



# EXISTING COMPOSITE FISH CULTURE TECHNIQUES ADOPTED BY FISH FARMERS

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## Abstract

The study was conducted in Raipur district of Chhattisgarh. Fish is an integral and essential item of daily diet and also for many ritual and social occasion. Here my study reveals that out of 80 respondents, 72 respondents were used existing technique of weed control. Out of 72 respondents maximum (41.64) per cent used manual or by hand method for weed control, for control of weed fish, majority of the respondents (57.15%) controlled with the help of dragnet. More than 50 per cent of the respondent used fingerlings as a seed for fish cultivation, mostly respondents (92.5%) sold their produce in retail in the pond. Out of 22 respondents of control the disease and insect 54.54 per cent respondents used potash. Less than 50 per cent of respondents used chouki and cast net. Mostly respondents used Kotari fish for the cultivation.

**Key words :** Composite fish culture, adoption, fish farmers.

## Introduction

The importance of fish culture as a source of food production was driven home more realistically and emphasis has laid on the need for extending fish cultural activities in all the part of the country with a view for developing the industry on scientific line, both in private and public sectors. Fish is an integral and essential item of daily diet and also for many ritual and social occasion. Though, fish is on great demand by the fish eating population of the country, it continues to remain scare and costly. Fish production from inland water is of great significance to India. The fish production of the country has increased eight times from 0.75 million tons in 1950 to over 6.4 million tons at present. At the same time the share of inland fisheries has gone up from 29 per cent to over 50 per cent. Aquaculture in India is seen as an attractive option for enhancing fish production at a stage when there has been stagnation of growth from open water fisheries. Fresh water aquaculture continues to contribute a giant share of over 95 per cent of the total aquaculture production in terms of quantity. This has increased the national average productivity from the ponds and tanks to the present level of 2200 kg/ha, an over two folds growth in the last two decades (Sagrangi and Jena, 2005). The composite fish culture technology has been a major breakthrough in fresh water inland fish production. "In order to obtain high production per ha of water body,

fast growing compatible species of fish of different feeding habits or different weight losses of the same species, are stocked together in the some pond so that all kits ecological niches are occupied by fishes. This system of pond management is called mixed fish farming or composite fish culture or polyculture (Jhingran, 1988). In composite fish culture, the six species of fish, which are generally recommended, and highest possible production, among the six species of fish three are indigenous such as catla, rohu and mrigal and other three are exotic such as silver carp, grass carp and common carp. The species have been identified with the nature of their food habit in different depth of water. Amongst the species of fish catla and silver carp are surface feeder, rohu and grass carp are column feeder and mrigal and common carp is bottom feeder. Fish has long been an important source of food.

## Materials and Methods

The study was conducted in Raipur district of Chhattisgarh, India. District was selected purposively because, it has maximum fish production. Dharsiwa block was selected on the basis of maximum number of farm ponds for fish production as compared to other blocks. 67 villages have farm ponds for fish cultivation. For this study 16 villages were selected as they have more than 5 fish pond. From each of the selected village, 5 respondents were randomly selected. In this way, total 80 respondents

**Table 1** : Distribution of the respondents recorded to use of existing practices in composite fish culture technology. (n=80)

S. no.	Name of practices	Existing techniques	Frequency	Percentage
1.	<b>Weed control Weed plant (n=72)</b>	1. By hand	30	41.64
		2. With the help of boat	8	11.10
		3. With the help of bamboo	4	5.56
		4. With the help of rope	7	8.75
		5. With the help of dragnet	15	18.75
		6. Drying the pond	8	11.10
	<b>Weed fish (n=35)</b>	1. With the help of dragnet	20	57.15
		2. Mahua oil cake	7	20
		3. Drying the pond	8	22.85
2.	<b>Manure/fertilizer (n=43)</b>	1. Broad casting before the refilling	15	34.88
		2. With the help of manure & fertilizer mix solution	16	37.21
		3. Making heap of manure	12	27.91
3.	<b>Fish seed (n=80)</b>	1. Fingerlings	46	57.5
		2. At about one month of fish seed	21	26.25
		3. Fish with egg	7	8.75
		4. Natural breeding seed in the pond	6	7.5
4.	<b>Marketing (n=80)</b>	1. Retail in the pond	74	92.5
		2. Fried fish in retail selling	6	7.5
5.	<b>Feed management (n=32)</b>	1. Self prepared mix broadcasting	27	84.37
		2. Different type of khali, dana with the help of net	5	15.63
6.	<b>Disease/inset (n=22)</b>	1. Keep out with the help of dragnet, chouki (net)	7	31.82
		2. Using Potash	12	54.54
		3. Fish deeping treatment in the salt solution	3	13.64
7.	<b>Harvesting of fish (n=69)</b>	1. With the help of chouki, cast net	30	43.47
		2. With the help of kanta	12	17.39
		3. With the help of gillnet	17	24.63
		4. With the help of Mahua oil cake	7	10.14
		5. With the help of poison bet	3	4.34
8.	<b>Other fish (n=72)*</b>	1. Mangur	17	23.61
		2. Talapiya	17	23.61
		3. Kotari	42	58.34
		4. Tengna	39	54.16
		5. Khoksi	13	18.05
		6. Bhunda	9	12.5
		7. Kevai	6	8.33

\* Percentage based on multiple response.

were selected. All the respondents were doing fish culture on lease pond and the leased fish farmers were considered in sample for the collection of data. Data were collected through pretested questionnaire and that was analyzed through statistical tools.

## Results and Discussion

### Existing practices in composite fish culture technology

Traditionally, most of the farmers used existing fish cultivation technique in the study area since ancient time. The respondents were well experienced about fish culture technique. The data presented in table 1 revealed that out of 80 respondents, 72 respondents were used existing technique of weed control. The results showed that two type of weeds, first was weed plant, out of 72 respondents maximum 41.64 per cent used manual or by hand method for weed control, followed by with the help of boat (11.10%), rope (8.75%), dragnet (18.75%) and drying the pond (11.010%).

While, for control of weed fish, majority of the respondents (57.15%) controlled with the help of dragnet. About 22.85 per cent of respondents controlled by drying the pond and 20 per cent by using Mahua oil cake.

Out of 43 respondents, majority of the respondents (37.21%) were using manure and fertilizer mix solution for application of manure and fertilizer by broadcasting before the refilling (34.88%) and making heap of manure.

Majority of the respondents (57.5%) used fingerlings as a seed for fish cultivation, whereas, 26.25 per cent respondents had taken about one month of fish seed. About 8.75 per cent used existing fish with egg and 7.5 per cent respondents believed in natural breeding seed in the pond.

Regarding marketing, maximum respondents (92.5%) sold their produce in retail in the pond and only 7.5 per

cent respondents sold fried fish in retail selling system.

Out of 32 respondents for feed management majority (84.37%) of the respondents, used self prepared mix broadcasting and only 15.63 per cent used different types of khalli, dana, with the help of net as a feed.

Out of 22 respondents of control the disease and insect 54.54 per cent respondents used potash. While, 31.82 per cent respondents used dragnet and chouki (net) and minimum by fish dipping treatment in salt solution (13.64%).

With regards for harvesting of the fish, maximum respondents (43.47%) used chouki and cast net, whereas, 24.63 per cent respondents used gillnet, followed by kanta, mahua oil cake and poison bet (17.39, 10.14 and 4.34%, respectively).

Out of 72 respondents, majority of respondents (58.34%) were used Kotari fish for the cultivation, followed by 54.16, 23.61, 23.61, 18.05 and 8.33 per cent respondents had taken Tagna, Mangur, Talapiya, Khoksi, Bhunda and Kevai the other fish for fish cultivation, respectively.

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