

## My Earth science educator story – Bahram Nekouie-Sadry What I did, why I did it and what happened



A keynote speech at the University of Science and Culture, Tehran, Iran, 2013.

### **Dreaming as a child to become a geo-scientist**

I'll never forget when I first became interested in geology during my childhood. My Father and I were digging up our backyard in our hometown of Tabriz city, looking for an old, traditional cistern to use as underground warehouse. I became completely absorbed in the rock specimens extracted from the excavation. Fifteen years later I was taught the name of the rock, 'Andesite'. Rocks, and minerals such as biotite, are wonderful to me, in revealing new stories within dusty rocks. At high school I also had the hidden dream of becoming a teacher.

### **Studying mining engineering and exploration at the Islamic Azad University (Lahidjan Branch) in Gilan Province (1994-1999)**

I want to begin my real story at my undergraduate school, because there I had an experience which completely changed my life. In 1994, despite difficult competition, I was lucky enough to be admitted into the Mining Engineering Department at the Islamic Azad University.

After completing High School, where I focussed on physics and mathematics, I was very keen on engineering. But to be honest, soon after starting my degree, I became more interested in the geology modules than the engineering courses. Geology soon became my main interest. In 1995, I began, on a voluntary basis, to translate the book: "*Geology of titanium mineral deposits*" which was published by the US Geological Survey (USGS) in 1991. I finally graduated in the mining engineering-exploration field in 1999. Then I used my own tight budget to publish limited numbers of the book, and started donating them free-of-charge to research students and to libraries all over country, to promote knowledge about 'titanium' exploration and extraction. Years later, a vice chancellor of a copper mining company (my employer), after I had donated a volume of the book to him, returned to me all the publishing costs for my national voluntarily work, as an encouragement from the organization!

### **Field work in the Lahidjan Area**

At university I was inspired by Prof. Ali Darvishzadeh, a highly-regarded petrologist in Iran, to collect rock samples to extend my learning beyond the university modules. I began to prospect for a gold mine, using traditional prospecting techniques in local rivers. I carried heavy samples by hand (in my backpack) back to the university to investigate them further. I spent up to two year's field working across mountains and rivers in the Lahidjan and Langerud regions of the Gilan province in Iran, seeking a gold prospect. Finally, after one hard day's work with three other students, I spent a night in the mountains, with the danger of tiger and bear attack. In the morning, I discovered that we had been sleeping on the gold-bearing poly metal index itself! After this, although I had not yet received my first degree, I began working in the private mine exploration sector. After my graduation, I was

employed as a geologist on several full time and part time governmental projects.

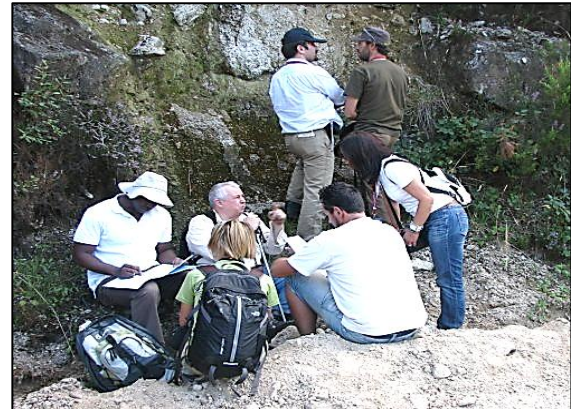
### **Shifting from mine exploration to the visitors' non-formal geo-education**

After working as a geologist for five years, decreasing job opportunities in mining and geology encouraged me to broaden my chances of future employment by developing my enthusiasm to communicate with tourists. I moved from mine exploration to the new sector of tourism, and became an official tour guide, serving visitors and participating in training courses. I discovered that tour-guiding and speciality tourism is a serious science and is something more than just communicating with tourists! So, after my official training, I began part time as a domestic tour guide and began my academic study of the scientific principles of tourism. I tried to conceptualise the new concept of "geological tourism or geotourism" by integrating a range of concepts from different disciplines. Unfortunately, at the same time, a misunderstanding was being put forward by the Geological Survey and Mineral Explorations of Iran (GSI), that the concept of geotourism just meant enjoying geo-beauty through photographs. I realised that geo-beauty did not necessarily translate into geotourism because of the lack of the tourism component. I began working hard to conceptualise geotourism by focusing on the elements of the tourism industry that should be linked in to the geo-component. After three years, of informal study I was able to present a new definition. I classified tours that involved geotourism beyond the normal confines of Europe and Australasia, and included all this material in a published textbook entitled: "*Fundamentals of geotourism: with special emphasis on Iran*" in 2009.

### **Studying geography at the University of Tehran (2007-2009)**

About seven years after my graduation I began my MSc in Geography. This was also the time when I began serious publishing activities. Before starting my MSc thesis, I had authored textbooks in

Iran and had nominated Iran's second global geopark in the Jolfa area, by proposing and documenting the initiative to the government (the dossier was submitted to UNESCO by the government). I also co-authored a textbook called "*Climate and weathering*", for geography Master-level students, which was published by Arian Zamin publications in Tehran, in 2010.



Visiting the Portela do Homem subglacial till in the Peneda and Geres National Park as a participator in an intensive course on Geodiversity and Geological Heritage Assessment at the University of Minho, Portugal. Discussing the outcrop with Dr. Luis Carcavilla Urqui, in September 2009.

### **Educational Activities**

Whilst conceptualising the subject of geotourism, I discovered a big gap in the lack of heritage interpretation in all official tour guide training courses. No module on heritage interpretation (including natural interpretation, geological heritage interpretation, cultural interpretation, etc.) was available. So I decided to compile a textbook for these training courses and began translating Larry Beck and Ted Cable's book "*Interpretation for the 21st Century: fifteen guiding principles for interpreting nature and culture*". I published the book under the title of, "*Principles of heritage interpretation in the tourism industry*" in 2013, having previously introduced the subject of geo-interpretation in Iran in my 2009 book, "*Fundamentals of geotourism ...*".

I ran several training courses and workshops to educate the educators, such

as university lecturers and teachers, as well as government professionals. I presented modules on ecotourism, geotourism, geoparks and heritage interpretation principles. I also collaborated with private training institutions, giving lectures in geotourism, ecotourism, interpretation and geodiversity.



Participating in an intensive course on Ecotourism Management at Fiji National University, Nandi, in 2013.

Following the first geotour guide training courses, I became the University of Science and Culture executive officer, and helped to establish training courses in geotourism. I wrote the curriculum on geotourism and submitted this to the authorities. I developed a national curriculum for geotourism tour guiding and became executive director of the first geotour guiding courses, in 2014, at the faculty of Tourism Science in the University of Science and Culture in Tehran. As a pioneer, I focused on interpretation and geotourism in Iran.



Road cutting on the 55 Km Zanzan-Tabriz highway, Iran, as roadside geotourism, 2014.

### Teaching Geotourism at the University of Science and Culture (2010 to present)

Meanwhile, I have continued for the past six years teaching on the Masters in Geotourism, as an adjunct lecturer. I also began to supervise Masters theses in this area. I supervised master dissertations, and some doctoral theses in an informal manner (because of my lack of a PhD), all related to non-formal learning, geotourism and geoparks.



Geotourism module in the Master of Ecotourism class. Bahram Nekouie Sadry lecturing on geo-gardens in geoparks May, 2016, at the University of Science and Culture, Tehran, Iran. (Photo: the late Mr. Morteza Habibi Nazoksara).



MSc student field visit to the sand dunes at the margin of the Lut desert in Iran, as part of the geotourism module in 2016.

### Back to university as a student!

I began studying for my PhD as a first rank research student in 2014, seven years after my first degree. I became interested in issues related to the non-formal education of visitors in geoparks and in the popularization of geosciences by 'edutainment' and geological heritage interpretation (based on the 15 principles).

I am working on developing an educational model for non-formal geo-education in geoparks in Iran and Japan.

### Plans for the future

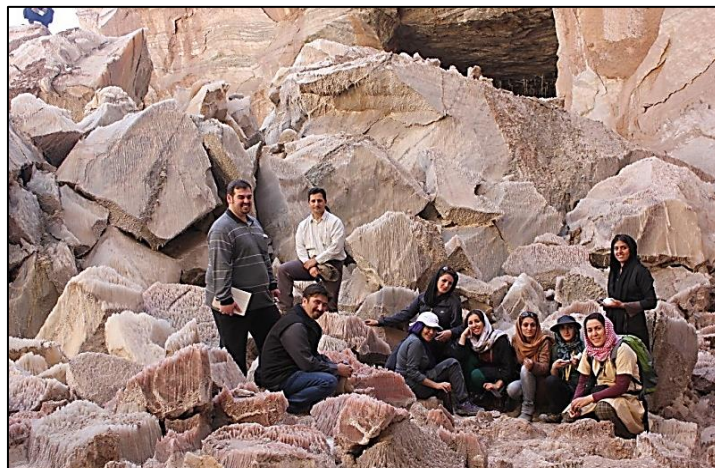
I have three different backgrounds, “explorational geology”, “geography” and “educational administration”. To my mind, the future of promoting geology to the community depends on non-formal educators. I aim to continue working to promote this service for visitors. I hope to contribute to the geoscience education community by applying these new approaches to a new pedagogy of geoscience education in geoparks, and by sharing geosciences with children, teachers and anyone (the general public) who is interested. I support the UNESCO Global Geopark work, striving to raise awareness of geodiversity and promoting protection, education and tourism best practices. My future plan is to develop a national curriculum for MSc students in geopark management.

My advice to the next generation is to seize all opportunities to enhance educational skills and techniques for non-formal geo-learners.

### References

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Geo-tour guide trainees visiting a salt diapir on the margin of the Great Kavir, at an abandoned salt mine adjacent to the capital, Tehran, Iran, in 2014.