## Geophysical Knowledge Pursuits in Coming Decades - Can we Predict

N.L.MOHAN<sup>1</sup>, N.D.J.RAO<sup>2</sup>

<sup>1</sup>Centre of Exploration Geophysics, Osmania University, Hyderbad-500007 <sup>2</sup>Alkor Technologies, Jubilee Hills, Hyderabad

Geophysical education/research and industrial practice have been transforming for past few decades. High level of technological development both in geophysical hardware and software has substantially changed the scenario and present day "geophysicist" has turned more as a slave rather than a thinker. There is a need to make a distinction between goals and needs of industrial Geophysical practitioner; and educator/researcher in the present day global scenario. The very goal of present day Indian companies like ONGC Ltd, OIL etc are totally aimed at to make quick money. Their focus on innovation, development, both in hardware, software, methodology are almost commercial, in the opinion of the authors. Teaching institutes in India lack modern Geophysical hardware and essential software that would facilitate to train the students because the costs of the hardware and software have crossed beyond their reach and has been suffering a lot. The focus of the Research Institutes is to just generate more number of research publications with fewer innovations, because they acquire geophysical data, dump in computer memory, analyze using the commercial software and infer based on the graphical images, leaving aside an exception(s). Perhaps we are leading over selves into more as laborers under the umbrella of Geophysics.

Against this background some where we need to ponder over the issues involved more seriously, objectively, with out prejudices, and formulate set of rational solutions for the healthy survival and growth of Geophysics. Teaching institutes are starving for want of caliber teachers/researchers as the departments have shrunk to a large extent. Governments should quickly fill the vacancies without loss of time. Alternatively the industry/teaching institutes should come forward on voluntary basis to depute a few senior persons for every semester to teach courses and train the graduates at their own expenses, as teaching institutes are literally starving for want of funds. Further, the industry should donate new geophysical equipment and provide licensed software to the teaching institutes, as the investment is after all for the growth of Science and Technology in the country. Secondly teaching institutes should adopt flexible course structures without sacrificing the concepts and fundamentals and with the cooperation of the industry and research institutes. Further, immediately after the graduation, at least 6-12 moths, every graduated student must be taken for internship by the industry and research institutes based on their over all performance (school, college and university) and their desire to work either in industry or research institute, and meeting the candidates' essential expenses like boarding, lodging, travel etc. Research institutes must focus on innovations, related to Geophysical hardware, field methodology, algorithms, software etc, and istead just publishing papers in a routine manner. Ultimately the deeper, complex and heterogeneous earth need to be probed with more new concepts rather than in routine way. Their role is two-way: 1. teaching would essentially generate thinking power and they devote at least a semester for teaching on voluntary basis at their own expenses; 2. they generate ideas by spending some time to work with the industry on cooperative basis. Unless certain approaches/actions are made mandatory the future would be bleak for Geophysics. The most bottom lines are that teaching institutes should be made stronger in every sense and then only industry and research institutes would grow on healthy lines and survive perennially.

The immediate attention that we need to pay, keeping in view in the present day global scenario and future growth in Geophysics, is that we should structure our course and syllabi comprising Geology, Mathematics, Computer Science, Nanotechnology, Artificial Intelligence / Robotics. "The strong analytic mind creates more innovation" is the only ultimate.

"Prasnopanishad", one of the famous Indian Scriptures, emphatically says that the nervous system of the human body is constituted with 72, 72, 00,000 nerves, what an amazing precision!. Hope, a day may come that Geophysicist may unravel the quantified the earth's interior precisely.