

NEWS AND NOTES

Earth Day 2011 Celebrations – P. Krishnamurthy and R.H. Sawkar (Email: gsocind@gmail.com)

The Geological Society of India conducted the 'Earth Day' celebrations at the Khanija Bhavan, Department of Mines and Geology on the 21st April 2011 in collaboration with the Centre of Human Resources Development (CHRD), Bangalore and the Department of Mines and Geology (DMG). The theme adopted for the Earth Day was '*Sustainable Water Resources: Urban and Rural Challenges*' addressed largely to students and teachers from different parts of Karnataka including Bangalore under the '*Teachers- Student Convention*', to sensitize them to the challenges on sustainability of this vital natural resource. A total of 34 schools (24 from Bangalore, 2 from Tiptur and 8 from Tumkur) with over 150 participants took part in the celebration.

The function began with traditional invocation, formal welcome by the Secretary of the Geological Society of India, R.H. Sawkar and lighting of the lamp. Shri Chiranjeevi Singh, IAS, former Additional Chief Secretary, Government of Karnataka (GOK) was the Chief Guest and Shri M.E. Shivalingamurthy, IAS, former Director of Mines and Geology, was the guest of honour. Shri H.R. Srinivasa, IAS, Director, DMG, was to preside over the function and due to unavoidable reasons could not be present. The two part programme included the release of book '*Antarjala*' by B.P. Radhakrishna and S. Jithendra Kumar, published by the Geological Society of India, with grants from DMG. The second part included four (4) special lectures by resource persons pertaining to the theme of the day followed by close interactions between the resource persons and other experts with the students and teachers.

In his welcome address Sawkar recalled the close links that exist between the DMG and Society since many of the former Directors of DMG especially the living legend B.P. Radhakrishna who took keen interest in developing groundwater resources of Karnataka when he was the Director of DMG. He recalled the interest



Release of Book '*Antarjala*'.

shown by Shivalingamurthy in publishing the data pertaining to *Antarjala* and providing financial support to such endeavours. Shri S. Jithendra Kumar, Treasurer, Geological Society of India and the co-author introduced the book in terms of the objective, scope and contents. He recalled his visit to California, USA in the 1970s to learn the skills of water management and the expertise required to harness groundwater especially through drilling techniques. The book covers the whole gamut of '*Antarjala*' through traditional systems of dug wells and *Kalyanis*, the meteorological data on monsoons that bring rains to Karnataka, the rainfall data besides the all important behaviour of groundwater in hard rock terrains which cover most of Karnataka. Details on drilling equipments, methods, pumps and motors are also provided. Irrigation schemes in Karnataka in river basins through dams and lakes are presented along with new approaches like sprinkler and drip irrigation systems to save water. Judicious farming approaches in areas where water is limited (sugar cane vs. other crops) has been suggested so as to avoid over exploitation through deeper bore wells,

leading to mining of water. Such deep drilling should be resorted to when there is drought or severe water crisis. Exploitation of such deep resources in normal times is like over drawing from a bank beyond means of return leading to a future crisis. He cautioned the farmers to avoid such a scenario in the future. The book also includes approaches to harvest rain water, its direct use as well as to recharge the groundwater.

Releasing the book '*Antarjala*', Shivalingamurthy lauded the efforts of the authors, and the Society for bringing out such publications which help in sensitizing and educating people about groundwater. He emphasized the need to carry the spirit of Earth Day throughout the year so that people are constantly reminded of the challenges that lie ahead in terms of both the quantity and quality of water, that is deteriorating fast both in rural and urban areas especially, Bangalore. Chiranjeevi Singh released the pamphlets (English and Kannada) and flier and a CD conforming to theme of the Earth Day containing data on water, source, supply, demand and the stress on water resources to human-induced challenges. Aspects on cost, conservation

and intelligent use of water are also provided besides WHO data on water quality and the health problems that ensue (fluorosis, diarrhea and other water-borne ailments) due to consumption of non-potable water. In his address Chiranjeevi Singh while complimenting the authors of *Antarjala* and the Society for producing such a high quality book both in terms of content, style and layout. He recalled as how in Paris during 1970s, as an Ambassador to UNESCO he emphasized the need to commence programmes on awareness of water considering the challenges that lay ahead due to population explosion in developing nations including India. UN-Water and the World Water day (22 March each year) is a sequel to such efforts by the world community. He requested the media to sensitize the public on this vital issue rather than highlighting less severe issues like bad roads etc. He also lamented as to the status of water resources and supply in Bangalore due to the rapid expansion of the urban agglomeration and the priority and rationale of the government between providing water security versus developing the Metro. He pleaded for conservation and recycling of water, laboratories for testing water quality besides rain water harvesting as suggested by B.P. Radhakrishna to augment existing supplies. Shri Jaysinhs Rao, Director of CHRD proposed vote of thanks.

The session after high-tea on "*Sustainable Water Resources: Urban and Rural Challenges*" was chaired by S. Vishwanatha, RWH Systems, Bangalore. G.V. Hegde of DMG spoke on '*Ground-water resources and their quality with special reference to Bangalore city*'. He highlighted the results of a recent study under the aegis of World Bank on water quality in Bangalore and surroundings. Some 3600 water samples (surface and ground) have been analysed for various constituents viz. TDS, e-coli, nitrates, F, Fe, As, heavy metals (Pb, Zn, Cr, and others). Results are alarming since only 9% of the groundwater in the city is potable and in large areas both the ground and surface waters are polluted in varying degrees through leaks in the sewer drains to the ground or through recharge of groundwater from polluted lakes and rivers (e.g. Vrishabavathi and others). Exploiting

groundwater from deeper wells have heralded the problem of fluoride in the waters in several localities, the effects of which only show up after a decade or so. Unless urgent remedial measures are taken by the concerned authorities, the drinking water scenario in Bangalore is likely to worsen. K.R. Suryanarayana of Central Ground Water Board, Bangalore in his lecture on '*Rain water harvesting systems to augment water resources in Bangalore city*' outlined the need to recharge the groundwater and the different techniques that are adopted to suit the existing conditions in urban residential areas as well as rural agricultural sector. In his lecture on '*Spirituality of water and Water civilization*' Vishwanatha, Biome Environmental Solutions Pvt., Ltd., & Rain Water Club, Bangalore implored the students and teachers to be aware of the spiritual and cultural aspects of water that had existed in India since Vedic times. The culture of dug wells and manual and/or lift irrigation using manual or animal power with ropes and buckets commenced some time during the 15th century? He opined that civilization grew around such wells once people migrated from the river banks. He showed pictures of dug wells that have existed since very long time such as those at Beneras (used by Saint Tulsi Das), Sarnath (2300 years old) and Belur (1117AD) which apparently provided water for the constructions of such monuments and also for drinking. He pleaded that

youngsters should take interest in such water resource-heritage sites and try to preserve such structures in villages and cities as part of our culture which has sustained people through scores of millennia. J.K. Jamadar, Jal Biradari, Karnataka spoke on '*Water Warriors*' and traced the biography of eminent personalities such as the Ramon Megsaysay award winner Shri Rajendra Singh (Rajasthan) and others in Gujarat and Maharashtra. Their contributions to revive water resources and enable drought-hit and desert-like areas to become self sufficient in water through various rain water harvesting schemes are laudable and should be emulated. He stressed the need for such dedication by all concerned to come out of the quagmire of water needs and availability, both in the rural and urban sector.

In the valedictory session, the panel members comprising D.S.N. Raju (CGWB), S. Viswanatha, Prof. K.R.Y. Simha, (IISc, Bangalore) and R.H. Sawkar (GSI), engaged the teachers and students in a lively exchange of question and answers, quizzing of teachers and students related to water bills, cost of water supplied by BWSSB, open wells, bore wells, methods for testing water quality (pH, E-coli etc.) and others. Teachers shared their experiences and efforts towards water conservation. Teachers also wanted to know the views of experts on the linking rivers to solve the water woes in the southern parts of India. The constraints in such endeavours on an all India basis were clarified to the participants.



A Section of School Teachers and Students who participated in the programme.

Simha complimented the students and teachers for their participation and requested the participants to disseminate the message. The celebrations ended with a vote of thanks to all the participants as well as dignitaries and resource persons who shared their

experience with youngsters. The 'Earth Day' celebration conducted by the Society is being sponsored by the Ministry of Earth Sciences, Government of India. As part of 'Earth Day' special lectures on this year's theme were given in schools, besides essay,

painting, slogan and elocution competitions have also been planned once the schools re-open during May-June so as to culminate with the World Environment Day (i.e. on 6th June 2011) which has a direct bearing on the present activities.