

**THE ROLE OF THE GEOLOGICAL SOCIETY OF SOUTH AFRICA IN PROMOTING THE ESTABLISHMENT OF AFRICA'S FIRST GEOPARK AT THE TSWAING METEORITE IMPACT CRATER.** D. J. Barnardo, Council for Geoscience, Private Bag X112, PRETORIA, 0001, South Africa; [barnardo@geoscience.org.za](mailto:barnardo@geoscience.org.za) .

**Introduction:** The Geological Society of South Africa (GSSA) has a Conservation and Tourism Committee as part of its activities. This Committee has several activities and projects going and meets about once every three months to discuss the progress of these.

One of the most ambitious of these projects is a cooperative effort, with the Council for Geoscience (CGS), which performs duties as the Geological Survey of South Africa, to establish a Geosites database for South Africa. This site is up and running and available on the Internet at <http://196.33.85.17/geosites/>. It is also possible for contributors to register new Geosites on the system via the Internet. The site is growing steadily and currently contains about 90 descriptions of Geosites in South Africa. A sophisticated query and output system forms part of the site and allows a list of all or selected records in the database to be selected and output obtained in either PDF or html format. It is maintained by the CGS.

On 22 June 2007, the Conservation Committee organized a workshop, also in collaboration with the CGS, to discuss the possibility to establish formal UNESCO-recognized International Geoparks in South Africa. The keynote speaker was a well-known staff member from English Nature, Dr Colin Prosser. He visited several possible Geoparks in South Africa and eventually identified the Tswaing Meteorite Impact Crater as the prime candidate in South Africa for a first Geopark. Not only will it be the first in South Africa, but, in fact, the first in Africa.

**About Tswaing:** The Tswaing Meteorite Impact Crater is one of the youngest identified impact craters on Earth, being approximately 220 000 years old ([1]-[3]). It is situated about 50 km north-west of Pretoria, in a densely-populated area, with very good access routes and a well-established infrastructure. It is one of the best preserved and most accessible small impact craters on Earth and contains a central crater lake as an added draw card.

The site was originally viewed as a volcanic caldera [4], but was later proved to be of meteorite impact origin [1]. It is situated in the central, acid phase granites of the Bushveld Complex that form part of the Nebo Granite Suite [2]. This constitutes one of the added attractions of this site – the famous Bushveld Igneous Complex can be one of the added draw cards for Tswaing visitors. The site is situated on a 2 000 hectare farm and is already recognized as a protected

area, making the establishment of a Tswaing Geopark more attractive.

The site is managed as a museum by the Northern Flagship Institute (NFI), which manages several museums in the Gauteng region. A new Museum building was erected on the site about two years ago, but financial problems are prohibiting the installation of a modern impact museum, as is planned. A system of hiking trails already exists at Tswaing and accommodation in the form of bungalows allows a group of about 60 persons to be housed. A kitchen for visitors and adequate bathroom facilities are available. These are specifically aimed at accommodating school and youth groups, but adults are also welcome.

Several species of game were introduced to the site a number of years ago and the area has a rich bird population and diversified and interesting vegetation. The cultural and historical significance of Tswaing is also an advantage, since water from the crater lake has been, and still is, used for medicinal purposes by the local peoples, adding archaeological significance to the site. Salt and especially soda ash was extracted from the crater during the first half of the previous century and an agricultural research station was in operation on the farm during the 1970's. All these factors add to the attractiveness of the site and to the motivation for the establishment of a Geopark at Tswaing.

**Obstacles to establishing a Geopark:** Since Tswaing is already managed by a recognized organization, the establishment of a Geopark at the site should be so much easier. The only added requirement is to submit a motivation in the official format as required by the UNESCO management body and to establish a management plan for the site. However, because of the financial difficulties mentioned, the latter proves to be a real obstacle. The NFI Management Board has already approved the efforts to establish a Geopark at Tswaing. This is a first, important step on the way towards establishing a geosite. Now the only issue is to compile the motivation and complete the management plan.

Another problem specific to South Africa, is to find an authority to take ownership of the South African Geosites. This is needed, since some organization needs to oversee the proper management of such sites in South Africa.

An additional cause of concern is that no equivalent body to, for instance, English Nature exists in

South Africa to drive the establishment of Geosites. The only formal body currently in existence is the Conservation Committee of the GSSA. However, the members of this Committee are volunteers and, as such, have their own permanent jobs and all the work needed to drive the aims of the Committee must be done in their private time.

**Suggestions to further the cause:** The first and most important consideration is to establish funding for the project. As usual, this constitutes the major obstacle to the success of the project. Secondly, the NFI should prioritize the project and complete and implement the management plan for the site. In the third instance, adequate funds should be made available to enable the appointment of a suitable and dedicated contractor to drive the documentation of the site and compile a suitable motivation to UNESCO to allow the formal acceptance of Tswaing as the first African Geopark.

**References:** [1] Reimold, W.U. et al. (1991) *LPS XXII*, pp. 1117-1118. [2] Reimold et al. (1999) *Tswaing Meteorite Crater: An introduction to the natural and cultural history of the Tswaing region including a description of the hiking trail*, Popular Geoscience Series 1, Council for Geoscience. [3] Partridge, T.C. et al. (1999) *Memoir 85*, Council for Geoscience, Pretoria. [4] Wagner, P.A. (1922) *Memoir 20*, Geological Survey of South Africa.