

Paddy-cum-fish-culture



**Directorate of Fisheries
Government of Arunachal Pradesh
Vivek-Vihar, Itanagar
PIN-791113**

INTRODUCTION:

Paddy-cum-fish culture is the integration of fish farming with paddy. This system is profitable and sustainable as two crops i.e paddy and fish can be harvested from a unit cultivable area.

The paddy-cum-fish culture is popularly practiced in many parts of the country and it has gained huge success in the Apatani plateau of Arunachal Pradesh. The species of fish commonly reared in the paddy-cum-fish culture are:

- *Cyprinus carpio*(Common carp)
- Amur carp

Selection criteria for fish species:

- Fast growth rate
- Acceptability of supplementary and natural food
- Adaptability to crowded conditions

METHODOLOGY OF RICE-CUM-FISH FIELD PREPARATION:

Site selection: low lying fields with good source of water for survival and growth of fish without any detrimental effects on rice crops

Preparation of paddy plots:

- Bund construction is done during the month of February by raising their embankments 2'-3' height all along the plots creating a confinement for fish and to retain water.
- Paddy fields are leveled with the help of spade and local made wooden plates called sampya.
- Manual weeding is done during the month of February followed by construction of irrigation channel for easy passage, storage and drainage of water.

Transplanting: Paddy transplantation from nursery to main paddy field is done in the month of April and there after paddy is left for two weeks for strengthening of paddy roots.



Organic fertilizer:

Poultry dropping, pig excreta, cow-dung, waste of plants such as rice husks, waste product of local beer and ashes from household burnt, remains of burnt straws after the harvest is over, compost fertilizer like decomposed straws, weeds and rice stalks etc.

Stocking of fish fingerlings:

Fish fingerlings are stocked @ 2500 nos./ha area after 10-15 days of transplantation of rice. The fish rearing period and paddy rearing varies from 3-6 months and 5-7 months respectively.



Harvesting of fish:

Gears used for harvesting fishes are simple bamboo made basket called AjiPuha/Tasingpuha. Plastic buckets are also used. The fish is cultured for 3-4 months in rice field in which a production of 150 kg/ha is achieved. Further, fish grown for the period of 5-6 months, production of 200-250 kg/ha yield has been reported.



Marketing of fish:

Fish production from the paddy fields are generally marketed twice in the year during the month of June-July and September-October at the marketable size of 150-200 gms and 250-300 gms respectively.



Advantage of paddy-cum-fish-culture:

1. Doesnot require the use of chemical fertilizers, weedicides and pesticides
2. Increased in organic fertilization by fish excreta which acts as nutrients and boost paddy production
3. Better tilling of the rice seedlings due to the activities of fish.
4. Reduction in number of harmful insects, weeds and pests
5. Increased mineralization of organic matter and increased aeration of soil resulting from the pudding mud by benthic feeders.
6. Controlalgae and weeds.
7. Farmers friendly, low cost and easy to adopt.
8. Contribute towards nutritional security and economic upliftment.

Drawbacks

1. Use of agrochemicals is often not feasible.
2. Maintaining high water level may not be always possible.
3. Not all the fishes are suitable for paddy-cum fish culture.

Conclusion

Agriculture is the main occupation of the residents and their livelihood depends on paddy cultivation and its yield, therefore promoting fish culture by integrating it with paddy cultivation will greatly enhance the yield and production of both fish and paddy within the same time and space. It will not only increase the farm yield, but will contribute greatly towards nutritional security and economic upliftment.

Estimate For Development of 1 ha Paddy- Cum-Fish Culture under CSS scheme

A. CAPITAL COST

Sl. No.	Description of works	Quantity	Unit	Rate(Rs.)	Amount (Rs.)
1.	Earthwork for development of paddy plot which include raising and widening of dykes,excavation of trenches, loosening and leveling of soil, provision for inlet and outlet with bamboo screening etc.	10,000	m ²	@7 Per M ²	70,000.00
				Sub Total	70,000.00

B.OPERATION COST

Sl. No.	Details description of work	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
1.	Stocking of fingerlings of Common Carp etc. including packing etc.	5000	No's	3/per seed	15000.00
3.	Cost of Paddy seeds Nursery preparation & transplantation	500	kg	12/- per kg	6000.00
4.	Organic manure	L/S	L/S	~	5000.00
5.	Misc. and other unforeseen expenditure	~	~	L/S	4000.00
				Sub Total	30,000.00

C.Total cost of the scheme (A+B) :-Rs. 1,00,000.00 (Rupee One lakh) only.

