at the end of the first week to take into account the comments made during a mid-workshop evaluation. Annex 4 contains the full two-week programme for the workshop.

The workshop was designed to be as practical as possible. Talks were therefore kept to the first session in the morning only, formal demonstrations followed, while the afternoons were set aside for project periods. During the project periods the participants worked in four groups on a selection of topics (Annex 5). Talks, demonstrations and practicals were interspersed with relevant videos, films and slide shows (see Annex 6) and specialised topics covered by invited guest speakers. All resource personnel gave handouts to cover individual talks, and relevant materials, recipes, and procedures/results from the demonstrations. A handbook containing the materials given out during the workshop is available.

Hands-on experience of more detailed handling and processing procedures was given through the projects. The women participants had a choice of four project groups, with at least one person from each Province encouraged to join each group. Projects were chosen and planned by resource personnel, with improved traditional processing and new but appropriate handling/processing procedures considered suitable for isolated fishing communities. These projects are outlined in detail in Annex 5. Each group tried to cover the technical and financial aspects of the project work, producing products, evaluating them and working out their costs. At the end of the workshop each group gave a brief presentation to the rest of the class. To ensure that participants were familiar with what was happening in the other groups, the women were encouraged to approach another group occasionally for an explanation. However, in practice this proved difficult to carry out effectively.

At the end of the workshop each of the 22 participants was presented with a certificate of attendance, signed by the Acting Secretary, Department of Home Affairs and Youth and the Secretary, Department of Fisheries and Marine Resources. A sample certificate appears in Annex 9.

Wide media coverage was also given throughout the workshop through printed articles, radio coverage and in a popular television programme (see Annex 10) indicating a wide public interest in this project.

4. Workshop evaluation

Two evaluations were conducted during the period of the workshop: a mid-workshop evaluation and an end-of-workshop evaluation.

4.1 Mid-workshop evaluation

At the end of the first week an informal mid-workshop evaluation was conducted to establish whether what was being covered and the methodologies used so far had been up to expectations. The women discussed their views in each of their project groups and then gave a brief report

to the class, workshop co-ordinators and resource personnel. The outcome of this evaluation is described in Annex 7. A number of valid and useful comments were made and taken into account, particularly for extra sessions on marketing.

4.2 End-of-workshop evaluation

A final, more formal, evaluation was conducted at the end of the workshop. This took the format of a more detailed and confidential questionnaire, shown in Annex 8A, covering all aspects of the workshop, including administrative arrangements, teaching standards, technical content, etc. The collated results of this evaluation are summarised in Annex 8B.

Analysis of the completed questionnaires shows that participants were generally very happy with the workshop, as indicated by the high number of positive and favourable responses to the individual questions.

The most salient points of interest were:

- (a) Almost half the participants suggested that considerably more time should have been allocated for the workshop. This could be interpreted to mean that too much was pushed into the two-week period of the workshop, demonstrating either that more time was actually needed or that the workshop content should have been simplified;
- (b) Participants were not completely satisfied with the idea of different groups doing different practicals. The idea behind this project format was that during any spare time, the participants would go round to visit other practical groups to find out what they were doing. Only four people replied that they had gained enough from doing this;
- (c) Seventeen people said UPNG was a 'very good' choice of a place to run the workshop; however, when asked where future workshops should be run, of the 18 who replied almost half said that the workshop would be better sited in a village;
- (d) Fish smoking was listed as the subject likely to be of most use to the participants in over half the replies;
- (e) The majority of people (19) said that more workshops like this one should be run in the future.

Some administrative problems were evident, particularly at the beginning of the workshop, but these were sorted out during the first few days.

There was broad agreement amongst the resource personnel that the content of the workshop needs to be reviewed in light of the experience of the PNG workshop. For this type of workshop, two weeks is about the right time span to keep the participants' full attention and interest. For future workshops, a simplified content would be desirable, with more time spent on areas of improved fish handling, processing and marketing technology that are related to conditions and products that are familiar to the participants. A disproportionate amount of time is needed to convince participants of the value and suitability of new or unfamiliar techniques. Although it is felt that these technologies are appropriate for income generation in isolated fishing communities, they would best be introduced at the village level.

Comments on the group project format caused a dilemma for the organisers. It was clear that the participants were so enthusiastic that they wanted to learn all the various techniques being taught in the group sessions. However, in order for the participants to learn enough about a

particular type of project to be able to run a similar project in their home villages, two full weeks were needed. An attempt was made to encourage participants to visit other groups from time to time, thus giving the group visited an opportunity to practise transferring its new knowledge. However this proved difficult to organise because most groups were busy on their own project for most of the time.

Every effort was made to design the workshop to meet the needs of the women participants of the Papuan region. But as this was the first workshop of its kind in PNG, there was a strong learning element for the workshop organisers as well. An attempt was made to confer with participants throughout the workshop, with discussion time allocated on the first day and at the end of the first week, and then to be as flexible as possible in meeting requests and responding to any complaints.

There was also much discussion about follow-up activities to help the participants transfer the information and training received during the workshop to women's groups back home. Assistance from technical resource personnel will be needed, and this can be supplied from within PNG. A source of funding should be found to help build simple processing facilities such as smokers, insulated containers for iced and iced fish, drying racks for beche-de-mer processing, etc.

5. Conclusions and recommendations

The Papua Region Women's Workshop on Fish Processing and Marketing was the first workshop of its kind in the Pacific region, and judging from the response of the participants through both formal evaluation and informal comments made to the co-ordinators and resource personnel, it was a great success. It also created interest in other parts of PNG, with requests for similar workshops already received by the PNG Women's Division.

The aims of the workshop may have been over-ambitious for the two-week time-frame. Realistically, the full objectives could only have been met if the follow-up activities had been included within the original project framework. It would therefore be appropriate for future workshops of this nature to include a follow-up component as an integral part of the project and budget. This would have the advantage that follow-up activities could take place not too long after the main workshop. It is recommended therefore that future proposals for workshops of this kind include follow-up activities.

The following comments on the specific objectives of the workshop show to what extent they were achieved, outlining some of the difficulties and indicating where improvements can be made.

Objective (a): to train women in small scale fish processing and marketing. This was adequately covered by the technical advisers. However one of the major concerns voiced by the women was that there was not adequate time to do justice to all topics or, perhaps that an attempt was made to cover too wide a range of topics. There is, therefore, a need for future workshops to include in the syllabus subjects that are more tightly defined and based on a needs assessment survey conducted prior to the workshop.

Recommendation: more information should be collected about the specific needs of women from fishing communities, so that future workshops can be designed to cover more appropriate topics, in greater depth.

Objective (b): to encourage small-scale pilot projects. This was not covered to the extent desired in the time available. Hands-on experience was given in undertaking projects in the various groups, but it is unlikely that these are totally applicable and can be undertaken without further

on-site assistance in the village. This problem was partially overcome through a five-day seminar covering project planning and administration, budgeting and finance, letter-writing for funds, leadership and community organisation, organised by the Papuan Region Women's Council immediately following the SPC/ICOD workshop. However, technical and financial assistance is needed at village level to ensure that the women get the full benefit of what they have experienced in the workshop. Village-level follow-up activities were the subject of much discussion during the workshop.

Recommendation: (i) funds should be sought as quickly as possible to help the women participants of this workshop in follow-up activities in their home fishing community; (ii) for future workshops, the follow-up activities must be budgeted and included in the project proposal.

Objective (c): to provide training in project fund-raising and administration was covered in the workshop primarily in terms of costing for fish and marine resource projects, including related food preparation (fish balls, curried prawns, etc.) exercises. A number of participants did, however, express a desire for more time in this area. This need was again partially catered for by the seminar of the Papuan Region Women's Council, which spent considerable time on general administration of small scale projects and which has already formed and registered a women's company, HANINE PTY LTD, to facilitate sales by women and women's groups.

It now remains with the women to initiate specific projects and with the PNG Departments of Home Affairs and Fisheries and Marine Resources to provide adequate and timely follow-up; otherwise the momentum and enthusiasm generated by the workshop will be lost. There have been informal requests for duplicate workshops in other regions of the country, mainly from women's organisations, but, while these are definitely worthwhile and should be pursued, the most urgent need is for village level follow-up activities with the participants of this first workshop. The South Pacific Commission is quite willing to seek funds for, and co-ordinate the implementation of such activities, as appropriate, but the SPC mandate is such that any such initial request must come in the first instance from the host country.

The workshop was useful in itself and provided information which will enable future workshops to be still more effective. The recommendations indicate that there is a need both for further workshops and for appropriate follow-up activities.

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Guest resource personnel

Mr Navi Anis	Department of Fisheries and Marine Resources (marketing, pricing,
Mr Tatek Buraik	book-keeping, etc.)
Mr Myron Yalo	

Mrs Agnes Hafmans, Siasi Island, Morobe, PNG (commercial beche-de-mer processor)

SYLLABUS (as designed during the April planning meeting)

INTRODUCTION

The workshop was designed to be very basic in theory, but highly practical in orientation. The workshop timetable reflected this:

8.00 to 10.00 – talks/lectures
10.30 to 12.00 – practicals
13.00 to 17.00 – practicals

TOPICS FOR TALKS/LECTURES

Nutrition: value of seafood as a source of protein

Why do fish spoil? Germs (bacteria and enzymes), simple anatomy, conditions ideal for spoilage and reasons, contamination and hygiene factors

Handling the catch: care in handling, avoiding rough treatment, sorting out damaged fish, etc.

Preservation

Chilling Principles of chilling (introduce temperature measurement and Celsius scale)
Methods of chilling fish (different types of ice – block, crushed and flake/chip; different icing techniques – ice only or seawater/ice slurry; good versus bad practices)
Containers for chilled fish (fish boxes; insulated fish containers; extended ice storage and melting rates)

Freezing Principles of freezing
Methods of freezing fish
Advantages and disadvantages of freezing

Quality assessment of fresh fish

Processing

Fish preparation for processing (gutting, gilling, scaling, filleting, skinning, steaking)

Smoking How does smoking/drying preserve fish?
Methods of smoking fish (salting; drum smoking; simple Altona and/or Chorker smoking kiln; hot and cold smoking; storing and packaging)

Salting How does salting preserve fish?
Methods of salting fish (wet and dry methods; salting and drying; storing and packaging of salted products)

Minced fish products (fish balls, fish cakes, fish sausage, etc.)

Miscellaneous marine products

Crustaceans (handling and preservation; pickled prawns and prawn crackers)

Crabs (live handling; products: e.g. crab crackers and packed crab)

Beche-de-mer (general handling and processing)

Other products (general)

Marketing

Basic principles, retailing, costing out a processing and marketing operation, book-keeping

DEMONSTRATIONS AND PROJECTS

Practical sessions, to be divided into two types: set demonstrations/practicals and projects to be undertaken by groups of participants.

Projects

The class will be divided into five groups of five women. Each group will choose a practical project to be undertaken over the two-week period. A full report of the findings will be presented during and at the end of the workshop. Full interaction will be encouraged between the different groups so that each group will be fully conversant with the activities of other projects. This will also encourage participants to interact as trainers/extensionists. Five broad topics have been chosen for the projects. However, depending on the interest of individual participants these can be modified and changed as required. The topics are:

1. Smoking
2. Salting
3. Ice melting rates + low cost insulated containers
4. Minced fish products
5. Prawn and crab products (marinades/pickled/crackers)

Demonstrations

Preparing fish for processing: gutting and gilling; filleting and scaling; steaking, etc. Women will participate in the session working out yields from the different procedures. Sharpening and caring of knives will be demonstrated.

Quality assessment and grading (prior to the workshop fish will be iced up to three weeks ahead and the quality of fish iced at the different intervals will be assessed).

Good and bad methods of icing fish

Microbiology demonstrations with women taking samples from fish and their own hands (before and after washing) onto agar plates. Bacteria will be allowed to grow and shown to the women a few days later.

OUTLINE OF TIME-TABLE FOR PAPUA REGION WOMEN'S WORKSHOP ON FISH PROCESSING AND MARKETING

Week 1 - September 4 to 8

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8.30 - 10.30	8.00 - 10.00	8.00 - 10.00	8.00 - 10.00	8.00 - 10.00
OPENING CEREMONY	Nutrition, hygiene, spoilage (enzymes, bacteria), etc. (WW)	Chilling (SR)	Freezing (DC) Quality assessment (DC)	Review of the workshop
10.30 - 12.00	10.30 - 12.00	10.30 - 12.00	10.30 - 12.00	10.30 - 12.00
'Ice Breakers' (DC) Presentation of draft programme (SR)	Fish preparation: gilling, gutting, scaling, fillets, steaks, splitting, yields, and knives (SR)	Demonstration on chilling (SR)	Quality assessment of fish (DC)	Construction of an insulated ice box Video
L U N C H				
13.00 - 17.00	13.00 - 17.00	13.00 - 17.00	13.00 - 17.00	13.00 - 17.00
Plenary session: 5 groups to discuss what they want included in the workshop Final programme and project explanations (SR)	P R O J E C T S (SR/RW)	Beche-de-mer processing (DC and Agnes Hafmans) Demonstration on making fish cakes (Mrs Rajeswarren)	P R O J E C T S (SR/RW)	P R O J E C T S (SR/RW)

DC - David Cook

SR - Steve Roberts

WW - Waleta Wararu

RW - Mr N. Rajeswarren

Week 2 - September 11 to 15

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8.30 - 10.30	8.00 - 10.00	8.00 - 10.00	8.00 - 10.00	8.00 - 10.00
Smoking (RW)	Salting and drying (SR)	Discussion on marketing + format for personal accounting (1hr). Trochus/sharkfin (DC)	Basic principles of marketing - costing, pricing, book-keeping, etc. (part 1) (NA/TB/MY)	Presentation of projects
10.30 - 12.00	10.30 - 12.00	10.30 - 12.00	10.30 - 12.00	10.30 - 12.00
Visit to Horse Camp, Port Moresby - Tilapia ponds	Crabs, lobster and prawns (WW)	Miscellaneous products: minced fish, pickled prawns, prawn crackers, etc. (RW)	Basic principles of Marketing - costing, pricing, book-keeping, etc. (part 2) (NA/TB/MY)	Presentation of projects (continued) Workshop evaluation
L U N C H				
13.00 - 17.00	13.00 - 17.00	13.00 - 17.00	13.00 - 17.00	13.00 - 17.00
P R O J E C T S (SR/RW)	P R O J E C T S (SR/RW)	P R O J E C T S (SR/RW)	Finish P R O J E C T S (SR/RW)	Free

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EVENING:
Closing ceremony and presentation of certificates

DC - David Cook
NA - Navi Anis

SR - Steve Roberts
TB - Tatek Buraik

WW - Walet Wararu
MY - Myron Yalo

RW - Mr N. Rajeswarren

OUTLINE OF WORKSHOP PROJECTS

GROUP 1 - Improved smoked fish products (supervised by N. Rajeswarren)

Smoked products in many parts of Papua New Guinea are generally made by broiling the fish or pieces of fish directly over a fire. There is so little control over the process that the fish often burns. The procedure is also wasteful of firewood. During the workshop the group made improved smoked products first of all, in a mechanical smoker, to get used to the preparation procedures and the types of preserved products that can be manufactured. The group then used a simple Chorker smoking oven (based on a West African design), that can be built in any village. The products were found to be popular with the participants, having a more consistent quality.

GROUP 2 - Ice containers for ice, ice/fish, plus melting rates (supervised by Steve Roberts)

One of the many problems experienced by isolated villages is the supply of ice, and techniques for making ice last longer when transporting it to the village, and then when transporting fish in ice to the markets. Plastic insulated containers are very expensive in Papua New Guinea. Wooden ones are available in some of the bigger towns, but these are quite expensive too.

During this project the group manufactured a simple insulated basket container made of traditional baskets woven from coconut fronds. Two sizes of basket were made, one sitting inside the other. Small plastic bags were then filled with hand shredded coconut husk and sealed. The coconut husk bags were packed tightly between the two baskets to form a layer of natural insulation. The two baskets were then tied together at the top. A single layer of plastic sheet was put on the inside. Approximate cost of such a container would be negligible as all materials are available locally. Such a basket container would take an individual approximately three to four hours to make.

The group tested the effectiveness of this container against a commercial plastic insulated container and a wooden locally made container, by measuring the rates at which ice blocks melted within each container. To get the feel for this experiment, the group carried out simple ice melting experiments at ambient temperatures, weighing blocks of ice at set time intervals when put in direct sunshine, in the shade, and inside a cool room.

The group discovered that the basket container performed remarkably well, especially on a cost basis.

GROUP 3 - Minced fish products/prawn and crab products (supervised by N. Rajeswarren)

A large volume of trash fish is caught during prawn harvesting and this project made some of this trash fish into a range of products that can be produced and sold locally in the village, e.g. fish cakes and fish balls. The first step is to separate the flesh, which is then minced and mixed to produce the raw material for making the various minced fish products. The group also made prawn crackers, a snack product particularly suitable for manufacture in the village, with a minimum of equipment.

GROUP 4 - Salting and drying (supervised by Steve Roberts)

Salting and drying are not traditional procedures for preserving fish in Papua New Guinea. In general it is not easy to introduce the traditional type of cured product commonly found in other parts of the world into a place where consumers are not used to them. However, this project group manufactured and evaluated two types of products: salted fish and marinated and dried tuna. Both products have the advantage that they do not require any ice (which is not available in many villages) and the products can be transported over long distances to markets, such as the highlands, where there is very little fish available. The salted fish was produced using only salt and prepared fresh fish. After three days in a saturated brine the fish is fully preserved. The marinated dried tuna was produced by soaking strips of tuna flesh in a marinade of soy sauce, lemon juice, sugar, salt and garlic, and then drying it both by sun and in a mechanical dryer (to speed up the process and for comparison). This product proved very popular with the workshop participants.

LIST OF VIDEOS, FILMS AND SLIDES SHOWN DURING THE WORKSHOP

Fish spoilage. New Zealand Fishing Industry Board (video).

An icy tale - Chilling fish on-board and *A chilling story - Handling fish in the processing plant.* SPC/ICOD Fish Handling and Processing video series.

The coastal fisheries of Japan. Yamaha (film).

Role of women in fisheries development. International Centre for Marine Resource Development/University of Rhode Island (video).

How Perla improved her fish stall. FAO slide series.

Beche-de-mer processing. Fiji Fisheries Division (video).

MID-WORKSHOP REVIEW

At the end of the first week the participants were asked to go into their respective practical groups and were given 30 minutes to discuss all aspects of the workshop which they had experienced to that date. They were also asked to comment on the proposed programme for the following week.

Each group was asked at the beginning to choose a reporter who would deliver a summary of the group's discussions to the rest of the participants, resource personnel and organisers.

Result

1. Four of the five groups clearly stated that they felt the workshop content to date had been most useful.
2. No group suggested any significant changes to the following week's time-table, although one group requested that more time be spent on marketing. This was agreed to by the workshop organisers.
3. One group felt that there was too much emphasis on mechanical/electrical equipment which are not available in the villages. The same group stated that there was too much emphasis on saltwater fish and not enough on freshwater fish.
4. Another group said that a follow-up workshop should be run to give more information about the topics covered.
5. One group stated that their initial reaction to the projects in the afternoon practical sessions was that they were worried about missing out on the topics covered by other groups.

The organisers explained to the groups that during the second week there would be more time for them to move between groups and find out about what the others were doing. Participants were to be encouraged to practise their skills by explaining their projects to members of other groups.

6. One group said that they would like detailed hand-outs given out before each session. The reply given by the organisers was that handout materials would be made available for any session which had not already had material given out. It was explained that it is better practice to give out literature at the end of a talk and not at the beginning, to ensure the full attention of participants.
7. One group stated that they liked the smoking session but felt it should be made more relevant to the village way of life, with less emphasis on expensive machinery. The resource person in charge of this topic stated that this would be the case in the second week.
8. Concern was expressed by one participant as to whether the relevant provincial authorities had been informed about the fact that people had been chosen from each province to attend the workshop. The representative of the Department of Home Affairs and Youth stated that the Provincial Affairs Office in each province had been advised of this. Participants seemed to be in general agreement that it would be beneficial if Provincial Fisheries Officers could be given full details of the workshop, together with the names and addresses of workshop participants from their province. The Department

of Fisheries and Marine Resources (DFMR) Representative agreed that this would increase the chances of the women gaining the co-operation of the provincial fisheries staff on return to their villages.

9. Concern was expressed by some participants that the chilling of fish was not relevant to them, as ice was not available in the village. The DFMR representative stated that both the provincial and national fisheries bodies are attempting to improve the availability of ice in rural areas.
10. With regards to freezing, some participants felt that more information on kerosene freezers would have been useful.

EVALUATION

A. EVALUATION FORM

At the end of the workshop the organisers will greatly appreciate your opinions about the workshop. Your comments will be most useful in helping them decide whether the objectives of the workshop have been achieved.

As the workshop is the first of its kind in PNG your comments will be especially valuable in making alterations to the course for the benefit of future participants.

Your comments are confidential, there is no need to sign your name on the form.

To answer the questions just underline which answer is closest to how you feel about it. If you want to say more just use the spaces provided after the printed answers.

1. The organisation of the workshop was:

very good / good / quite good / rather poor / very poor

This was because -----

2. The choice of Adcol for accommodation was:

very good / good / quite good / rather poor / poor

This was because -----

3. What we learnt in the workshop was:

very useful / useful / not very useful / no use

4. The theory (talking parts) of the course i.e. the lectures were given in:

- * too much technical detail
- * a bit too much detail
- * just the right amount of technical detail
- * not enough technical detail

If just some were too technical which ones? -----

5. About the practicals:

- * too much time was spent on practicals
- * just the right mixture of lectures and practicals
- * not enough time on practical work

6. Did you find you learnt enough about the practicals which other people were doing?

Yes / Almost / No

Other comments about the practicals: -----

7. What subjects do you think will be of most use to you when you go home? -----

8. What subjects do you feel were of very little use to you and why? -----

9. Were there any subjects which were left out which you feel you would have liked to include?

Yes / No

These are -----

10. Do you think you have learnt enough on this course to show other women how to improve their performance in some aspects of fish processing and marketing?

Yes / No

If so will you do this? Yes / No

If no, please say why not -----

11. Do you think we should run more courses like this one?

Yes / No

If yes, what changes should we make? -----

12. Do you want more information about any topics?

Yes / No

If yes, which topics -----

13. The choice of UPNG as a place to run the course was:

very good / good / quite good / rather poor / poor

This was because -----

14. Future courses like this one would be better run:

* at the university

* in the village

Why? -----

GENERAL COMMENTS: anything else you would like to say about the workshop?

THANK YOU FOR YOUR ASSISTANCE

B. SUMMARY RESULTS OF EVALUATION QUESTIONNAIRES

1. Method

Evaluation questionnaires (see annex 8A) were given out on the last day to all participants present at the end of the workshop. Twenty minutes of workshop time were allocated before the lunch break for the completion of forms. Participants were urged to be as honest as they could and were encouraged to give constructive criticism. The purpose of this, participants were told, was to help organisers make future workshops more suited to the needs of future participants.

2. Results

Of a total of 23 questionnaires returned, only 22 were considered for the analysis because one had been filled in incorrectly (one was filled in by an observer who joined the workshop in the second week). The questions were answered as follows:

2.1 The organisation of the workshop was:

Very good	18
Good	3
Quite good	1

2.2 The choice of Adcol (Administrative College) for accommodation was:

Very good	5
Good	4
Quite good	5
Rather poor	1
Poor	3
No answer	4

<i>Comments:</i> No bedding on first few nights	5
Didn't have to cook	1

2.3 What we learnt in the workshop was:

Very useful	16
Useful	2
Not very useful	0
No use	0
No answer	4

2.4 The lectures were given in:

Too much technical detail	0
A bit too much detail	0
Just the right amount of technical detail	15
Not enough technical detail	2
No answer	5

2.5 About the practicals:

Too much time spent on practicals	0
Just the right mix of lectures and practicals	17
Not enough time on practical work	2
No answer	3

2.6 Did you find you learnt enough about the practicals which other people were doing?

Yes	4
Almost	5
No	9
No answer	4

Comments: Didn't see the other projects/should do them all together/too busy concentrating on our own (2)/should do each project in turn (2)/some good projects, some not good.

2.7 What subjects do you think will be of most use to you when you go home?

Smoking	12
Salting	6
Ice	4
Accountancy, fish balls, fish cakes, fish selling, handling, prawn pickle	1 each
Drying	2
Ice box	1
Prawn flakes	3

2.8 What subjects do you feel were of very little use to you and why?

Minced fish	3	Fish balls	1
Salting (due to rain)	3	Machinery	1
All useful	3	No answers	9
Crabs and prawns	2	Freezing	1

Reason: no machines (equipment) in the village 2

2.9 Were any subjects left out which you would have liked to include?

Yes	2
No	7
No answer	13

2.10 Do you think you have learnt enough on this workshop to show other women how to improve their performance in some aspects of fish processing and marketing?

Yes	18
No	1
No answer	3

If so, will you do this?

Yes	12
No	1
No answer	9

If no, please say why not: People in my area use older ways of doing things.

2.11 Do you think we should run more workshops like this one?

Yes	19
No	1
No answer	2

If yes, what changes should we make?

Comments: Eight participants felt more time was needed (e.g. 3-4 weeks, 1-2 months, 2-3 months, 3-4 months, 6-12 months)
Take more account of level of education

2.12 Do you want more information about any topic?

Yes	8
No	4
No answer	5

If yes which topics?

Marketing	4
Book-keeping	3
Costings, prawn flakes, prawns, machinery, icing, overseas market, salt-drying, cost of machines	1 each

2.13 The choice of UPNG as a place to run the workshop was

Very good	17
Good	1
Quite good	0
Rather poor	0
Poor	0
No answer	4

Reason: The university had all the equipment
and resource personnel

5
1

2.14 Future workshops like this one would be better run at

The university	9
The village	7
Both	2
No answer	4

Reason: University has all the facilities
Village level is more appropriate
Mothers have children in village

1
2
1



CERTIFICATE OF ATTENDANCE



CANADA

SOUTH PACIFIC COMMISSION

INTERNATIONAL CENTRE FOR
OCEAN DEVELOPMENT



This is to certify that,

.....

has successfully completed a workshop for Papuan Women in

FISH PROCESSING AND MARKETING

4 to 15 September 1989

.....

Mr C.K ALOK
Acting Secretary
Department of Home
Affairs and Youth

.....

Mr B.RONGAP
Secretary
Department of Fisheries
and Marine Resources



DEPARTMENT OF HOME
AFFAIRS AND YOUTH



DEPARTMENT OF FISHERIES
UNIVERSITY OF PAPUA
NEW GUINEA



DEPARTMENT OF
FISHERIES AND
MARINE RESOURCES

PUBLICITY FOR THE WORKSHOP

- NBC Radio – Science programme
- The University this week (UPNG publication)
- Interview with ‘University on air’ on NBC Radio
- Discussion on NBC’s Women’s Programme
- EM TV coverage for ‘Lifestyles’
- PIM (*Pacific Islands Monthly*) photos and interviews from workshop activities.