

A Radio Programme for Fisherfolk in Sri Lanka



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By

R.N. Roy

Senior Extension Adviser BOBP

This report describes the process, achievements and learnings of a subproject which set out to introduce a radio programme as a communication and extension tool to help Sri Lankan fisherfolk in their development. The subproject was initiated in January 1988, the radio programme went on the air with daily and weekly programmes in January 1989 and has continued since without a break. In March 1992, the subproject was terminated and the responsibility for the programme was assumed by the Ministry of Fisheries and Aquatic Resources (MFAR) of the Government of Sri Lanka.

MFAR was responsible for the execution of the project. The Sri Lanka Broadcasting Corporation worked closely with MFAR and provided expertise, training inputs and the services of a senior broadcaster to act as the Team Leader. The Bay of Bengal Programme (BOBP) provided technical assistance, support for training, broadcast, production, equipment and monitoring. The Norwegian Agency for International Development (NORAD), through their office in Sri Lanka, provided a generous grant to cover some of the training and expertise inputs. World Radio for Environment and Natural Resources (WREN), a media organization in the UK, was contracted to provide the subproject the services of Michael Pickstock who provided the bulk of the training inputs, advice on management, programme design and equipment, and who undertook the evaluation of the activity.

The Bay of Bengal Programme (BOBP) is a multi-agency regional fisheries programme which covers seven countries around the Bay of Bengal — Bangladesh, India, Indonesia, Malaysia, Maldives, Sri Lanka, Thailand. The Programme plays a catalytic and consultative role : it develops, demonstrates and promotes new techniques, technologies or ideas to help improve the conditions of small-scale fisherfolk communities in member-countries. The BOBP is sponsored by the governments of Denmark, Sweden and the United Kingdom, by member-governments in the Bay of Bengal region, and also by AGFUND (Arab Gulf Fund for United Nations Development Organizations) and UNDP (United Nations Development Programme). The main executing agency is the FAO (Food and Agriculture Organization of the United Nations).

This document is a technical report and has not been cleared by the FAO or the Government of Sri Lanka.

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1. GENESIS

As part of a regional activity on people's participation in fisheries, an NGO consultation was held in Colombo in 1987 under the auspices of the Bay of Bengal Programme (BOBP). A key issue that emerged in the consultation was the need to develop lines of communication, which would not only allow government, and in this case the Sri Lanka Ministry of Fisheries and Aquatic Resources (MFAR), to communicate news, technical matters and other developmental information to fisherfolk, but, more importantly, also allow fisherfolk to address government with their needs, concerns and problems. It was pointed out that such a dialogue would enable information transfer, awareness and would motivate and mobilize people, all of which would result in development. This was the beginning.

The seed germinated, as it were, at a casual conversation in Colombo, later in 1987, with the Minister of Fisheries and Aquatic Resources and some Roman Catholic priests from fisherfolk parishes. The idea that radio broadcasts could provide a very cost-effective means of reaching people even out at sea, and the fact that radio is very popular with Sri Lankan fisherfolk, suggested that radio could be the medium that was being sought. The Minister suggested that BOBP prepare a concept note and present it to government for consideration.

1.1 *Note on how fisherfolk radio could help*

The note presented in October '87 started with the assumption that the means to enable development would depend considerably on government's ability to inform, communicate with and mobilize people into such activity and behaviour as would, in turn, enable improvement on a sustained basis in fisheries and in the quality of life of the fisherfolk. The note went on to highlight how a fisherfolk radio system could help with some of the key problems faced by fisherfolk in Sri Lanka.

MARKET INFORMATION

One of the major concerns of fisherfolk is to get a good price for their catch. Markets are, however, often controlled by traders who provide a valuable and efficient service but also tend to exploit fisherfolk. The latter have little or no access to the managerial skills, transportation facilities, capital and market information necessary to fight this system. If a radio programme beamed to fisherfolk announced market-by-market prices of species daily, the fisherfolk would be in a better position to bargain for better prices and, more importantly, raise the issue of exploitation to public view, thus making it more difficult for such exploitation to continue.

WEATHER INFORMATION

Fisherfolk are extremely dependent on weather for their enterprise. Often, their lives depend on knowing the weather conditions. A regular, locale-specific announcement of weather conditions and forecasts would help them in their decision-making and save valuable lives and assets. During emergencies, such information would even help fisherfolk to go to the aid of their fellow fisherfolk in danger.

TWO-WAY COMMUNICATION

Fisherfolk live in geographically scattered and socially isolated conditions. Government agencies, with the best of intentions, find it difficult to inform, communicate with and listen to them on a one-to-one basis, constrained as they often are by shortages of funds, manpower and social empathy. But the oral medium, in South Asian cultures, is, perhaps, the most popular means of communication. Use of it to broadcast fisheries, general extension and development news and features, with sources for further information on them clearly specified, can enable government agencies to reach ALL fisherfolk and give them the information they need at perhaps the cheapest cost. Further, radio broadcasts can play a crucial role of supporting field extension services by building awareness and creating the right environment within which extension could work more effectively.

Information, and particularly concepts and ideas, tend to suffer distortion as they pass from level to level in government departments. Often, sound ideas are not only distorted by the time they reach the fisherfolk, but they may actually do quite the opposite of what was intended. Radio, on the other hand, would enable political and departmental leaders to be directly in touch with their constituencies and transfer ideas and information without intermediary intervention. Further, and more importantly, this would increase the accountability of the field staff, as the fisherfolk, knowing the leadership's intentions, may begin to demand what they know to be their rights.

Communication is, unfortunately, often a one-way process. Political and departmental leaders often learn about their constituencies only through several layers of staff, with the information getting distorted as it is filtered. A radio programme which seeks to give a voice to fisherfolk through local contact programmes and interviews with them would give the leadership an opportunity to directly listen to the people. The fact that such information is public will also tend to bring pressure on governments to perform.

SPREADING INNOVATION

In studying technology transfer and adoption of innovations in small-scale Sri Lankan fisheries, it is striking that, in spite of valiant efforts by government extension, fisherfolk tend to learn more from other fisherfolk by seeing them practise innovations and from the visible success they achieve with such innovations. Radio, through interviewing fisherfolk who are innovative and entrepreneurial, will make this process more fruitful and dynamic and aid the spread of innovations.

1.2 Project acceptance

The MFAR and the Sri Lankan Broadcasting Corporation (SLBC) were enthusiastic about the idea and BOBP was requested to propose at the Advisory Committee Meeting in January 1988 a subproject to help establish a fisherfolk radio programme in the island. The idea was endorsed and the subproject came into being.

The objective of the subproject was to introduce a radio programme as a communication and extension tool to help fisherfolk in their development. It was hoped that the radio programme, through participative programming, would give fisherfolk a voice.

Project proposals often take a long time to get accepted and cleared. Part of this is due to bureaucratic delays and procedures, but it can perhaps also be attributed to a lack of interest and commitment. That this was not the case here could be seen from the fact that the Fisherfolk Radio Programme (FRP) Project took less than six months from submission of concept to acceptance and clearance.

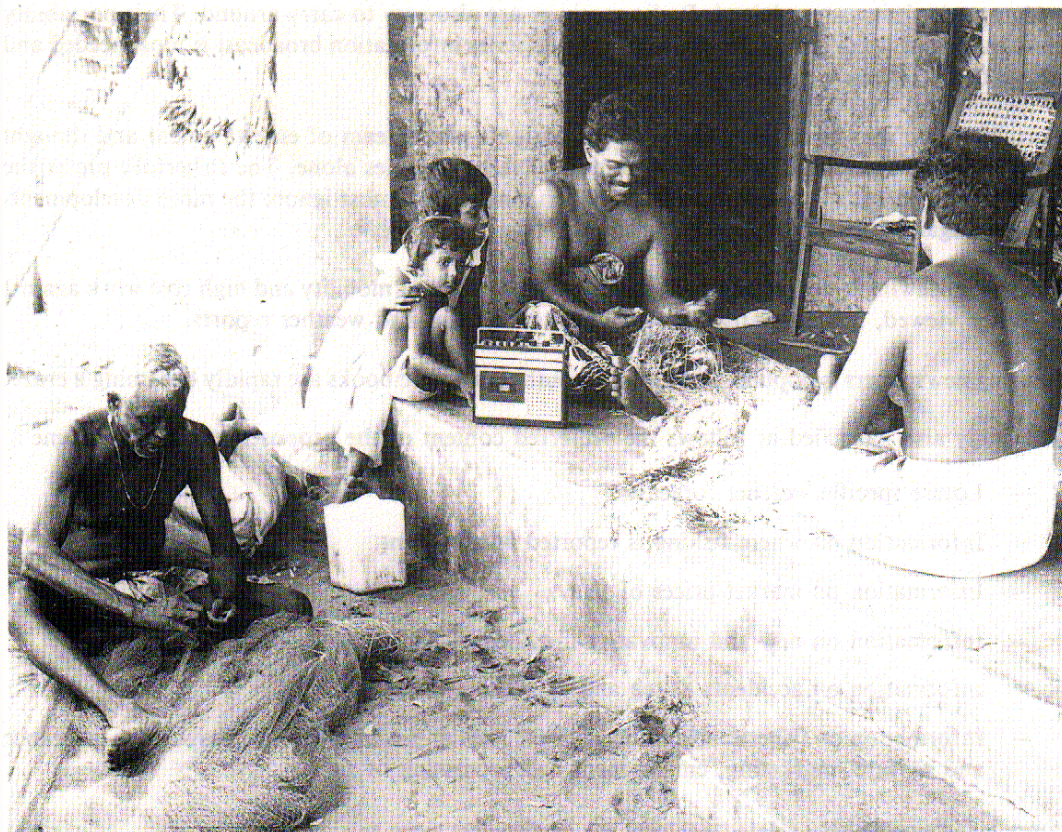
2. THE IMPLEMENTATION PROCESS

Implementation of the project involved several steps, starting with understanding the audience and ending with an evaluation of the learning.

2.1 Audience profile and needs assessment

In order to better address the needs of the fisherfolk, it was necessary to get to know them from a new perspective. The Audience Research Division of SLBC was requested to develop a profile of the audience and to identify and prioritize needs. Keeping socio-cultural variety and fishing practices in mind, a village each was selected from the three Fisheries Districts of Negombo, Chilaw and Kalutara, along the southwest coast of Sri Lanka. A stratified sample of 200 households was interviewed in each village, structured questionnaires being used by SLBC and fisheries staff trained for the purpose.

The survey found that the popular media in fishing villages were radio, TV, serial comic books and newspapers in that order of preference. Radio, with receivers cheap, was by far the most popular medium and was listened to for news, information, entertainment. It was also used regularly as a time-keeping device. Even when not listened to attentively, radio sets were kept going; radio is



Wherever fisherfolk are . . . at home or aboard a fishing craft . . . the radio is always on in Sri Lanka.



a ‘companion’, it was explained. Radio receivers are also easy to carry around. Their portability enables them to be taken out to sea, where the fisheries information broadcast is most needed and where fisherfolk have the time to listen.

Portable radio also gives them access to the nation’s mainstream of entertainment and thought at their convenience; after all, fisherfolk don’t live by fisheries alone. The fisherfolk prefer the quality and content of the commercial SLBC channels and almost ignore the more development- and propaganda-oriented national channels.

Television viewing is not widespread, but growing. Its lack of mobility and high cost work against it. When viewed, it is primarily viewed for entertainment and weather reports.

Reading newspapers is popular amongst the youth, but comic books are rapidly becoming a craze.

The study also identified as follows the preferred content of the proposed radio programme :

- Locale specific weather forecasts.
- Information on where fishing is reported as abundant.
- Information on market prices of fish.
- Information on new and innovative methods of fishing.
- Information on accidents at sea and of missing fisherfolk.
- Information on fisheries extension options, such as government schemes, credit, insurance and welfare, marketing, employment and processing of fish.

Among the non-fishery related subjects the preferences were for :

- Youth employment opportunities and career development information.
- Health information.
- Educational programmes for children.

The audience clearly wanted some entertainment and found most attractive those features which wove song and drama into their format.

A wide range of time-slot preferences were identified and some consensus emerged on

- an evening slot before fisherfolk went fishing, and
- a late Sunday morning slot when the predominantly Roman Catholic fishing community were at home after going to church in the morning.

Most importantly, fisherfolk interviewed were eager to have a programme beamed to them exclusively.

2.2 Programme strategy

While the audience profile and needs assessment were being developed, a strategy for the programme and for the organization that would put it on the air was evolved. After having considered the engagement of an international consultant for this purpose, it was found that SLBC was not only staffed by some very talented and capable people but, more importantly, they had had considerable experience in using community-based radio for development in the Mahaveli Project. The SLBC made available the services of Mrs Chitra Ranawake, Deputy Director-General (Programmes), who, in consultation with MFAR and BOBP, and after a few visits to fishing villages, came up with a strategy which, with very little change, has stood the test of time.

In brief, she suggested a daily five-minute programme, in the evenings, immediately after the news, on the Sinhala Commercial Channel, and a weekly 15-minute programme on Sundays, late in the

morning, also on the same channel. The five-minute programmes would focus on weather forecasts, market prices of fish, a short fishery-related news or feature input and a little music. The weekly programme would also include features that addressed the needs and concerns of the community.

The strategy proposed that a small team of five persons be selected from the MFAR, keeping their aptitude and creativity in mind, and that they be trained by SLBC. They would form the Radio Programme Unit (RPU). As none of these staff would have any real radio experience, it was proposed that a senior broadcaster from SLBC be seconded to the unit as Team Leader and on-line trainer.

The training needs, equipment needs and other details were also specified.

2.3 Staff selection

The initial recruitment circular described the subproject and the qualities sought from applicants. The 20 applications from MFAR staff were shortlisted to ten after interviews by the Ministry with help from SLBC and BOBP. What was interesting was the abundant creative talent which existed in the Ministry; there were dramatists, actors, playwrights, musicians, even radio producers (in the sense that they had been involved in radio productions). The final selection of five was left to the SLBC trainers who would train ALL the ten selected staff over a three-week period. It was felt that selection while training would give a much better picture of the capacities of the staff AND would, incidentally, build in some resources into the Ministry which the FRP could draw upon in the future.

The advertisement for the experienced broadcaster to act as Team Leader drew close to 40 applications, mostly from SLBC, though there were a few private sector media persons too. J H Nelson of SLBC was selected. He resigned in 1990 for personal reasons and was replaced by Mahinda Fernando, also of SLBC.

2.4 Training

The initial training of the staff selected consisted of three weeks of theory and hands-on practice in the SLBC training centre and in the field. Not only were the technical aspects of radio- and audio-recording covered, but so were the software aspects of programme writing and production. Field trips enabled the trainees to put their learning into practice and produce sample programmes.

After the programming equipment was received, the RPU team received further training from SLBC, this time on the use of the new Uher recorders. In mid-1990, Michael Pickstock, an international consultant from the UK who is an authority on development radio, evaluated the radio programme and followed it up with a one-week training input on field recording, interviewing techniques, story development and production. Meanwhile, the feedback from the field was showing that the programme quality needed to be improved and that the problems were not technical. The RPU producers were having difficulty identifying good story ideas, researching them, scripting them for radio and presenting appealing programmes. A three-week, part-time training on the journalistic and related aspects of radio was organized at the Social Communication Centre in Colombo, an NGO specializing in development communications.

In October '90, Pickstock undertook a further two-week training focussing on recognizing stories, better programme design, interviewing techniques and programme management as well as on proper use of the equipment. He also identified further training needs, local resource persons who could provide the additional training, and equipment needs.

Subsequently several additional training inputs were organized for the RPU. SLBC provided training in voice as well as story development. Training in identifying stories, interviewing techniques and programme presentation were provided by S Muthiah, BOBP's Information Consultant, and by Pickstock on a third visit.

Pickstock undertook a final training in March '92. This was after the new equipment had arrived and was on how to make the best use of it. Evaluating during this visit the five Fisheries Officers who are the producers of the FRP, Pickstock went on record saying, "I believe that (they) now record interviews to a higher standard and far more often in the field than do the majority of SLBC staff"!

2.5 *The Fisher-folk Radio Programme Steering Committee*

Radio programmes, given their widespread audience and popularity, are a powerful communication medium. There is a great temptation for politicians, senior administrators or, for that matter, anyone to want to be on the air and to use the programmes for their benefit. In order to insulate the programme from such intentions, it was suggested that a Steering Committee be established of senior Ministry, SLBC and independent media persons to guide programming. The Committee, it was felt, might be in a position to create, through peer influence, sufficient deterrence, while providing valuable guidance to the programme unit staff.

The MFAR readily agreed to the idea, a Steering Committee was formed and persons invited to join. The Team Leader was the ex-officio Secretary, while the Secretary of MFAR, the senior-most administrator, was the chairperson. The programme strategy was submitted to the Steering Committee at its first meeting and the Committee set about planning the launch of the programme.

2.6 *Equipment and studio*

The RPU was put under the Welfare Division of the MFAR and began its operations from a room in the Ministry in Colombo. The team started by using simple recording equipment borrowed from SLBC. It was six months before the new programming equipment, provided by BOBP, was received; it consisted of six Uher field tape recorders and microphones and earphones to go with them. The room the Ministry provided the RPU was a large one and it was refurbished with coir carpets,

TRAINING INPUTS

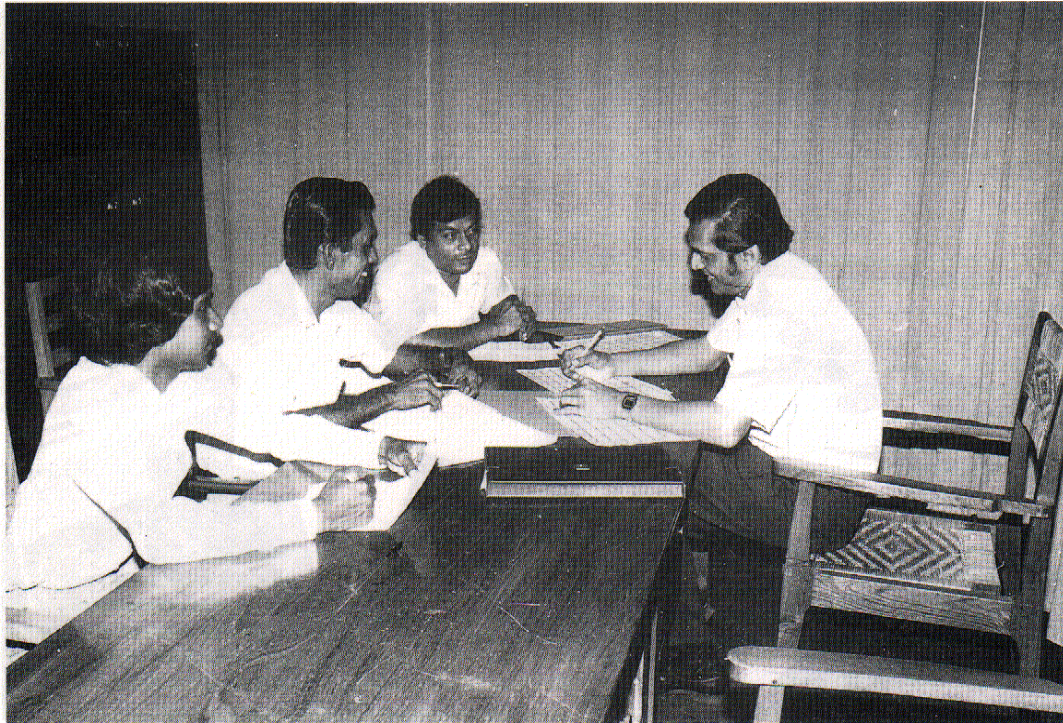
The five staff of the Fisherfolk Radio Unit received several short training inputs, mostly on-line, that totalled about twelve weeks spread over July 1988-March 1992.

The training included :

- Operation of Uher and Sony Walkman professional portable recorders.
- Operation of studio equipment, including mixer desk, microphones, two tape sources and disc source.
- Voice development for radio.
Recording of music and sound effects.
- Identification of stories, researching them and developing radio scripts.
- Interviewing techniques in the studio and in the field.
- Editing of interviews.
- Writing news items and narrative for magazine and documentary programmes.
- Compilation of magazine and documentary programmes, including music and sound-effects.
- Radio programme management.

The training was provided by :

- Training Division, Sri Lanka Broadcasting Corporation.
- Social Communication Centre, Colombo, Sri Lanka.
Michael Pickstock, World Radio for Environment and Natural Resources (WREN), Fressingfield, Suffolk, UK.
- S Muthiah, Information Consultant, Bay of Bengal Programme, FAO, Madras, India.



Team Leader Mahinda Fernando (right) and three of his team discuss their next programme.



A member of the Radio Programme Unit records his story in the studio at the Department of Fisheries and Aquatic Resources



*Sri Lanka's Fisheries Radio Programme goes on the air
from the studio **of** the Sri Lanka Broadcasting Corporation*



A member of the Fisheries Radio Programme Unit (right) waits as a Sri Lanka Broadcasting Corporation announcer gets the Fisheries Radio Programme underway in a SLBC studio

thick curtains and airconditioning to provide suitable studio space for programme production. The RPU also received a van from BOBP to facilitate its visits to the field for recordings.

When the continuation of the programme was assured and its sustainability visible, the equipment which Pickstock had recommended to enable better production quality and independent production were ordered by BOBP. They were received early in 1992. The studio was then completely remodelled and soundproofed for the installation of the new equipment. The studio now has facilities for recording of interviews and mixing with three sources, including tape and disc.

EQUIPMENT SUPPLIED

The following equipment was supplied the Fisher-folk Radio Unit by BOBP :

- Uher portable reel type tape recorders with associated equipment and carrying cases (6 units).
- Revox B77NS tape recorder (1 unit).
- Sony WMDGE Walkman professional tape recorders (2 units).
- Beyer M-201 N(c) dynamic microphones (2 units).
- Beyer MO56 N(c) dynamic microphones (2 units).
- Tascam M-06 6-channel mixer (1 unit).
- QUAD 405-2 amplifier (1 unit).
- Denon DRM-510 cassette recorder deck (1 unit).
- Technics SL-1210MK2-A turntable (1 unit).
- Furnishing and sound-proofing for studio at MFAR together with two National window-type airconditioners (12000 & 9000 BTU).
- Toyota Urvan vehicle (1 unit).

2.7 Going on the air

The RPU started production in 1988 of five-minute and 15-minute sample programmes. It was intended that these programmes might be for future use as well as be part of the learning.

Fifteen one-minute radio spots were broadcast on the Sinhala Commercial Channel announcing the timing of the proposed FRP, its content and inviting fisherfolk to propose a title for it. Three hundred replies were received from fisherfolk and the Steering Committee selected a title from among the suggestions. The person whose suggestion was selected was given an award for his effort.

The programme went on the air with a five-minute programme on the Sinhala Commercial Channel on 2.1.89. The weekly 15-minute programme started on 15.1.89. The programme has been on the air without a single break ever since, in spite of the disturbed conditions in the country. Due to these conditions, however, the programmes have targetted the fisherfolk of the southern and a good part of the western coasts. However, fisherfolk in other parts of the country also listen to it.

2.8 Audience response and feedback

As the radio programme was intended to reach a particular community and address its needs, it was important that the programme staff got feedback from the listeners. Two methods were devised as an alternative to costly, time-consuming and elaborate audience research.

In the first instance, an experienced non-governmental organization, IRED*, was contracted to send out a small staff team to randomly selected villages during, and after, broadcasts to monitor feedback and report it monthly to the Steering Committee and the RPU. The second method used was for the RPU teams to obtain feedback whenever they went out to produce programmes in the field.

A combination of these methods plus specific feedback from letters gave the RPU and the Steering Committee a feel of the pulse of the situation and has enabled programme improvement. Fisherfolk have considered the programme 'their own' and have never hesitated to say what they feel, even being quite often critical of its content. But responding to criticism by making changes and by recognising the value of the feedback (by using it on the air and awarding special T-shirts to the respondents as well as to participants in feedback programmes) has strengthened the participatory nature of the FRP.

* Innovations et Réseaux pour et Développement (Innovation\ Development and Networks).



Fishermen being interviewed soon after beaching their boats.



*Interviewing women
on the beach waiting to
buy fish... and in the village
drying a part of the catch.*



Responding to feedback and suggestions made in the evaluation report, the fisherfolk themselves have been put on the air more through regular interviews. However, to judge by some of the feedback, there appears to be more concern with fishermen in the programme and less with the women and children of the community, an imbalance which needs to be rectified.

Increasing and positive response from fisherfolk was seen in other ways as well. Several fisherfolk organizations sought out the RPU, requesting specific programmes and participation. So did nationalized banks and other ministries who wanted to reach fisherfolk. Listener's Forums were also formed in several villages and there was an enthusiastic response to participation in feedback programmes.

That increasingly large numbers of fisherfolk are listening regularly to the programmes — something that was not the case always, to judge by the mid-term evaluation which showed sporadic listening — received further confirmation when the commercial sponsor of a programme of music and drama which targets fisherfolk requested SLBC for the time slot immediately following the FRP. The sponsors appeared convinced that they had a captive audience.

That the programme is listened to all over the country has been revealed by the feedback. This has also been seen from the several requests for a Tamil programme as well (the Tamil-speaking population being mainly in the north and east of the island).

In this connection, MFAR should identify and assign at least two Tamil fisheries staff to the RPU and train them to enable Tamil programming at the earliest. Discussions and planning needs to begin now to enable whole country coverage in the future.

2.9 Evaluation

Early in 1990, the Steering Committee felt it would be appropriate to have an evaluation made by an independent consultant to determine what had been done right or wrong over the past year and to give new direction to the programme. Michael Pickstock was invited to evaluate the programme and he concluded that the programme had made a fair start in addressing the needs of fisherfolk and giving them a voice. But, he pointed out, there was considerable scope for improvement and suggested the following :

The programming should aim better at its primary target, the artisanal fisherfolk and their families.

- Modifications were needed in programme content, such as less use of fill-in music, more fisheries news and features, and better presentation of market information.
- The RPU staff needed guidance and training in recognizing a good story, in researching it, on handling and presenting such a story and improving interviewing skills.
- A reorganization was required of the Steering Committee, with wider representations from both within the Ministry and from outside it.
- The RPU needed to be shifted from the Welfare Division of the Ministry to a more appropriate division, namely one concerned with extension.
- The RPU needed better coordination and management of time through rostering and planning meetings.

The evaluation also recommended that a shift from the Commercial Service to the National Service of SLBC would not only reduce airtime costs, but also give the RPU more opportunities to experiment and be creative. The consultant recommended against early commercialization or sponsorship, which had been contemplated; he felt that the low buying power of the target group might not attract sponsors.

+ It was also pointed out that several senior SLBC staff who had helped the project as counterparts, trainers and team leaders had themselves benefitted by their exposure to fisherfolk and to participative community radio approaches. This, together with their existing experience with the Mahaveli Community Radio, would make them leaders in the region in the field of community radio for development.

The evaluation was followed by a further training input.

As a consequence of the Pickstock evaluation, the RPU was shifted to the Department of Fisheries and Aquatic Resources (DFAR), which is mainly concerned with extension. The suggestion to shift the programme from the Commercial Channel to the National Channel could not, however, be implemented because SLBC changed its pricing structure and it was no longer cheaper to be on the National Channel. Also, the coverage of the National Channel was poor, as the popularity of the Commercial Channel was much greater.

The year ended with basically three concerns :

- The participation levels of fisherfolk in the programming was still low, though it had dramatically improved after the post-evaluation modifications and training;
- The coverage of technical aspects by the programmes still continued to be a weak point; and
- The Ministry found it difficult to provide the RPU with a conducive and creative managerial environment to work in.

2.10 Regional workshop on 'Fisherfolk Radio'

On the recommendation of the Advisory Committee of BOBP, a regional workshop was held in Colombo in August 1991, bringing together BOBP member countries, donor agencies and resource persons.

The meeting resulted in an *aide memoire* which identified the basic criteria to ensure the successful use of radio in fisheries. An audio-tape presentation was also produced of the key findings and outcomes, and has been distributed in the member countries.

It is heartening that the subproject's experience has had a catalytic effect. Thailand, Bangladesh, Indonesia and Maldives have all expressed their commitment to promoting radio for fisherfolk in the future. Bangladesh has started a weekly fisheries and fisherfolk radio programme in collaboration with the national broadcasting corporation. The Voice of Maldives, the oldest radio programme in the region with a large (almost total) fisherfolk audience, has requested assistance from BOBP to make its programmes more participative. The Department of Fisheries of the Government of Thailand is in the process of establishing its own network of radio stations to beam radio broadcasts to the fisherfolk of Thailand.



A member of the Radio Programme Unit interviews the Chairman of the Radio Workshop held in Colombo.



Michael Pickstock (centre), keynote speaker and resource person at the Workshop, spoke of training fisheries officers for the Sri Lankan F.R.P.

2.11 Sustainability beyond BOBP

With the end of the subproject planned for end-1991, the question of sustainability was on everyone's mind. When the Government of Sri Lanka expressed its intention to continue the programming and committed a budget for the purpose, BOBP agreed to hand over the programme to the Ministry.

By the time the programme and the subproject were handed over to the Ministry on 31.3.92, the Ministry had taken a decision to shift the RPU from the DFAR to the Information Unit of the Ministry. This political decision, further distanced the RPU from the technical and extension activities of the Department. It also made it more susceptible to the pressures of outside intervention. This also makes the central issue of a conducive and managerial environment more acute and only time will show how responsive and participative the programme will continue to be.

While much remains to be done and only time will show how sustainable the radio programme for fisherfolk is in Sri Lanka, it can be safely said that the subproject has given a voice to the fisherfolk that they had not possessed earlier and by doing so had demonstrated to other countries the value of a fisheries radio programme.

3. LEARNINGS

1. Radio is known to be a cost-effective medium. Even so, the project was surprised to learn how little a fisherfolk radio programme, as was developed in Sri Lanka, can cost. This should make such efforts attractive to governments and aid agencies. The total cost of the 40-month activity, including training, equipment and vehicle, airtime cost, studio, consultants, BOBP supervisory staff cost, and travel and extras, like the cost of a regional workshop, came to less than US \$250,000. Of course, this assumes the existence of a radio broadcast infrastructure in the country to provide the necessary coverage and which has airtime available.
2. In most countries in the region there are several channels for radio broadcast: commercial channels focussing on entertainment, news and features, and national or educational channels with more emphasis on development and education. Often, the airtime costs of commercial channels are far higher than those on national channels. While it is tempting to opt for lower cost and longer time slot availabilities on national channels, the commercial channels are better appreciated and more listened to.
3. Professional fisheries department and ministry staff, who are selected keeping in mind creativity and aptitude, can, with very little training (about 12 weeks overall) and motivation, be turned into good radio broadcast professionals. Given the choice of converting radio broadcasters into fisheries professionals and *vice versa*, the latter may be easier to achieve.
4. Most radio training involves either long-term secondment of advisers or medium-term training courses, often outside the country. After the adviser leaves, or the trainee returns home, there is no follow-up. Further, training programmes in specialist institutions, while very good, have the problem that the trainees work in well-equipped and fairly ideal conditions far removed from the reality they will face at home. The experience of the project is that a series of short training programmes (of about two weeks each) spread over a period of time and offered in-service, using the available equipment and in situations in which the programme normally functions, can and does produce excellent results.

The most important training needs turned out to be not technical, equipment-oriented training, but on journalistic aspects such as identifying ideas and stories, researching them, interviewing skilfully, writing radio scripts and evolving imaginative and interesting programmes. Another important area often neglected is development of practical field skills in use of recording equipment and microphones in adverse conditions.

5. Radio attracts, informs, motivates and satisfies. But it is not a stand-alone force. It supports extension services and activities, but it cannot replace the personal touch of an extension officer or the immediacy of a real demonstration. Radio should be used to build awareness, get people

to talk about issues and ideas and, in general, to build the right environment within which extension and developmental activities can take place.

6. Radio lends itself to certain types of information-transfer better than others. Complex technical material, subjects that require listeners to digest and remember details and data, and technical 'how-to' information do not get across very well on radio. For example, radio would be very good in getting people to understand the importance of engine maintenance and how it can save money, but it would be **useless** to train people to actually maintain or repair an engine.

This selective content-friendliness poses a particular dilemma in fisheries broadcasting. In Sri Lanka, the staff found it difficult to produce good programmes relating to technical fisheries subjects. This was partly due to the lack of knowledge of the young officers and their inexperience in such subjects. Partly it was due to difficulties in getting access to technical staff and getting them to talk about their subjects on the radio. But mostly it was because of the inappropriateness of the subjects to the media.

Radio, it would seem, therefore, can only play a role in general awareness-building, helping people to think through concepts and to motivate action. The details and the practicalities are best left to written material, personal contacts, training and demonstration.

7. Fisherfolk listen to radio broadcasts mainly because the content addresses their concerns, needs and problems. There is, therefore, a need to continuously check on their needs and priorities and, consequently, modify programming content.

But at the same time, listenership is based on how interesting and attractive the presentation is. Interviews and drama formats and judiciously mixed in entertainment (which does not distract or appears to fill in time) seem to attract listeners.

A third ingredient for success is participation of fisherfolk in the programme. This not only makes them feel they've been given a voice, but it also attracts others amongst them to hear what they have to say. The Sri Lanka programme dramatically increased its listenership when it increased fisherfolk participation through interviews, feedback sessions and organized listener groups whose responses were broadcast.

8. Feedback from listeners is vital to programme design and to ensure good listenership. In Sri Lanka, NGOs and the radio programme staff were used to conduct informal studies during field visits. Audience feedback was also recorded either singly or in organized listener groups for broadcast. And simple gifts, like T-shirts, to those who provided feedback not only rewarded those who shared their ideas and feelings about the programme, but also advertised the programme.
9. Commercial sponsorship of programmes is attractive because it paves the way towards financial autonomy. The attempts of the project in this direction proved a failure because potential sponsors felt that the buying power of the target audience was not enough to justify spending on sponsorship. Government and financial agencies were interested, but bureaucratic delays and indecision blocked their efforts. However, given the increasing popularity of the programme, future efforts at seeking sponsorship may prove more successful.
10. Radio is a powerful medium and there is an enormous temptation for politicians, senior officers and whoever is seeking the limelight to try and get themselves heard or reported on. Moving away from the needs of the audience and overloading the programme with personalities, political news and propaganda is found to drastically reduce the credibility of programmes intended to serve the community. It is to the credit of the MFAR in Sri Lanka that they never allowed the programme to be diluted with such interventions during the project. This was made possible through an important mechanism which ensured the creative freedom of the programme staff and the integrity of the programme, namely the establishment of a Steering Committee. However, the success of any such committee depends not only on who is on it but what the leaders and policy-makers expect from it.
11. Radio broadcasting, particularly the type that attracts and holds audiences, is a creative activity. Creative people can be found, even in fisheries departments, and trained to do a good job,

but sustaining their efforts depends almost entirely on creating a managerial environment within which they can function. This cannot be overstated. If there was one failure in the activity in Sri Lanka, it was the lack of a suitable management environment.

Radio broadcast work requires a lot of hard work, often at odd hours. It requires freedom to create and encouragement and motivation to give a programmer's best. The culture of management in government fisheries agencies is rarely supportive of such efforts.

Such an environment is not easy to create. Which raises the issue that the project addressed, unsuccessfully, in suggesting that perhaps the RPU should be manned by fisheries staff but seconded to the radio broadcast organization so as to work from within an organization more familiar with dealing with creative work and people.

12. A related issue is that of compensation and future prospects of radio broadcast staff in fishery agencies. Unless staff are appropriately compensated for their efforts and toil, there may be a temptation for them to leave and join the private sector. Related is the issue of what career prospects does a radio broadcast person have in a technically-oriented agency. The project did not provide the answers, but the questions did come up and need to be looked at to ensure sustainability.

4. RECOMMENDATIONS

4.1 Management of the Fisherfolk Radio Programme

A managerial environment which facilitates smooth and efficient functioning of the RPU, promotes the creativity of the RPU staff and protects the staff from external pressures is vital for the sustainability of the programme, its fisherfolk orientation and its participatory nature. In this regard :

- The Ministry should appoint one of the RPU staff to act as Coordinator and take responsibility for the organization and functioning of the RPU. Ideally, the staff should select its own coordinator, for ratification by the Ministry.
- The RPU Coordinator should, under the direction of the department head and with the guidance of the Fisherfolk Radio Programme Steering Committee, be made responsible for planning, coordination and day-to-day functioning of the RPU, including disbursement of petty cash and transport expenses.

4.2 Location of the RPU

The radio programme, in order to hold its listeners and address their needs, will have to deal with technical fisheries matters, fisherfolk welfare issues, fisheries management, awareness building, training and research, all of which are the responsibility of various fisheries agencies. With the RPU located in the Ministry, which is organizationally and professionally separated from its agencies, some thinking needs to go into how practical day-to-day coordination and cooperation can be evolved between the Ministry and its agencies, not only to generate programme ideas but to incorporate and use the radio programme as part of their activities. If such coordination and cooperation cannot be easily organized, the Ministry should seriously consider locating the RPU in its agency which deals directly with training and extension functions.

Another option for the future, in Sri Lanka, would be to move the Fisheries Radio Programme (FRP) into the proposed Community Broadcasting Corporation by seconding the staff and transferring the budget. This way the managerial environment appropriate for creative broadcasting could be achieved, while the coordination and cooperation problems would be no more difficult than they are at present with the RPU in the Ministry.

4.3 The Fisherfolk Radio Programme Steering Committee

To a large measure, the strength of the FRP in Sri Lanka and its attraction to fisherfolk has been its fisherfolk orientation and participation, instead of being diluted with routine political news and features. A strong and credible Steering Committee not only assisted the Ministry in guiding the RPU on programming but also insulated it from external pressures.

In this regard, a fisherfolk radio programme steering committee should comprise representatives of seniority from the Ministry, its different agencies and the broadcasting organization's staff, the RPU coordinator and staff, senior media persons and representatives of the fisherfolk. They should meet regularly. Ideally, to renew the steering committee and maintain continuity, a certain percentage of its members should retire every year and new members selected.

The steering committee, chaired by a senior official of the Ministry, should be given exclusive charge of guiding programme content, presentation and format. However, it should not be troubled with, or given jurisdiction over, administrative and personnel matters and the routine day-to-day running of the programme.

4.4 RPU staff support

The RPU staff often face problems in the course of their work. Some of them are listed below. None of them are insurmountable; they only call for a little thoughtfulness.

- RPU staff face problems in the field from the police and security forces. Appropriate ID cards, specifying their participation in radio work for the Ministry, would facilitate fieldwork.
- The success of the programme and, in particular, its participatory nature requires considerable travel by RPU staff, both in the city and in the field. The Ministry should ensure the availability of a vehicle for the RPU's use and should provide alternative transport when the vehicle assigned is otherwise occupied.
- Travel allowances not only need to be budgeted for at a level that does not arbitrarily curb the capacity and performance of the RPU, but should also be made easily available.
- Radio programme work requires working long and unusual hours, including late evenings and over weekends. The staff need to be compensated for their extra efforts to ensure their continued involvement and enthusiasm.
- Fisheries officers working on radio have no cadre channels for career advancement. In time, if they want to go up the career ladder, they will have to leave the RPU and re-enter the technical or administrative cadres or leave and join the private sector. Thought needs to be given to cadre modifications to enable career development for the RPU staff. Failing which there is a need to identify some extra staff with the right aptitudes and attach them to the RPU as understudy's and provide them training. This would not only give the RPU some help, but provide for sustainable programming as existing staff leave.

4.5 RPU staff training and development

To maintain their proficiency, learn afresh about radio, development communication and fisherfolk issues, the RPU staff need refresher programmes and these should include :

- Training in the English language to enable better access to international material and training;
- Training from the broadcasting organization, particularly on technical equipment handling;
- Exposure, through visits and hands-on short-term secondments, to the broadcasting organization's activities, particularly any community radio projects it owns;
- Exposure to similar efforts in the region; and
- A monthly seminar which brings in an expert from some related activity area to expose the RPU to new ways of looking at their target group and their problems.

4.6 Administrative issues

Among administrative issues that need to be addressed are the following :

- Petty cash :
 - The RPU needs to regularly spend for :
 - fuel for the vehicle;
 - vehicle maintenance and repairs;

- purchase of stationery;
- purchase of batteries and audio-recording tapes;
- routine maintenance of equipment; and
- cleaning the studio

These needs must be carefully budgeted for and an appropriate petty cash allotment be made available to the RPU Coordinator who should manage the funds daily and account for it monthly.

- The RPU has at its disposal thousands of dollars worth of equipment vital for the working of the programme. All equipment should be insured against theft and damage, keeping replacement value in mind. Simultaneously, regular maintenance and safety measures need to be taken to keep the equipment in condition.

4.1 Coordination with the broadcasting organization

For the RPU to succeed there is need by all concerned in the Ministry to coordinate with the organization. Some areas of coordination are listed here.

- The Ministry should negotiate with the broadcasting organization for its support and assistance in maintaining and servicing the equipment and for provision of occasional training of the RPU staff, as required.
- Some broadcasting organization staff will always be involved in the final production of programmes and in facilitating broadcasts. The Ministry needs to discuss with the broadcasting organization appropriate procedures for this and, if necessary, compensation to ensure such inputs.
- Being a developmental programme which benefits a significant number of people, the Ministry should negotiate with the broadcasting organization for better (lower) rates for airtime, especially considering the continuous, long-term nature of the activity. This would release budget for other developmental work, like training, travel and better production.
- Any liaison officer deputed by the broadcasting organization needs to be appropriately compensated, preferably with a contractual arrangement.



This radio cassette on whether the airwaves help the fisherfolk is available at nominal cost from the Information Unit, Bay of Bengal Programme, 91 St. Mary's Road, Madras 600 018, India.

APPENDIX I

Project chronology

1987

- Mar. Need for two-way communication with fisherfolk highlighted at Fisherfolk NGO Workshop.
- Sep. Idea of radio comes up in discussion with Minister of Fisheries and Aquatic Resources (MFAR).
- Oct. Concept Note prepared and forwarded to MFAR.
- Dec. MFAR and Sri Lanka Broadcasting Corporation (SLBC) enthusiastic about concept and request BOBP to propose subproject to implement idea.

1988

- Jan. Advisory Committee of BOBP endorses subproject in Sri Lanka to establish a Fisheries Radio Programme (FRP).
- Jan. Donor agencies in Sri Lanka approached for partial support of project and Norwegian Agency for International Development (NORAD) expresses interest.
- Feb. MFAR and SLBC confirm subproject endorsement and appoint counterpart contact officers. Target area for coverage agreed to as the coastal belt from Puttalam to Matara in the southwest of Sri Lanka.
- May. Working Document and Workplan submitted and agreed to.
Audience Profile and Needs Assessment initiated by the Audience Research Division of SLBC.
Job description of RPU staff required and call for applications circulated in MFAR institutions. RPU Team Leader position advertised.
NORAD agrees to partial funding of project, focussing on training and expertise inputs.
Mrs Chitra Ranawake, Deputy Director-General (Programmes), SLBC, initiates study to develop programme and organizational strategy for fisherfolk community radio.
- Jul. MFAR-SLBC-BOBP interview candidates for RPU and Team Leader positions and shortlist candidates.
Preliminary Report of Audience Profile and Needs Assessment received.
Draft of FRP and Organizational Strategy received.
- Aug. Ten MFAR shortlisted candidates provided three weeks training on theoretical, studio and field aspects of programme development and SLBC and training staff recommend five of ten for final selection to RPU.
J H Nelson of SLBC selected as Team Leader.
MFAR agrees to establishing a Fisherfolk Radio Programme Steering Committee to guide programme content and style and to insulate and protect programme from external pressures and interference.
- Sep. Programme and organizational strategy finalized.
- Oct. Five RPU Staff and Team Leader assigned and join duty.
Programme production begins, particularly of pre-programme publicity spots and sample daily and weekly programmes.
Final report of Audience Profile and Needs Assessment received.
SLBC proposes equipment needs of RPU and the equipment is ordered.
Steering Committee formed.

- Nov. Steering Committee meets. Start date, broadcast timings, programme strategy and participatory selection of title and theme tune agreed to.
- Dec. Fifteen one-minute slots broadcast on Sinhala Commercial Channel to advertise FRP and listeners requested to propose title of programme. Steering Committee decides on title and awards fisherfolk who proposed winning entry.

1989

- Jan. Five-minute daily broadcasts go on the air on Sinhala Commercial Channel on the 2nd and 15-minute weekly broadcasts go on the air on Sinhala Commercial Channel on the 15th.
- Mar. IRED* contracted to undertake village level monitoring of fisherfolk response and feedback, and to provide analysis to Steering Committee monthly.
- Apr. RPU gets vehicle.
- Jun. RPU gets field recording equipment.
Room in MFAR converted to studio, soundproofed, airconditioned and furniture installed.
- Aug. SLBC provides training to RPU staff on use of Uher portable recording apparatus (2 days).
- Sep. RPU staff receive training in software aspects of programme production at Social Communication Centre, Colombo (3 weeks, part-time).
- Dec. RPU staff receive training in software aspects of programme production at Social Communication Centre, Colombo (5 days).

1990

- Jan. Steering Committee. MFAR, SLBC and BOBP agree to organize evaluation of programme to guide future development.
- May. Team Leader, J H Nelson, requests to be relieved for personal reasons. MFAR-SLBC-BOBP select alternate, Mahinda Fernando of SLBC, as new Team Leader.
- Jun.-Jul. Radio programme evaluated by Michael Pickstock of World Radio for Environment and Natural Resources, UK (2 weeks). RPU staff trained by him on-line (for 1 week) on field recording, interviewing techniques, story development, research and writing, and programme production.
- Sep. MFAR and BOBP receive Evaluation Report and Recommendations and agree in principle to make necessary changes as proposed.
- Oct.-Nov. Training of RPU staff by Michael Pickstock in software and field production aspects of radio (2 weeks). Pickstock also studies and recommends RPU's management, equipment and training needs.

1991

- Jan. ACM endorses proposal to hold a regional workshop on the use of radio broadcasts as a tool of fisheries extension and development.
MFAR transfers RPU responsibility from Welfare Division to Department of Fisheries and Aquatic Resources as part of organizational overhaul of MFAR.
- Apr. SLBC provides voice training to RPU staff (10 days, part-time).
- May.-Jun. New thrust on participatory programming. Formation of listener clubs. T-shirts for participation. Feedback programmes initiated.

* Innovations et Réseaux pour le Développement (Innovations Development and Networks)

Jun.	Approaches made to commercial sector for sponsorship of programmes – without much success.
Jul.	SLBC provides training to RPU staff in identifying stories, researching them and developing them into programme scripts (1 week, part-time). S Muthiah, BOBP's Information Consultant, trains RPU staff on-line on story development and writing (2 weeks, part-time).
Aug.	RPU staff trained by Michael Pickstock on programme development (1 week). Regional Workshop on 'Radio Broadcast as a Tool for Fisheries Extension and Development' held in Colombo, 27th-29th, with participation from all BOBP countries and representation from fisherfolk radio in France. MFAR announce that they expect to be allocated enough resources in their budget to take over the FRP and run it on their own. S Muthiah provides short training on story development to RPU staff (2 days). MFAR receives Rs.1 million budget from 1992 for the FRP. BOBP-MFAR agree to hand over responsibility on 31.3.92.
Sep.	Mahinda Fernando leaves due to ill-health.
Oct.	Equipment for RPU ordered as recommended by Michael Pickstock.
1992 Feb.	Modification of studio done for new equipment and interviewing.
Mar.	Equipment received and installed. MFAR decides to move responsibility of RPU from DFAR to the Information Unit of the Ministry. SLBC provides training on new equipment to RPU staff (1 day). Michael Pickstock provides training on utilization of new equipment for field recording, editing and production of programmes (10 days). BOBP hands over to MFAR responsibility for Sri Lanka's Fisherfolk Radio Programme. Subproject terminated 31.3.92.

APPENDIX II

Documentation related to subproject

1. Working Document

BAY OF BENGAL PROGRAMME : Working Document of Fisherfolk Radio, Sri Lanka subproject (EXT/RDO/SRL). BOBP, Madras. 1988.

2. Consultancy Reports

AUDIENCE RESEARCH DIVISION : *Audience Profile of the Proposed Fisherfolk Radio Programme*. Sri Lanka Broadcasting Corporation, Colombo. 1988.

AUDIENCE RESEARCH DIVISION : *Fisherfolk Radio – A Needs Assessment Study*. Sri Lanka Broadcasting Corporation, Colombo. 1988.

PICKSTOCK, MICHAEL : *Report to FAO's Bay of Bengal Programme on the Evaluation of the Fisherfolk Radio Programme of Sri Lanka*. World Radio for Environment and Natural Resources, Fressingfield, Suffolk, UK. 1990.

PICKSTOCK, MICHAEL : *Report to FAO's Bay of Bengal Programme on Staff Training, Programme Strategy, Management and Equipment Needs of the Fisherfolk Radio Programme of Sri Lanka*. World Radio for Environment and Natural Resources, Fressingfield, Suffolk, UK. 1990.

RANAWAKE, CHITRA : *Fisherfolk Community Radio – A Programme and Organizational Strategy*. Sri Lanka Broadcasting Corporation, Colombo. 1988.

3. Published material

DURANTE, LISA C. : On the Road with the FRU. *Bay of Bengal News* No. 43, BOBP-FAO, Madras. September 1991.

GANESH, SHIVANI : Radio Programmes for Sri Lankan Fisherfolk – How Good Are They? *Bay of Bengal News* No. 39, BOBP-FAO, Madras. September 1990.

LATTAUWAHANDHI, SUMAN : Lessons in Better Programming. *Bay of Bengal News* No. 43, BOBP-FAO, Madras. September 1991.

MUTHIAH, S. : Do The Airwaves Help Fisherfolk? *Bay of Bengal News* No. 43, BOBP-FAO, Madras. September 1991.

4. Audio Tapes

PICKSTOCK, MICHAEL : *Do the Airwaves Help Fisherfolk?* Audio cassette accompanied by pamphlet, 55 mins. BOBP-FAO, Madras. 1991.

PUBLICATIONS OF THE BAY OF BENGAL PROGRAMME (BOBP)

The BOBP brings out the following types of publications :

Reports (BOBP/REP/...) which describe and analyze completed activities such as seminars, annual meetings of BOBP's Advisory Committee, and subprojects in member-countries for which BOBP inputs have ended.

Working Papers (BOBP/WP/...) which are progress reports that discuss the findings of ongoing BOBP work.

Manuals and Guides (BOBP/MAG/...) which are instructional documents for specific audiences.

Information Documents (BOBP/INF/...) which are bibliographies and descriptive documents on the fisheries of member-countries in the region.

Newsletters (Bay of Bengal News) which are issued quarterly and which contain illustrated articles and features in non-technical style on BOBP work and related subjects.

Other publications which include books and other miscellaneous reports.

A list of publications from 1986 onwards is given below. A complete list of publications is available on request.

Reports (BOBP/REP/...)

23. *Summary Report of BOBP Fishing Trials and Demersal Resources Studies in Sri Lanka.* (Madras, March 1986.)
24. *Fisherwomen's Activities in Bangladesh : A Participatory Approach to Development.* P. Natpracha. (Madras, May 1986.)
25. *Attempts to Stimulate Development Activities in Fishing Communities in Adirampattinam, India.* P. Natpracha, V. L. C. Pietersz. (Madras, May 1986.)
26. *Report of the Tenth Meeting of the Advisory Committee.* Male, Maldives. 17-18 February 1986. (Madras, April 1986.)
27. *Activating Fisherwomen for Development through Trained Link Workers in Tamil Nadu, India.* E. Drewes. (Madras, May 1986.)
28. *Small-scale Aquaculture Development Project in South Thailand : Results and Impact.* E. Drewes. (Madras, May 1986.)
29. *Towards Shared Learning : An Approach to Non-formal Adult Education for Marine Fisherfolk of Tamil Nadu, India.* L. S. Saraswathi and P. Natpracha. (Madras, July 1986.)
30. *Summary Report of Fishing Trials with Large-mesh Driftnets in Bangladesh.* (Madras, May 1986.)
31. *In-service Training Programme for Marine Fisheries Extension Officers in Orissa, India.* U. Tietze. (Madras, August 1986.)
32. *Bank Credit for Artisanal Marine Fisherfolk of Orissa, India.* U. Tietze. (Madras, May 1987.)
33. *Non-formal Primary Education for Children of Marine Fisherfolk in Orissa, India.* U. Tietze, Namita Ray. (Madras, December 1987.)
34. *The Coastal Set Bagnet Fishery of Bangladesh — Fishing Trials and Investigations.* S. E. Akerman. (Madras, November 1986.)
35. *Brackishwater Shrimp Culture Demonstration in Bangladesh.* M. Karim. (Madras, December 1986.)
36. *Hilsa Investigations in Bangladesh.* (Colombo, June 1987.)
37. *High-Opening Bottom Trawling in Tamil Nadu, Gujarat and Orissa, India : A Summary of Effort and Impact.* (Madras, February 1987.)
38. *Report of the Eleventh Meeting of the Advisory Committee* Bangkok, Thailand, March 26-28, 1987. (Madras, June 1987.)
39. *Investigations on the Mackerel and Scad Resources of the Malacca Straits.* (Colombo, December 1987.)
40. *Tuna in the Andaman Sea.* (Colombo, December 1987.)
41. *Studies of the Tuna Resource in the EEZs of Sri Lanka and Maldives.* (Colombo, May 1988.)
42. *Report of the Twelfth Meeting of the Advisory Committee* Bhubaneswar, India, 12-15 January 1988. (Madras, April 1988.)
43. *Report of the Thirteenth Meeting of the Advisory Committee.* Penang, Malaysia, 26-28 January, 1989. (Madras, March 1989.)
44. *Report of the Fourteenth Meeting of the Advisory Committee,* Medan, Indonesia, 22-25 January, 1990. (Madras, April 1990.)
45. *Report of the Seminar on Gracilaria Production and Utilization in the Bay of Bengal Region.* (Madras, November 1990.)
46. *Exploratory Fishing for Large Pelagic Species in the Maldives.* R.C. Anderson and A. Waheed. (Madras, December 1990.)
47. *Exploratory Fishing for Large Pelagic Species in Sri Lanka.* R. Maldeniya and S.L. Suraweera. (Madras, April 1991.)
48. *Report of the Fifteenth Meeting of the Advisory Committee.* Colombo, Sri Lanka, 28-30 January, 1991. (Madras, April 1991.)
49. *Introduction of New Small Fishing Craft in Kerala.* O. Gulbrandsen and M.R. Andersen. (Madras, January 1992)
50. *Report of the Sixteenth Meeting of the Advisory Committee.* Phuket, Thailand, 20-23 January, 1992. (Madras, April 1992.)

51. *Report of the Seminar on the Mud Crab Culture and Trade in the Bay of Bengal Region*, November 5-8, Surat Thani, Thailand. (Madras, September 1992.)
52. *Feeds for Artisanal Shrimp Culture in India — Their Development and Evaluation*. John F Wood, Janet H Brown, Marlie H MacLean and Isaac Rajendran. (Madras, September 1992.)
53. *A Radio Programme for Fisherfolk in Sri Lanka*. R.N. Roy. (Madras, December 1992.)
55. *A Shri Lanka Credit Project to Provide Banking Services to Fisherfolk*. Claude Fernando and D. Attanayake. (Madras, December 1992.)

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27. *Reducing the Fuel Costs of Small Fishing Boats*. O. Gulbrandsen. (Madras, July 1986.)
38. *Credit for Fisherfolk : The Experience in Adirampattinam, Tamil Nadu, India*. R. S. Anbarasan and O. Fernandez. (Madras, March 1986.)
42. *Fish Trap Trials in Sri Lanka*. (Based on a report by T. Hammerman). (Madras, January 1986.)
43. *Demonstration of Simple Hatchery Technology for Prawns in Sri Lanka*. (Madras, June 1986.)
44. *Pivoting Engine Installation for Beachlanding Boats*. A. Overa, R. Ravikumar. (Madras, June 1986.)
45. *Further Development of Beachlanding Craft in India and Sri Lanka*. A. Overa, R. Ravikumar, O. Gulbrandsen, G. Gowing. (Madras, July 1986.)
46. *Experimental Shrimp Farming in Ponds in Polekurru, Andhra Pradesh, India*. J. A. J. Janssen, T. Radhakrishna Murthy, B. V. Raghavulu, V. Sreekrishna. (Madras, July 1986.)
47. *Growth and Mortality of the Malaysian Cockle (Anadara granosa) under Commercial Culture : Analysis through Length-frequency Data*. Ng Fong Oon. (Madras, July 1986.)
48. *Fishing Trials with High-Opening Bottom Trawls from Chandipur, Orissa, India*. G. Pajot and B. B. Mohapatra. (Madras, October 1986.)
49. *Pen Culture of Shrimp by Fisherfolk : The BOBP Experience in Killai, Tamil Nadu, India*. E. Drewes, G. Rajappan. (Madras, April 1987.)
50. *Experiences with a Manually Operated Net-Braiding Machine in Bangladesh*. B. C. Gillgren, A. Kashem. (Madras, November 1986.)
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52. *Experimental Culture of Seaweeds (Gracilaria Sp.) in Penang, Malaysia*. (Based on a report by M Doty and J Fisher). (Madras, August 1987.)
53. *Atlas of Deep Water Deniersal Fishery Resources in the Bay of Bengal*. T. Nishida and K. Sivasubramaniam. (Colombo, September 1986.)
54. *Experiences with Fish Aggregating Devices in Sri Lanka*. K.T. Weerasooriya. (Madras, January 1987.)
55. *Study of Income, Indebtedness and Savings among Fisherfolk of Orissa, India*. T. Mammo. (Madras, December 1987.)
56. *Fishing Trials with Beachlanding Craft at Uppada, Andhra Pradesh, India*. L. Nyberg. (Madras, June 1987.)
57. *Identifying Extension Activities for Fisherwomen in Visakhapatnam District, Andhra Pradesh, India*. D. Tempelman. (Madras, August 1987.)
58. *Shrimp Fisheries in the Bay of Bengal*. M. Van der Knaap. (Madras, August 1989.)
59. *Fishery Statistics in the Bay of Bengal*. T. Nishida. (Colombo, August 1988.)
60. *Pen Culture of Shrimp in Chilaw, Sri Lanka*. D. Reyntjens. (Madras, April 1989.)
61. *Development of Outrigger Canoes in Sri Lanka*. O. Gulbrandsen. (Madras, November 1990.)
62. *Silvi-Pisciculture Project in Sunderbans, West Bengal : A Summary Report of BOBP's assistance*. C.L. Angell, J. Muir. (Madras, September 1990.)
63. *Shrimp Seed Collectors of Bangladesh*. (Based on a study by UBINIG.) (Madras, October 1990.)
64. *Reef Fish Resources Survey in the Maldives*. M. Van der Knaap, Z. Waheed, H. Shareef, M. Rasheed. (Madras, April 1991.)
65. *Seaweed (Gracilaria Edulis) Farming in Vedalai and Chinnapalam, India*. Ineke Kalkman. Isaac Rajendran, Charles L. Angell. (Madras, June 1991.)
66. *Improving Marketing Conditions for Women Fish Vendors in Besant Nagar, Madras*. K. Menezes. (Madras, April 1991.)
67. *Design and Trial of Ice Boxes for Use on Fishing Boats in Kakinada, India*. I.J. Clucas. (Madras, April 1991.)
68. *The By-catch from Indian Shrimp Trawlers in the Bay of Bengal : The potential for its improved utilization*. Ann Gordon. (Madras, August 1991.)
69. *Agar and Alginate Production from Seaweed in India*. J.J.W. Coppen, P. Nambiar. (Madras, June 1991.)
70. *The Kattumaram of Kothapatnam-Pallipalem, Andhra Pradesh, India — A survey of the fisheries and fisherfolk*. Dr. K. Sivasubramaniam. (Madras, December 1991.)
71. *Manual Boat Hauling Devices in the Maldives*. (Madras, November 1992.)
72. *Giant Clams in the Maldives — A stock assessment and study of their potential for culture*. Dr. J.R. Barker. (Madras, December 1991.)
73. *Small-scale culture of the flat oyster (Ostrea folium) in Pulau Langkawi, Kedah, Malaysia*. Devakie Nair and Bjorn Lindeblad. (Madras, November 1991.)

74. *A Study of the Performance of Selected Small Fishing Craft on the East Coast of India.* Gardien El Cendy. (Madras, August 1992).
75. *Fishing Trials with Beachlanding Craft at Thirumullaivosal, Tamil Nadu, India.* 1989-1992. G. Pajot. (Madras, November 1992.)
76. *A View from the Beach – Understanding the status and needs of fisherfolk in the Meemu, Vaavu and Faafu Atolls of the Republic of Maldives.* The Extension and Projects Section of the Ministry of Fisheries and Agriculture, The Republic of Maldives. (Madras, June 1991).
77. *Development of Conoe Fisheries in Sumatera, Indonesia.* O. Gulbrandsen and G. Pajot. (Madras, April 1992).
78. *The Fisheries and Fisherfolk of Nias Island, Indonesia. A description of the fisheries and a socio-economic appraisal of the fisherfolk.* Based on reports by G. Pajot and P. Townsley. (Madras, December 1991.)
79. *Review of the Beche De Mer (Sea Cucumber) Fishery in the Maldives* by Leslie Joseph (Madras, April 1992.)
80. *Reef Fish Resources Survey in the Maldives – Phase Two* by R C Anderson, Z Waheed, M Rasheed and A Arif (Madras, April 1992)
81. *Exploratory Fishing for Large Pelagic Species in South Indian Water.* Jean Gallene and Robert Hall. (Madras, November 1992.)
82. *Cleaner Fishery Harbours in the Bay of Bengal* (Madras, April 1992)
83. *Survey of Fish Consumption in Madras. Marketing and Research Group, Madras, India.* (Madras, October 1992.)

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3. *Fishery Statistics on the Microcomputer : A BASIC Version of Hosselblad's NORMSEP Program.* D. Pauly, N. David, J. Hertel-Wulff. (Colombo, June 1986.)
4. *Separating Mixtures of Normal Distributions : Basic programs for Bhattacharyo's Method and Their Application for Fish Population Analysis.* H. Goonetilleke. K. Sivasubramaniam. (Madras, November 1987.)
5. *Bay of Bengal Fisheries information System (BOBFINS) : User's Manual.* (Colombo, September 1987.)
7. *Guidelines for Extension Workers in Group Management, Savings Promotion and Selection of Enterprises.* H. Setyawati and P. Limawan. Directorate General of Fisheries, Ministry of Agriculture, Government of Indonesia, Jakarta, Indonesia and Bay of Bengal Programme, Madras, India. (In Bahasa Indonesia) (Madras, August, 1992).
8. *Extension Approaches to Coastal Fisherfolk Development in Bangladesh: Guidelines for Trainers and Field Level Fishery Extension Workers.* Department of Fisheries, Ministry of Fisheries and Livestock, Government of Bangladesh and Bay of Bengal Programme. (In Bangla). (Bangladesh, July 1992.)
10. *Our Fish, Our Wealth.* A guide to fisherfolk on resources management. — in 'comic book' style (English/Tamil/Telugu) Kamala Chandrakant with K. Sivasubramaniam and Rathin Roy. (Madras, December 1991.)

Information Documents (BOBP/INF/...)

9. *Food and Nutrition Status of Small-Scale Fisherfolk in India's East Coast States : A Desk Review and Resource Investigation.* V. Bhavani. (Madras, April 1986.)
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For further information contact :

The Bay of Bengal Programme, Post Bag No. 1054, Madras 600 018, India.

Cable : BAYFISH Telex : 41-83 11 BOBP Fax : 044-836102.

Telephone : 836294, 836096, 836188.