



REPORT OF THE WORKSHOP ON “GEODYNAMICS AND NATURAL RESOURCES ON N.E. INDIA” (December 18-22, 1998)

A workshop on “Geodynamics and Natural Resources of the North Eastern India” was held at Dibrugarh University, Dibrugarh during 18th to 22nd December, 1998. The Workshop was jointly organised by the Wadia Institute of Himalayan Geology and the Department of Applied Geology, Dibrugarh University. The inaugural function of the Workshop was held on 18th December, 1998 in the evening at the main Auditorium of the University, and was presided over by Prof. K.S. Valdiya, Bhatnagar Research Fellow at the Jawahar Lal Nehru Centre of Advanced Scientific Research, Bangalore. Dr. S.K. Acharyya, Director General, Geological Survey of India, was the Chief Guest.

After the inaugural function, the Prof. W.D. West Memorial Lecture, organised by the Wadia Institute of Himalayan Geology, was delivered by Prof. K.V. Subba Rao, from IIT, Bombay on “The Relative Timing of Crustal Extension, Mantle Plumes and Eruption of Decan Flood Basalts”.

The workshop was well attended specially by the participants from the North Eastern Region. Nearly 145 delegates representing Geological Survey of India; Oil India Ltd.; Oil and Natural Gas Corporation Ltd; Birbal Sahni Institute of Palaeobotany; G.B. Pant Institute of Himalayan Environment and Development; Directorate of Geology and Mining, Govt. of Arunachal Pradesh; Central Ground Water Board, Assam; IIT, Bombay; Regional Research Laboratory, Jorhat; Wadia Institute of Himalayan Geology; Arunachal University; Calcutta University; Dibrugarh University; Gauhati University; Nagaland University, Kohima; NEHU, Aizawl; Manipur University, Imphal; Sibsagar College, Assam; and Tezpur Central University, participated in the workshop.

The proceedings of the Workshop were held at the Department of Applied Geology, during 19th and 20th December, 1998. Six key-note papers were

presented. These include : i) “Naga-Andaman Ophiolite Belt and Tectonic Evolution of the Indo-Burma Mobile Belt’ by Dr. S.K. Acharyya; ii) “Status and Problems of Geological Studies in the Eastern Arunachal Himalaya” by Dr. S. Sinha Roy and Dr. Trilochan Singh; iii) “Tectonic Evolution of North Eastern India and adjoining Region by Dr. D.R. Nandy; iv) “Mineral Resources Potential of North East India with reference to the Geologic Domain” by Dr. B.P. Bhattacharya; v) “Hydrocarbon Prospects of North Eastern India” by Dr. Y.B. Sinha; and vi) “A view of Seismicity and Seismic Hazards in North Eastern India” by Prof. K.N. Khattri.

Overall, 42 papers were presented in six technical sessions on Geology, Tectonics and Petrology, Natural Resources, Natural Hazards and Environment, Palaeontology and Biostratigraphy and Sedimentology. There was a fairly good presentation from the universities of the North Eastern Region.

In the valedictory session, held on 20th December, several important observations and recommendations were made by some eminent scientists and also by the young scientists. Prof. Subba Rao suggested to study the Abor Volcanics in relation to tectonic evolution. Dr. Sinha Roy stressed on the standardization of the nomenclature at least in Arunachal Lesser Himalayan Stratigraphy. Dr. B.P. Bhattacharya identified the Arunachal Himalaya as the least known area and was of the opinion that inputs from GSI alone are not sufficient, and that the Wadia Institute should come forward with greater strength. Prof. K.N. Khattri emphasised on increasing the density of seismographic network, since the area falls under a high seismic zone. Dr. V.C. Thakur, while summarising the Workshop, made the following recommendations : i) a national programme on Brahmaputra River Basin with a multi-disciplinary and multi-institutional approach be evolved and implemented; ii) a national programme on earthquakes and active tectonics for

the North Eastern region be taken up on priority; and iii) North-South geophysical geo-transect for the subsurface across the Brahmaputra River be initiated. Finally, Dr. Trilochan Singh proposed a vote of thanks.

The workshop was followed by a two-day Field Excursion (21st and 22nd December, 1998) to Digboi and Margherita, led by Prof. J.N. Sarma of Dibrugarh University. A total number of 55 persons (41 delegates, 5 teachers and 9 students from the Department of Applied Geology, Dibrugarh University) participated in the excursion. The delegates were shown the channels of the Brahmaputra River and a large palaeochannel, nearly 30 km long, which now lies within the high ground occupied by a tea garden. At Guijan, about 12 km from Tinsukia Town, the participants were shown the Oakland-Guijan Scarp (6-8 m relief) along the Dibru River which had resulted due to neotectonic activity. It is interesting to note that the River Dibru which was only 80 m wide till 1996, suddenly gained its width to more than one kilometer, mainly because one of the channels of Lohit River changed its course and joined this river at Guijan. Further, a very wide Alluvium Tract was shown at 10 km from Makum.

At Digboi, the delegates were taken to the Digboi Oil Field. The historic well no. 1 of the Oil India Ltd. (OIL) and natural oil seepage were the main attractions. Outcrops of the Tipam Sandstone and the Girujan Clays were also studied. The Assam

Oil Division (AOD) of the OIL were kind enough to show the first mechanised oil pumping station of this region which is still in working condition.

Next day, delegates were shown the natural oil seepage in the Namdang area, both in a tea garden and in the Namdang River. The party was then taken to the Makum Coalfields along the Tipong Pani River. On their way, the delegates observed a conglomerate bed of the Dihing Group (Pliocene age). In the Tipong Pani River Section, the well developed outcrops of the Girujan Clays and the Tipam Sandstone of the Tipam Group (Miocene age) were studied. They also observed the outcrops of the Surma Beds and the Tikak Parbat Formation of the Barail Group. The base of the Tikak Parbat Formation contains a persistent 20 m thick coal seam. On return journey, the delegates were shown the Tirap Colliery, dumping yard, brick kiln, and river terraces of Margherita.

Thus, the Field Excursion gave an opportunity to the delegates to see the important formations of the Assam Valley, starting from the Recent Alluvium through Pleistocene High Level Terraces, Pliocene Dihing Group, Miocene Girujan Clays Formation and Tipam Sandstone Formation as well as the Surma Formation, Tikak Parbat Formation and Boragolai Formation of Oligocene. The delegates could also see various neotectonic and geomorphic features besides the historic Digboi Oil Field and the largest Coalfield of N.E. Region – Makum Coalfield.

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