

AGOSTINHO NETO UNIVERSITY

FACULTY OF SCIENCE

UNESCO` s Earth Science Education Initiative In Africa

Regional Workshop

12-13 November 2009 - Luanda, Angola

Final Report

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INTRODUCTION

The Faculty of Science of Agostinho Neto University (UAN), various public and private entities (ENDIAMA, Catoca, Chitotolo, De Beers, ENI, Total), UNESCO and the International Year of Planet Earth (IYPE), held a workshop related to the UNESCO Initiative for Earth sciences Education in Africa, as part of the celebrations of the International Year of Planet Earth in Angola.

The main objective of the workshop was to evaluate the capabilities and regional needs in education and research in Earth sciences through discussions with local, regional and international experts. This Workshop took place at the Faculty of Sciences, on 12 and 13 November, 2009.

The UNESCO Workshop was chaired by Prof. António Lobo de Pina (AITP/Cape Verde), assisted by Prof. Albano Ferreira (UAN/Angola) and attended by UNESCO representative, Dr. Sarah Gaines, IYPE representatives, Prof. Eduardo de Mulder, Mr. Mauricio Fernandes, and Mrs. Telma Almeida, and the ICSU representative Dr. Daniel Nyanganyura. A total of 28 participants attended.

The main observations during the workshop are given below:

1. Various aspects related to research, education, opportunities and challenges, and the importance of linking Geosciences with other sciences, suggesting a broader designation as "The Earth Sciences" were presented;
2. The concern that the management training, as well as the exchange and mobility among teachers and researchers in the region should be a major challenge for the improvement of teaching and research of Geosciences were also pointed by the participants;
3. The lack of a proper literature, laboratories and equipment for research were identified as problems;
4. The lack of updating geological mapping and map production for natural resources (essential for sustainable development) by new technological tools, was identified;

5. The participants identified the searching for water and hydro-geological resources, and study of their qualitative, quantitative, and related analytical aspects, as major priorities;
6. Establishing a geodetic network in Africa supported with GPS connected to international networks was recognized as a major need;
7. Issues related to natural disasters, climate and climate change, oceans, land, natural heritage (geodiversity and biodiversity), energy resources, involving multidisciplinary participation, were highlighted.
8. There is a considerable overall lack of well-organized Earth-science institutions resulting in a deficit of geoscience students in Southern Africa, except for the Republic of South Africa.

RECOMMENDATIONS

The Workshop participants made the following recommendations:

1. Promote resilience and courses to improve professionalism in the geosciences in a variety of techniques;
2. Train teachers at secondary schools on Earth sciences, thereby ensuring a proper transfer of knowledge in this field to students;
3. Increase the number of graduates, well-trained in the areas of Earth sciences to meet industry demand in the region;
4. Promote initiatives to harmonize geodetic reference datum level in Africa;
5. Determine difference in water level between the Atlantic and Indian Oceans;
6. Develop methodologies for the updating of national topographic and geologic mapping in Africa;
7. Share knowledge between partners within academic Earth science communities at national and international levels;
8. Create protocol for establishing a virtual library and a database of Geosciences information in Africa;
9. Create a real-time communication system to discuss Geosciences related issues;
10. Produce a Journal of Geosciences at national and regional levels;
11. Develop and promote annual local and regional competitions for research projects in the Geosciences;
12. Develop research projects with regional scope;
13. Increase the number of Geoscientists at the regional level to cope with the growing regional demands (sandwich model);
14. Invite Earth-science related companies to participate in formation courses of the area, and to sponsor more such formation courses;
15. Develop state-of-the-art laboratories with qualified scientists to stimulate companies to share laboratory technologies while avoiding duplication and redundancy;
16. Produce scientific database to support scientific researchers, companies, schools and other organizations including governments;
17. Focus on outreach by professors and students through traditional media (Radio and TV) and on new information technologies for Earth science communication;
18. Develop a Geoscience/School Project;

19. Create a Regional Center of Excellence in the Earth sciences based in Angola to promote research into earth sciences.

CONCLUSIONS

To implement these recommendations it is proposed to establish a Regional Center of Excellence at Agostinho Neto University (Faculty of Sciences) in order to create a balanced and a harmonious development of Earth science education institutions in the region and to support research and Earth science teaching. Among others, this Center could produce a map on the distribution of natural resources and encourage youngsters to embark on a study in the Earth sciences to reduce the lack of experts in this field in the future. This Center should have a regional scope and be financed and coordinated by UNESCO for one determined period and may thus serve as a barometer of the geosciences in Southern Africa.

This ambition is justified by the greater need for characterization and updating topographic and geological features, by the greater need for professionals in the region, and by the high level of commitment by the Government of Angola and partners in developing the country and contribute to the development of the region in a sustainable manner.