



## SUMMARY OF IGCP 2017

### IN GEODYNAMIC THEME

F E B R U A R Y 2 0 1 8

#### **IGCP Project 628: THE GONDWANA MAP PROJECT**

**Duration:** 5 years (2013-2017)

**Aims:** The developing global cooperation on thinking around the evolution of Gondwana; and generating a new geological map of Gondwana by integrating data from Gondwana-derived fragments.

**Related UN SDG:** Goal 4 – Quality education.

**Countries involved, approximate number of total 2017 participants:** There are about 270 participants from more than 30 countries. Of these about 76 are under the age of 35 years, and 137 of the total are from developing countries. Of the 270 participants, 70 are female.

**Scientific activities (meetings, workshops, training sessions).** A very important meeting of the project was held and involved 150 scientists from about 20 countries. The researchers include postgraduate and undergraduate students.

**Scientific achievements/ results (papers, new findings, new models, new data, new map etc.):** A new paleogeological map of Gondwana resulting from the project will be published. Many peer publications have been produced. A new model of the amalgamation, and dispersion of Gondwana has resulted from the project.

**Societal/educational results/highlights (media coverage, science, education, cultural and informal) related to the Climate Change (Paris COP21), Disaster risk reduction (Sendai framework) and SDGs (New York 2015):** The project has an excellent website which publicises the project activities and showcases the key outputs. In line with SDG4, the project is providing an opportunity for young scientists and those from developing countries to benefit from collaboration with well-known geoscientists from developed countries. The project is also promoting geology among communities and young children.

#### **IGCP Project 646: DYNAMIC INTERACTION IN TROPICAL AFRICA**

**Duration:** 4 years (2015-2018)

**Aims:** The original idea was to investigate the continental basement geology with neotectonics, mineral and hydrocarbon exploration, hydrology and climate change, especially in several West African countries. Modern geotechnical techniques were considered (AMS, GIS positioning, Remote sensing) having the potential to return large volumes of quantitative and semi-quantitative geoscientific data that helps the project to reach its goals. With very, very modest budget and limited external funds, largely because it has some access to modern facilities in Europe, this cannot aim to be more than a great opportunity for west African PIs to advance towards high performance managed by themselves, with very modest help from advanced.

**Related UN SDG:** *Goal 12 – Responsible consumption and production.* This is because the project is looking to use Geodata to identify potential minerals resources. *Goal 4 – Quality education.* The project is providing good quality education to young African geoscientists.

**Countries involved, approximate number of total 2017 participants:** A total number of participating scientists is 59 of which 13 are female. Of this total 40 are under 35 years of age, and 50 are from the 11 developing countries (i.e. Cameroon, Nigeria, Central Africa Republic, Congo, Ghana, Ethiopia, Democratic Republic of Congo, Tunisia, Morocco and Burundi).

**Scientific activities (meetings, workshops, training sessions):** There was characterization of the shear zone (or tectonic boundaries) around the Central Africa Fold Belt. In addition to the project annual meeting which included a field trip in Nigeria, the project held a training course in Cameroon.

**Scientific achievements/ results (papers, new findings, new models, new data, new map etc.):** The project applied remote sensing techniques. It investigated the possible links between various geodynamic processes which concluded the Precambrian Fold Belt in central and western Africa, and their potential control on iron deposits emplacement. A synthesis of publications is reported, including papers in very well regarded journals

like Journal of African Earth Sciences, Ore Geology Review, and an abstract book (extended abstracts of 43 pages) is attached to the annual report.

**Societal/educational results/highlights (media coverage, science, education, cultural and informal) related to the Climate Change (Paris COP21), Disaster risk reduction (Sendai framework) and SDGs (New York 2015):** The project supported the training of young geoscientists. It addressed knowledge gaps in the geology of Central and West Africa. It delivered upgraded geosciences training focusing highly technical methods. It also facilitated networking amongst the young geoscientists. In line with SDGs 4 and 12, the project is looking to use Geodata to identify potential minerals resources, and providing good quality education to young African geoscientists.

### **IGCP Project 649: DIAMOND AND RECYCLED MANTLE**

**Duration:** 5 years (2015-2019)

**Aims:** The idea to investigate the peridotite and chromitites formations belonging to classic ophiolite belts around the globe already documented the existence of diamond occurrence in the mantle.

**Related UN SDG:** Goal 4 – Quality education.

**Countries involved, approximate number of total 2017 participants:** There are 103 participants 28 of whom are under the age of 35 years, and 75 of the total are from developing countries. Of the 103 participants, 21 are female.

**Scientific activities (meetings, workshops, training sessions).** Several conferences and workshops have been held. One main one was held in Cuba and resulted in more exposure on the research outputs of the study of ophiolites in Cuba and allowing for the development of collaboration with other regions in the world.

**Scientific achievements/ results (papers, new findings, new models, new data, new map etc.):** Many publications of have been produced in internationally recognised journals, such “Ore Geology Reviews”, “American Mineralogist” and “Lithosphere”. There is a lot of international collaboration

**Societal/educational results/highlights (media coverage, science, education, cultural and informal) related to the Climate Change (Paris COP21), Disaster risk reduction (Sendai framework) and SDGs (New York 2015):** The project has a well-functioning website which publicises the project activities and encourages other scientists to join. In line with SDG4, the project is providing an opportunity for early career researchers to benefit from collaboration with well-known geoscientists specialising in the study of ophiolites. Economic benefits may be expected from the improved scientific understanding of the formation of chromitites which may provide new ideas for exploration for chrome.