

Repd-B.P.

Hyderabad
4.12.32

My dear Sudhakar,

We believe, you had a very useful time in the abroad, and have returned back safe to your family and work.

Binod and I have just finalised an outline-draft of a serial, I-VI on Crocodile Management Technique, a set of which is enclosed for your reference. As you will note there has been an equal division of authorship but the responsibility to produce high standard practical papers is equal for all of us.

(for which you are the first author)

Please prepare two extra copies of your paper and send it to me and Binod. We will also do similar things for our papers. You will receive copies of the papers for which we are the first authors. Then all of us will correct and comment ^{on} all the papers and then prepare final copies of the papers. You do not worry for the final versions. We will do the typing and graph works here. The photographs which you want to be included, you can send prints or the negatives.

Let us also be clear on one point: the money spent for photographs etc. will be divided among us suitably.

I believe, you will start your work immediately after receiving this and be able to post the drafts by 30 Jan. 1983.

Important:- The situation around us is not very good (you must have received a copy of the Field Guide prepared by the Instt.). Unless we publish the materials which we have gathered through years we will DISINTEGRATE.

The papers will be communicated to JBNHS. Only after the first drafts are ready, I will inform Mr. Daniel about our attempt, or, if you want, we will contact a publisher. JBNHS is probably better at this stage. Comment.

Please let us also know if you have any reservations.

With best wishes to you, Bhauja and your son-- what is his name?

Binod

CROCODILE MANAGEMENT TECHNIQUES : I: HABITAT AND POPULATION SURVEY

L. A. K. SINGH, S. KAR AND B. C. CHOUDHURY

- I. Materials required
- II. Survey: when required
 - to know the population composition initially
 - trends subsequently
- III. to assess the habitat conditions: existing already
requiring manipulation
 - to locate potential nesting sites and breeding females
- III. When to conduct (Factors to be considered)
 - Species-wise
 - Season
 - (Physiography etc.)
 - Time (Day/night)
- IV. How to conduct
 - Proforma for data on Habitat
 - Proforma for data on population
 - Methods: direct vision
 - from indirect evidences
 - interviewing people (mention that this should be the
 - first step when exploring a new habitat)
 - Data interpretation
- V. Summary Discussion
 - Variations in survey techniques
 - (aerial, navigational, on foot)
- VI. Summary
- VII. Further reading

CROCODILE MANAGEMENT TECHNIQUE II: EGG COLLECTION AND TRANSPORT

S. K. KAR, B. C. CHOUDHURY AND L. A. K. SINGH

- I. Materials Required
 - Egg collection (Proforma)
 - Egg transport
- II. Nesting types
 - Mound nesters
 - Hole nesters
- III. Nesting season
 - Species-wise and significance
- IV. Features of potential nesting sites
 - Species-wise
- V. Locating the nest
 - Evidences to be searched for
 - Pin-pointing the nest
- VI. Collection methods
 - Opening the nest: when and how (stage of incubation)
 - Marking eggs: why and how
 - Egg-shifting: shifting, arranging in the box, packing the box
(Should some eggs be left for natural hatching: discuss)
- VII. Egg transport
 - Preferred mode in order of preference
(Boat/rail/road/head-load/cradle-load)
 - Precautions
 - Cool, moist, less bumpy
- VIII. Discussion
 - (Existing practices: plus/minus points)
- IX. Further reading

CROCODILE MANAGEMENT TECHNIQUE III: INCUBATION, HATCHING AND EARLY CARE

S. K. KAR, L. A. K. SINGH AND B. C. CHOUDHURY

- I. Materials required
 - Incubation (incl. Proforma)
 - Hatching (-do-)
 - Early care
- II. Types of hatchery
 - Simulated nest (variation depending on geographical location)
 - Incubation box
- III. Simulated nest hatchery: design
 - Gharial/Mugger
 - Saltwater crocodile
- IV. Implanting the eggs in the simulated nest
 - When
 - How
 - Precautions
- V. Maintenance methods
 - Humidity
 - Temperature
- VI. Incubation-box hatchery
 - Setting the desired temp. and humidity in the box
 - Placing of the box in the hatchery room
 - Maintenance
- VII. Hatching
 - When to look for - after how many days
 - What to look for - 'mummy call'
 - Interval between first-croaking and nest opening
 - Opening of the nest
 - Disposal of the wastes (sand, empty shells etc.)
 - Force-opening
 - When, how and why
 - How to ascertain fertility
- VIII. Early care
 - Why necessary
 - To normal hatchlings
 - To mal-formed hatchlings
 - Disinfectant bath
 - Humidity-chamber: care in: how long and why
 - Shifting to rearing pool
- IX. Discussion
 - How each step of management is important in survival
- X. Further reading

CROCODILE MANAGEMENT TECHNIQUE IV: CAPTIVE REARING

L. A. K. SINGH, B. C. CHOUDHURY AND S. K. KAR

- I. Terminology
- II. Site selection
- III. Types of facilities required (including hygiene facilities)
 - A. Hatchling pen: design, capacity and stocking rate
 - B. Yearling pen: -do-
 - C. Holding pen: -do-
 - D. Quarantine pool: -do-
 - E. Fish-storage ponds
 - F. Water storage tank
 - G. Feed house
 - H. Office
 - I. Laboratory
- IV. Husbandry
 - A. Pool maintenance
 - B. Food and feeding (with introduction to growth)
 - C. Diseases
 - D. Size and sex determination (assortment)
 - E. Marking for identification
- V. Record maintenance
 - A. Pool cleaning
 - B. Feeding
 - C. Growth
 - D. Identification
 - E. Stock book
 - F. Health Record
 - G.
- VI. Design of a model rearing complex
(Cost of construction.) maintenance- personnel required)
- VII. Further reading

CROCODILE MANAGEMENT TECHNIQUE V: RELEASE AND MONITORING

B. C. CHOUDHURY, L. A. K. SINGH AND S. K. KAR

- I. Materials required
- II. Why release (define restocking-rehabilitation)
- III. Choosing a release site
- IV. Precautions at release site prior to release
- V. Selecting crocodiles for release
- VI. Marking croc. for release
- VII. Transportation to release site
(phases)
- VIII. Choosing the time for release
- IX. Carrying out the release
- X. Monitoring after release
- XI. Discussion
Evaluation of the releases
Induction of modern technology
- XII. Further reading

CROCODILE MANAGEMENT TECHNIQUE VI: CAPTIVE BREEDING

B. C. CHOUDHURY, S. KAR AND L. A. K. SINGH

- I. Why captive breeding (when is it a management prescription?)
- II. Location of the captive breeding Unit: species-wise suitability
- III. Stocking rate and sex-ratio
- IV. Other consideration
 - Food and dietary supplements
 - Light (Photo-period)
- V. Behaviour of breeding adults
- VI. Location and taking care of the nest
- VII. Management of captive-laid eggs
- VIII. Breeding Records of Indian Crocodylians (reviewed upto 1982)
- IX. Discussion
 - Ideal sex-ratio
 - Attitude of zoos: display all species: do not necessarily attempt breeding
 - Hybridisation
 - Public education/relation
- X. Further reading