

## My Earth science educator story – Swapna Acharjee

### What I did, why I did it and what happened



My school studies were in Kendriya Vidyalaya, the Oil and Natural Gas Corporation Limited (ONGC), Sibsagar, Assam, India, since my father had been posted there. After completing +12, I wanted to pursue the Bachelor of Medicine, Bachelor of Surgery (MBBS) route. At that point my school friend Vasudha insisted that I should apply for the Bachelor of Science with geology major course, at Sibsagar College, affiliated to Dibrugarh University, Assam, India. She did this because of the prospect of joining ONGC for a successful career.

Geology was new to me, yet I was joining one of the oldest geology departments in the north-eastern region of India. I slowly developed interest in geology following my first field visit to the ONGC oil field. In subsequent years, I was exposed to diverse fields of geoscience and was very pleased when I visited the Geology Department, National College, Tiruchirapalli to study the bio- and litho-stratigraphy of the Cretaceous sequence of Tiruchirapalli. There were four girls in our group, all of us actively participating in fieldwork, collecting fossils and observing stratigraphic sequences with our guide teacher. In the final year, we visited the Barapani Shear Zone and parts of Meghalaya to study Cretaceous-Tertiary

sediments and the Khasi Greenstone. In our college, the geology students excelled in cultural, sports and literary fields in the annual college festivals and I gained many prizes in cultural competitions.

After completing my Bachelor of Science course, I joined the Geology Department at Cotton College, Guwahati, Assam for my Master's program; this is one of the prominent institutions affiliated to the University of Gauhati, Assam, India. My teachers and I bonded so well that the relationships still continue. In the first year, we visited the granulite terrain of Halaguru and Satnuru, Karnataka, India with Professor J. Medhi and in the second year, we visited the Makum Coal field with Professor(s) M. Chakrabarty and Parag Phukan, One of the most memorable experiences was the coal mine visit. We also learned about the mining methods adopted in the Tipong Mine. I took up my MSc dissertation (in igneous and metamorphic petrology) working under the supervision of Professor A. K. Borah. I carried out fieldwork with my colleagues, collected fresh rock samples for microscopic and geochemical studies and prepared a geological map of the study area. Later, I published my work with my supervisor.

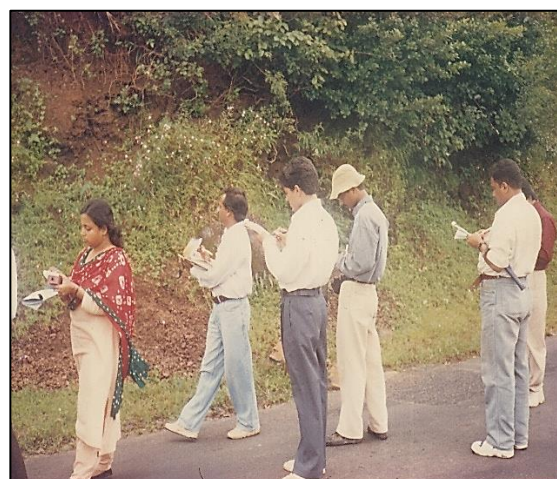
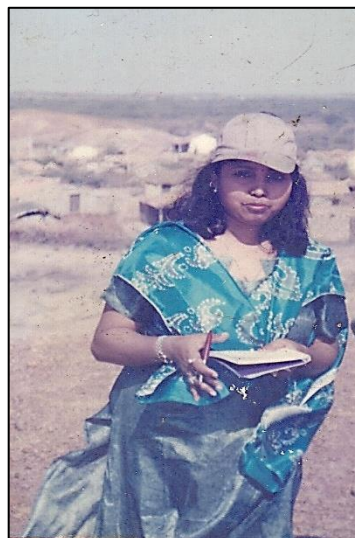
After finishing my Master Degree, I left the college hostel and went back to Sibsagar to begin teaching school students, but my father asked me to join a doctoral programme. I went back to Cotton College for research work. Following discussion with Professor K. Baruah, Head of the Department (HoD) of Geology, I decided to study the geochemical character of the granites and the enclaves in Nongpoh, Meghalaya, India under the joint guidance of the late Prof. P. K. Chowdhary (GU) and Professor A. K. Borah. As a part of the research programme, I had to teach sessions (theory and practical) to undergraduate geology students and help MSc dissertation students in their research

projects. I was also invited to teach undergraduate geology students at Pragjyotish College, Guwahati.

I joined short-term training programmes organised by Department of Science and Technology (DST), Government of India (GoI) at the Geological Survey of India, Nagpur, Jawaharlal Nehru University and Delhi University. These helped me greatly to learn laboratory techniques, use of software, data generation and interpretation. I was allowed to use the laboratory facilities at Wadia Institute of Himalayan Geology (WIHG), Dehradun, India and the Keshav Dev Malaviya Institute of Petroleum Exploration (KDMIPE), Dehradun, India. A small grant which I received from Association of Geoscientist for International Development (AGID) William Greenwood Scholarship, was crucial at that time. I started presenting my research outcomes on various platforms. My presentation at the 86<sup>th</sup> Indian Science Congress under the Young Scientist Programme at Anna University helped me immensely to improve my work. Besides this, I became involved in the activities of the Gauhati University Science Forum and acted as convener of the popular science speech competition for the National Science Day celebrations.

After submitting my thesis in the year 2000, I gained a post as project scientist in the Arunachal Pradesh State Council for Science and Technology, Department of Science and Technology, Government of Arunachal Pradesh. Before joining I had also applied for the American Geological Institute (AGI) fall semester internships in Geoscience and Public Policy; although I was one of the finalists, unfortunately I couldn't qualify. The Director of AGI, in his letter, advised me to pursue a dual interest in geosciences and public policy. My first project in Arunachal Pradesh was to prepare geo-tectonic maps using remote sensing techniques in conjunction with fieldwork. Later, I became involved in the National Mission projects related to hydrogeomorphology, landslide hazard, snow cover monitoring, land use etc.,

which are very relevant to the state. The project outcomes are regularly shared with the government departments, researchers and planners.



Two photos of field training at Bhuj, Gujrat, India and Deccan Traps, Nagpur, India.

Simultaneously, I also prepared small projects and presented them for funding under DST, GoI schemes and I received a Young Scientist Grant (2002) and a Women Scientist (WOS-A (2004) & WOS-B(2008)) grant. In 2007, I was given first prize for my poster presentation along with my co-authors at a conference organized by Department of Geology and Geophysics, IIT Kharagpur. Apart from regular project work, my association with the Annual State Children Science Congress activities as the State Academic Coordinator also offered a new dimension and helped me immensely in

understanding scientific observation from a child scientist's perspective in the context of natural resource management.

After sixteen years of service in my present workplace, I feel satisfied and wish that more and more students could join the geosciences. In my Master's programme, I was the only lady, and so I feel that there is still much need of promoting geosciences among girl students. Nowadays there are many important schemes and grants for young geoscientists which are helpful in presenting their research. For a short period, I joined Young Earth Scientist (YES) Network and I am glad to know that it is growing every day. We need a bigger and bigger geoscience workforce to address geological phenomena, particularly in the areas of disaster risk and climate change resilience.

I thank my parents, teachers, colleagues and the resource persons who educated me in various training programmes. I would also like to thank Dr. M. K. Sharma, ex-geologist, Directorate of Mineral Resources, Meghalaya, together with Professor(s), L. S. Chamyal of Maharaja Sayajirao University, Baroda and G. Nelson Eby, of the University of Massachusetts, Lowell for their valuable suggestions. The students need special mention, whom I taught during my PhD research period, they made Teacher's day so special. I have a small collection of minerals and fossils which I treasure and hope to pass onto my 8 year old daughter who has shown interest in geology. I would also like to thank the professional bodies like the Geological Society of India (GSI), the Association of Geoscientists for

International development (AGID), the International Association for the Promotion of Geoethics (IAPG), the Indian Climate research Network (ICRN), and the Organization for Women in Science for the Developing World (OWSDW Asia-Pacific) for including me in their activities to promote geosciences/ earth sciences.

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## References

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