

EVALUATION OF THE ZOOLOGICAL SURVEY OF INDIA

FOR CONTINUANCE IN THE ELEVENTH FIVE YEAR PLAN

1. INTRODUCTION :

The Zoological Survey of India, an internationally acclaimed scientific organization under the Ministry of Environment & Forests, Government of India was established on 1st July, 1916, primarily to explore and inventorise the faunal resources (diversity) of the country and to collect and document the base line data with regard to taxonomy, distribution, bio-ecology, etc., of all available animal groups. During the last 91 years and particularly from the Second Five Year Plan period the Zoological Survey of India has grown from a small unit at the Indian Museum, Calcutta, to a premier National Institution with 16 Regional and Field Stations spread all over India with Headquarters at Calcutta. The Head quarters office at Kolkata has 19 scientific divisions and 34 scientific sections covering all aspects of animal groups from Protozoa to Mammalia, besides having Palaeozoology and prehistoric zoology section. Over the successive plan periods the functions of Zoological Survey of India have also expanded gradually encompassing areas like the Environmental Impact Assessment with regard to fauna; survey of Conservation Areas; Status Survey of Endangered Species; Computerization of data on faunal resources; Environmental Information System (ENVIS) on faunal diversity, etc. This Organization also has a regular Training and Extension service for creating public awareness for the conservation of environment and wildlife through exhibitions, training programmes and interaction with different Government and NGO organizations, as well as universities, colleges and schools.

The survey had its genesis in the establishment of Zoological Section of the Indian Museum at Calcutta in 1875. The Zoological Survey of India acquired the Zoological Collection of more than a century old from the former Museum (1814–1875) of the Asiatic Society of Bengal and the Zoological Section of the Indian Museum (1875–1916) in Calcutta. Besides, Zoological Survey of India also acts as a custodian of the National Zoological Collections which comprise more than two million specimens belonging to some 81,000 species including about 10,000 species of other neighbouring countries like Myanmar, Pakistan, Bangladesh, Thailand and Sri Lanka.

The Director, Zoological Survey of India Advises the Govt. of India on all matters related to wildlife & animal diversity of the country, and acts as the Scientific Authority on animals under Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and also a member of the Wildlife Board of India.

During recent years, the scope and functions of the Zoological Survey of India have been considerably expanded, particularly in the light of the Convention on Biological Diversity, ratified by Govt. of India in 1994 with special reference to Articles 7, 8, 9, 10, 12, 13, 14, 17, 18, and 41 of the Convention. In the light of the above, the objectives and implementation strategies for the Eleventh Five Year Plan are redefined as follows.

A. Primary Objectives

1. Exploration, Survey, Inventorisation, Monitoring of faunal diversity in various states, some selected ecosystems and protected areas of India.
2. Taxonomic studies of all faunal components collected.
3. Status survey of Threatened and Endemic species.
4. Preparation of Red Data Book, Fauna of India and Fauna of States.
5. Bio-ecological studies on some important communities/species.
6. Preparation of database for the recorded species of the country.
7. Maintenance & Development of National Zoological Collections.
8. Training, Capacity Building and Human Resource Development.
9. Faunal Identification, Advisory services and Library Services.
10. Publication of results including Fauna of India and Fauna of States, Records Zoological Survey of India and other publications

B. Secondary Objectives

1. GIS and Remote Sensing studies for recorded animal diversity as well as for selected threatened species.
2. Chromosomal Mapping and DNA finger printing.
3. Environmental Impact Studies.
4. Maintenance of Musea at Headquarters and Regional Stations
5. Development of ENVIS and CITES Centers.
6. Research Fellowship, Associate ship and Emeritus Scientists Programme.
7. Collaborative research programmes on Biodiversity with other Organizations.

During the XI Five Year Plan the Plan of Action of the department is as follows :

ON-GOING PROGRAMMES:

1. Exploration and Survey of State Fauna (District-wise), (to be continued)
2. Studies on selected ecosystems of Indian Region (Marine, Freshwater, Estuarine and Tropical Rainforest ecosystem To be continued)
3. Survey of Protected Areas including Tiger Reserves. (To be continued, and to take up the programme on the principles of Rapid Assessment Survey to explore more number of Protected Areas within the time limit)
4. Taxonomic studies of Faunal Components. (of all the above group)
5. Status Survey of Endangered species, including the revision of procedures for Schedule animals based on the IUCN Guidelines
6. Publication of Red Data Book and Fauna of Indian Volumes.
7. Computerization of data on Faunal diversity including National Zoological Collections, (Including the Digitisation of Type and National Zoological Collections)
8. Documentation and Publications.
9. Training and Extension Services.

NEW PROGRAMMES:

1. Survey and Inventorization of Marine Bio-diversity.

2. Establishment of new unit at Jamnagar, Gujarat to assess the faunal diversity of Marine Protected Area, Desert ecosystems
3. Establishment of new unit at Gangtok, Sikkim to assess the faunal diversity of Kanchenjunga Biosphere Reserve, monitor the diversity and distribution of the faunal elements of the Eastern Himalaya which is one of the Indian Hot Spot.
4. Monitoring the status of selected animals included in the Wildlife Schedules.
5. Development of Taxonomic expertise in the form of Human Resource Development and database.
6. Incorporation of GIS in research publications
7. DNA Fingerprinting which will throw open new avenues in taxonomy and soon new species descriptions will require bar coding.
8. Updation of Library services

It is proposed to award an evaluation study of the ZSI to assess, whether the ZSI has been successful in achieving the objectives for which it was set up and whether there is need to continue its activities in the next five year plan also.

2. THE TERMS OF REFERENCE FOR EVALUATION

The following would be the Term of reference (TOR) for undertaking the evaluation study:

- a. To assess the objectives for which the schemes was initiated are being achieved,
- b. To assess the strengths and weaknesses as an Institute of Taxonomic Research
- c. To assess the effectiveness of ZSI in achieving targets as per National Environmental Policy 2006,
- d. To assess the effectiveness of ZSI in meeting National Commitments under various International Conventions, like CITES, CBD, etc.,
- e. To assess the effectiveness of ZSI in dissemination of its research findings and reaching out to the stakeholders,
- f. To assess the level of synergy between different regional offices and peer national and international institutions,
- g. To assess the presence/absence of enabling environments in terms of trainings, workshops, skill augmentation, study tours, exchange programmes and other HRD activities,
- h. To assess the ability of the institution to generate funds for its activities for achieving self sufficiency to reduce its dependence on Governmental financial support, including man-power requirements to ZSI for achieving the objectives of the scheme, and
- i. To formulate proposals, with detailed justification, for strengthening and expansion of ZSI to enable it to meet the objectives set out in the scheme
- j. Need for continuing this scheme in the 11th Five Year Plan.

The recommendations part of evaluation should include

1. To suggest modifications and expansion of the institute for capacity building in Taxonomic research, & Training in Biodiversity Research

2. Overall evaluation of the scheme. How successful the ZSI has been in achieving the mandate and suggest improvements.
3. Specific recommendations on intra- and inter-institutional linkages.
4. Recommendations for improvements in institutional set up, financial sustainability, man-power requirements, capacity building and quantification of research outputs.
5. Whether the set rules and procedures of Planning, Monitoring & Evaluation of Research, Awareness & Education and Administration need any revision to meet the objectives of the scheme.
6. Recommendations for evolving performance indicators, both qualitative and quantitative, and suggest formats for periodical Monitoring & Evaluation
7. To develop as an institute of Research & Development leading to M Sc (Animal Taxonomy) and Ph.D courses similar to that of Deemed University.
8. To fill the gaps in the following and methods to reach the desired Inadequate baseline information on
 - (i) Intraspecific diversity
 - (ii) Macro & Micro habitats
 - (iii) Areas of Inaccessible regions
 - (iv) Areas of High endemicity
 - (v) Periodic survey programmes
 - (vi) Population structure & impacts
 - (vii) Inadequate information on specific taxa such as nematodes, mites, insects, fishes, amphibians etc.
 - (viii) Database and master catalogues, public participations

3. METHODOLOGY

The methodology of the evaluation should be very comprehensive, involving both Desk Review, and Field Studies. Further, both quantitative as well as qualitative analyses should be undertaken, using modern pre-tested tools, such as open-ended interview, Q-sort sessions, factor regression and analyses of responses, etc. It would include:

1. Detailed interactive workshop and discussion with the Director and Scientists at different levels and Staff in both, headquarter and regional/unit offices of ZSI, to know about the present status, their achievements, weaknesses, future plans, infrastructural requirements (incl. additional man-power), etc.,
2. Interaction with Chairman / members of the Research Advisory & Monitoring Committee of the BSI and ZSI (which includes representatives of various stakeholder groups, like Institutions with identical mandate, Academia, Industries, and the State Forest Departments),
3. Assessment of the infrastructure availability in terms of buildings / laboratories, equipments and skilled man-power,
4. Through questionnaire to be devised by the agency in consultation with Director, Zoological Survey of India.

5. Evaluation of the records of ZSI such as published papers, reports, documents , office files etc.

4. OUTPUTS:

- (i) Presentation of methodology developed for the evaluation agency, including the details of the samples selected to the Zoological Survey of India..... Month(one)
- (ii) Presentation of preliminary findings of the Desk review and the responses of pre-testing of questionnaire for the field study.....(before completion of 90 days)
- (iii) Presentation of draft report(before completion of 150 days)
- (iv) Comments of the ZSI on draft report.....(before completion of 180 days)
- (v) Submission of final report..... (before completion of 195 days)

5. REQUIRED EXPERTISE FOR EVALUATION OF SCHEME

The study will be undertaken by a consortium of experts in the field/ an agency/organization/ institution, who have/which has demonstrable expertise in the evaluation of schemes containing Research, Education and Awareness in the field of Animal Taxonomy / Systematics / Conservation Biology / *Ex situ* conservation especially on setting up of Regional musea and maintenance of aquariums. The concerned organization /agency/institution should have inhouse core competence, skilled manpower and sufficient experience in the above field. Specific requirements of the evaluating team would include the following:

1. **Team Leader:** A minimum 25 years experience of conducting/coordinating multidisciplinary research in field of Animal Taxonomy / Systematics.
2. **Team Members:** A minimum 20 years experience in the field of Taxonomy / Systematics of different group of animals,

6. TERMS OF PAYMENT

- (i) The payment would be released in three installments: (a) 20% on acceptance of offer , (b) 50% on acceptance of draft report in month five and (c) 30% on acceptance of final report.
- (ii) No capital costs would be incurred under the amount provided; neither any liability would be created for ZSI beyond the original amount.
- (iii) The payments will be subjected to deduction of taxes as per prevailing Government of India's rules.

7. OTHERS

- (i) The evaluation study would be open to review by ZSI officials and jointly agreed issues would be duly addressed in a time bound manner.
- (ii) Ministry reserves the right to terminate the evaluation study at any point of time without assigning any reasons thereto.
- (iii) Ministry reserves the right to cancel the contract awarded to the selected Agency, should it find that the progress of the evaluation is not satisfactory or the quality of the draft report is not satisfactory. In the event of a contract being cancelled, a reasonable opportunity would be given to the Agency to explain why the payment made to them shall not be recovered in addition to the difference in the cost of evaluation study awarded to the next higher bidder.
- (iv) The intellectual property right of the evaluation study and its outputs shall be that of Zoological Survey of India/ Ministry of Environment & Forests.
