

Research Note

Efficiency of Women and Men in Hand-picking of Shrimps in Traditional Farms in Vypeen Island

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Fishing without gear is an age old practice and is the simplest form of fishing since ancient times. Fishing, by hand-picking is being carried out both in the marine and inland sectors. This practice is also common in the estuaries and backwaters in Asian countries (Gudger, 1952). It is carried out in the paddy fields and shallow beaches in India (George *et al.*, 1968; Pai *et al.*, 1982; Unnithan, 1985). Techniques in harvesting shrimp by hand-picking in shrimp farms have been described (Pravin & Ravindran 2005). The water level of the pond is usually reduced to the maximum possible extent and the ground is searched with the feet or hands to find the shrimps or fish. The fishers stand in a row at one end of the pond and gradually move to the opposite end covering the entire stretch. As they advance, any prawn or fish that are felt by the foot are taken by hand and caught. (Anon, 1984; Unnithan; 1985). Skilled fishers carry out this type of fishing for shrimps even in neck deep water in the backwaters and shrimp farms in Kerala. The catch is collected in a floating pot which is carried along with them. *Kalakappiditham*, *Chavuttuppiditham*, *Thappiyedukkal*, *Veetiyedukkal* are some commonly known practices of fishing without gear in Kerala (Kurup *et al.*, 1993).

The present study was carried out in a 77.6 ha perennial shrimp aquaculture farm at Vypeen island for a period of 18 months from November, 1999 to April, 2001. Catch

data were recorded separately for studying the efficiency of women and men in hand-picking of shrimp and fish from the ponds. The mean catch value was used in order to compensate for differences in sampling effort among the areas. To study the significance of difference, *Fenneropenaeus indicus* data were analyzed statistically using single factor ANOVA. Species-wise catch of shrimps and fish and catch per unit effort kg. h⁻¹ for shrimps and fish were found out separately from the catch landed by men and women.

Hand-picking was carried out simultaneously by women and men from 8 am to 2 pm during the final harvesting of the shrimp farm.

Table 1 gives the catch, catch rate (kg.h⁻¹) and percentage of *Penaeus monodon* and *Fenneropenaeus indicus* and other shrimps and total fish caught separately by men and women. *F. indicus* contributed 79.4 %, *P. monodon* 10.2%, and other shrimps (*Metapenaeus dobsoni* and *Metapenaeus monoceros*) 10.4 % of the total shrimp catch. The fish catch mainly comprised of *Eetroplus*, spp. and *Tilapia* sp. together forming 16.46% of the total catch. Table 2 gives ANOVA of catch of *F. indicus* hand-picked by men and women. There is significant difference between the catch of *F. indicus* (P<0.001). Hand-picking by women gives significantly higher catch of *F. indicus* than men.

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Table 1. Details of catch by handpicking in traditional shrimp farms

Catch	Men	Women	Men	Women	Men	Women
	(kg)		kg.h ⁻¹		%	%
<i>P. monodon</i>	4.3	4.2	0.1	0.1	50.2	49.8
<i>F. indicus</i>	26.7	38.9	0.3	0.5	40.7	59.3
Other shrimps	4.0	4.6	0.0	0.1	46.7	53.3
Total shrimps	35.0	47.7	0.4	0.6	42.3	57.7
Total Fish	8.2	8.1	0.1	0.1	50.5	49.5
Grand Total	43.2	55.8	0.5	0.7	43.6	56.4

Table 2. Analysis of variance for men and women and total shrimp catch in hand picking ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.8413	1	0.8413	13.431	0.0008	4.0982
Within Groups	2.3802	38	0.0626			
Total	3.2215	39				
		LSD=	0.1105			

The traditional shrimp farms cannot be harvested fully by sluice net, filtration, gillnet, cast net or drag net due to the burrowing nature of shrimps and difficulty in operation of drag nets due to uneven nature of the pond bottom. Most of the shrimp remain burrowed in the ponds and will have to be hand-picked by fishermen. Hand-picking is resorted to during the final harvesting of the shrimp farm. The shrimp farm is "combed" by large number of fishers in a systematic way by hand and foot, picking up the shrimp/fish encountering them. Hand-picking is traditionally carried out by fisherwomen in Kerala and this technique is passed on from generations and women take up this profession from a very young age making them more skillful than men. This could be the reason for better catch efficiency by hand-picking in case of women than men.

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References

Anon, (1984). *Prawn Industry Development in the Philippines*. Proc. of the National Prawn Industry Development Workshop. 10-13

April, 1984 Iloilo City Philippines. SEAFDEC, pp 69-71.

George, M.J., Mohamed, K.H, and Pillai, N.N. (1968). Observations on the paddy fields prawn filtration of Kerala, India, FAO, Fish Rep. 57, pp 427-442.

Gudger, E.W. (1952). Fishing with hand in certain Asiatic countries. *J. Zool. Soc. India*. 3, pp 357-363.

Kurup, B.M., Sebastian, M.J., Sankaran, T.M. and Ravindranath, P. (1993). An account of inland fishing gear and fishing methods of Kerala. In: *Low Energy Fishing*, Society of Fisheries Technologists (India), Cochin, pp 145-151.

Pai, M.V., Somavanshi, V.S. and Telang, K.Y. (1982). A case study of economics of a traditional prawn culture farm in the North Kanara dist, Karnataka, India In: *Proc. of the symposium on coastal aquaculture*, held at Cochin from January 12 to 18, 1980. part-1: prawn culture. Marine Biological Assoc of India, Cochin, No. 6, pp 123-128.

Pravin, P. and Ravindran, K. (2005) Harvesting Techniques in Traditional Shrimp Culture. *Fish Technol.* 42, pp 111-124

Unnithan, K.A. (1985). A guide to prawn farming in Kerala. *CMFRI Spec. Publ.* Cochin, India. No. 21, 92 pp.