



GEODIVERSITY OF AFRICA IN CELEBRATING UNESCO's INTERNATIONAL GEODIVERSITY DAY



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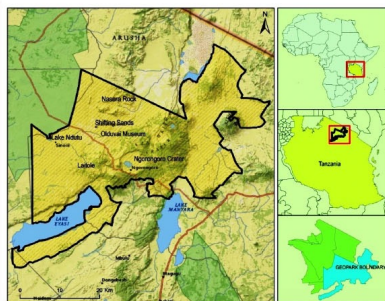
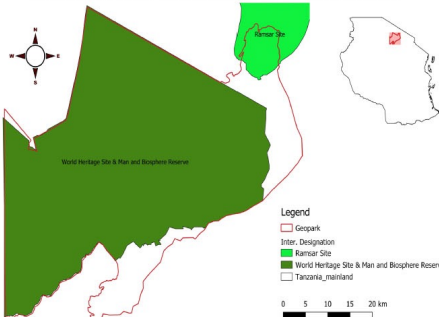


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NGORONGORO LENGAI UNESCO GLOBAL GEOPARK



1. Location and Territory size

**MIXED WORLD HERITAGE SITE –
NATURE (1979) AND CULTURE
(2010)**

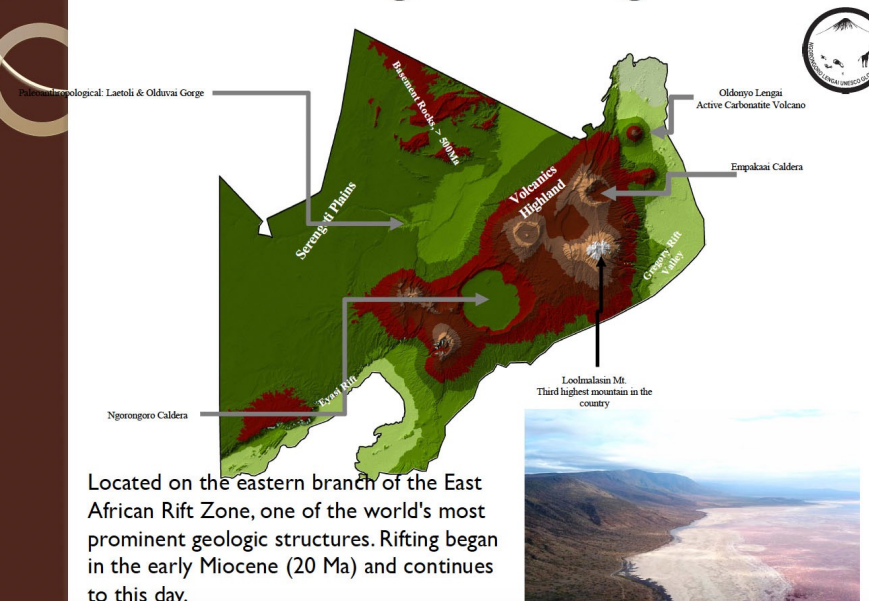
**MAN AND BIOSPHERE RESERVE
(1980)**

**LISTED IN SEVEN NATURAL
WONDER OF AFRICA (2013)**

**UNESCO GLOBAL GEOPARK
(2018)**

- Area: 11,886 Km²
- Population: 230, 586 from four ethnic groups - Maasai, Datoga, Hadzabe and Irawq - - From districts of Ngorongoro, Karatu and Monduli)

2. Geological Setting



Located on the eastern branch of the East African Rift Zone, one of the world's most prominent geologic structures. Rifting began in the early Miocene (20 Ma) and continues to this day.



3. Values and Global Significance



1. Nature – Wildlife & safaris
2. Archaeological and Paleontological – History, culture, Human evolution
3. Intangible culture – tribal experiences, traditional skills, dances, customs
4. Geological – Landscapes, beauty & aesthetic, evidence of earth formations & processes, support to Archaeology – stratigraphy and dating,
5. Research and Education
6. Economy – Local, National and International; support to local communities lively hoods



4. Geo diversity and Biodiversity

- Caldera and wildlife..



Ngorongoro Crater –

Largest unbroken Caldera supporting wildlife of over 25,000 species

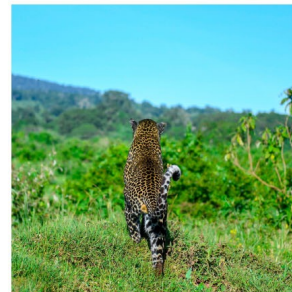


4. Geo diversity and Biodiversity

- Filled Caldera and wildlife..



Empakaai Crater – Supports Laser flamingos breeding area and largest East African buffalos



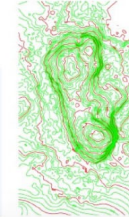
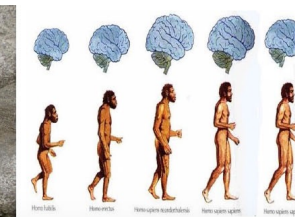
4. Geo diversity and Biodiversity

- Volcanic tuff and Archaeology



Laetoli footprints

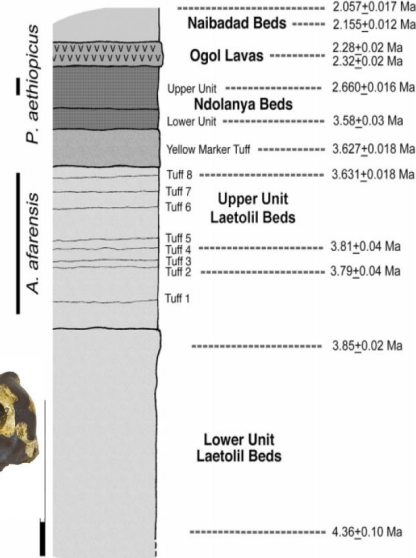
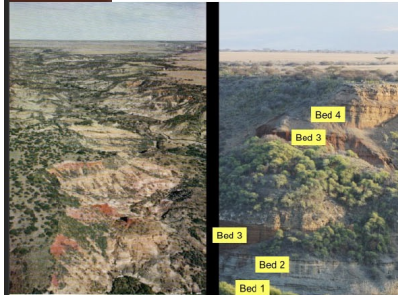
- Evidence of Human Bipedalism for past 3.6Mya,
- Bipedalism preceeded enlarged brains





4. Geodiversity and Biodiversity - Ravine, stratigraphy and Archaeology

Olduvai Gorge
- Cradle of humankind



4. Geo diversity and Biodiversity

- Landscapes and culture

Traditional experiences

- Hadzabe
- Maasai
- Datoga



4. Geo diversity and Biodiversity - Sacred Mountains



Oldoinyo Lengai -
The world's Unique
active volcano – natro
carbonatite lava.



4. Geo diversity and Biodiversity

- Recent deposits



Travertine Pillars (Tufa Towers)

These amazing geologic features resemble fossilized trees. The presence of a salty lake is related with the construction of tufa towers, and fresh water springs must exist beneath the lake. The interaction of the two causes calcite to precipitate, forming hollow tubes that grow upwards to form an intricate network of hollow branches that form the odd-shaped tufa towers. The age of the tufa towers is considered to be around 5,000 years.

4. Geo diversity and Biodiversity - Sand dunes in savvna



Shifting Sand

The crescent-shaped feature (named Magic shifting sand) stands around 5m (16 ft) tall and measures 100 m (328 ft) long along its arc and moves majestically at an annual rate of 17 - 19 m. What distinguishes it is that it appears as a solitary, isolated dune with magnetic qualities.



5. Geo tourism and sustainable community developments



Walking safari:
Perform walking safari which takes one on foot through forests, craters, mountains and plains over routes that takes several days, may involve bush camping and guided by local Maasai, Rangers and Maasai donkeys are used to carry loads.

Camping:
Live in a hotel or private or public operated campsite for wild experience

Olduvai onsite Museum:
Geology, Paleanthropology, Culture (ancient and Contemporary)

Wildlife Experience:
Highest density of wildlife and close views, including the Big 5 of Africa



5. Geo tourism and sustainable community developments



10% of annual gross tourism revenue aids communities by funding education, health, food subsidies, and infrastructure supporting livestock rearing.



6. Research, education and Partnerships





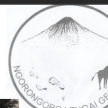
6. Research, education and Partnership



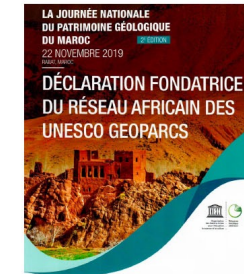
6. Research, education, event and Partnerships



6. Partnerships



6. Partnerships and networking





6. Challenges and opportunities

- **Geo Sites accessibility and presentation** – Continuous surveying and interpretation calling for increased resources, both financial and technical
- **Climate change** Reduced vegetation cover, fewer pastures for livestock and wild animals, extreme weather conditions with increased geohazard risk



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