

FORM C

PROPOSAL FOR APPROVAL FOR TAKING UP CONSULTANCY

Please refer to Statues SA38 for more details

1. **TITLE OF PROPOSED PROJECT:** "Conservation and management of intertidal mudflats along the coastline of Goa, India"

2. **Principal Consultant**

(a) **Name:** Dr. Nitin S. Sawant

(b) **Designation:** Assistant Professor

(c) **Department:** Zoology

3. **CLIENT:**

(a) **Firm:** Goa Forest Department, Government of Goa

(b) **Address for communication:** O/o PCCF, Van Bhavan, Altinho, Panaji – Goa, Government of Goa

(c) **Contact person in the Organization:** PCCF, Goa Forest Department, govt. Of Goa

4. **Name, Designation and Department of the staff members involved in the consultancy (including students)**

Dr. Nitin S. Sawant

5. **Name and Address of Outside Expert (if any) involved in the consultancy:** Mr. Amit U. Naik, BE (Civil Engineering), Sanquelim Goa.

6. **Whether the consultancy shall make use of any University facilities such as equipment or laboratory:** No

7. **Time schedule**

(a) **Duration (Weeks, months or years):** 06 months

(b) **Starting Date:** On receipt of approval of the project/financial approval

8. **Estimate of charges**

(a) **Honoraria to consultant (s), staff of laboratory and others:** 1,60,000.00 INR

(b) **Consultant share:** 70,000.00 INR

(c) **Other members share:** Technical/scientific Assistance : 90,000 INR

Interns 2 No. (Paid 10,000x3 months) : 30,000.00 INR

Total : 1, 20,000.00 INR

University share (as per SA38.2.vii): Nil

(d) **Cost of materials used in carrying out consultancy:** NA

(e) **Computer charges:** NA

(f) **Charges for use of laboratory equipment and instruments:** NA

(g) **T.A./D.A. for visit to sites:** 60,000.00 INR

(h) **Administrative/overhead charges to be paid to the University (@ 15%):**

39,150.00 INR

(i) **Miscellaneous:** 11,000.00 INR

**Total Amount :** 3,00,150.00 INR

*Sawant*



9. Give a brief description of the work to be done that includes scope of the work, Receivables from the client and deliverables to the client. (As annexure I)

### DECLARATION BY CONSULTANT

- A. I shall ensure that the proposed consultancy project does not affect my regular academic, research and related activities and other duties which are assigned to me by the University.
- B. Number of Consultancies at present with me/each one of us do not exceed four in number.
- C. This is to certify that there is no close vendor to whom payments are to be made from the consultancy project funds, or any such issue leading to conflict of interests.
- D. I have agreed to share the honorarium as per following distribution.  
Name: Amit U. Naik Proposed share: 70,000.00 INR
- E. I undertake to abide by all the provisions of Stature SA-38 in connection with the consultancy project proposed herewith.

*Amit U. Naik*  
Signature of Consultant

(Separate forms may be submitted if the consultants are from different department)

### DECLARATION BY HEAD OF THE DEPARTMENT

- A. For the present consultancy the GOA FOREST DEPARTMENT, GOVERNMENT OF GOA has requested the services of DEPARTMENT OF ZOOLOGY, GOA UNIVERSITY (Letter may be placed for record) and these faculty members may be permitted to take up the consultancy work.
- B. Based on the expertise available in the Department, following member (s) of the Department have been assigned the present consultancy work.

(a) Dr. Nitin S. Sawant

*Nitin S. Sawant*

*Sanitahelha* 4/7/22  
Signature of the Head of the Department

Dean SBSB

The present consultancy project has been registered in RDRM and the reference number is GUD-RDRM/consult./GFD/NSS/SBSB-201084/02/2022-23.

*[Signature]*  
Signature of In-charge RDRM

*Amit U. Naik*  
Approved/Not Approved 15/07

Vice Chancellor

## Annexure I

# Conservation and management of intertidal mudflats along the coastline of Goa, India

## INTRODUCTION

Goa is situated in the Central-West Coast of India, borders the Arabian sea and extends from North to South. The total length of Goa coast is approximately 105 km. About 16 mangroves and few associated species have been recorded from the Goa coast. There are seven estuaries fringed with mangroves along the Goa coast. There exist an intricate network of creeks and backwaters.

Intertidal mudflats are prominent sub environments found on the fringe of estuaries and in lower relief sheltered costal environments (O'Brien et al. 2000). The fine-grained sediments of the intertidal mudflats are derived from terrestrial and marine regions (Shi and Chen 1996; Lesueur et al. 2003). Mudflats acts as a major sink for trace metals and a very important habitat for wading avifauna (Cearreta et al. 2000; Baidya and Bhagat 2018). Marine bivalves and gastropods are sedentary, filter-feeders, feeding on suspended particles in these mudflats (Phillips, 1980). The mudflats have been identified and studied one present on the mouth of river Zuari (Dias and Nayak 2016). Several other mudflats have gained importance in the recent years but have not been identified and quantified in-terms of area.

## Objectives

- 1) To identify the inter-tidal mudflats across the state of Goa
- 2) To study the extent of inter-tidal mudflats of Goa.
- 3) To assess and understand threats to mudflats.

## Methodology

The study will be carried out along the coastline and estuarine habitat from the state of Goa. Identification of mudflats will be carried out initially with the help of questionnaire based (Roopa and Rani 2012) survey across the coastline of Goa. Upon identification and procurement of satellite imageries quantification of mudflats will begin upon favourable tidal conditions.

*Dawank*

## Work plan



Sr. No.	Work	Time
1	Preparation of Questionnaire, Questionnaire based surveys, for identification of mudflats	1 month
2	Field work for collecting quantified data and mapping	4 months
3	Compilation of work	1 months
	<b>Total</b>	<b>6 months</b>

#### Significance of the Study:

This study will provide valuable information about mudflat properties which is critical for understanding and therefore preserving the mudflats. Data obtained may represent the soil status of mudflats to plan a proper action for enhancement of soil quality and governing ideal ecosystem. Conservation and preservation of mudflat is crucial to maintain the ecosystem services and functions for the well-being of mankind.

#### Budget

Sr. No.	Budget Head	Amount	Total Amount in Rupees
1	Interns (2 numbers)	10,000 X 3 months	30,000/-
2	Consultancy charges		70,000/-
3	Travel (TA/DA)		60,000/-
4	Technical/scientific support		90,000/-
5	Miscellaneous		11,000/-
	<b>Total amount</b>		<b>2,61,000/-</b>
	<b>15% institutional charges</b>		<b>39,150/-</b>
	<b>Grand Total</b>		<b>3,00,150/-</b>

**Total Amount of Rupees: Three lakhs and one hundred fifty rupees only**

*[Signature]*

*[Signature]*

Work plan