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ECONOMICS OF FISH FEED PRODUCTION FOR CAGE CULTURE IN RESERVOIRS OF JHARKHAND, INDIA

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ABSTRACT : In intensive aquaculture system feed is the single most crucial input factor which has profound influence in determining the cost of production and profitability margin. The present study investigates into the economic performance of feed mills established by Directorate of fisheries, Jharkhand with an objective to reduce farmers dependency on exorbitantly priced commercial feeds. The results showed that for establishing a feed mill with a capacity of 1 quintal/hr approximately requires an investment of Rs. 40.50 lakhs. The major chunk of investment was incurred in establishing the building which houses the feed mill followed by feed mill itself which was Rs.20 lakhs (49.38%) and Rs.15 lakhs (37.04%) respectively. The costs and returns analysis revealed that variable cost accounts about 68.91 percent while fixed cost accounts 31.09 percent to the total cost (Rs. 55 lakhs), respectively. Among variable cost raw material for feed accounts 39.07 percent of which maize accounts about 20.41 percent to the total cost of production. The feed mills were found to be operating at suboptimal level which was evident from BC ratio of 0.43 and 0.86 considering with and without subsidy, which is 50 percent on feed sold to the farmers. However the feed mills was observed to recover its variable cost without considering the subsidy, which indicates in long run feed mill is expected to improve its performance as fixed cost declines in long run. It is recommended that feed mill should work in double shifts compared to single which under practiced during the study period eight hours, this will help to improve the performance of the feed mills.

Key words : Cage culture, costs and returns, fish feed, Jharkhand.

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INTRODUCTION

Cage culture is catching the imagination of fish growers and policy makers of the Indian subcontinent quite lately when, it has already been established as an multi-million dollar industry in Europe, North America and Japan. Very recently policy makers in India has recognised cage culture as one of the instrumental technological intervention in capturing the open water resources for harnessing fish production for realising Blue revolution mission (NFDB, 2015; DAHD&F, 2016). In intensive culture system feed contribute to the elephant share of the cost of production due to total artificial feed dependency. Therefore, efforts are in the direction to formulate cost effective feeds and in the years 2011-13 experiments for suitable feeds were carried out in both lentic and lotic waters and species mainly focused was IMC (CIFRI, 2011, 2012, 2013). During year 2015-16, ICAR-CIFRI developed feed made out of brewery waste and conducted its efficacy on the growth performance, feed utilization, nutrient retention and biochemical composition of *Catla catla* in cage culture which showed encouraging results. Apart from this in another experiment efficacy was tested for floating and sinking feed and replacement of soybean by brewery waste on *L. rohita* in Maithan reservoir. ICAR-CIFRI is also playing pivotal role by providing advisory, commercializing GI Cage Model and feed like CIFRICAGEGROW and doing surveys throughout the country and providing valuable data related to cage culture in inland open waters especially in reservoirs (CIFRI, 2018). However, still a major breakthrough is yet to be witnessed where we are able to innovate high quality cost effective feed alternative to highly price commercial feeds. Therefore, with similar