Ecological Services
The Massawa Project – Responsible Environmental and Social Governance

What is the Massawa Project?

Barrick Gold (previously Randgold Resources Limited) holds a gold exploration permit for Kanoumba (herafter referred to as the Massawa Project), located in the Kédougou Region in eastern Senegal, approximately 700 km southeast of the capital Dakar.

Barrick has undertaken extensive exploration activities in the Kedougou region of Senegal region since 2003 and identified three main economic deposits: Massawa, Sofia and Delya, collectively referred to as the Massawa Gold Project. Additional satellite deposits are located throughout the permit area that may be exploited in the future. The Massawa Project will be an open pit gold mine with a Life of Mine of approximately 10 years.

The Massawa deposit is located approximately 45 km northeast of the town of Kédougou, with the Sofia deposit located 10 km west of Massawa.

Environmental and Social Context

Environmental

The project area is undergoing a period of growth, but at a rate that is perhaps beyond the means of the administrative authorities to manage on their own.

There is significant population growth and influx, the latter spurred predominantly due to the prospect of Artisanal and Small scale Mining (ASM) and seeking job opportunities in an area of Senegal that continues to showcase its potential for gold mines.

Social

Beyond the social challenges, the Project area is home to significant natural resources and beauty, with some environments showing no anthropogenic impacts. The importance of the natural environment is compounded with the Niokolo-Koba National Park, a UNESCO World Heritage Site, being located downstream.

The critically endangered Western Chimpanzee was also identified during the biodiversity studies, resulting in critical habitat being delineated in the Project area.

Management

Managing Critical Habitat, chimpanzees, and downstream impacts, while understanding the social needs of the local communities underpinned Digby Wells approach to the Project

Digby Wells Role

Digby Wells assisted Barrick with the initial Feasibility Study in 2010, and has been involved in the subsequent updated feasibility study of the Massawa Gold Mine. In support of the Massawa feasibility study, Barrick entrusted Digby Wells to complete the all-encompassing Environmental and Social Impact Assessment, including:

- Extensive biodiversity surveys including faunal census in the UNESCO Niokolo-Koba National Park;
- Identification of the endangered chimpanzees and subsequent studies in the project area;
- Wetland and aquatic studies;
- Development of a water management strategy for the entire site. This was comprised of an in depth geochemical study of the various tailings and waste rock streams that will be generated from the mine. The main parameters of concern (arsenic and antimony) were identified through the various analyses completed by Digby Wells, and the exact tailings streams and waste rock lithology's of concern identified. This afforded Digby Wells, in partnership with the Massawa feasibility team, the opportunity to lay down concrete water quality and quantity plans for the proposed project; and
- Social studies aimed at establishing a baseline and identifying potential impacts to livelihoods.

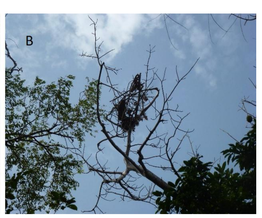
As part of the Environmental and Social Impact Assessment (ESIA) process fauna and flora specialist studies were completed by Digby Wells.

These surveys were conducted using a series of line-transects, reconnaissance (recce) walks, and camera-trap methods to determine the presence of various wildlife species.

During this work, Digby Wells' specialists confirmed the presence of the West African chimpanzee within the project area and in close vicinity to both Massawa and Sofia deposits.

The initial fauna and flora survey was followed by two reconnaissance surveys, conducted in 2017 and early 2018, each aiming to expand the knowledge base on the Massawa chimpanzee's presence and utilisation of the project area.

Finally, a baseline study aimed at documenting the chimpanzee utilisation and distribution across the entire project area was completed in late 2018.



Project Innovation – A First of it's kind

The Massawa ESIA is the most comprehensive mining study yet undertaken in Senegal and this was further reflected by authorities who said that the ESIA was to be a reference document for all future ESIAs.

By combining Dlgby Wells' specialists with international expertise, and utilising in-country knowledge, we were able to develop a comprehensive baseline. The robust impact modelling ensured that potential impacts are well understood and effective management plans can be implemented

The next phase

Barrick are still pursuing their Exploitation Permit for the Project, following the successful approval of the environmental permit. Should the Exploitation Permit be successful, the project will be progressed into a bankable feasibility study.

Further environmental and social studies will be undertaken during this stage, including continued chimpanzee monitoring, biodiversity action plans and livelihood restoration to name a few. We look forward to being involved throughout the process and operation at Massawa to assist in the practical management of natural resources and people in the area

Message from the Project Manager

"The Massawa Project has the potential to effect significant change in the Kedougou Region and can be the benchmark as an industry leading operation.

The project was the epitome of what an Environmental and Social Impact Assessment (ESIA) process should be. Digby Wells embedded into the feasibility team to ensure environmental and social concerns, sensitivities and opportunities were incorporated throughout the 3 year feasibility studies. This ensured that the project was designed to be feasible, while managing social concerns and enhancing benefits for the local communities, but with the protection of this natural environment at the forefront of decision making.

There is still some environmental and social work to be completed before the project can break ground, but the ESIA has laid firm foundations to demonstrate responsible environmental and social governance and be the catalyst for regional development while protecting the assets of the natural environment." Duncan Pettit, Senior Environmental Consultant.