

**Minutes of the 47<sup>th</sup> Goa State Expert Appraisal Committee  
(Goa-SEAC) meeting held on 10<sup>th</sup> September 2015 at 10.30 a.m. in the  
Conference Room of the Goa State Pollution Control Board (GSPCB),  
Patto.**

The Forty-seventh meeting of the Goa-SEAC (*hereinafter referred to as "Committee"*) was held on 10<sup>th</sup> September 2015 in the Conference room of the GSPCB from 10.30 a.m. onwards under the Chairmanship of Prof. Antonio Jaime Afonso. The list of members who attended the meeting is at "Annexure – 1".

At the outset, Chairman welcomed the Members and requested Secretary, SEAC to proceed as per the Agenda items (refer Annexure – 2). Subsequently, point-wise compliance to Committee's observation submitted by the O/o South Goa District Collectorate (*vide letter no. 39/40/2010/Sand Mining/MAG dated. 8<sup>th</sup> September 2015*) was discussed / deliberated in details and data-gaps referred to in the said response was brought to the notice of the Project Proponent (PP) / Departments concerned with directions to initiate the process for primary database generation.

Further, the Committee noted that **South Goa District Collectorate (SGDC)**, as a Project Proponent (PP), vide letter no. 39/40/2010/Sand Mining/MAG/2793 dated 3<sup>rd</sup> March 2015, has sought prior environmental clearance (EC) for sand extraction from total 12 stretches (*i.e. 8-riverine stretches + 4-estuarine stretches*) covering 78,481 sq.mts. of lease area with extraction capacity of 1,20,000 m<sup>3</sup> per annum from South Goa district. The details may be referred from **Annexure-3**. Subsequently, the Committee has conducted site-inspections of each and every stretch on 19<sup>th</sup> / 20<sup>th</sup> / 29<sup>th</sup> May and 9<sup>th</sup> June 2015 along with the representatives from stakeholder departments of the State Government viz. Directorate of Mines and Geology (DMG), Captain of Ports (CoP), Water Resources Department and the South Goa Collectorate. The Committee during its site-visits interacted with local stakeholders as well, for ground truthing. During the process of project appraisal, the Committee perused – **(i) Office Memorandum (O.M.) no. J-13012/12/2013-IA-II (I) dated. 24<sup>th</sup> December 2013** notified/published by the Ministry of Environment, Forests and Climate Change (MoEF & CC) and noted that the proposal is categorized under Category-B-2 (*i.e. to be appraised based on Form-1, pre-feasibility report with relevant attachments*) and **(ii) Office Memorandum (O.M.) no. 11-83/2005/-IA-III (Vol.III) dated. 8<sup>th</sup> November 2011** notified/published by the Ministry of Environment & Forests (MoEF) on the subject matter of removal of sand in the Coastal Regulation Zone area of rivers / estuaries by manual methods

by traditional communities. In addition, the Committee also perused (i) **The Goa Minor Mineral Concession (Amendment) Rules, 2012** published by the State Government vide Gazette Notification (Extraordinary) series 1, no. 24 dated 17<sup>th</sup> September 2012 and (ii) **‘Order’ of the National Green Tribunal (NGT), Principal Bench, New Delhi pronounced on 5<sup>th</sup> August 2013** in a matter of Original Application no. 171 of 2013 (*National Green Tribunal Bar Association V/s Ministry of Environment & Forests & Ors.*).

Prior and during the technical presentation by the PP, the Committee sought to examine in details all the available documents in substantiation of the baseline environmental character of the proposed sites, provided by the PP for the purpose of environmental impact appraisal of the proposed activity. The Committee noted a few, though pertinent data-gaps of appraisal relevance such as sand budget, sand accretion/erosion dynamics, areas of biodiversity significance and existing clam-beds if any, water-table level and its hydrochemistry in the settlement areas located within the close vicinity of proposed leases; and the same were communicated to the PP for early mandatory compliance and verification during the post-EC monitoring phase. Also, the Committee appealed to various State Government Departments to address these shortcomings and initiate an exercise to generate primary data within a period of one year from the date of issuance of environmental clearance (EC).

Subsequently and after detailed deliberations vis-à-vis compliance submitted by the PP, and appraisal based on available data and ground-truthing, the Committee has decided to recommend EC for sand extraction as defined in the submitted proposal except two site-specific locations / clusters proposed within (i) Khandepar river at Piliem in Dharbandora Taluka (*refer sr. no. 3 in Annexure-3A*) on account of its immediate proximity to the laterite-quarry which may cause river-bank instability on account of stone removal from terrestrial end and proposed in-stream sand/gravel removal from river-bed and (ii) Khushavati / Gulathi river at Sirvoi in Quepem Taluka (*refer sr. no.8 in Annexure-3A*) on account of site inaccessibility from the nearest road to enable desired transportation of the extracted material. Further, the Committee has mandated that O/o South Goa District Collectorate (SGDC) should ensure compliance to above-referred O.M.s’ in case of other sites proposed for sand/rubble extraction. In addition, SGDC should ensure compliance to the “General” as well as “Specific” conditions, *mentioned herein below*, by the prospective lease holders (*i.e. sand extractors*) and monitor environmental impact vis-a-vis issue of excessive sand-extraction

activities through already established institutional mechanism by the State Government vide **‘Order’ no. 44/1/Policy/80-Mines/Vol.VI/Part/2198 dated. 20/11/2012.**

#### **A. General conditions**

1. The Project Proponent, while granting a lease for ‘sand/pebble extraction’, should ensure that sand/pebble extraction is strictly restricted within the prescribed lease boundary / cluster only. Accordingly, lease area should be properly surveyed and mapped with the help of GPS to assign geo-coordinates and accordingly display the same appropriately on the landward side of the proposed cluster / lease so as to avoid unwarranted / unscientific extraction.
2. The lease holder should ensure proper access to enable transportation of extracted material from the lease to desired stacking at the site or elsewhere. Transportation of extracted material shall be done by covering the trucks with tarpaulin so that no spillage of material / dust takes place en route.
3. The leasee shall not create any impediments at the site of any extraction / stacking by way of erection of barricades, to enable any competent State Authority to inspect such sites for the purpose of monitoring.
4. Number of vessels deployed in sand extraction / transport in the vicinity of an Island/ Protected Area, if any, be regulated to avoid disturbance to the resident and migratory bird fauna.
5. Number of vessels deployed in sand extraction / transport in the vicinity of river banks be regulated to avoid damage to coconut/palm fringes, as and where they exist in the riparian habitat along the river banks.
6. Safety gadgets and health-care facilities should be provided to workers engaged in the extraction, on and off-board vis-a-vis maintenance of hygiene surrounding the proposed lease boundary along the banks of river/estuary.
7. It shall be ensured that restoration of riparian and in-stream habitats, restoration of river-geometry causing degradation on upstream and downstream be taken care of by the lease holder at his own cost. Various lease holders operating in a given cluster / stretch may evolve appropriate mechanism for mitigation of likely impact caused by sand extraction.
8. Due care be taken to avoid discharge of fuel / engine oil either in the river water or banks sediments during any phase of sand extraction / transportation. Any accidental discharge of a significant scale must be immediately reported to the concerned State Agency for remediation.
9. Any change (*i.e. modification / expansion / alteration*) in proposed clusters / traditional method of extraction / extraction capacity / scope of working / environment management plan (EMP) shall require re-appraisal by the Committee as per the provisions of the EIA Notification, 2006 (*as amended*).
10. The Committee takes cognizance of established ecological impacts of sand/gravel extraction of riverine ecosystem and as such desires that the proposed activities do

not have negative impact on the ecological integrity and equilibrium of the river. In view of the above, the Committee mandates that the Goa State Biodiversity Board (GSBB) periodically monitors riverine and riparian biodiversity on a sampling mode.

11. This prior Environmental Clearance (EC) is valid for a period of five years (05), or lease validity whichever is later.
12. This environmental clearance (EC) does not absolve the PP / lease holder to obtain other statutory and administrative clearances / NoCs/ Permissions, as applicable, from other statutory and administrative authorities concerned.
13. PP shall obtain Consent to Establish (NoC) before starting the activity and Consent to Operate after complying to the conditions imposed for adherence before operationalization of the lease from the **Goa State Pollution Control Board (GSPCB)** under provisions of Water and Air Acts, as applicable.
14. All of the above prescriptions be mandatorily transferred and be reflected in the "Agreement" between the State Nodal Agency and the prospective Lessee and be legally binding on the latter.
15. An appropriate mechanism be evolved to ensure an assured back-flow of share of revenue generated, to a revenue village; in whose jurisdiction sand extraction is carried out.

## **B. Specific Conditions**

1. It shall be ensured that the distance between two successive clusters should be more than 1 km. Further, the depth of the sand-excavation within the designated cluster in estuarine regions should be restricted to a maximum depth of 3 mts. While, for dry river-beds, the depth of excavation should not exceed 2 mts.
2. The lease holder shall undertake adequate safeguard measures during sand extraction and such activities should be limited to timings between **sun rise to sunset only**. No sand-extraction and allied activities be allowed during monsoon season (**1<sup>st</sup> June to 30<sup>th</sup> September**).
3. No removal/extraction be allowed/carried out within (a) the buffer zone of 25 mts. (at-least) from both the banks within the proposed riverine / estuarine cluster to control and avoid river-bank erosion, (b) safety zone (*i.e.* 300 mts. *upstream and downstream*) of any bridge or any cross-drainage structures, (c) No sand-extraction related activities be allowed within the peripheral limits of 50 mts. surrounding the island area within the estuarine region.
4. It shall be ensured that sand-extraction does not disturb the turbidity, velocity and flow-pattern of the river/estuary to the extent possible. Further, sand-extraction be avoided along the concave-portion of the meandering river/estuary to prevent bank erosion.
5. PP should ensure that riverine/estuarine bottom is always higher than the bed-depth of nearby water bodies (*i.e.* *well / lake / pond, etc.*) so that the river/estuary is always a recharge source.

6. There shall be voluntary moratorium on worked-out leases for a desired period in consultation with the Directorate of Mines and Geology (DMG) for effective sand replenishment of the extracted mineral.

The meeting ended with vote of thanks to the Chair.

**Dr. Manoj R. Borkar** \_\_\_\_\_ *Sd./-* \_\_\_\_\_

**Dr. P. K. John** \_\_\_\_\_ *Sd./-* \_\_\_\_\_

**Mrs. Anita. A. B. Barreto** \_\_\_\_\_ *Sd./-* \_\_\_\_\_

**Mrs Ashwini Panandiker** \_\_\_\_\_ *Sd./-* \_\_\_\_\_

**Mr. Suhas Gaonkar** \_\_\_\_\_ *Sd./-* \_\_\_\_\_

**Dr. Jagannath Hirkude** \_\_\_\_\_ *Sd./-* \_\_\_\_\_

**Dr. Purnanand Savoikar** \_\_\_\_\_ *Sd./-* \_\_\_\_\_

*Sd./-*  
**Dr. Mohan R. Girap**  
Secretary, Goa-SEAC

*Sd./-*  
**Mr. Antonio Jaime C. Afonso,**  
Chairman, Goa-SEAC

Place: Patto, Panaji  
Date: September, 2015.

## ANNEXURE – 1

### List of members who attended the forty-seventh Goa-SEAC meeting on 10<sup>th</sup> September 2015

- |  |   |                  |
|--|---|------------------|
| 1. Prof. Antonio Jaime C. Afonso, St.Istevam |   | <b>Chairman</b>  |
| 2. Dr. Manoj R. Borkar, Nuvvem               | - | <i>Member</i>    |
| 3. Dr. P.K. John                             | - | <i>Member</i>    |
| 4. Mrs. Ashwini Pai Panandiker               | - | <i>Member</i>    |
| 5. Mrs. Anita B. Barreto, Panaji             | - | <i>Member</i>    |
| 6. Mr. Suhas Gaonkar, Cuncolim               | - | <i>Member</i>    |
| 7. Mr. Jagannath Hikude, Margao              | - | <i>Member</i>    |
| 8. Dr. Purnanand Savoikar                    | - | <i>Member</i>    |
| 9. Dr. Mohan R. Girap                        | - | <b>Secretary</b> |

### ANNEXURE – 3

#### A. Proposed site-specific locations for traditional method of manual sand extraction (*riverine stretches*)

Sr. No.	Taluka	Village	Survey nos. (along either banks of the river)	Area in sq.mts.	Estimated Total minable reserve (per annum)	Latitude (from)	Longitude (to)	S. O. I. Toposheet no. (s) on 1:25,000 scale	River
1	Dharbandora	Collem	21	8202.88	10,000 m <sup>3</sup>	15 20'46.11"	74 14'07.10"	48I/3/SE	Dudhsagar
2	Dharbandora	Sigao	70 & 97	5598.17	10,000 m <sup>3</sup>	15 20'16.69"	74 13'17.84"	48I/3/SE	Dudhsagar
3	Dharbandora	Piliem	32 & 40	7584.20	10,000 m <sup>3</sup>	15 23'32.72"	74 04'59.63"	48I/3/N W	Khandepar
4	Dharbandora	Aglote	56	8735.46	10,000 m <sup>3</sup>	15 24'50.50"	74 11'16.36"	48I/3/NE	Ragada
5	Sanguem	Rivona	20 & 14	4668.74	10,000 m <sup>3</sup>	15 10'50.89"	74 06'13.98"	48I/4/N W	Kushavati
6	Sanguem	Uguem	63	5737.76	10,000 m <sup>3</sup>	15 13'33.70"	74 12'22.82"	48I/4/NE	Ugvem
7	Sanguem	Sanguem	81	6205.98	10,000 m <sup>3</sup>	15 13'35.00"	74 09'49.17"	48I/4/NE	Sangem
8	Quepem	Srivoi	102	3224.84	10,000 m <sup>3</sup>	15 11'32.90"	74 05'41.93"	48I/4/N W	Kushavati / Gulati
<b>Total clusters – 08 nos.</b>		<b>Total Lease – 49,958.03 sq.mts.</b>			<b>Total extraction capacity – 80,000 m<sup>3</sup> per annum</b>				

**B. Proposed site-specific locations for traditional method of manual sand extraction (*estuarine stretches*)**

<b>Sr. No.</b>	<b>Taluka</b>	<b>Village</b>	<b>Survey no. (along either banks of the river)</b>	<b>Area in sq.mts.</b>	<b>Estimated Total minable reserve (per annum)</b>	<b>Latitude (from)</b>	<b>Longitude (to)</b>	<b>S. O. I. Toposheet no. on 1:25,000 scale</b>	<b>River</b>
1.	Quepem	Xelvona	62	10341.64	10,000 m <sup>3</sup>	15 16'33.20"	74 04'44.99"	48I/3/SW	Zuari
2.	Salcete	Talaulim	244	2861.53	10,000 m <sup>3</sup>	15 13'54.04"	73 57'17.20"	48E/16/NE	Sal
3.	Salcete	Macazana	60	4387.22	10,000 m <sup>3</sup>	15 17'44.16"	74 03'01.29"	48I/3/SW	Zuari
4.	Salcete	Loutulim	497	10933.15	10,000 m <sup>3</sup>	15 20'49.84"	74 00'18.00"	48I/3/SW	Zuari
<b>Total clusters – 04 nos.</b>			<b>Total Lease - 28, 523.54 sq.mts.</b>		<b>Total extraction capacity – 40,000 m<sup>3</sup> per annum</b>				