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## Prawn catching methods in Ramanpad reservoir of Mahabubnagar district, A.P, India

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### ABSTRACT

Fresh water prawn culture and catching methods of Ramanpad reservoir was investigated in the year 2013. Documentation of crafts and gears regarding prawn harvesting in reservoirs of India is scanty. This paper is an attempt to record the prawn fishery related indigenous technological knowledge in terms of prawn catching craft and gear used in a Ramanpad reservoir in the Mahabubnagar district in Andhra Pradesh(A.P). As many as 2 different types of crafts and 3 different gears were encountered during the summer survey of the reservoir which is the ideal time for prawn harvesting. The craft were coracle and thermocol raft. The chief gear used in prawn catching was a box trap besides gill net and cast net.

**Keywords:** Mahabubnagar, Ramanpad reservoir, Coracle, Gill net, Cast net, Box trap.

### 1. Introduction

Mahabubnagar is one of the districts in Andhra Pradesh state having a number of irrigation tanks, ponds and reservoirs. Reservoirs are the potential source for fisheries development in the state. In many of the reservoirs cultivable fishes are being stocked to enhance production. Culture trials of freshwater prawn (scampi) have been carried out successfully in a couple of reservoirs in Andhra Pradesh and Ramanpad reservoir is one of them in Mahabubnagar district [2].

Ramanpad reservoir (Ookachettivagu) is the medium size irrigation project with 305 ha water spread area and was constructed in 1972 across Peddavagu which is the tributary of river Krishna. It is located at Ramanpad village, Kothakota Mandal of Mahabubnagar district in Andhra Pradesh. It is about 145 Kms away from Hyderabad city. The main purpose of the construction of this reservoir was to protect the economically backward areas of the district and also to eliminate the scarcity of food grains and water problems. Though the Ramanpad Reservoir was constructed primarily for irrigation and later become for the major supply of drinking water to Mahabubnagar town including many villages in the district. The fishery is evolved as the secondary activity.

Every water body has its unique pattern of craft and gear. It also gives an indication about the economic condition of the fishermen community where they use locally available less costly materials to make substances of technological delight giving maximum return. In case of the reservoirs, details about gears used in fish catching were documented. Unfortunately, this indigenous technological knowledge on prawn catching was not well documented in reservoirs of India. Present account is an attempt to document the crafts and gears used in prawn catching in Ramanpad reservoir of Mahabubnagar District in Andhra Pradesh state.

### 2. Materials and Methods

Freshwater prawn catching data along with information on prawn catching crafts and gears were collected from all the five villages those involves in prawn catching in the Ramanpad reservoir in 2013. Crafts and gears were measured and materials and descriptions were recorded from each sampling station (Table: 1).

### 3. Discussion

Ramanpad Reservoir was a rain fed up to 1995 and became balancing reservoir in the year 1996

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**Fig 1:** View of the Ramanpad reservoir

after construction of the feeder channel from Priyadarshini Jurala Project, which is a major project in the district, since then the water availability is round the year in the reservoir. Five villages exist in the vicinity of the reservoir. The fishermen of these villages regularly to catch naturally available fish species in the reservoir particularly Carps (*Catla*, *Rohu*, *Mrigala*, *Labeo calbasu*, *Etroplus*, *Tilapia*, Catfishes (*Bagarius*, *Ompok*, *Mystus*, sps.), *Notopterus*, Murrells etc.

Freshwater prawn has become an important component of global aquaculture both in terms of quantity and value. The fishermen of Ramanpad reservoir made an attempt and stocked fresh water prawn seed of natural collection from Godavari river in Andhra Pradesh during the year 2004-05. Seed grown well and got good production of prawn which encouraged the fishermen for regular stocking of seed in July or August month and allow them for growing up to February and starts harvesting of prawn. This is the turning point to these reservoir fishermen to get additional income from prawn in addition to regular fish catching.

Catching of prawn from the reservoirs is difficult due to the vastness of the area and great depth. In the first year fishermen used gill nets for prawn catching and faced many difficulties while catching of prawn due to full water level and great depth of the reservoir. Later the fishermen learnt to use the

rectangular framed box traps for prawn catching. Since 2005-06 onwards they are using these indigenous made box traps to catch prawns in the reservoir besides using of small mesh size gill nets and cast nets. Craft is coracle and thermocol raft. Brief discussion of individual crafts and gear used in Ramanpad reservoir is given below.

#### 4. Crafts

**4.1 Coracle:** It is a saucer shaped country craft, was one of the major fishing craft used in the fisheries of peninsular India. Coracles were prepared by wrapping HDPP sheet over the split bamboo frame with the help of coal tar as an external covering. Internal diameter varied in a range of 2-3 m in inner depth of around 0.5 m. Apart from being simple and inexpensive, coracle was durable and had very good maneuverability in all types of waters. It was also a versatile craft used for laying and lifting of nets, besides navigation and transport of fish, prawn and other materials in inland water bodies.

**4.2 Thermocol raft:** Two to three rectangular slices of thermocol were tied with rope to splinted bamboo sticks to make a length of 6.5-7.5 feet with a width of 1.5 feet. This was covered by empty synthetic fertilizer bags and stitched on which single fisherman used to sit and go for prawn catching /fishing in the reservoir.

**Table 1:** Prawn catching crafts and gear recorded in different station of Ramanpad reservoir

Name of the station	Craft		Gear	
	Major	Minor	Major	Minor
Ramanpad	Coracle	Thermocol raft	Box trap	Gill net, Cast net
Ajjakol	Coracle	Thermocol raft	Box trap	Gill net, Cast net
Gopanpet	Coracle	Thermocol raft	Box trap	Gill net, Cast net
Atmakur	Coracle	Thermocol raft	Box trap	Gill net, Cast net
Balakistapur	Coracle	Thermocol raft	Gill net	Cast net

#### 5. Gears

**5.1 Gill net:** Different mesh size was observed in the gill net used in Ramanpad reservoir. Though it was mostly meant for fishes, large sized prawns (*Macrobrachium malcolmsonii*) were also observed to be caught frequently.

**5.2 Cast net:** It was the most commonly observed gear being

operated in this reservoir. The obvious reason was that it can be operated single handed. Different mesh and pocket size targeted to particular species were also encountered. The only medium size prawn was observed to make the total catch of some of the cast net operations.

**5.3 Box trap:** Among different fishing traps, box trap was one

of the major gears used in the prawn fishery in river Krishna <sup>[1]</sup> and Ramanpad reservoir <sup>[2]</sup>. Box trap was a cube shaped trap made of bamboo sticks knitted with some durable creepers. A bicuspid non-returning uni-directional vertical valve along the height of the trap was made to be used as an entrance for

prawns. The sticks used to make this valve were thinner and knitted with nylon rope. The trap was kept in a vertical position under the water. A float made of thermocol piece was tied to the trap with cotton wire to help in locating the position of the trap.



**Fig 2:** Fishermen operating both gill net & cast net in reservoir by coracle.



**Fig 3:** Fisherman on thermocol raft lifting the prawn trapper from the reservoir.



**Fig 4:** Prawn trapped in box trap.

## 6. Benefits of Box traps

The dimension of box traps is 1.75 length x 1.5 height x 1.5 width feet size and consist of only one-way entrance slits from both opposite sides and there is no way from inner to outside. These entrance slits allow the organism to enter inside and closes sticks automatically. These traps are cheap and made

locally available materials. Each trap costs about Rs.150/- and durability is about 3-4 months of regular use in the water. About 80% of prawn catching is with the help of box traps only and remaining 20% catching with cast nets and gill nets in the reservoir.



**Fig 5:** Front view of box trap.



**Fig 6:** Fisherman collecting the Prawn from the trapper.

## 7. Indigenous Technology

Fishermen are involved in a prawn catching activity regularly in the reservoir with box traps. And also each fisherman uses 50-60 traps every day to catch prawns in the reservoir. These traps are set in the reservoir with floaters for identification round the clock to prawn catch. Generally, the fisherman hangs to dry coconut pieces' to metal wire inside the trap was used as bait to lure the prawns. The prawn enters into these traps from both sides of one-way entrance slits and there is no way to escape from the trap after entering. In general one prawn was caught in unit effort, but 2-3 prawns were also observed in the catch of a trap. The fishermen collect the trapped prawn from these traps daily in the early morning and

evening. On an average, each fisherman can catch about 1-3 kg per day. Though mostly prawns were being caught by it, sometimes other fishes like *Notopterus*, *Tilapia*, *Etroplus* etc. were also seen to be trapped.

The fishermen catch the grown prawn continuously for 3-5 months i.e. from February to June every year along with fish catches. The peak prawn catches are from March to May and minimum in February and June months. But the fish catch continues round the year by fishermen from the five villages except a few days in rainy seasons. The prawns caught from the reservoirs fetch a premium price and are in great demand. Presently, more than 200 fishermen, families are depending on the reservoir for their livelihood from these villages.



**Fig 7:** Size of Prawn from Ramanpad reservoir



**Fig 8:** Fisherman lifted the trap from the water for prawn collection.



**Fig 9:** The author, observing prawn trapper in Ramanpad reservoir.



**Fig 10:** The author, observing the prawn growth in Ramanpad reservoir.



**Fig 11:** The author, observing gill net in the reservoir.

### 8. Conclusions

Considering the high export potential, the giant fresh water prawn, the scampi, enjoys the immense potential for culture in reservoirs in Andhra Pradesh. Among the other medium sized reservoirs in the Andhra Pradesh, this is the better prawn production yields in Ramanpad reservoir. This achievement is only due to the management practices like good seed stocking, collective harvesting and control of poaching by the reservoir fishermen regularly. Moreover, the uses of indigenously made rectangular traps are more economical and cost effective in prawn harvesting in reservoirs.

### 9. Acknowledgement

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