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Knowledge level of Poly Culture Fish Farmers in Southern Andhra Pradesh

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ABSTRACT

The was carried out during 2013-2014 in the purposively selected Krishna, Guntur and Prakasam districts of southern Andhra Pradesh focused on the factors influencing knowledge of fish farmers towards poly culture fish practices. The findings revealed that majority (85.72%) of fish farmers belonged to medium to high knowledge category. The knowledge level of fish farmers towards poly culture fish practices was positively and significantly influenced by the factors like age, education, fish farming experience, occupation status, caste, socio economic status, social participation, possession of fishing equipments, annual income, scientific orientation, extension participation, extension agency contact, mass media participation, size of water body, duration of water availability and extent of weed infestation. Family type, duration of water availability and extent of weed infestation are significant with knowledge level in multiple regression.

Key words : Knowledge, Poly culture fish farmer.

Fish occupied an imperative place in the global market as a secure and low-priced source of animal protein with elevated customer acceptability. Andhra Pradesh has been playing an important role in fish culture since time immemorial. Andhra Pradesh ranks first in brackish water shrimp production and fresh water prawn production, second in fresh water fish production, second in total value of fish and prawn produced and fifth in marine fish production. The State is contributing about Rs.3000 crores by way of marine exports, which is nearly 40% of the marine exports from India. During 2009-10 in Andhra Pradesh, 12.93 lakh tonnes of fish /prawn is produced. The potential estimate of inland fish production of state has been estimated at 16 lakh tonnes as compared to the present production of 14.50 lakh tonnes. Poly culture fish practices involves stocking and growing two or more compatible and complementary fish species like Indian Major Carps (IMC) and exotic carps in a water body like pond to maximize the fish production by fullest utilization of all available niches in the pond ecosystem. The principle behind the poly culture fish practices is to produce maximum quantity of fish per unit area from a scientifically managed water body by stocking fast growing, economically important, compatible species having shortest food chain utilizing all the ecological niches of the water body.

MATERIAL AND METHODS

The study was carried out using ex post facto research design during 2013-14 in the purposively selected Krishna, Guntur and Prakasam districts of Southern Andhra Pradesh. A combination of purposive and systematic random sampling procedures was employed. The Districts were purposively selected as they have vast and diverse inland fishery resources ideally suited for taking up poly culture fish practices. Among the identified districts, number of poly culture fish farmers in each mandal obtained from the Department of Fisheries, A.P., and such mandals where more number of farmers selected purposively for the study. The technique of proportionate and simple random sampling adopted to select the required number of respondents for poly culture fish farming practices in each mandal. A sample size of 210 respondents was selected from the identified mandals in three districts *viz.,* Krishna, Guntur and Prakasam.

RESULTS AND DISCUSSION

The distribution of respondents based on their knowledge level about poly culture fish practices was shown in Table 1. Majority of respondents (66.67%) belonged to medium level of knowledge, While 19.05 per cent respondents belonged to high knowledge level followed by 14.28

per cent respondents belonged to low knowledge level. Thus, it implied that majority of the fish farmers of the study area had medium to high knowledge level on poly culture fish practices. This might be due to most of the fish farmers have correct information and knowledge about poly culture fish practices. These findings are in conformity with those reported by (Nagarajaiah *et al.,* 2002).

The age of fish farmers was positive and highly significant with there knowledge (Chandrakala and Ewsarappa *et.al.,* 2001). The education of fish farmers was positively and significantly corrected with knowledge level of poly culture fish practices. Present findings are in line with the findings of (Chandranna *et al.,* 2009). Family type was positive and non significantly with knowledge level (Nagarajaiah *et.al.*2002). Family size was positive and non significant relation with knowledge level (Nagarajaiah *et.al.*2002). Fish farming experience was positive and significant with knowledge level of fish farmers (Maraddi *et. al.,* 2007).Occupation was positive and highly significantly with knowledge level of fish farmers (Tripathi *et al.,* 2006). There was positive and significant correlation between caste and knowledge level of respondents (Tripathi *et al.,* 2006). Socio-economic status and knowledge level of fish farmers were found to be positive and significantly related (Awasthi *et al.,* 2000). Social participation had highly significant and positive relationship with knowledge level of fish farmers (Chandranna *et al* 2009). Possession of fishing equipments by fish farmers was found to be positively and significantly related with their knowledge level (Kadian and Ram Kumar 1999). Annual income showed positively significant relationship with knowledge level of poly culture fish practices (Patil A.P *et al* 2009). A positive and non-significant relationship was noticed between size of land holding of respondents and their knowledge level (Maraddi *et al.,* 2007). Economic performance of fish farmers was positively and non significantly related with their knowledge level (Nagarajaiah *et al.,* 2002) positive and significant relation with knowledge. Knowledge about poly culture fish practices was positively and non significantly correlated with the risk orientation (Lakshman *et al.,* 2006). Scientific orientation had positive and significant relationship with knowledge of fish farmers (Shakya *et al.,* 2008). Innovative proneness had positive and non significant relationship with the knowledge level of fish farmers (Lakshman *et al.,* 2006). Positive and highly significant relationship was notice between extension participation of fish farmers and their knowledge level on poly culture fish practices (Chandranna *et al.,* 2009). Extension contact of fish farmers was found to be positively and highly significantly related to their knowledge level on poly culture fish practices (Ashok Doddamani *et al.,* 2011). A Positive and highly significant relationship of mass media participation of fish farmers and their knowledge level (Nagarajaiah *et al.,* 2002). Size of the water body under fish culture by fish farmer and their knowledge level showed positive and highly significant relationship (Talukdar *et al.,* 2000). Duration of water availability in fish culture tanks and knowledge level exhibited positive and significant relationship (Nagarajaiah *et al.,* 2002). A positive and significant relationship between source of water and knowledge of fish farmer (Nagarajaiah *et al.,* 2002). A positive and highly significant relationship was reported between extent of weed infestation and knowledge level of fish farmers (Nagarajaiah *et al.,* 2002).

Table 1. Overall knowledge level of fish farmers regarding recommended Poly culture fish Practices.

(n=210)

S.No	Knowledge categories	Fish farmers	
		Frequency	Per cent
1	Low (up to 65.31)	30	14.28
2	Medium (65.32 to 87.79)	140	66.67
3	High (87.80 and above)	40	19.05

Table 2. Correlation of different independent variables with the knowledge level of fish farmers towards poly culture fish practices as dependent variables.

(n=210)

Sl.No	Independent variables	Correlation Coefficient
	A.Personal variables	
X_1	Age	0.2668***
X_2	Education	0.1760*
X_3	Family type	0.0684NS
X_4	Family size	0.0107NS
X_5	Fish farming experience	0.3703*
X_6	Occupation status	0.2464***
	B.Socio economic variables	
X_7	Caste	0.1500*
X_8	Socio economic status	0.2691***
X_9	Social participation	0.4093***
X_{10}	Possession of fishing equipments	0.2120**
X_{11}	Annual income	0.1758*
X_{12}	Size of land holding	0.0544NS
X_{13}	Economic performance	0.0696NS
	C.Psychological variables	
X_{14}	Risk orientation	0.1299NS
X_{15}	Scientific orientation	0.2096**
X_{16}	Innovative proneness	0.1345NS
	D.Communication variables	
X_{17}	Extension participation	0.2991***
X_{18}	Extension agency contract	0.2908***
X_{19}	Mass media participation	0.3307***
	E.Situational variables	
X_{20}	Size of water body	0.2582***
X_{21}	Distance of water body to the residence	0.1019NS
X_{22}	Duration of water availability	0.2223**
X_{23}	Source of water	0.1764*
X_{24}	Extent of weed infestation	0.2614***

NS= Non Significant

*= Significant at 0.05 level of probability

** = Significant at 0.01 level of probability

***= Significant at 0.005 level of probability

Table 3. Multiple regression with knowledge level of fish farmers towards poly culture fish practices.
(n=210)

Sl.No	Independent variables	Regression Coefficient(b)	SE of reg. Coefficient (b)	't' value
	A.Personal variables			
X_1	Age	0.2048	0.1091	1.877
X_2	Education	0.6098	0.7502	0.813
X_3	Family type	8.2086	3.7124	2.211*
X_4	Family size	-6.5777	3.7984	1.732
X_5	Fish farming experience	0.1275	0.6178	0.206
X_6	Occupation status	0.3534	1.1815	0.299
	B.Socio economic variables			
X_7	Caste	-0.4347	1.3044	0.333
X_8	Socio economic status	-0.2114	0.6467	0.327
X_9	Social participation	0.1891	0.5920	0.319
X_{10}	Possession of fishing equipments	-0.1426	0.6488	0.220
X_{11}	Annual income	-2.8234	1.8834	1.499
X_{12}	Size of land holding	0.8713	1.4849	0.587
X_{13}	Economic performance	-0.0213	0.0499	0.428
	C.Psychological variables			
X_{14}	Risk orientation	-0.1176	0.2346	0.502
X_{15}	Scientific orientation	0.7901	0.5632	1.403
X_{16}	Innovative proneness	-0.2501	0.2828	0.887
	D.Communication variables			
X_{17}	Extension participation	0.3391	0.6940	0.489
X_{18}	Extension agency contract	0.1996	0.6043	0.330
X_{19}	Mass media participation	0.3849	0.2625	1.466
	E.Situational variables			
X_{20}	Size of water body	0.6909	0.9702	0.712
X_{21}	Distance of water body to the residence	0.6836	0.7029	0.973
X_{22}	Duration of water availability	3.4455	1.0552	3.265**
X_{23}	Source of water	-0.2844	0.9730	0.292
X_{24}	Extent of weed infestation	2.9701	1.0085	2.945**

R2 = 0.5470 F= 4.79 'a' = 3.671 D.F: 23,186

*= Significant at 0.05 level of probability ** = Significant at 0.01 level of probability

Multiple regression of the socio-personal-economic, psychological and communication variables on the dependent variable:

The multiple regression analysis was performed to find out the extent of contribution of each variable towards knowledge level. The variable, family type had significant contribution to the knowledge level of respondents at 5 per cent level and duration water availability, extent weed infestation were positive and significant contribution to the knowledge level of respondents at 1 per cent level of probability (Table 3).

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