

MINUTES OF THE 47th MEETING OF THE KERALA STATE GEOLOGICAL PROGRAMMING BOARD

Date : 10.01.2011
Venue : Banquet Hall, Government Guest House, Thycaud,
Thiruvananthapuram
Time : 11.00 am to 1.30 pm
Participants: Separate list appended

Background

As per the decision of the Central Geological Programming Board it was decided to hold SGPB meetings twice in a year. The first meeting of the SGPB for the year 2011 (47th SGPB) was conducted on 10.01.2011.

Proceedings

1.0. The Member Secretary and Director of Mining & Geology, Sri. T. Rajendran informed the gathering that Sri. Alkesh Kumar Sharma IAS, Chairman, SGPB & Secretary to Government, Industries [IP] department informed that he was on his way from New Delhi and he had instructed the Member Secretary to convene the meeting in time. The Member Secretary then welcomed all the participants of the 47th SGPB meeting.

2.0. In the welcome speech, DMG emphasized the concept of sustainable development in the context of ecology and environmental management. He outlined the scenario in the state of Kerala where public protests against mining as well as the demand for construction materials were increasing day by day. He projected the importance of identifying various sources of raw materials for the sustainability of mineral based industries. More interactions and cooperation among the implementing agencies and input from local bodies were required for the strengthening of the Department of Mining and Geology. He also requested all the participants to actively take part in the discussions and extend valuable suggestions to promote sustainable mineral exploration.

3.0. Thereafter the Member Secretary sought comments on the minutes of the 46th SGPB meeting.

3.1. Sri. M. Suresh Chandran, Superintending Geologist, Marine and Coastal Surveys Division, Mangalore opined that the analytical report based on sieve analysis provided by the department was not relevant while considering the usability of marine sand in construction industry; instead the engineering properties of the sand had to be identified. DMG replied that the sample had been sent to the Civil Engineering Department of the College of Engineering, Thiruvananthapuram to determine the engineering properties; the report would be forwarded as and when obtained.

3.2. Sri Suresh Chandran further enquired about the present status of the joint venture of IRE, KMML and AMD in the study of mineral sand reserves in estuary and lake beds proposed in the 46th SGPB meeting. In the discussion that followed Sri. K. Balachandran, Officer in-charge, AMD opined that KMML and IRE should be requirement specific in this regard and that data pertaining to Vattakayal was available with them.

3.3. Sri. R. Radhakrishnan Nair, Sr. Geologist, Department of Mining and Geology suggested that as beach wash collection for heavy minerals by KMML was causing several issues in that area, they should look for other sources.

3.4. Sri. S. Singanentjam, Superintending Geologist, GSI, Thiruvananthapuram pointed out that even though in the 46th SGPB meeting CESS had agreed to provide GSI with landslide hazard zonation maps, they had not received the same. Sri. G. Shankar, Scientist, GSD, CESS replied that landslide hazard zonation maps in the scale 1:100000 and landslide inventory were available for sharing.

3.5. Sri. R. Radhakrishnan Nair, Department of Mining and Geology enquired whether large scale quarrying operations on the western side of the state were

responsible for triggering landslides; the public had to be convinced in this regard. He also requested CESS to provide village level landslide hazard zonation maps to the department. Sri. Shankar replied that at least in Pasukadavu and Wayanad there were clear indications of quarrying related landslides. During monsoon the overburden gets fully saturated and hence quarrying should not be encouraged in that period. DMG then requested CESS and GSI to share all available landslide related data with the department.

3.6. Sri. Anakai Balakrishnan, MD, KCCP enquired whether clay mining would be possible at Kommangala Padavu, Kasargod, the area earmarked for KINFRA Park. DMG replied that Government had not taken any decision in that matter.

4.0. Director of Mining and Geology invited the participants for the presentation of, work done during the period from July 2010 to December 2010 and the proposed program for the year 2011-2012.

4.1. DEPARTMENT OF MINING AND GEOLOGY

Sri A. Prabhakumar, Deputy Director presented the progress of the exploration work carried out by the department.

Major exploration activities of the department include:

- Investigation for bauxite and china clay in Perinthatta area of Kannur and Kanjiramcode area of Kollam
- Feasibility study for carrying out auger drilling for assessment of sand deposits identified by GSI in the palaeo-channels of Bharathapuzha, Pamba and Periyar rivers
- Assessment of silica sand in the lease hold and free hold areas of Thycattussery village, Cherthala taluk in Alappuzha district

Proposed programme for the field season 2011-2012 include:

- Investigation for bauxite and china clay in Kannur and Kollam districts

- Feasibility study for carrying out auger drilling for assessment of sand deposits identified by GSI in the palaeo-channels of Bharathapuzha, Pamba and Periyar rivers
- Assessment of silica sand in the lease hold and free hold areas of Thycattussery village, Cherthala taluk in Alappuzha district
- Investigation for the occurrence of china clay in parts of Cheemeni area in Kasargod
- Identification of Bauxite/aluminous laterite and china clay in parts of Kasargod by using remote sensing techniques
- Minor mineral quarry mapping in Malappuram, Kozhikode, Wayanad and Kasargod districts
- Investigation for Platinum Group Elements (PGE) in collaboration with GSI, Kerala Unit
- Requested to the GSI, Kerala Unit to carry out follow up investigation for Scheelite in Kadirampadi – Chittur and Kadampara areas in Attappadi, Palakkad, where the erstwhile KMED Project had already recommended for follow up action. DMG will render necessary supporting facility to the GSI, Kerala Unit.

4.1.1. In the discussion that followed Sri. Suresh Chandran, GSI enquired about the alumina content of bauxite in the area under investigation. Sri. Prabhakumar replied that the analyses of the samples had not been completed.

4.1.2. Sri. Suresh Chandran further asked whether it is possible to drill bore holes for sand assessment in areas under paddy cultivation. Sri. Prabhakumar answered that drilling was not possible since paddy fields came under wetlands.

4.1.3. Sri. Babu Joseph, Superintending Hydro geologist, GWD enquired whether any study had been conducted regarding the lowering of river beds caused by sand mining. Sri. A. Prabhakumar, Deputy Director replied that no such data was available with the department.

4.2. CENTRE FOR EARTH SCIENCE STUDIES (CESS)

Sri. Shankar, Scientist, Geosciences Division explained the various investigative and research work carried out by CESS which include:

- Studies on laterite and the use of rock powder as geonutrient
- Studies on granulites
- Study on the petrogenesis of continental magmatism
- Monitoring earthquakes and crustal movements using GPS
- Investigation on landslides and land subsidence
- Studies on Quaternary evolution of Kerala
- Water shed development
- Geological and structural studies along the proposed alignment of the new dam at Mullaperiyar

4.2.1. Sri. Radhakrishnan Nair, Department of Mining and Geology pointed out that even after repeated requests from the department, CESS did not provide the data on shoreline changes along the Kerala coast; the same is required in connection with a court case. Sri. Shankar replied that there was no problem in providing the data available with CESS.

4.2.2. Sri. Shafeeq Ahmed, Superintending Geologist, GSI, Thiruvananthapuram appealed that data available with various organizations need to be shared to avoid repetition of exploratory and investigative work in the same area.

4.3. GEOLOGICAL SURVEY OF INDIA (GSI)

Sri. S. Singaneni, Superintending Geologist, GSI, Kerala Unit briefed the investigation carried out by GSI, Kerala Unit which include:

- Specialised thematic mapping of the Precambrian metamorphics and intrusives in the vicinity of Bavali Tectonic Zone, Irikkur-Payyannur sector, Kannur, Kerala
- Study of the structure and tectonostratigraphy of the area between Wandur and Edakkara, Nilambur gold belt, Malappuram, Kerala with a bearing on gold mineralisation
- Geochemical mapping of Kozhikode Iron Ore Belt, Kozhikode and Malappuram districts
- Preliminary investigation for PGE in Attapadi valley, Palakkad
- Study of the landslides at Varkala beach, Thiruvananthapuram, Vythiri taluk, Wayanad and Vadamakal taluk, Kozhikode
- Post disaster studies in Idukki, Pathanamthitta and Thiruvananthapuram districts

4.3.1. Sri. Shankar, Scientist, CESS enquired about the mitigative measures proposed by GSI to prevent land slides in Varkala cliff area. Sri. Singaneni replied that instead of reduction of slope of the cliff which was not practical, measures to control anthropogenic activities and sea erosion had to be encouraged.

4.3.2. Sri Radhakrishnan Nair, Department of Mining and Geology opined that since the Department of Mining and Geology had a vast resource of remote sensing data as well as data related to Gold and PGE mineralisation, a thorough interdepartmental discussion was necessary before further field

work. Sri. Singanenjamm pointed out that remote sensing was not an efficient tool in the investigation of PGE or Gold.

4.3.3. Sri. P. Praveen Kumar, Senior Geologist, GSI Marine wing, Kochi opined that in Varkala submerged offshore artificial breakers could be used to minimize sea erosion. Sri. Shankar, Scientist, CESS suggested the use of geotextiles to retard sea erosion.

4.4. GSI MARINE AND COASTAL SURVEYS DIVISION

Sri. P. Praveen Kumar, Senior Geologist, GSI Marine and Coastal Surveys Division, Kochi presented the ongoing projects and details of proposed works which include:

- Placer mineral resource evaluation in the territorial waters of Paravur, Kollam
- Parametric survey within territorial waters in the shelf area off Trivandrum- Kolachal, Kerala
- Preliminary evaluation of construction sand resources in the area beyond TW off Alappuzha
- Search for possible occurrence of phosphatic sediments in the Outer Shelf and Upper Continental Margin off Kollam
- Geotechnical appraisal of Munambam Harbour, Periyar river mouth, Kerala
- Geological appraisal of Azhikkal port, Kannur and Ponnani Harbour

4.4.1. Sri. Shankar, Scientist, CESS enquired whether the depletion in the sediment supply along the Kerala coast was caused due to dams. Sri Praveen Kumar replied that dams were not the major cause but it could be due to the decrease in rainfall caused by worldwide climatological shift. Responding to a query raised by Sri. Radhakrishnan Nair,

Department of Mining and Geology he agreed to consider taking up a study related to shoreline changes.

4.5. ATOMIC MINERALS DIVISION (AMD)

Sri. K. Balachandran, Officer in charge briefed about the ongoing heavy mineral investigation work near Chandragiri.

4.5.1. Sri. Radhakrishnan Nair, Department of Mining and Geology enquired whether the depletion of heavy minerals from Neendakara to Kayamkulam coast and their enhancement north of Kayamkulam were tsunami related. Sri. Balachandran replied that these aspects cannot be entirely attributed to tsunami.

4.6. INDIAN BUREAU OF MINES (IBM)

Sri. RPCR Naidu, Assistant Mining Engineer, IBM, Bangalore briefed the review of work done by IBM in the state of Kerala. He revealed that no inspection was carried out in the state of Kerala during the period from July to December 2010. He also stated that there was a delay in the forwarding of approved mining plans from the department. DMG assured him that action would be taken to forward the mining plans in time.

4.6.1. Sri. Radhakrishnan Nair, Department of Mining and Geology was apprehensive about the lack of an approved agency in the state for the preparation of the expensive DGPS survey maps which had to be submitted along with mining plan. This was causing serious concern among the lease holders. Responding to this, Sri. Naidu pointed out that the same procedure was being followed all over India and that the State Government should identify an agency for the preparation of DGPS survey maps. He consented to give 3 months time for the submission of DGPS maps after the approval of

mining plan. Sri. Radhakrishnan Nair further enquired about the present status of the computerization of mining tenement system. Sri. Naidu agreed to give the details later.

4.7. CENTRAL GROUNDWATER BOARD (CGWB)

Smt. T.S. Anitha Shyam, Senior Hydrogeologist, CGWB, Thiruvananthapuram presented the following activities and achievements and the proposed annual action plan of CGWB Kerala region:

- Groundwater management studies in Pathanamthitta, Kollam and Thiruvananthapuram districts
- Preparation of baseline data on groundwater regime in the bauxite and clay mining areas of Kasargod and Kannur districts
- Baseline data collection of groundwater depth to water level in parts of Malappuram district
- Study of Iron concentration in groundwater management studies in the coastal tracts of Trissur
- Groundwater exploration in Pathanamthitta, Kottayam, Palakkad and Trissur districts
- Artificial recharge and rainwater harvesting studies in Kasargod
- Groundwater resource assessment

4.7.1. Sri. Radhakrishnan Nair enquired about the studies conducted in the clay mining areas of Thiruvananthapuram district. Smt. Anitha answered that the studies were under progress and requested the department to provide a location map for clay mines.

4.7.2. Sri. Shankar, Scientist, CESS enquired whether CGWB possessed any data regarding the groundwater condition in reserve forest area to which Smt. Anitha replied that such data was not available.

4.8. STATE GROUNDWATER DEPARTMENT (GWD)

Sri. Babu N. Joseph, Superintending Hydro geologist briefed the achievements of GWD as follows:

- Groundwater investigation and development
- Control and regulation of groundwater
- Conservation of groundwater and recharge
- Integrated water resource management using IT based tools
- Monitoring of water tables in mining sites

4.9. Director of Mining and Geology informed the gathering the inclusion of Deputy Director General, GSI Training Institute as a permanent member of SGPB. In the 47th SGPB Sri. D. Sundaravanan, Senior Geologist and Faculty, GSITI, Salem represented Deputy Director General, GSI Training Institute.

4.10. Sri. Sundaravanan detailed the various training programs of the Institute. He informed that GSI had started a new institute at Kochi for training the newly recruited geologists on Marine Geology. Also the Institute could conduct training programs based on the requirements of DGMs.

4.11. KERALA CLAYS AND CERAMICS PRODUCTS LTD. (KCCP)

Sri. Anakai Balakrishnan, MD, KCCP, Kannur requested DMG to include the investigation for laterite/china clay at Peringam area in the proposal for 2011-2012. DMG agreed to do so.

4.12. KERALA CERAMICS LTD.

Sri. Amresh Jha, Mines Manager briefed the proposal for establishing a water treatment plant with the help of Techno park.

4.13. KERALA MINERALS AND METALS LTD.

Sri. R. Haridasan, Assistant Scientific Officer & RSO emphasized the need for locating alternate sources of heavy mineral deposits including those in estuaries and lake beds due to the low concentration of heavy minerals in beach washings.

4.14. MALABAR CEMENTS LTD.

Sri. Jose Thomas, Manager(Mines) informed that the company had engaged an agency for the evaluation and re-estimation of available limestone reserve which might last for 15 to 20 years. Hence new reserves need to be identified in Kerala or neighbouring districts of Tamil Nadu in order to extend the life of the cement plant. He requested assistance and support from the Department of Mining and Geology and other organizations.

4.14.1 Sri. Singanjam replied that GSI was exploring the limestone potential in certain areas of Tamil Nadu.

5.0. Vote of Thanks

Director of Mining and Geology informed the gathering that the Chairman would not be able to attend SGPB. Hence he invited Sri. C. Balaraman, Deputy Director, Department of Mining and Geology to deliver vote of thanks.

The meeting concluded at 1.30 pm.

Minutes approved by

Sd/-

T.RAJENDRAN

DIRECTOR OF MINING & GEOLOGY

List of Participants of the 47th SGPB Meeting held on 10th January 2011

Sl. No.	Name of Institution	Officers who attended the meeting
1	Atomic Minerals Directorate for Exploration and Research, Thiruvananthapuram	K. Balachandran Officer in-charge
2	Centre for Earth Science Studies, Thiruvananthapuram	G. Shankar Scientist, Geosciences division
3	Central Ground Water Board, Thiruvananthapuram	1) T.S. Anitha Shyam Senior Hydrogeologist 2) Mini Chandran Scientist 'C'
4	Marine and Coastal Surveys Division, GSI, Mangalore	1) M. Suresh Chandran Superintending Geologist, Mangalore 2) P. Praveen Kumar Senior Geologist, GSI, Kochi
5	Geological Survey of India, Kerala Unit, Thiruvananthapuram	1) Shafeeq Ahmed Superintending Geologist 2) S. Singanentham Superintending Geologist
6	State Ground Water Department, Thiruvananthapuram	1) Babu N. Joseph Superintending Hydrogeologist 2) Dr. Lal Thompson Junior Hydrogeologist
7	Indian Bureau of Mines, Bangalore	R.P.C.R. Naidu Assisting Mining Engineer
8	Kerala Clays & Ceramics Products Ltd., Kannur, Kerala	Anakai Balachandran Managing Director
9	The Kerala Ceramics Ltd., Kundara, Kollam, Kerala	Amresh Kumar Jha Mines Manager
10	The Kerala Minerals and Metals Ltd., Chavara, Kollam, Kerala	R. Haridasan Assistant Scientific Officer
11	Malabar Cements Ltd., Walayar, Palakkad, Kerala	Jose Thomas Mines Manager
12	Public Works Department, DRIQ Board, Thiruvananthapuram	Koshy John Joint Director, KHRI
13	Travancore Cements Ltd., Nattakom, Kottayam	M.T. Jothi Prabha Mines Manager
14	GSI Training Institute, Hyderabad	D. Sundaravanan Senior Geologist & Faculty, Salem FTC
15	English Indian Clays Ltd., Veli, Thiruvananthapuram	R. Chandrasekharan Deputy General Manager
16	Industries Department Govt. of Kerala	1) G. Pushpakumari Joint Secretary 2) N. Visruthan Achary Section Officer
17	Department of Mining and Geology	1) T Rajendran, Director of Mining and Geology 2) C Balaraman, Deputy Director 3) A Prabhakumar, Deputy Director & Senior Geologists, Geologists and Assistant Geologists