



## Comparative study of Fish Production and Earning from Fish culture in two years in Barwani district, MP, India

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### Abstract

Fish farming has been an old occupation in India. It is estimated that about five lac families are engaged in fresh water fish farming in the country. The techniques of fishing have also been modernized as the time past. The study conducted in West Nimar concludes that the pisciculture varies from place to place due to the various reasons. The ponds are temporary as well as permanent. Fish farming in rural areas is to provide protein-rich food for the rural people at reasonable price and to generate employment for them, so that they may have a reliable source of income. There are mainly five ponds in Barwani district, namely Amliyapani pond, Barwani pond, Chikliya pond, Osada pond and Talwada pond. The production of fish in these ponds is not the same. It was noted that the fish production in Amliyapani was high in 2012-13. The production was 2450 kg/hac/year. While the fish production in Barwani was noted high in 2013-14. The production was 2495 kg/hac/year. The magnitude of high earning was 42908 Rs./fisherman/hac/year from Amliyapani in 2012-13, but the high earning of Amliyapani 2013-14 was 50063 Rs./fisherman/hac/year. The low production of fish in 2012-13 was seen in Osada. The production of fish in this pond was 675 kg/hac/year and in 2013-14 the low production of fish was noted in Chikliya. The low production of Chikliya was recorded 1045 kg/hac/year. The magnitude of low earning was 2063 Rs./fisherman/hac/year of Chikliya in 2012-13, but the low earning in 2012-13 recorded also in Chikliya. It was 2908 Rs./fisherman/hac/year.

**Keywords:** Fish production, earning, Barwani district.

### Introduction

Ichthyology is taken from two Latin words: Ichthys means a fish and logos mean a discourse. It is a branch of science dealing with the study of fishes. Fish is affordable and most easily to digest animal protein. It was obtained from natural sources from time immemorial for consumption by mankind. The biomass of fishes at Unit time and Unit area in a particular water body is known as fish productivity.

### Material and Methods

Out of a total of two hundred pounds in Barwani district five ponds were undertaken for study. Three of them are perennial and the rest two are temporary ponds. Amliyapani tank is temporary pond. The geographical located of the pond 21°59'46" latitude and 74°53'45" longitude. Barwani tank is permanent pond and 21°01'00" latitude 74°51'00" longitude. Chikliya tank is permanent pond and 21°58'30" latitude and 74°44'00" longitude. Osada tank is temporary pond and 21°58'15" latitude and 74°47'42" longitude. Talwada tank is permanent pond and 21°58'15" latitude and 74°47'42" longitude.

**Methods of fishing and fishing gear:** Fishes were collected by small mesh sized gill net, cost net (Ghagaria jal), drag net with the help of local persons and fisherman. The collected fishes were preserved in 5% formalin and brought to laboratory for

further investigation. Fishes were distinguished with the reference of "The fishes of India" by Day, F.<sup>1</sup> 1958.

### Result and Discussion

**Amliyapani tank:** In pond the total fish production comprises of three species *Catla catla*, *Labeo rohita* and *cyprinus carpio*. The total fish production 2450 kg/hac/year to 2132 kg/hac/year and total production income (1 kg = 60/80 Rs.) was 147000 Rs./hac/year to 170560 Rs./hac/year. Net profit (Total income - Investment) 128725 Rs./hac/year to 150160 Rs./hac/year. This profit was divided 3 members of fish society of Amliyapani tank and each got Rs. 42908 to Rs. 50053/hac/year. Barwani tank: In pond the total fish production comprises of four species *Cirrhinus mrigala*, *Catla catla*, *Labeo rohita*, and *Cyprinus carpio*. The total fish production 1200 kg/hac/year to 2495 kg/hac/year and total income (1 kg - 60/80 Rs.) was 72000 Rs./hac/year to 199600 Rs./hac/year. Net profit (Total income - Investment) 62151 Rs./hac/year to 173050 Rs./hac/year. This profit was divided 11 members of fish society of Barwani tank and each got Rs. 5650 to Rs. 15731/hac/year. Chikliya tank: In pond the total fish production comprises of four species *Cyprinus carpio*, *Catla catla*, *Labeo rohita* and *Cirrhinus mrigala*. The total fish production 1000 kg/hac/year to 1045 kg/hac/year and total income (1 kg - 60/80 Rs.) was 60000 Rs. to 83600 Rs./hac/year. Net profit (Total income - Investment) 51595 Rs. to 72700 Rs./hac/year. This profit was divided 25 members of fish society of Chikliya tank and each got Rs. 2063

to Rs. 2908/hac/year. Osada tank:-In pond the total fish production comprises of three species *Labeo rohita*, *Catla catla*, and *Cirrhinus mrigala*. The total fish production 675 kg/hac/year and total income (1 kg - 60 Rs.) was 40500 Rs./hac/year. Net profit (Total income – Investment) 31800 Rs./hac/year. This profit was divided 5 members of fish society of Osada tank and each got Rs. 6360/hac/year. Talwada tank:-In pond the total fish production comprises of three species *Catla catla*, *Labeo rohita* and *Cirrhinus mrigala*. Total fish production 1965 kg/hac/year to 1945 kg/hac/year and total income (1 kg - 60/80 Rs.) was 117900 Rs. to 155600 Rs./hac/year. Net profit (Total income - Investment) 102800 Rs. to 136000 Rs./hac/year. This profit was divided 21 members of fish society of Talwada tank and each got Rs. 4895 to Rs. 6478/hac/year.

**Similar results:** Stocking densities 3750 fingerlings/hac. and production 2535 kg/hac/year, recorded by Lakshmanan, *et al*<sup>2</sup>. 1971. Alikunhi, K.H.<sup>3</sup> 1957 Concluded that in amalgamated culture of Indian carps with exotic carps the stocking density of 3000 to 3500 fingerlings having a total weight of 300 to 350 kg/ha is required to give a production of 3000 to 3500 kg/ha/year under daily manure and artificial feeding. Anon<sup>4</sup> 1976 have show net profit of Rs.4500 (Rs.900/hac). Sukumaran, K.K., *et al*.<sup>5</sup> out of productions as high as 3448 to 5894 kg/ha/6 months the six species amalgamation at the Karnal Centre (Haryana). Sinha, M.R.<sup>6</sup> obtained the range of production between 3393 and 6053 kg/ha/year at Kalyani Centre (West Bengal). Mahanta, P.S.<sup>7</sup> 1978 observed a high rate of production of order of 4084 kg/ha/year at Gauhati Centre despite of poor soil and water qualities. Chakrabarty R.D., *et al*.<sup>8</sup> reported a net profit of Rs. 2500 to 4000 /hac/year in a brackish water fish farm in West Bengal. Sarangi N.S.K. *et al*<sup>9</sup> reported net profit to the sum of Rs. 64, 461 by fish farmers of village Nussasan (Puri district in Orissa). Murthy, H.S. *et al*<sup>10</sup> reported that

majority of fisherman of Mindy district (Karnataka) fall in the annual income group of Rs. 2000 to Rs. 5000. Singh R.K.P. and Prasad K.K.<sup>11</sup> stocking fingerlings 4000-5000/hac. Halwart M.<sup>12</sup> worked the role of aquaculture in rural development. Recent technology by Subasinghe, R. *et al*<sup>13</sup>. Studied of fish productivity in to fresh water ponds by Chouhan, P. and Kanhere R.R.<sup>14,15</sup>. Worked of Nebula Dam of Sidhi with special reference to fish culture by Dilip<sup>16</sup>. Kingsways<sup>17</sup> show market for fish in Nigeria and O, Abe<sup>18</sup> observed Nigerian fish farming. Important fishes on Yeswant Sagar worked by Shrivastava, C.B.L.<sup>19</sup>. Dwivedi, R.K. *et al*.<sup>20</sup> worked in Fish production. Impact of pollutants on the fishes of Ganga and Sai River reported by Sudhar and V.B. Singh<sup>21</sup>. Gohil, Mahendrasingh N. and Mankodi Pradeep C.<sup>22</sup> studied diversity of fish fauna from downstream zone. Morphometric analysis of fish population observed by Pathak, Neelam B. *et al*.<sup>23</sup>. J. Chandra Saharan Rao *et al*<sup>24</sup> worked of biodiversity and conservation status of river Salad and Commercially important fishes on Yeswant Sagar reservoir recorded by Sharma Archana<sup>25</sup>.

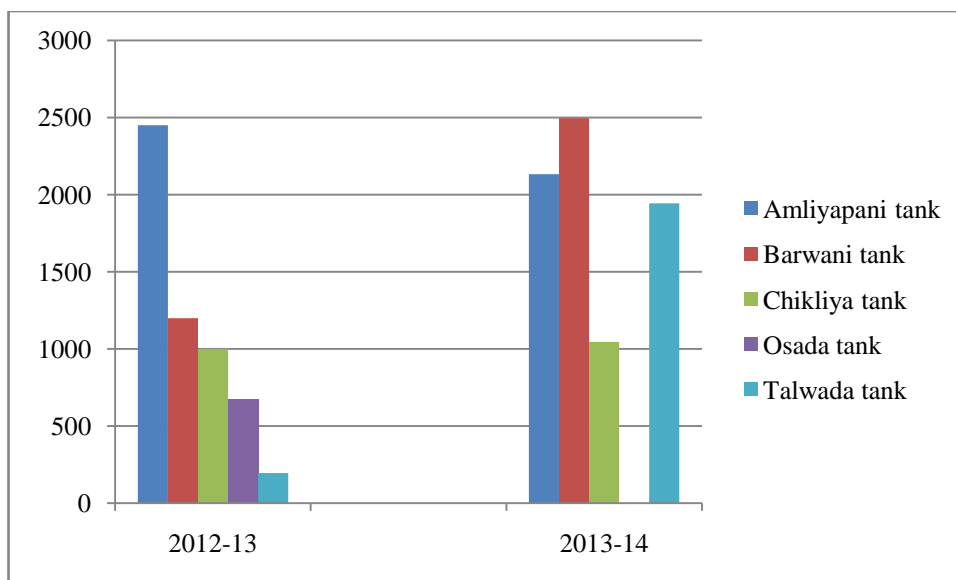
**Observation:** Fish production and Economics of fish culture for 2012-2014 showed in table-1.

### Conclusion

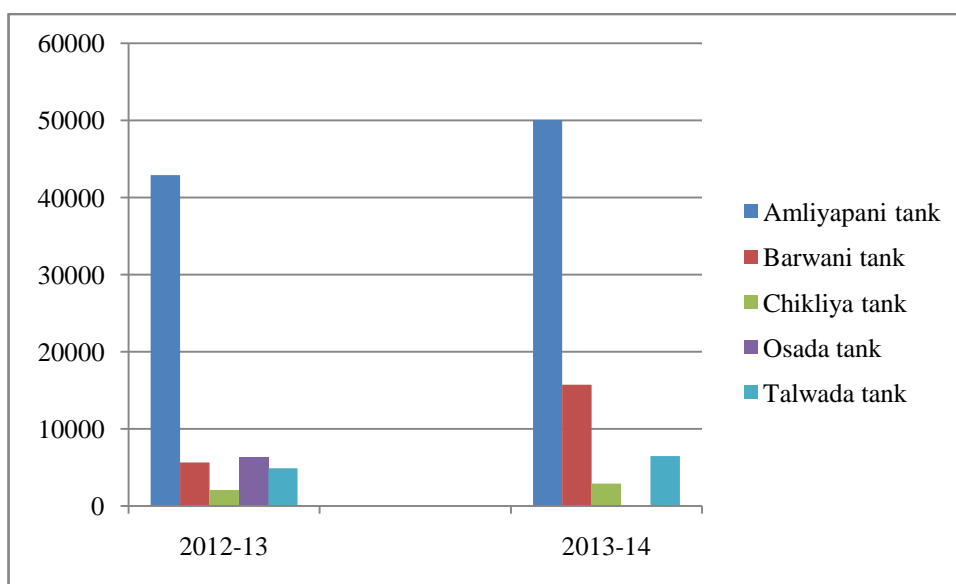
On the other hand people having income of Rs.15000 per year are categorized under BPL (below poverty line) in Barwani district. After the survey it was found that the fishermen had more income and they can be placed above poverty line. Because of high income in fish culture the people are found interested in this field. People those who are living below poverty line should be given a chance in fish production so that they may improve their socio economic status. They should be trained in the modern techniques of fish culture.

**Table-1**  
**Fish Production in two years Kg./hac./year**

Fish production Kg/hac/year			Earning from fish culture Rs./fisherman/hac/year		
Name of Tank	2012-2013	2013-2014	Name of Tank	2012-2013	2013-2014
Amliyapani tank	2450	2132	Amliyapani tank	42908	50053
Barwani tank	1200	2495	Barwani tank	5650	15731
Chikliya tank	1000	1045	Chikliya tank	2063	2908
Osada tank	675	Dry	Osada tank	6360	Dry
Talwada tank	1965	1945	Talwada tank	4895	6476
Total production kg/hac/year	7290	7617	Total income Rs./fisherman/hac/year	61876	75168



**Figure-1**  
**Earning from fish culture in two year Rs./fisherman/hac/year**



**Figure-2**

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