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Challenges and strategies for geoconservation of geosites in Madagascar

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Present knowledge about Madagascar geological heritage is dispersed, incomplete and poorly known because of the lack of proper national institutions responsible for the implementation of strategies for geoconservation [1] [2]. A national geosites inventory has never been conducted and there is no database of the geosites representative of the geological frameworks. This is the main reason why a working group from the "Ecole Supérieure Polytechnique d'Antananarivo - ESPA" is developing a project aimed at the identification, classification and conservation of the most relevant geosites. This inventory aims to be the most complete and up-to-date information about our geoheritage, including the list of the most relevant geosites for scientific, educational and tourism uses, and sorted according to their importance and need of conservation.

The methodology adopted consists in the compilation of data sets and geological information from literature, followed by our own field work, and submission of our proposition to the Government. Adequate strategies include (a) geosite inventory, (b) quantifying their value or relevance and their categorization, (c) development of a classification system including international exchange classification, (d) enhancement and dissemination of the geoheritage, (e) definition of management structure (association, foundation, etc.), (f) elaboration of geosite management plan and its conservation (e.g., vulnerability assessment), (g) establishing competencies for responsible institutions (Geological Survey, Ministries in charge of Culture, Heritage, Tourism and Environment), and (h) implementation into National Network of Protected Areas. In this project, the challenges are to increase the protected areas for geoconservation, reduce the natural resource degradation process, introduce geoconservation into all sectorial plans, and develop geoconservation response system.

Presently, more than 90 geosites have been identified, most of them with national scientific relevance. 47 protected areas are recognized, which present interesting geological features but, in most cases, they are not included in the management plans or conservation projects. We plan to include spectacular landscapes, geological aesthetic beauty and geomorphologic importance into categories of protected area such as Protected Landscapes (IUCN category V), Natural Monuments (IUCN category III) and Natural Resource Reserves (IUCN category VI). Despite the lack of a structured strategy integrating the inventory, conservation, valuing and monitoring of geosites, this flaw is being taken care of by our ongoing research project [1].

References:

[1] Andrianaivo L and Ramasiarinoro VJ (2011) In: *First International Conference on African and Arabian Geoparks, El Jadida, Morocco*, Abstracts, 35-38

[2] Errami E et al (2012) *Episodes* 35 (2): 349-351

