

Chapter 10

The 2010 to 2013 Revision of the Geology Curriculum at the University of Botswana: Geoscience Education

Read Brown Mthanganyika Mapeo
University of Botswana, Botswana

Thebeyame Ronald Chaoka
University of Botswana, Botswana

Joyce Gosata Maphanyane
University of Botswana, Botswana

ABSTRACT

In this chapter, we describe the revision of the geology curriculum at the University of Botswana and show how it has improved the overall curriculum. One of the important outcomes of the revision was to ensure that prerequisite courses were enforced and students took courses in the proper sequence. This was hitherto not possible as students intending to take geology registered in year II which meant that to complete their degree programme in four years they took Level 100 and 200 geology courses concurrently. This system had a deleterious effect in that students found the geology curriculum very heavy and difficult on account of lack of sufficient background preparation. We believe the revision has resulted in a programme that is very competitive in the region and provides adequate preparation to our students to undertake post-graduate training in overseas and regional universities.

INTRODUCTION

The need for a Geology Department at the University of Botswana was recognized as soon as there was a realization that Botswana was endowed with many minerals such as diamonds, copper, nickel, gold and coal important for powering the nascent economy. This was important for the country to build up its human resources to provide critical skills in the economy. The broad areas required were mapping

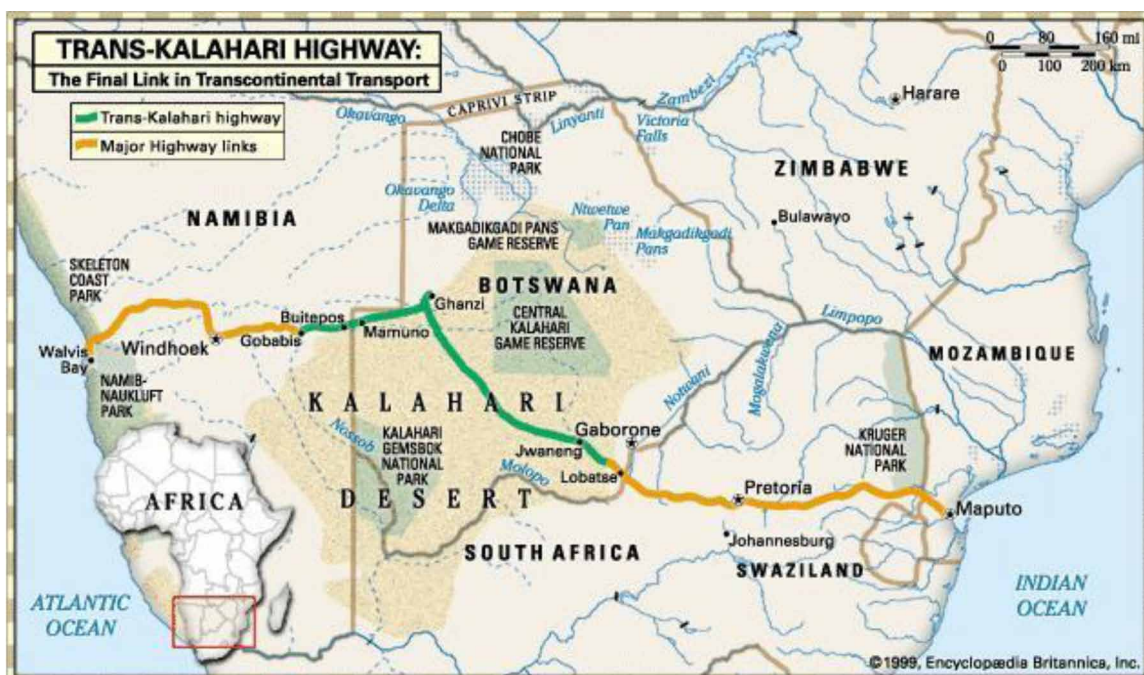
DOI: 10.4018/978-1-5225-3440-2.ch010

and exploration geologists, hydrogeologists, geophysicists, etc. The initial curriculum was designed to reflect the circumstances of the times (Wendorff, Kampunzu, & Vink, 1999). It was vital for the geoscience students to appreciate and understand earth processes. The geology curriculum was designed in large part to provide a sound theoretical background and instilling appropriate technical skills. The University of Botswana provided students with knowledge on rocks and minerals as well as introducing them to new techniques. The students were equipped with the ability to produce geological maps and reports employing the techniques learnt in field-based courses. The graduates upon completion were employed by the government of Botswana and private sector companies in diverse fields such as mineral prospecting, mining, geological mapping utilizing geophysical techniques such as gravity, resistivity and seismic surveys, groundwater exploration and groundwater resources evaluation.

Botswana

Botswana is a landlocked country located in Southern Africa, is boarded by Namibia in the west and north, and has a minor boarder with Zambia in the north, the boarder with South Africa is in the south and southwest, and Zimbabwe in the northeast. Botswana is topographically flat, with the highest point of 1494 m (AMSL) marked by the Manyelanong Hills near Otse village in the south of the country. Botswana has an area of about 580, 0000 km² with up to 70 percent of this territory characterised by a system of vegetated and active dune sands of the Kalahari Desert (Figure 1). It is a mid-sized country; roughly the size of Texas or France with just over 2 million people. Botswana has a low population den-

Figure 1. Map of Botswana showing the location of Botswana in southern Africa, showing location of major towns in the south and the Trans-Kalahari Highway (A3)
(Source: Encyclopaedia Britannica-Accessed- 23/02/2016)



10 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/the-2010-to-2013-revision-of-the-geology-curriculum-at-the-university-of-botswana/187724

Related Content

Detection of Urban Expansion by Using DMSP-OLS, Landsat Data and Linear Spectral Unmixing Method

Cihan Uysaland Derya Maktav (2019). *Geospatial Intelligence: Concepts, Methodologies, Tools, and Applications* (pp. 1372-1382).

www.irma-international.org/chapter/detection-of-urban-expansion-by-using-dmsp-ols-landsat-data-and-linear-spectral-unmixing-method/222952

Modern Navigation Systems and Related Spatial Query

Wei-Shinn Ku, Haojun Wang and Roger Zimmermann (2009). *Handbook of Research on Geoinformatics* (pp. 285-292).

www.irma-international.org/chapter/modern-navigation-systems-related-spatial/20415

A Multi-Level Cache Approach for Realtime Visualization of Massive 3D GIS Data

Xiaoming Li, Weiping Xu, Qing Zhu, Jinxing Hu, Han Hu and Yeting Zhang (2012). *International Journal of 3-D Information Modeling* (pp. 37-48).

www.irma-international.org/article/multi-level-cache-approach-realtime/70404

Drought Estimation-and-Projection Using Standardized Supply-Demand-Water Index and Artificial Neural Networks for Upper Tana River Basin in Kenya

Raphael Muli Wambua (2019). *International Journal of Applied Geospatial Research* (pp. 11-27).

www.irma-international.org/article/drought-estimation-and-projection-using-standardized-supply-demand-water-index-and-artificial-neural-networks-for-upper-tana-river-basin-in-kenya/233947

Providing an Attractive Environment for People to Engage in Health Activities: Serving With Landscape

Hung-Pin Hsu (2019). *Geospatial Intelligence: Concepts, Methodologies, Tools, and Applications* (pp. 1671-1689).

www.irma-international.org/chapter/providing-an-attractive-environment-for-people-to-engage-in-health-activities/222967