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Preliminary Results of a Field Reconnaissance in the Karoo of Tanzania

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BACKGROUND

This poster highlights the results of a recent field reconnaissance to investigate the Karoo rocks in Tanzania and compare these with others that formed in similar Gondwanan-aged Karoo basins (i.e. South Africa, DRC, Madagascar, Brazil and Antarctica).

FIELD WORK

The field work consisted of geological investigations across Tanzania, including most notable Karoo localities. Work began in the Uluguru mountains, Morogoro, with an investigation of an apparent tectonic contact between Pan-African aged basement tonalitic gneisses and Karoo strata. This was followed by a trip to Selous, the largest Karoo outcropping region in Tanzania. Finally, investigations led to the Sigi River, near Tanga, northern Tanzania. The latter proving most significant in this journey.

RESULTS

1. The apparent tectonic contact between the Pan-African basement and Karoo strata remains inconclusive. No evidence of large scale faulting, displacement, or the like was found. The Karoo in this region is overlain by a thick cover of vegetation and communal farming, limiting exposure.

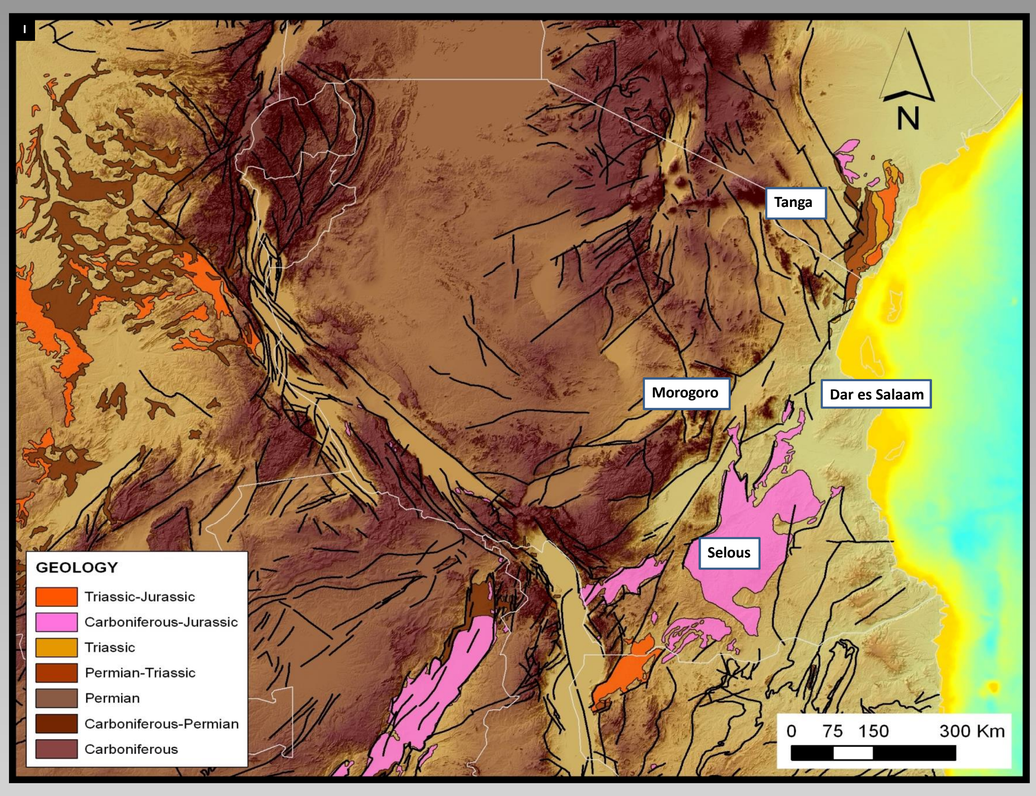
2. In Selous, work was restricted to the northern region. Promising Karoo outcrop was seen in river cuttings, but will require a substantial amount of logistical support to be investigated further.

3. Karoo strata found in the Sigi River, Tanga, bore remarkable similarities to the White Hill of South Africa. Most notably, characteristic white-weathering and soft-sediment deformation features. A sample was collected and will be subjected to relevant analyses to determine its shale gas potential.

DISCUSSION

In all field work, challenges are inevitable and this field reconnaissance was no different, in fact it was particularly generous in providing numerous situations of fret and despair. Despite this, the journey must be classified as a success. The modus operandi of this reconnaissance was to find and sample the Karoo rocks of Tanzania, and this was achieved, regardless of the aforementioned challenges faced. While not as large as South Africa or the DRC, Tanzania does have Karoo rocks. This very likely includes substantially large and accessible black shale. Considering a potential shift toward a natural gas-fuelled future, Tanzania should investigate these potential energy-bearing stratum and test its viability toward future development.

A. Map of Tanzania highlighting points of interest visited
B. Typical method of transport used: “buda-buda”
C. Uluguru Mountains, Morogoro
D. Apparent tectonic contact between Pan-African basement and Karoo, Mvuha
E. Mvuha city centre
F. Mvuha Karoo
G. Karoo outcrop in the Sigi River, Tanga region
H. Lions of Selous
I. Geological Map of Tanzania
J. “White Hill”-type Karoo outcrop, Sigi River
K. Alternative transport: bicycles



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