

Assessment of rice farmers' knowledge, perception, and constraints towards rice-fish farming in Hambantota district, Sri Lanka

H.K.R.S. Kumara¹, K.S.S. Atapaththu², S.S. Herath³, N.P. Vidanapathirana⁴, and M.M.K.I. Marasinghe^{5*}

¹Department of Food Technology, Institute for Agro-Technology & Rural Sciences, University of Colombo, Sri Lanka

²Department of Limnology and Water Technology, Faculty of Fisheries and Marine Sciences & Technology, University of Ruhuna, Sri Lanka

³Department of Fisheries and Aquaculture, Faculty of Fisheries and Marine Sciences & Technology, University of Ruhuna, Sri Lanka

⁴Department of Agro-Technology, Institute for Agro-Technology & Rural Sciences, University of Colombo, Sri Lanka

⁵Department of Zoology and Environment Sciences, Faculty of Science, University of Colombo, Sri Lanka

Despite its numerous advantages, the adoption of integrated rice-fish farming (IRFF) in the context of Sri Lanka remains limited. Therefore, the present study aimed to investigate the perception and knowledge of rice farmers of the Hambantota District on IRFF. A total of 100 farmers were selected and they were interviewed by using a pretested questionnaire. Data were analyzed using descriptive statistics. Farmers' perception was measured using a five-point Likert scale (from 1-strongly disagree to 5-strongly agree), and the mean-individual score was taken as a measure of their perception. The mean score (MS) ≥ 2.5 was considered as a positive perception while the MS < 2.5 was a negative perception. The respondents' knowledge was assessed through a list of 20 statements, and their responses were scored as either 1 (correct) or 0 (incorrect). The three levels of knowledge were defined as high (MS ≥ 15), moderate (MS $10 < 15$) and low (MS < 10). The constraints were measured using a 3-point Likert type scale (1 – not a constraint, 2 – severe, 3 – very severe). The MS for each constraint was calculated, and the MS ≥ 2.0 was regarded as a severe constraint and MS < 2.0 were regarded as less severe constraint. Majority of rice farmers (59%) were older than 40 years and 99% of them are males. Only 43% of farmers were aware of IRFF, while 47% were not. On average, respondents had a positive perception on IRFF, with a mean score of 2.6, although their knowledge on IRFF was low. The study identified lack of technical knowledge (MS 2.16) as a major barrier to implementing IRFF. The respondents' age and paddy production level were found to positively impact their preference for practicing IRFF. In conclusion, rice farmers of Hambantota District have a low level of knowledge on IRFF; however, their perception is very positive on this regard. Therefore, the present study highlights the importance of creating awareness about IRFF among rice farmers.

Keywords: Adoption barriers, Hambantota District, Integrated rice-fish farming (IRFF),

*kalpani@zoology.cmb.ac.lk