

1a. AMARAVATI RESERVOIR (10° 35' N 77° 15' E) - This reservoir

on the Amravati river ~~of~~ is formed by the impounding  
of ~~Chinnar, Pambar and Tennar hill~~ streams at Kallapuram village. The  
main river Amravati and the three tributaries rise near  
Muniar in Western Ghats at an elevation of 5000 ft- and  
enter the plains 3 miles above the dam site - where a  
steep fall of about 60 ft occurs - Dukkanam falls -  
The <sup>total</sup> reservoir area of 2300 acres (during the rains) are  
all in the Anamalai Game Sanctuary.

From ~~Feb~~ February to June the water spread  
of the reservoir is limited to about 50 acres and  
during Feb/March 1976 a total of 11 megar nests  
were collected within a limited area of 1000 mts.  
(Table I).

1b. SATHANUR RESERVOIR (12° 10' N 78° 50' E) - Sathanur

reservoir on the Ponnaiyar river in the ~~At. Ar~~ North Arcot  
district of Tamil Nadu is a moderately big reservoir  
spreading about 15 kyo <sup>above</sup> from the dam. This reservoir  
holds a good population of megar and during the 76  
breeding season 5 nests were collected from this  
reservoir. (Table I) ~~near~~ the most of the nests were collected  
at the upper reaches of the reservoir near the place  
called Padithorai.

of examination ~~unlisted~~ all of them in schedule I and ~~are~~ give  
the 1972 Wildlife Act ~~afford~~ them the strictest legal protection  
and efforts ~~to~~ <sup>to are</sup> conserve these crocodile resources are already in  
progress. [The extreme fecundity of Crocodylians makes them

ideal for management and the large mortality is  
prevented by providing best possible captive rearing.

With legal protection to the available breeding groups  
and sound management these Crocodylian resources can  
be effectively utilized. [Mugger (Crocodylus palustris) one

of the Indian species once ~~found~~ <sup>abundant</sup> all over India is now  
isolated to small pockets - mostly in the reservoirs ~~of~~

~~rest~~ <sup>on</sup> of the monsoon fed rivers. The present paper  
gives the steps taken <sup>in 1976</sup> to ~~conserve~~ save this species

in <sup>Tamil Nadu</sup> one of the Indian states in the South by collecting  
wild laid eggs and hatching them artificially.

Except the ~~Canary~~ <sup>most</sup> other rivers, ~~in Tamil Nadu~~  
monsoon dependent and are dry most of ~~the~~ part of the  
year. The Mugger Crocodile population (Crocodylus palustris) of

these <sup>monsoon dependent</sup> ~~reservoirs~~ <sup>rivers</sup> have adopted the <sup>dammed</sup> reservoirs as their  
seasonal <sup>as a dry</sup> habitat. Since nesting (egg laying)  
is <sup>also</sup> ~~done~~ <sup>done</sup> in these reservoirs ~~also~~ <sup>also</sup> serve ~~as~~ <sup>as</sup> good

nesting grounds for these muggers. ~~as their nesting season is~~  
~~in the dry season from Feb to April.~~ Wild laid eggs of  
these muggers were collected in the nesting season of 1976 for

artificial incubation. Eggs were also collected from a  
village tank at Killikuduru (14 km from Trichy) and from

3c VAKARAMARRI WATERWORKS (CHIDAMBARAM) (11° 22' N 79° 20' E)

This ~~reserved~~ habitat of Muggers by the side of Coleroon river 6 km south of Chidambaram town is the water storage tanks of Chidambaram municipality. Muggers use this undisturbed tanks as a base and wander out in the nearby Khan Sahel Canal and Coleroon river in search of food. The earthen bund around the tank is used for nesting. 3 nests were collected here in March 76. (Table I)

Id ~~at~~ KILLIKUDU (10° 45' N 78° 50' E) A 15 Acre deep village pond in the Kalanai village 14 km east of ~~Torony~~ Timelin-fully is a ideal habitat of Muggers. Like Chidambaram here also the muggers wander in to the Cauvery river in the south of the pond and to Coleroon in the north of the pond. One nest was collected here in April but later in July several other empty (hatched) nests were observed (Table I)

2a Handling of Eggs - Eggs from the (located) nests  
were collected during the early morning or late evening hours  
to prevent avoid harsh temperature. The nest holes

## 2 NESTS:

Mugger (<sup>Crocodile</sup> *Crocodylus palustris*), like Nile crocodile *Crocodylus niloticus* and Indian *Gavialis gangeticus* is a hole nester. The nests are dug out in the <sup>damp mud</sup> clay sand or ~~dry mud~~ bank of the habitat and eggs are laid in it. Unlike Indian Gharial <sup>which lays eggs in fine sand banks</sup> ~~Mugger~~ lay eggs in any type of banks. In ~~for~~ some <sup>rocky</sup> areas however the mother Mugger digs some trial nests hole. Whether this to test the suitability of nesting ground or to deceive the nest predators is not known.

Nests are about 40-50 cm in depth with a narrow mouth and a wide bottom (pitcher shaped in most cases) and eggs are laid in layers. The top layer of eggs mostly remains about 15-20 cm below the surface.

### 2a Collection of Nests:

After locating the nest- hole in 24hrs ~~of~~ to a fortnight the nests were collected <sup>in</sup> ~~straight~~ to the incubation box. The incubation box were of 65 x 45 x 45 cm dimension made of 2.5 cm thick wooden planks. All the four sides of the incubation box had holes for aeration.

located nests were dug out (either in early morning or late evening hours to avoid harsh temperature)

and exact position of the eggs in the nest were marked.

Eggs were transferred in to incubation box.

10 cm of nest soil was first packed in the incubation box and eggs were arranged in rows keeping

each egg 2.5 cm apart from each other. The incubation box was packed with the nest soil totally and lid was screwed shut. Nest temperature at different depths was also taken before collecting the eggs to enable maintenance of such temperature in the incubation boxes.

### 25. Transport of incubation box

Collected eggs in the incubation box were transferred to Madras either by road in Jeep or by train ~~with~~ after 10 to 30 days of collection (Table). To minimise the risk of damaging the embryos because of bumps ~~heavy cushioning to boxes and slow drive boxes~~ were cushioned and ~~careful slow concept driving was done~~ the vehicle was driven slowly.

### 3 HATCHERY & INCUBATION.

Collected eggs from the field were incubated in the incubation boxes, unlike the simulated nest hatchery, where a artificial nest is constructed in a sand mound surrounded by loose bricks. These incubation boxes were kept in a room and care was taken to allow sufficient sunlight and air and natural outside temperature was maintained in the room.

### 36. Temperature in the Incubating box.

As far as possible a constant temperature was maintained in the boxes, ~~By this case 32°C~~. In this case  $32^{\circ}\text{C} \pm 2^{\circ}\text{C}$ . Sprinkling of water on the boxes and allowing controlled period of sunlight the

temperature was maintained. Care was taken to see that predators etc would not be able to temper the incubation boxes. Incubation boxes were never shifted from the original position till the date of hatching.

HATCHING From 10th week of incubation every morning and evening careful check for any grunts of hatchlings was done to help hatchlings in the process of hatching. As soon as the choros of grunts of the hatchlings were heard from ~~the~~ box, the box was transferred to another room. It is assumed that this grunting sound initiates the hatching process and it was feared that ~~this~~ <sup>the</sup> grunts from <sup>one</sup> box may result in premature hatching ~~also~~ from other boxes.

HATCHING. Hatching started after 13th week of incubation (Table II). The top layer of soil was scraped off as soon as the box was transferred to a shady cool place. As far as possible the ~~both~~ hatchlings were allowed to emerge from the egg by themselves, only in case of weak hatchlings they were aided to emerge. A single clutch of eggs sometime took as long as 10 days to hatch from the starting day.

TABLE II 