

Prospects of small scale rural aquaculture for poverty alleviation in Western Rajasthan

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ABSTRACT

Freshwater aquaculture offers diverse livelihood opportunities for a large number of rural poor in Rajasthan. The project MPOWER (Mitigating Poverty In Western Rajasthan) funded by IFAD (International Fund For Agricultural Development) focuses to reduce poverty and understand the role of rural women in aquaculture practices. *Macrobrachium rosenbergii* (De men) was introduced in composite finfish culture system for the first time in a pond of Western Rajasthan to study its culture prospects in conjunction with *Catla catla* (Ham.), *Labeo rohita* (Ham.) *Cirrhinus mrigala* (Ham.) and *Cyprinus carpio* (Linn.) for a period of 8 months. The Limnological parameters were systematically analyzed. A production of 3040 kg of carps and 58.07kg of prawn was obtained in the traditional polyculture technique adopted. The aim of the paper is to link rural women empowerment and their participation in aquaculture.

Key words : Aquaculture, *Macrobrachium rosenbergii*, *Catla catla*, *Labeo rohita*, *Cirrhinus mrigala* and *Cyprinus carpio*

Poverty is a concept that has many dimensions. In brief, poverty means poor living conditions; its immediate cause is lack of real, financial and other resources. Its many symptoms include inadequate provisions (in terms of both quantity and quality) of food, housing, nutrition, health, education, etc. The potential contributions of aquaculture to food security have been well recognized. Mitigating poverty in Western Rajasthan (MPOWER) is a poverty reduction Initiative that is supported by IFAD (International Fund for Agricultural Development) which focuses to alleviate poverty in the six districts of western Rajasthan by targeting the BPL Households (86,880 in 1040 villages) by linking them with livelihood opportunities. Rural aquaculture contribution towards food security involves three components -employment, production and value addition.

Indian aquaculture has demonstrated that freshwater aquaculture contribution has been over 95 per cent of the total aquaculture production. Average national production from still water ponds has increased from 0.6 tones / ha /year in 1974 to 2.2 tones/ha/year by 2001-2002 (Tripathi *et al.*, 2000). Our country utilizes only about 40% of the available 02.36 million hectares of ponds and tanks for freshwater aquaculture.

Little work has been reported on the bio- ecology of ponds in Jodhpur Division regarding the potentialities of aqua farming. This paper highlights the food ,feeding, habits and growth of fish species *Labeo rohita* (Ham.), *Catla catla* (Ham.), *Cirrhinus mrigala* (Ham.) and *Cyprinus carpio* (Linn.), along with the giant freshwater prawn popularly known as ‘Scampi’ *Macrobrachium rosenbergii*.

MATERIALS AND METHODS

The aqua practices were done in Shekhawat pond (26° 49’02”N and 72° 47’03”E) having area (0.736 ha) and mean depth of 1.89m. The fries of indigenous fish species (catla, rohu and mrigal) and an exotic fish species (common carp) were stocked along with the post larvae of giant freshwater prawn in August 1999. The monthly surface water samples were collected between 08:30-11: 30 am in one litre polythene bottle for estimation of different physico- chemical factors using methods of APHA (1985) and Welch (1948) .Planktons were counted using the Sedgwick Rafter Counting Cell and identification was done using methodology of Chapman and Chapman (1975). There was regular monitoring of growth parameters of fishes and prawns using cast net and after 8 months of stocking, the growth of these aquatic species was analyzed based on the biotic and abiotic parameters.

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