

ANNUAL REPORT 2012

1. DEPARTMENT OF GEOLOGY

BRIEF INTRODUCTION

The Department of Geology is one of the oldest in the Faculty of Science and was started in 1956 when the University of Nairobi was the Royal Technical College of East Africa. Initially located in the Gandhi Wing of the Main Campus, the Department later shifted to Chiromo Campus in 1975 together with the other Physical Science Departments, Physics, Chemistry, Mathematics, Meteorology and the Institute of Computer Science.

Geology Department trains personnel in the following major disciplines; mineralogy and petrology (study of minerals & rocks), exploration geochemistry, exploration geophysics, engineering geology, marine geology, environmental geology, structural geology, photogeology and remote sensing, stratigraphy, historical geology, palaeontology (study of fossils), economic geology, petroleum geology, hydrogeology and seismology (study of earthquakes) and in the recent disciplines of medical geology and agrogeology. The Department also offers service courses to the Faculties of Engineering; Architecture, Design and Development (A.D.D) as well as to Agriculture and Veterinary Medicine. The entire student population of the University of Nairobi who study some aspects of Geology are therefore estimated to be about 1000 or more. Under the present day 4 year B.Sc. degree course offered to the 8:4:4 students. The undergraduate students in Geology combine it with two other subjects selected from Physics, Chemistry, Meteorology, Mathematics, Geography and Botany and Zoology during their 1st and 2nd years of study. The students however, later specialize only in Geology during their 3rd and 4th years.

2. PROGRAMMES OFFERED

1. Bachelor of Science (Geology)
2. Bachelor of Science (Environmental Geoscience)
3. MSc –Geology (Mineralogy & Petrology)
4. MSc. Geology – (Mineral and Geothermal Resources)
5. MSc. Geology (Environmental Geology and Management)
6. MSc. Geology (Engineering Geology)
7. MSc. Geology (Hydrogeology & Groundwater Resource Management)
8. MSc. Geology (Petroleum Geology)

9. MSc. Geology (Marine Geology & Resources)
10. MSc. Geology (Applied Geochemistry)
11. MSc. Geology (Applied Geophysics)
12. MSc. Geology (Seismology)
13. MSc. Geology (Palynology and Micropalaeontology)
14. MSc. Geology (Mineral Exploration)
15. Postgraduate Diploma in Environmental and Natural Disaster Management
16. PhD

3. STUDENTS IN UNDERGRADUATE AND POSTGRADUATE PROGRAMMES

| | Total No. of Students | | Module 1 | | Module 2 | |
|----------------------|-----------------------|--------|----------|--------|----------|--------|
| | Male | Female | Male | Female | Male | Female |
| BSc. Geology | | | | | | |
| 1 st Year | 40 | 13 | 34 | 11 | 6 | 2 |
| 2 nd Year | 21 | 12 | 20 | 9 | 1 | 2 |
| 3 rd Year | 32 | 11 | 31 | 11 | 1 | 0 |
| 4 th Year | 26 | 10 | 24 | 10 | 2 | 0 |
| MSc. Geology | | | | | | |
| Year 1 | 4 | 0 | | | | |
| Year 2 | 8 | 3 | | | | |
| Ph.D | 1 | 3 | | | | |

4. INTERNATIONAL STUDENT COMPONENT

B.Sc. Geology

- | | | |
|----|----------------|------------------------|
| 1. | I13/57051/2012 | ABEDNEGO MANYIEL MAKER |
| 2. | I13/52542/2012 | ATHIAN DEE SANTOS |
| 3. | I13/40244/2011 | DENG JACOB JOK |
| 4. | I20/1920/2012 | ELEMAN ZAIKO SIMON |
| 5. | I13/29906/2009 | KET JAMES MADUTWAL |
| 6. | I13/40076/2011 | SHARIFF NAIMA AWO |
| 7. | I13/29805/2009 | WANTLO NGGIE |

Postgraduate – MSc. Geology

- | | | |
|----|----------------|---------------------|
| 1. | I56/69084/2011 | DUO LAWRENCE BHOLLA |
|----|----------------|---------------------|

2. I56/70141/2011

NKYA ABRAHAM TUMSIFU

Postgraduate Diploma – Environmental and Natural Disaster Management

1. I48/68952/2011

TINASHE MASIMBE

5. RESEARCH ACTIVITIES UNDERTAKEN

1. East African Great Lakes Observatory (EAGLO)-Ecosystem Services for Poverty Alleviation (ESPA) : From November 1, 2010 – October 21, 2012 – Prof. E. Odada
2. Equatorial Africa Atmospheric Deposition Network (EADN) : From April 2010 – March 2014 Headed by: Prof. E. Odada.
3. Suguta Valley Project – Palaeoclimatology and Palaeolimnology of the Suguta Valley, Kenya. In Collaboration with Prof. Dr. Martin Trauth, University of Potsdam, Germany: 2007 – 2010.
4. Mapping the Health Impacts of Geogenic Heavy Metal Pollution in Kilifi District: Policy Regulation and Remediation: 2012 – 2014. Dr. L. Olaka
5. January 2012 to January 2013. TECLEA – Testing Biodiversity Responses to Climate and Land-use Changes Across East African Highlands – Prof. D.O. Olago
6. December 2010 to December 2014. Building Climate Change Adaptation Capacity at African Universities: A Proposal to Establish The Climate Adaptation Research Institute (CARI) at the University of Nairobi - Prof. D. O. Olago
7. CTBTO PROJECT PERIOD COVERED: 2002- Ongoing: Monitoring of nuclear explosions and seismicity using the CTBTO stations PS24 and IS32 – Prof. N.O. Akech
8. IAEA PROJECT CODE: RAF 8048 - PERIOD COVERED: 2009-2013 : Building Capacity in Support of Regional and Sub Regional Water Resources Planning, Development and Management in Africa – Prof. N.O. Akech

9. PERIOD COVERED: 2013-2017 - Integrating isotope hydrology into water resources assessment for the upcoming Lamu Port Infrastructure in the Lower Tana River catchment (Lamu and Tana delta); Kenya – Prof. N.O. Akech

6. INTERNATIONAL LINKS AND COLLABORATIONS

1. MOU between University of Nairobi and Chinese Earthquake Administration
2. MOU between University of Nairobi and Norwegian Petroleum Academy
3. MOU between University of Nairobi and Schlumberger Oilfield Services Limited
4. Memorandum of understanding for Collaboration on "Mount Kenya Lakes Project" between University of Nairobi, Kenya Wildlife Service, and University of Ghent, Belgium

5. PUBLICATIONS

1. Daniel Melnick, Yannick Garcin, Javier Quinteros, Manfred R. Strecker, **Daniel Olago**, Jean-Jacques Tiercelin, , Steady rifting in northern Kenya inferred from deformed Holocene lake shorelines of the Suguta and Turkana basins, *Earth and Planetary Science Letters* (2012).
2. Yannick Garcin, Daniel Melnick, Manfred R. Strecker, **Daniel Olago**, Jean-Jacques Tiercelin, East African mid-Holocene wet-dry transition recorded in palaeo-shorelines of Lake Turkana, northern Kenya Rift, *Earth Planet. Sci. Lett.* (2012).
3. **J.K. Mulwa**, F. Kimata, S. Suzuki, **Z.N. Kuria**, An updated on the seismicity in Kenya for the period 1906-2010, Tono Geoscience Center, 959-31, Jorinji, Izumicho, Toki-shi, Gifu, 509-5012, Japan

7. CONSULTANCIES

1. Kenya School of Monetary Studies Consultancy: Borehole Drilling & Preliminary Hydrological Survey
2. GIA – Consultancy Training Seminar on Gemmology
3. SEUCO – Consultancy Laboratory sessions with students
4. UoN-CAVS Consultancy: Lab. Analysis
5. OMER/M. Odhiambo Consultancy: Lab. Analysis

8. NO. OF STAFF AND THEIR DESIGNATIONS

| | | |
|----------------------------|---|---|
| 1. Professor | - | 2 |
| 2. Associate Professors | - | 4 |
| 3. Senior Lecturers | - | 5 |
| 4. Lecturers | - | 2 |
| 5. Assistant Lecturer | - | 1 |
| 6. Tutorial Fellows | - | 4 |
| 7. Graduate Assistants | - | 2 |
| 8. Chief Technologist | - | 1 |
| 9. Senior Technologist | - | 5 |
| 10. Technologist ABC | - | 1 |
| 11. Technical Assistant IV | - | 2 |
| 12. Trainee Technologist | - | 2 |

Vision

To be the premier international African centre of excellence in pursuit of generation, advancement, preservation, dissemination and application of knowledge in Geological Sciences and Geotechnology

Mission

To provide leadership in the pursuit of knowledge in Geological Sciences and Geotechnology and their application through quality interdisciplinary teaching, research, professional capacity building and consultancy to improve the welfare of people of Kenya and all Humanity

Core Values

Continue to uphold professionalism and ethics in all its dealings with all stakeholders.

Continue to promote accountability and transparency in all its operations.

Strive to uphold integrity, honesty and quality in all its activities.

Promote participatory management and effective teamwork in all its activities/operations.

Promote linkages with industries, other institutions and alumni.

Uphold the dignity of all members of staff through meritorious recognition and award systems.

Provide quality and relevant education at all times