Actualising the growth at home strategy for coloured gemstones and associated value chains in Namibia: The triple helix approach

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Since the German colonial period, Namibia has been well known for the occurrence of coloured gemstones. Using primary and secondary quantitative and qualitative data, this paper seeks to examine the status quo of coloured gemstone mining and trading practices in Namibia, toward actualising the 'growth at home strategy'[1,2] of the Namibian government toward vision 2030. Several support projects have been implemented through industry-driven initiatives and donor-driven bilateral government cooperation. However, the supply and value chain currently does not operate nor is regulated in a way that fosters maximum benefits for Namibia. The problems faced by the coloured gemstones industry are multi-layered[3,4] and cut across the supply and value chain (exploration, mining, cutting, and polishing, manufacturing, wholesale, and retail). However, various interventions for ensuring the sustainability of the small-scale mining sector in Namibia have been brought forward[5]. We are now attempting to assign tasks through a 'triple helix'[6,7] approach across the supply and value chain. We propose targetting the efforts of government, industries, and the Institute of Higher Education (IHE) towards a just, ethical, equitable, and sustainable coloured gemstone industry across the supply and value chain. The success of the proposed model lies in a paradigm shift of entities and personnel towards becoming the agent of change toward vision 2030 of the Republic of Namibia.

Keywords: Triple helix concept, Namibian coloured gemstones, small scale miners, Erongo mountains, value chain

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METHODOLOGY

The method included secondary qualitative and quantitative data (i.e., documents, journals, official reports from websites) and primary qualitative data (i.e., field observations and interviews). This allowed for an in-depth, multi-faceted exploration of issues facing the coloured gemstone industry.

Gemstone occurrence, mining, and regulation

Pietersite is a unique and highly-priced blue/golden colour brecciated tiger-eye mined north of Outjo[8] over the last few decades. Most of the tourmaline-bearing pegmatites occur within a broad triangle between the small towns of Omaruru, Karibib, and Usakos, including the Neuschwaben Tourmaline and Otjiua Tourmaline mines. Some amethyst mines are located just north of Otjiwarongo (Platveld), and the other (Sarusas) far north of Swakopmund. A huge pocket delivered fine green to blue-green tourmalines, referred to as "African Tourmaline" in Idar-Oberstein[9] (a gemstone town in Germany). The Erongo Mountain area often produced excellent specimens of gemmy aquamarine, topaz, schorl, fluorite, and jereme-jevite. The Spitzkoppe, on the western side of Erongo, has outstanding topaz, phenakite, and bertrandite crystals. Illegal mining is dotted around Brandberg Mountain, proclaimed a National Heritage site by the Namibia Heritage Council. The Kaokoland area, south of Opuwo, Kunene region, is known for its superb dioptase, malachite, and shattuckite specimens; while rose quartz is abundant in the country's southern parts, Karas region. Amethyst mining claims at Gobogobosed (XoboXobos) area located just west of Brandberg mountain; sodalite at Swartbooisdrift, about 200 km north of Opuwo. Mandarin garnets (vivid orange spessartite garnets) at Marienfluss just a few kilometres from the Kunene river mouth are also worth mentioning.

Mining of the gemstones is operated by either informal artisanal small-scale miners or prospectors; or formally registered companies such as White House Guest Farm, which operates a rose quartz quarry in the Karas region, and Green Dragon mine, focusing on demantoid in the Erongo region. The prospecting and mining activities are regulated by the Mineral Act under the Ministry of Mines and Energy under Minerals (Prospecting and Mining) Act of 1992 (Act 33 of 1992), which is currently under review. Namibia's Environmental Management Act (EMA) and the Environmental Impact Assessment Regulations govern the environmental aspects. The ministry has its presence in Khomas, Erongo, and Kunene regions to regulate coloured gemstones but not in Karas region.

In quantitative terms Namibia ranks sixth on the list of regional exporters of rough-coloured gemstones. Industry experts[10] estimated that officially registered quantities represented only up to 30% of actual production in Namibia. There are over 2000 small-scale miners, with about 80% of this population aware of the policies and regulations[11] of the industry. The under-reporting of illegal mining may be attributed to the service delivery of the regulators and the non-compliance of the small-scale miners. Furthermore, a lack of regulatory offices in the Karas region aggravates this sorry situation.

Valuation and Value Addition

The Namibian government envisions expanding the range and value of coloured gemstones and jewellery products processed within Namibia while curbing illicit flows of the coloured gemstone in raw form, and simultaneously securing the maximum benefit for its citizens through increased value addition[12]. Economic activities related to adding value to precious and semi-precious stones are limited to mainly cutting and polishing rough stones and manufacturing jewellery. Windhoek, Swakopmund, Karibib, and Keetmanshoop are Namibia's major local jewellery-manufacturing hubs with successful jewellery businesses such as Adrian & Meyer and Desert Gems. Three centres: Keetmanshoop

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Gemstone Centre, Karibib Gemstone Centre, and The Henckert Tourist Centre, can polish and cut gemstones in Namibia to enhance values. The Keetmanshoop Gemstone Centre is unfortunately currently closed. The status remains, as articulated by Nyambe and Amunkete in 2009 that in most cases, small-scale miners sell their stones at below international market value due to numerous reasons discussed in reports and articles referenced herein. Additionally, at the core of these reasons is that Namibia lacks a grading system, ideally compatible with an internationally recognised system for valuating coloured gemstones; which warrants an academic intervention.

DISCUSSION

The small-scale miners are the essential starting point for the potential growth in local and regional economies. It is evident that the gemstone industrial value and supply chain currently does not operate in a way that fosters maximum benefit for Namibia. The problems faced by the small-scale industry are multi-layered; we propose a triplex helix concept, which combines government, industry, and Institute of Higher Education (IHE) efforts to promote sustainable development and create a market both within the country and beyond (Figure 1).

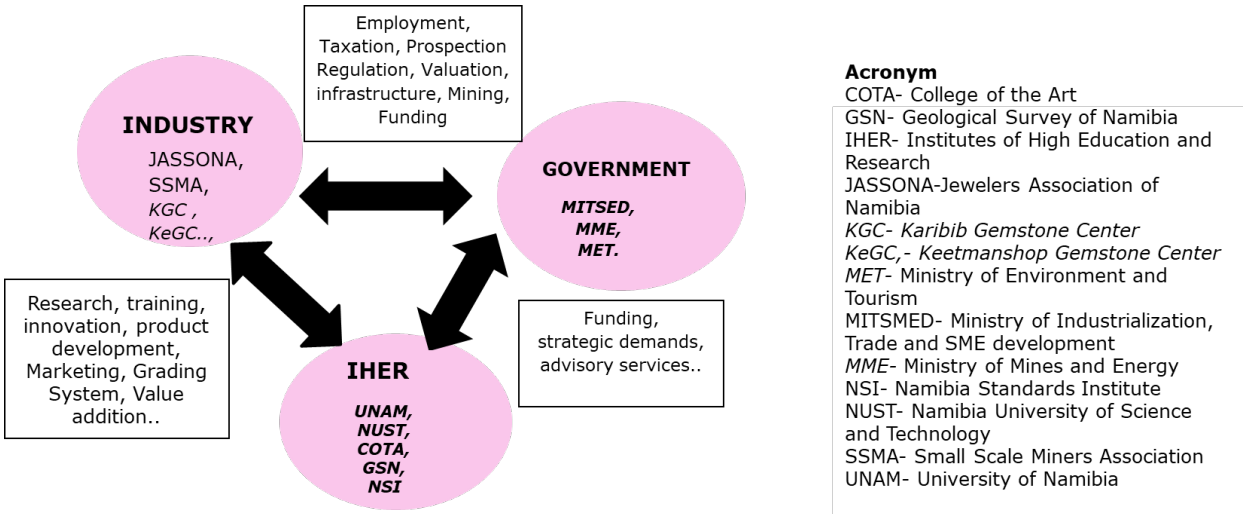

Figure 1. Actualising the growth at home strategy for the Namibian coloured gemstones and associated value chains in Namibia: The Triple Helix Approach.

The triple helix embraces a knowledge-based development, an effort we deem necessary to actualise 'the growth at home strategy' for the Namibian coloured gemstones and associated value chains. Institutions of higher learning such as UNAM, NUST, GSN, and COTA should be involved in research and education towards gemology, SSM training, education, innovation, and advisory services. Institutions should work toward establishing a national coloured gemstone grading system through the NSI. The government could create a favourable environment through the MME, MET, and MITSED through policy, valuation, infrastructures, funding, taxation, and accessible service delivery. The industry should organise itself through its associations and comply with regulations in its activities. This is a coordinated approach that an interim committee could drive.

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My prime role is to provide scientific knowledge in geosciences through teaching, research, and consultancy toward sustainable development. As a HOD, I am required to lead, manage and develop the Geoscience Department to ensure it achieves the highest possible standards of excellence in all its activities. As a Senior lecturer, I teach Structural Geology, and Economic Geology, Mineral Processing, Industrial Minerals and Gemstone. My research spans a wide spectrum of geological aspects with emphasis on mineral raw materials. I research output of 30 publication (journal papers, conference papers and abstracts).