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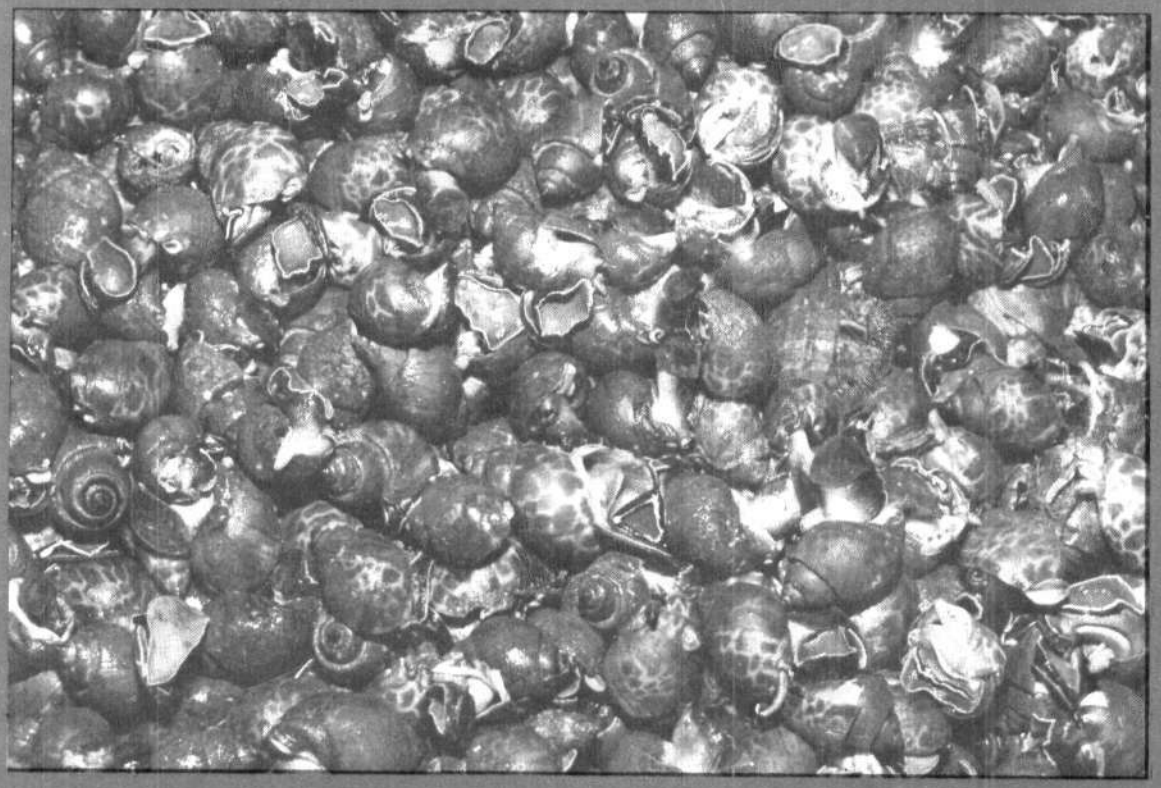

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FIRSTLINE EXTENSION PROGRAMMES — AN IMPACT STUDY

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Extension scientists transfer proven technologies to the farmers as well as to the state departements with a view to reduce the time lag between the technology generation and its adoption. They also provide the first-hand feedback regarding the adoption of technologies, constraints and behavioural pattern of clients so that research, education and training programmes can be re-oriented accordingly.

Keeping this in view, a 'planned change in a coastal village' - a model for firstline extension programme was conceptualised. The purpose of this study was to disseminate proven fishery technologies to extension agencies and fishermen and thus supplement their income using local resources. Planned change implies the decision to effect improvements in the social system with the help of professional guidance. For implementation of the programme in Kandakkadavu, at first a bench-mark survey was carried out and characteristics of population, resources and needs were assessed. The field level extension programme was launched keeping in view the following objectives.

— To identify the problems, needs and the resources available in the village.

— To Co - ordinate the three elements of the programme, i.e., people, extension agencies and resources for carrying out field level action programme.

— To evaluate the programme.

To ensure people's participation in the programme, a fishermen forum was established in the village. Periodical meetings of fishermen forum were held to discuss ongoing programmes and future course of action. Extension education programmes were launched to disseminate technologies for scientific prawn culture and value-added product from low-cost fish.

Scientific prawn culture

To make people aware that water canals in coconut groves and homestead can be used for scientific prawn culture, and emphasise the possibility of prawn culture in off-season i.e. March-June, a demonstration was carried out in one such canal, with the technical help of KVK. A field day and mass contact programme were arranged in connection with the harvest.

Demonstration of small scale prawn hatchery

Technology for the production of prawn seeds in small hatcheries or backyard hatcheries was demonstrated which attracted a large number of people. This technology was found to be very appropriate for this particular area.

Training programmes including lecture-cum-demonstration on prawn seed collection were organised.

Value-added products from low-cost fish

Training programmes were conducted for groups of selected members from the project area on preparation of fish pickles, cutlets, wafers and

dried fish from low-cost fish. The impact studies conducted afterwards showed remarkable gain in knowledge and adoption of these practices.

This project helped the beneficiaries to identify their needs and enabled them to realise how to supplement their income using local resources.

Aspirations of marine fishermen

The level and types of aspirations of marine fishermen in general was analysed and highest level of aspiration was for education of children followed by possession of fishing gear and fishing craft. Twelve independent variables contribution to aspiration as dependent variable were subjected to correlation, regression and path analysis (Table 1). Out of the twelve variables craft ownership and possession of outboard engine were found to be dominant variables in determining a higher level of aspiration (Table 2).

Utilization of communication media by fishermen

The study on utilization of communication media by fishermen indicated the high level of preference to mass media for obtaining first-hand information. The maximum score was obtained by newspaper followed by radio, fellow fishermen, fishery officials, film show and periodicals (Table 3). Regarding the regularity of use and extent of coverage of items, newspaper emerged as the most prominent medium.

Adoption of quality control measures in prawn peeling units

A study conducted in the peeling sheds around Cochin clearly brought out the quality control measures available in centralised and decentralised prawn peeling units and the extent of difference between the two units. The centralised units built according to government guidelines and functioning under good supervision proved to be remarkably better than the decentralised units in respect of all parameters.

Entrepreneurial behaviour of prawn farmers

An increasing tendency was observed to adopt scientific prawn culture. During past two years, progressive farmers have switched over to the culture of *P. monodon* the more economic

TABLE 1. *Correlation and path analysis of independent variables with 'Aspiration' as dependent variable*

Sl. No.	Independent variables	Correlation coefficients	Direct effects	Total indirect effects	Substantial indirect effects through I		II		III	
1.	X_5 Craft ownership	0.137	0.261	0.137	0.028	(12)	0.006	(1)	0.003	(4)
2.	X_{11} Extension participation	0.190 *	0.190	0.178	0.019	(12)	0.016	(3)	0.013	(9)
3.	X_6 Possession of outboard engine	0.217 *	0.186	0.218	0.107	(8)	0.017	(4)	0.011	(11)
4.	X_{12} Value orientation	0.188 *	0.176	0.164	0.020	(9)	0.014	(8)	0.008	(6)
5.	X_8 Adoption of improved practices	0.196	0.166	0.196	0.120	(6)	0.017	(4)	0.007	(11)
6.	X_2 Family size	0.067	0.165	0.067	0.004	(12)	0.002	(7)	0.002	(6)
7.	X_3 Eduaction status of respondents	0.127	0.155	0.127	0.020	(11)	0.013	(6)	0.0003	(7)
8.	X_9 Risk orientation	0.003	0.085	0.009	0.029	(11)	0.011	(1)	0.0003	(7)
9.	X_4 Family education	0.067	0.079	0.067	0.041	(6)	0.035	(8)	0.013	(1)
10.	X_1 Family structure	0.005	0.068	0.005	0.022	(5)	0.015	(4)	0.014	(9)
11.	X_{10} Information source contact	0.049	0.027	0.049	0.057	(11)	0.033	(3)	0.019	(6)
12.	X_7 Credit utilization	0.048	0.007	0.047	0.029	(12)	0.023	(11)	0.019	(5)

* Significant at 1 per cent level.

TABLE 2. *Level and types of aspiration of selected marine fishermen*

Area of aspiration	Category	Frequency	Percentage	Mean	S.D.	Rank
Children	Low	34	25			
	Medium	89	66	4.58	2.91	I
	High	13	9			
House	Low	56	41.2			
	Medium	57	41.9	1.23	1.16	VI
	High	23	16.8			
Land holding	Low	101	74.3			
	Medium	27	19.9	0.34	0.16	VIII
	High	8	5.9			
Sub-occupation	Low	40	29.4			
	Medium	81	59.6	1.28	1.23	V
	High	15	11.0			
Material possession	Low	31	22.8			
	Medium	82	60.3	1.17	1.14	VII
	High	23	16.9			
Mass media possession	Low	23	16.9			
	Medium	99	72.8	2.56	1.80	IV
	High	14	10.3			
Fishing gear	Low	31	22.8			
	Medium	94	69.1	2.90	2.26	II
	High	11	8.1			
Fishing craft	Low	54	39.7			
	Medium	44	32.4	2.67	1.08	III
	High	38	27.9			

TABLE 3. *Preference for the communication media use in first-information*

Sources	Mean score	Rank
Newspaper	1.72	I
Periodicals	0.14	VI
Radio	1.54	II
Film show	0.24	V
Exhibition	0.03	VIII
Demonstration	0.03	VIII
Training	0.02	IX
Fishery officials	0.87	IV
Research institution	0.04	VII
Fellow fishermen	1.05	III

species inspite of the difficulty in procuring the seed. Paucity of seed, inability to identify the seeds of *P. indicus* (when caught from wild) and ignorance regarding importance of compounded feed were the major impediments in adoption of scientific prawn culture.

A few outstanding entrepreneurs were follwing all the practices of scientific prawn farming including eradication of pests, exchange of water using pump, giving compounded feed, periodical monitoring, checking the level of oxygen, salinity, temperature, pH etc. High entrepreneurial behaviour was found associated with higher production.

Constraints in fishery extension and suggestions for improvement

Extension is still a weak link in fisheries development. The constraints responsible for the slow pace of mariculture developement include lack of information on the economics of technology, lack of large scale extension programmes, inadequate use of mass media for communication and shortage of manpower in the field of extension. Presently extension programmes are

being taken up in a very limited number of villages. There is an urgent need to strengthen the extension activities on capture and culture fisheries based on sound planning and evaluation.

Fishermen have to be made aware of the importance of conservation of the depleting marine resources. Awareness campaigns, symposia, seminar, group discussion and audiovisual show are to be organised effectively. Mass media may be effectively used to communicate the first hand information as these media are popular with fisherfolk, particularly those in Kerala.

In order to provide the feed back regarding the transfer of technologies, research on the behavioural aspects of fishermen in capture and culture fisheries is needed. For the effective technology transfer to clientile, information regarding their socio-psychological characteristics, problems, needs and aspirations are necessary. Research in fisheries extension is also of prime improtance to evolve suitable methods of communication, strategies for technology transfer and for efficient programme planning and implementation.