

# HALF YEARLY REPORT

**TITLE OF THE PROJECT:- CONSERVATION OF GHARIAL (*GAVIALIS GANGETICUS*) IN THE MAHANADI RIVER SYSTEM OF ORISSA, INDIA.**

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**Duration of the Period:-** One Year

**Place of Work:-** The entire length and breadth of Mahanadi river, Orissa, mainly Satkosia gorge, Tikarpada.

**The latitude and longitude of Orissa:-** 26.00 N (Lat),  
94.20 E (Lon)

## **Preliminary Survey and Interim Findings:-**

The survey was conducted in the entire length and breadth of Mahanadi river system from 1/1/2005 - to date. Before conducting the preliminary survey and reconnaissance field visits, maps of the area were studied in detail and then the sites were divided into strategic segments and decision was taken as to which part shall be ideally covered through water and the rest to be covered by land.

## **Areas covered by water:-**

Satkosia gorge was taken as the starting point based on its earlier occurrence of gharials. Before starting, the survey, we went to the gorge area and then observed the



**A view of Mahanadi river from Satkosia gorge, Tikarpada**



**Water route from Satkosia gorge**

gorge and sanctuary area, after that we started the survey.

The area covered was as follows.

- A- Upstream (Binkei to Huma:-Binkei, Dist-Athgarh) the upstream outside periphery of the Satkosia gorge was chosen as starting point and then we moved up to Huma (Dist-Sambalpur) upstream of Mahanadi River.
- B- Downstream (Barmul to Naraj:- Barmul, Dist-Nayagarh) just down stream the sanctuary periphery was chosen as the starting point and from that point we moved down the stream up to Munduli bridge (Dist-Cuttack).

We reached both the starting point i.e Barmul and Binkei by land and from there we started our operation. Local boats were hired and both sides of riverbank were covered during the investigation. Binoculars were used to sight gharials in water/sand banks during their sun basking, imprints in mud while basking etc.

The length, width, jaw length, breadth were measured in the mud and after they were analyzed/categorized into groups. During night time meetings of local people were arranged and all the informations available with them regarding gharial and muggers sighting, nests, last seen, availability of suitable habitat, threats etc were discussed and documented in a pre prepared questionnaire. During survey almost all the villages on either bank of the river were covered for collecting data. Apart from gharials they were also asked about their idea on conservation methods, type of fishing, livelihood, socio economic status of the community etc.

The photographic evidences of different crocodiles (Gharial/Muggers), their imprints, interview with local people, fishermen, fish, other river flora and fauna was documented.



**Interaction with an old person in nearby village**



**Interaction with local forest personnel**

### **Area covered by land:-**

The Tel river system, from Manmunda was covered by road and surveys were made from village to village in a similar manner as done by water route. Besides Tel river, from Sambalpur to Boudh was also covered by road and villages near the riverbank was covered for survey.

Puri canal, the main canal system of Mahanadi river, starting from Munduli Bridge was covered by road. Similarly from Munduli bridge to Paradeep (where the river drains to sea) was also covered by road.

### **Observations:-**

The details of area/villages covered during our survey will be mentioned in our final report.

A pair of full grown and mature gharial was sighted near Binkei. The water depth around the Binkei varied from 4 to 6 mts. Water was clear and in flowing condition. pH of water was slightly alkaline i.e. 7.4.



**Sand bank near Binkei where Gharial couple were sighted**

The male and the female were approximately 4 mts and 3.5 mts long respectively. The couple was constantly reported in that area for 3-4 days and was seen to share the same sandy beach and they were also observed to move together from one beach to another.

This finding was in accordance with the findings of forest dept. census programmed since we were also part of the forest department census programmed from January 13<sup>th</sup> to 17<sup>th</sup> 2005. During the survey young Gharials were not observed. Apart from, gharials, a healthy population of muggers i.e marsh crocodile, freshwater turtle and fishes like rohu, catla, mrigal, etc were available in the lower stream of the gorge.



**A pair of full grown Gharials near Binkei**



**Freshwater turtle near Satkosia gorge**



**Full grown Mugger near Binkei**



**Some of the fishes available in Mahanadi river**

Till now, awareness programs related to conservation of gharials were also conducted in regional languages in few villages from Athmallik to Naraj.



**A banner prepared to propagate awareness to save crocodiles**

### **Suggestive measures:**

There is every possibility of mating of the couple since both are mature and are moving together. We are constantly observing their movement, path, breeding, nesting and other behaviors as well as activities, to decide further course of action.

- 1-The fishing activity is intense in the entire Mahanadi river system.
- 2-The fishing activity should be stopped/ and / or minimized at least 10km on either side of the satkosia gorge, wild life sanctuary.
- 3-The fishing methodology is often objectionable. Proper care/attention has to be taken on fishing methods and suitable techniques be developed for reducing adverse impact on gharials.
- 4-High human activities on either side of river, which may be due to their daily activities, fishing, picnic and pollution etc, should be minimized.
- 5-Attention has to be given not to kill/disturb the gravid female fishes, turtles etc by the fishermen. Some sort of fishing ban may be implemented during the breeding season with close cooperation of the people.
- 6-Although the nesting banks are available, outside gorge area gharials often face problems due to lack of water depth, low fish density.
- 7- Disturbances from transport boats/fishing boats, pollution, destruction of sand banks and human activities are not conducive to their survival.

However, the final report shall provide more concrete recommendations.

# The map of area covered in Orissa

Place of work

