ONOMICS OF TUNA POLE AND LINE OPERATION IN MINICOY, LAKSHADWEEP

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ABSTRACT

The economics of tuna pole and line fishing is presented based on the study carried out during 1997-98. On an average initial investment of a pole and line unit (9.1 M OAL with inboard engine 23.5 HP Ruston) was found to be Rs.4.87 lakhs. The annual average tuna catch of a unit was 53040 kg and the annual average share of a unit was 17680 kg when the share was 1/3rd and 20.155 kg when it was ½ realizing a revenue of Rs.2,83,000/- and Rs.32,200/- respectively. The net income was found to be Rs.25,500/- in the case of 1/3rd share and Rs.63,500/- in the case of 1/2 share.

roduction

In India an organized pole and line fishery for tuna is practiced in icoy Island, Lakshadweep since time immemorial. Though trolling is also cticed, more than 90% of the tuna catch landed in the islands are contributed pole and line fishing. In the present paper, the economics of this fishery is rked out based on the data collected during the year 1997-98.

terial and methods

The fishing season is from September to May. At present, there are 35 ts of which all will not operate everyday unless there is very good fishery. In nit, on an average 11 persons constitute the crew and each unit sets out early rning and return the same day evening. In Minicoy, the boats land their hes in their respective village side in the lagoon. Immediately after the ival of the units, the entire catch is unloaded and the catch is shared as in mber of fish. In variability in a catch, there would not be much variation in the e groups also. So, it is easy to take the catch and effort data. The catch and ort data is collected on all the days except holidays. Since each boat can be ntified by name and hence it is easier to collect data consistently in respect of h boat. For the economics, the details regarding income and expenditure have

been taken from 15 boats. The investment was taken based on the value during 1997-98.

Results

Investment pattern

The average investment for a pole and line unit is worked out as Rs.4.87 lakhs of which 2.5 lakhs on hull, Rs.2.25 lakhs on engine and Rs.12,000/- for gear.

Annual fixed cost

Depreciation on craft, engine, gear and interest on capital form the fixed cost components. The annual depreciation was calculated at the rate of 5% for hull, 10% for engine and 33.3% for gear. As showed in the Table 1, the depreciation on a unit was worked out at Rs.61,496/- and annual interest at the rate of 15% worked out at Rs.73,050/-. Thus an amount of Rs.1,34,546/- formed the annual fixed cost of a unit.

Table 1 : Cost and earnings of a pole and line unit operating in Minicoy

		1/3rd share (Rs.)	1/2 share (Rs.)
A	Initial Investment Craft Engine Gear Total	 2,50,000 2,25,000 12,000 4,87,000	 Same
B	Catch (kg)	53,040	53,040
C	Share of catch (kg)	17,680	20,155
D	Revenue	2,82,000	3,22,000
E	Operating cost - Fuel - Transportation and marketing	 1,12,000 10,000	 1,12,000 12,000
	Total	1,22,000	1,24,000
F	Fixed costs - Interest @ 15% depreciation	 73,050 12,500	 Same

	(a) Craft (b) Engine (c) Gear	45,000 3,996	
G	Fixed Cost	1,34,546	1,34,546
	Total cost (E + F)	**2,56,546**	**2,58,546**
H	Gross Profit (D – E)	1,60,000	1,98,000
I	**Net profit (H – F)**	**25,454**	**63,454**

Operational cost

The explicit operational expenses relate to fuel charge and marketing expenses only. Other expenses are paid through fish share at the time of landing itself. If there is no catch, these expenses need not be met by him. The diesel is supplied by the Lakshadweep Fisheries Department with a subsidy of 30 paise per litter. The price is Rs.14/- per litre. Each boat needs about 200 litres a week. Now since the margin is less compared to open market, most of them are purchasing it directly from mainland. Marketing expenses relate to the transportation charges of `masmin' the dried tuna meat by mechanised country craft and also the commission paid to the agent in the mainland for selling it. The transportation charge is paise fifty per kg of masmin and the commission is Rs.3/- per Rs.100/-. The imputed payment is not calculated. The preparation of the masmin is the job of ladies. Because of joint family system, it is a collective work of ladies and it forms one of their daily chores. The operating cost worked out at Rs.1,22,000/- and Rs.1,24,000/- in the case of 1/3rd and 1/2 share respectively.

Catch and revenue

The average annual catch of a unit during 1997-98 was 53040 kg. As mentioned earlier, other expenses including wages of fishermen are paid through fish catch sharing at the time of landing itself.

System of sharing of catch

Two systems of sharing are prevalent here. In first system, 1/3rd catch goes to the owner and 2/3^{rds} to the crew and others. In the second system 1/2 goes to the owner and 1/2 to the crew alone. In the later system, the share to others is paid from the owners share. The persons other than the crew who are entitled to get a share include the mechanic attending to the repair work of the engine, the carpenter building the boat, the person mending the bait net, the person constructing and mending the livebait tank, the owner of the place where

the boat is beached during off season and also for routine maintenance such as to the persons who clean the area of the lagoon shore where the catch is unloaded, supplier of the rod or pole and also one share is paid to the village house to which he belongs. Thus, generally eight shares are made. Each one gets 1 1/2 fishes for every 100 fishes landed i.e. out of the 100 fishes, 1/3rd (33) fish goes to the owner. Out of the remaining 67 fishes, 12 fishes go as share to the others. The remaining 55 fishes are shared by the fishermen. In the second system, 50 out of 100 fishes go to the crew alone as their share and from the owners share the share for the others are distributed. Thus the owner retains 38 fishes.

On evaluation of data collected, it was found that the average annual share of a unit in the case of 1/3rd share (first system) was 17860 kg of which about 2% was sold to the canning factory at the rate of Rs.16/kg and rest of the catch was converted into "Masmin" and sold at the rate of Rs.80/- kg. Normally, the ratio of the fresh fish and "Masmin" produced from it is 5 : 1. Thus, total revenue earned was Rs.2,82,864/- in this system. But in the case of 1/2 share (second system), owner's share is 20,155 kg after deducting share to the others. The owner earns a revenue of Rs.3,22,448/- as gross returns over operating cost was Rs.1,60,000/- in the case of 1/3rd share (first system) and Rs.1,98,000/- in the case of 1/2 share (second system). The net income in the respective cases were Rs.25,500/- and Rs.63,500/-.

Discussion

From the results, it is seen that the system of sharing of half the quantity of catch (second system) is more profitable to the owner and that of the other system to the crew. In the 1/3rd catch sharing system (second system), there is an advantage for the owner also in that he need not worry about the distribution of catch as share to the others. Whereas in the other system even though the owner gets more fish, he has to bother about the share of others. Perhaps this might be one of the reaons for dominance of 1/3rd : 2/3rd system in practice. However, the second system is also gaining popularity. In any case the operation is found to be highly profitable subject to availability of tuna in the fishing ground.

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