

EGU21-12038

<https://doi.org/10.5194/egusphere-egu21-12038>

EGU General Assembly 2021

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Sustainability in georesources management: the importance of an updated school system to face the new challenges connected to mining activities

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In recent decades, the environmental aspects connected to georesources management have come to the forefront. Topics such as "Sustainability", "Responsibility", "Eco-compatibility" are more and more important and the path towards an environmental and social sustainability of the "wise" use of georesources, leads to a "rethink" of "our" way of producing and consuming in an intergenerational perspective, also through a deeper understanding of the ethical value of the close link between socio-economic and natural systems.

The acquisition of the awareness about the necessity to move towards a more sustainable society needs a deep change of human attitude, which should involve institutions, industries and individuals. It is fundamental to involve developed and developing countries in this new approach. A change in human attitudes starts with a proper training and education for all the subjects involved in georesource management, and in particular for students. Indeed, education for sustainable development is a strategic objective for the present and for the future of global development (UNECE, 2009). Education at all levels is the basis of the training of people able to live in current affairs with critical and conscious thinking and with a sense of legality in continuous construction (UNECE, 2011).

An example based on improving capacity building for the sustainable use of georesources is SUGERE (Sustainable Sustainability and Wise Use of Geological Resources) project, whose main objectives are the international standardization of university training and teaching activities concerning Earth Sciences and Mining Engineering, and the promotion of a more responsible and sustainable use of georesources. Thanks to SUGERE project, a strong research and training networks between European and non-European universities interested in mining issues have been set up.

SUGERE project aims to strengthen the role of the investigated discipline (earth sciences and mining engineering), to develop updated strategies for the sustainable management of natural resources, and to implement new collaboration thanks to an international network focused on local and social economic development in the geological/mining context. It has been elaborated a prototype proposal involving three representative African countries (Capo Verde, Angola and Mozambique) that can be replicated in other countries (African and not African). The key issue is

the concept of Local Economic Development (LED) in the context of Mining/Geology combined with Environmental and Social Economic aspects.

The main objective is to graduate persons that are able to oppose the "Resource Curse" that strikes countries that underperform economically, despite benefitting from valuable natural resources. Furthermore, it is expected to bring new ideas back to the European Partners. Main output of the project is the implementation of five degrees covering the three levels (BSc, MSc and PhD) whose common denominator LED is new in Geology/Mining.

The culture of sustainability and the deepening of skills in the field of geomining form the basis for the development of critical thinking, which is necessary for the resolution of local problems, for the acquisition of ethical values and technical skills that underpin sustainable development.