SPC/Fisheries 18/WP.8
7 July 1986
ORIGINAL : ENGLISH

SOUTH PACIFIC COMMISSION

EIGHTEENTH REGIONAL TECHNICAL MEETING ON FISHERIES
(Noumea, New Caledonia, 4 - 9 August 1986)

THE EXTENSION WORKER IN KIRIBATI

by

R.H. Lindley
Fisheries Training Officer

SUMMARY

The paper examines the training of Extension workers in Kiribati, the problems with the implementation of programmes for the extension worker caused by local customs and the means by which the extension worker can overcome them and apply his knowledge to the process of extension.

The Appendices contain a brief description of the programmes followed by the Extension Section of the Division and a break-down of the syllabus of the training course given to the Fisheries Assistant trainees.

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INTRODUCTION

1.1 Fisheries Division has had an internal training programme for training Fisheries Assistants as Extension workers on Outer Islands of Kiribati since 1979 but this was a long time gaining momentum and due to unforseen delays it will not be until the end of 1986 that every island will have a Fisheries Assistant posted on it.

1.2 Appendix 1 gives the working programme for the Divisions Outer Island Extension activities. There is a varying degree of emphasis of the various programmes on different islands due to physical and human differences between the individual islands.

TRAINING OF FISHERIES ASSISTANTS

2.1 Training for the Fisheries Assistants has been very role orientated and is aimed at preparing secondary school leavers and returned merchant seamen to implement any or all of the outer island development programmes that are being pursued. In addition to this the trainees are expected to obtain an understanding of general fisheries so as to understand the inter-relationships between their work, the environment and the larger scene of fisheries and development.

On recruitment the trainees are given:

(a) A very intensive 24-week course at the Fisheries Division covering the subjects given in Appendix II. about half of the formal course is practical.

(b) Specialised training by section heads during their course on individual development programme.

(c) A brief attachment to the National Fishing Companies Pole and Line vessels.

(d) Periods of between 2 and 3 months on an outer island with an established Fisheries Assistant with ongoing programmes similar to those that it is anticipated that he will implement on his target island.

Training continues once the Fisheries Assistant is posted through:

(a) Generalised updating courses.

(b) Specialised training by section heads through return of the worker to Headquarters.

(c) On the spot training by section heads through visits to outer islands.

(d) Technical training at local institutions when appropriate.

(e) Overseas training giving specialised knowledge or generalised updating.

(f) Pamphlets, leaflets and manuals produced by Headquarters.

It can be seen that most of the training is directly associated with the programmes being followed.

The Division has found that by a combination of the above the Fisheries Assistants are well prepared to carry out the jobs expected of them and ongoing training they receive keeps them up-to-date with developments as they occur.

RESTRAINTS TO THE FISHERIES ASSISTANTS IN THEIR WORK

3.1 Traditionally all exploitable resources have been utilised as a source of food using a variety of methods and skills. Some processing is carried out if there is a surplus of a commodity. The possession of skills in fishing canoe building and sailing (as well as babai growing, toddy cutting etc.) are seen as social assets and lead to status in society, as does age, possession of lands and in some cases inherited status from ancestors.

3.2 On the more traditional islands all resources become shared by the community as a whole, and cash has entered society as just another resource, the means whereby this is achieved is either the giving of the commodity by the owner to others with a kinship bond voluntarily, (surplus fish catches are usually shared by this means) or'bubuti' - by which a member of a kinship may request goods or cash from another member of the same group which cannot be denied (without social disfavour). The wealth of an individual is soon dissapated among his knishipgroup and beyond through overlapping kinship ties.

3.3. By the means described above the occurance of aquisitiveness and saving by individuals is discouraged. A group may, by forming a joint venture, earn cash which is not seen as belonging to an individual and is thus 'bubuti' proof - so long as the group remains intact.

3.4 The Fisheries Assistant has none of the status aquiring skills or possessions mentioned above. The training they have received does not give them any in the acknowledged sense; what is more, they are sent to the islands to try and implement programmes with objectives which appear contrary to traditions of sharing of resources. On some islands the council, old mens groups or individuals may even be hostile to what they see as interferance to their traditional roles.

PROCESS OF PROGRAMME IMPLEMENTATION

4.1 The Fisheries Assistant has to somehow circumvent traditions and acquire the respect required for him to do his job. His first advantage is that he is a salaried government worker which makes him different from the subsistance level people that he is working with. Merely having a regular salary is seen in a good light by those without one. Usually the Island Council is co-operative as well and he is able to present his programmes to meetings and gain their support for his work, once again by virtue of being a Government worker. From then on it is completely up to the individual how well he can work, he is on his own!

4.2 The Divisions experience is that success as a Fisheries Assistant depends on his performance and although the programmes he is asked to carry out are fundamentally sound and sensible if he fails to put in the necessary effort then he does not receive the positive reaction required from the susbistence sector.

4.3 The Revolving Fund for Fishing Gears is the first project that brings him into contact with the public. Merely by having the gear available he is seen as providing a valuable service. This is the pattern for all the programmes - they are judged by the benefit that they bring to the island and to the individuals on it, as is the Fisheries Assistant. The more effectively he works the more effective the programmes are, the more benefit to the island there is and the more valuable the Fisheries Assistant becomes. (it follows that programme such as statistics collection, which provide no visible benefit to the island, are seen in poor light by the people and are difficult to implement).

4.4 The use of existing groups and the creation of new ones where possible, based on kinship, religious or geographical proximity, facilitates the work of the Fisheries Assistant. This lessens the need for individual entrepreneurship which might be frowned upon. This is a well established form of co-operation in Kiribati and the Fisheries Division seeks to encourage it.

4.5 Our experience has been that most Fisheries Assistants do achieve a degree of respect in the community, and the public on many islands see him as a provider of a chance for a better living. As such his existence has become vital to the well-being of the outer islanders and a bright hope for development.

MECHANISMS OF EXTENSION

5.1 Extension work involves the flow of knowledge from those that have it to those that don't. Through the training programme the Fisheries Assistants are given the required knowledge to do their work. They have to pass it on to the public as required. The Kiribati extension worker, apart from the odd talk in a school or a local language pamphlet produced at Headquarters, does this entirely by demonstration, mainly because he has no materials to do otherwise, but also because in many cases demonstration is the best method for getting the knowledge across.

5.2 Another important feature that we have concentrated on is the support that the Fisheries Assistant gets from Headquarters. We have found that many of the problems faced by fisheries assistants can be sorted out by Headquarters better and quicker than by the extension worker himself, working alone. To achieve good feedback we have a twice weekly radio schedule and strict reporting procedures which must be adhered to by each Fisheries Assistant. This coupled with visits to islands by senior staff and routine visits by the Extension Vessel means that most delays in the programmes are kept to a minimum.

CONCLUSION

6.1 In conclusion it can be seen that despite many restraints to the Extension worker, he can overcome them by diligent application to his job, and with support from Headquarters. The Fisheries Assistant has all that he needs by way of knowledge and materials to complete his assigned tasks but the ultimate success or failure of the development programmes implemented by Fisheries Division depends on the personal attributes of the individual Fisheries Assistants who are entrusted to carry them out in the field.

APPENDIX 1

The Kiribati Fisheries Division Extension Programme Objectives, activities and the role of the Extension Worker (Fisheries Assistant).

1. Objectives of the Extension Programme

The principal objectives of the programme are:

- Improvement in Nutrition. Medical reports confirm an increasing rate of malnutrition, specially among children between 1-5 years, resulting largely from lack of nutritional knowledge on the part of parents. There is also an increasing dependence on tinned foodstuffs with a resultant decrease in gathering and catching effort. Part of the programme is aimed at encouraging more fishing effort and increasing the fishing power of fishermen.

- Creation of Employment. Since increasing catches would enable fishermen to sell their surplus for cash, part of the programme is aimed at encouraging fishermen to commercialise in order to earn significant incomes. It is hoped that this income earning activity wll counteract the urban drift, especially from the outer islands. Other programmes such as collection and sale of seaweed can also create cash income.

2. Activities

a. Fishing Gears Revolving Fund

Bulk orders are made from Taiwan, Japan and New Zealand, Taiwan being the major source. Gear is sold by the Division store on Tarawa and by Fisheries Assistants on the Outer Islands. Proceeds are paid into the revolving fund for further purchases. The fund now stands at approximately $A50,000 with about $A2,000 revolving weekly. Since the programme's initiation, about $140,000 worth of gear has been provided.

The administration of the Revolving fund has, by necessity, to be very efficient. The store at Headquarters is the central distribution point for all gears. Each Fisheries Assistant has a stock list from Tanaea and can order gear at any time either by radio or on a stock replacement request form.

Of most concern to Fisheries Assistants is the proper keeping of records of gear sales on the Islands. The Fisheries Assistant is responsible for all stock and money collected and all paperwork is checked at least three times a year.

b. Formation of Fishing Groups

On each island the Fisheries Assistant encourages fishermen to form fishing groups and to register their names with the Fisheries Division at Headquarters as an initial step towards forming a fishermen's co-operative. To date about 279 Groups from 12 islands have been registered; all fishermen from the island of Nonouti are joined together as a Fisheries Federation.

The Fisheries Assistant, on arrival on the island, should have visited every village and registered interested fishing groups. Initial registration is basically a 'one-off' affair, however there are always minor changes in registered fishing groups with new members joining and others leaving. These changes have to be recorded on the appropriate forms and notified to Headquarters with the monthly report.

c. The Bun Transplant

Attempts to transplant Te bun (a mollusc that is a major food source in some of the islands) in order to spread its distribution have been unsuccessful. The project was terminated in mid-1985.

d. Seaweed Project

Seaweed growing was introduced to enhance "cottage industry" type development. The seaweed project, completing its second year of experimentation, has involved:

- experimental establishment of Eucheuma farms on South Tarawa which in two years has led to the introduction of seaweed culture to over 100 I-Kiribati. The project involves the establishment of seed farms, demonstration of farming techniques and monitoring of growth. Fifty I-Kiribati are now farming and 37 are collecting drift from the farms, the top 15% of the farmers area averaging incomes of $A60-100 per month. Interest in the project has exceeded expectations. Development capital is provided to farmer through soft loans financed by the EEC;

- about 25 individuals each on the islands of Butaritari, Abaiang and Abemama have started to farm;

- preliminary steps have been taken to introduce farming to Beru and Aranuka islands;

- a 1983 survey indicated that Eucheuma could be cultured on number of other islands;

- production from the farmers and collectors is purchased in dried washed form by the Fisheries Division; production in 1985 totalled 24 raw dried tonnes;

- commercial markets exist for the product, but adequate equipment still has to be developed to compact (bale) the seaweed to manageable densities for efficient transport.

In assessing the possibility of an Outer Island being suitable for a seaweed farming industry, it is the responsibility of the Fisheries Assistant on these Islands to carry out an experimental/ growth monitoring programme. Rates of growth, i.e. rates of increase in size, need to be found out in order to calculate how much seaweed a farmer might grow to sell, and if monitored over a long period, say a year, then variations in growth over that year might be discovered - important knowledge prior to commercial farming.

Once the seaweed is seen to grow well, and at least 100 to 150 lines of healthy seaweed are growing, then people can be introduced to the farming idea and encouraged to farm the seaweed for their own money.

At present the Fisheries Assistant is responsible for buying the dried seaweed and provision of equipment to farmers - but it is hoped that these responsibilities will be hived off soon.

e. Fish Processing/Marketing

Advisory services are provided to:

- assist fishermen in correct techniques for producing good quality fisheries products;

- advise the stores regarding their purchase of fisheries products;

- control export quality;

- attempt to find export markets for miscellaneous marine products;

- investigate the potential of using ice machine.

The role of the Fisheries Assistant will depend on which island he is based on and which programmes are being actively persued by the Division on the Island at that time.

At all times the Fisheries Assistant to be prepared to give advice on all aspects of processing and handling as requested by fishermen. Information and instructions are available either in the various handout leaflets provided for fishing groups or in cases of requests for information not covered by the handouts, from Headquarters.

On many islands here are already project's in operation. In every case the Fisheries Assistant has been fully instructed as to his role and the necessary information that has to be passed on to interested fishermen. Any new projects that are investigated by Fisheries Division are fully documented and Fisheries Assistants informed appropriately.

f. Boatbuilding

Under the Kiribati FAO/UNDP Boatbuilding Programme, five prototype outrigger sailing/outboard canoes have been constructed (KIR 1 - KIR 5). These have been rigged and tested by the Fisheries Division and demonstrated throughout the islands; the basic design has proven to be popular:

- a one-month sailmaking consultancy by an FAO consultant was carried out from 10/7/84 to 10/8/84;

- a smaller version paddling and sailing canoe was requested for the reef islands. As a result, a suitable vessel was designed, modified and demonstrated;

- in line with Kiribati government policy, with the assistance of counterparts, a private boatbuilder has been established in Tarawa to fill orders from fishermen on request;

- the possibility of establishing boatbuilding centres on the Outer Islands is being explored; a test project has been initiated at Butaritari Island.

When a fisheries assistant is left in charge of a canoe on an island he must:

(a) Demonstrate it to all interested fishermen.

(b) Keep accurate log forms on hours used, and catch and benzine consumed. These to be sent to Headquarters with his monthly report.

(c) keep the canoe clean, and take good care of all the accessories. This means:

- Canoe must be left on land and the drain plugs removed after use.
- Sails must be kept clean and stored in a dry, clean shady place.
- Regular maintenance of motors.
- Reels and anchors for deep bottom fishing checked regularly and maintained as required.

The Fisheries Assistant is to insure that use of the canoe is divided up between interested fisherman - a fair and equitable manner.

All fishermen using the outboard motors provide their own petrol and 50 oil.

g. Statistics/Research

The following statistical work has been carried out:

- frame surveys of the subsistence fishermen
- recording by Fisheries Assistants of commercial fishermen's weekly landings
- resource assessments
- monitoring volumes of Te Mautari/Kiribati Co-operative Wholesalers Society (KCWS) production
- monitoring government statistics on imports, census information etc.

The type of statistics required, and the method of collection are both decided at Headquarters. The Fisheries Assistant only has to follow the instructions given.

The Fisheries Assistants collect data continually. This mainly applies to biological data on fish species.

e.g. Species
Lenght/Weight
Sex
Bearing eggs
Area caught
Gear used etc.
Date at which data collected (for seasonality of maturity etc.).

The more data of this type sent in the better the idea of the biology of each fish species. The amount of data is unimportant since as all Fisheries Assistants send in data regularly a large volume of data is quickly accumulated.

Weekly returns from fishing groups are data sheets filled by members of the fishing groups on the island and give the number, species, area caught etc for that fishing group for that week. It is the responsibility of the Fisheries Assistant to make sure that the weekly catch forms are filled in by the fishing groups. It is also important that they are filled in accurately and completely for all marine animals and plants that they exploit. These forms are summarised on an Island Fishing Group Summary by the Fisheries Assistant who sends in the summary every month with his monthly report. The summaries are analysed at Headquarters.

h. Aquaculture

- The Temaiku fish farm acts as the centre of operations. Attempts have made to increase production by higher stocking densities of fry into the ponds, fertilisation of the ponds and removal of unwanted species.

- Fry collection industries have been set up on Butaritari, Maiana and Aranuka to provide fry to the Temaiku.

- Attempts have been made to reduce unwanted species in traditional ponds by eradication.

- Development of culture techniques for species other than milkfish.

The Fisheries Assistants Role in collection is teaching the local people how to identify milkfish fry and the use of appropriate gears to catch them i.e. the drag net, scoop net and the casting tray. Once this information has been passed on catching the fry is left to the collectors.

APPENDIX II

KIRIBATI FISHERIES ASSISTANT TRAINEES
BASIC COURSE OUTLINE

LECTURES		%
OCEANOGRAPHY	Nutrients Cycle of nutrients Food chains Descriptive oceanography Effects of oceanography factors on fish distribution	3.3
NAVIGATION	Symbols (Charts) Compass errora/magnetism etc Position finding DR sailing (Electronic navigation)	7.4
STATISTICS	Basic collection methods Presentation of data Simple analysis Populations, etc.	6.7
MANAGEMENT	Scott Gorden Model of overfishing Methods of Control of overfishing	2.5
FISHING GEARS	Overview of fishing methods Emphasis on Kiribati applications Net plans Fishing gear materials	6.3
PROCESSING	Spoilage of fresh fish Prevention of spoilage Preservation methods	5.5
AQUACULTURE	Intension/Extensive systems	2.0
FISH BIOLOGY	Morphology Life Cycles Taxonony	2.3
OTHER SUBJECTS	Communication Extension work First aid Rules of the road Accounting Vessel materials/design Basic O/B maintenance Stability Meterology Nutrition	21.8

LECTURES			%
OUTSIDE LECTURERS	Staff on their respective fields plus others as available		
PRACTICAL WORK	Seaweed plot Gill netting, trolling, DBF etc Processing methods Statistics collection Navigation Net making and mending		41
plus	Seaweed	(3 weeks)	Post course experience
	Temaiku Farm	(3 weeks)	
	Te Mautari	(1 trip)	
	Canoe handling	(3 days)	
	Outer island attachment	(6 weeks)	