

CONSORTIUM GIZ-IS/PROJEKT CONSULT

IMPLEMENTATION OF CAPACITY BUILDING MEASURES IN THE AFGHANISTAN GEOLOGICAL SURVEY (AGS)

Project Title:	Implementation of capacity building measures in the Afghanistan Geological Survey (AGS)
Financier:	World Bank
Country:	Afghanistan
Overall term:	April 2008 to March 2011
Commissioned by:	Ministry Of Mines, Islamic Republic Of Afghanistan

Context

The Afghanistan Government and the World Bank regard the sustainable development and use of the country's mineral resources as an important asset for reconstruction and economic growth. Like any other Geological Surveys in the world, the primary functions of AGS, are to undertake nationwide scientific surveys (geological, geochemical, geophysical), identify and promote the development of mineral resources for the country.

However, Afghanistan Geological Survey (AGS) had been severely weakened by many years of conflict in the country. In order to deliver its vital role successfully towards the economic reconstruction, by providing world-class dataset and sound technical advice to the government of Afghanistan, the World Bank and the Afghanistan government recognized the urgent need to build and strengthen AGS's technical and infrastructural capacities.

This project, part of the Sustainable Development of Natural Resources Project (SDNRP), a cooperation programme with the Ministry of Mines, was intended to continue and deepen that support for the AGS. Within the context of the cooperative programme, the Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH has been continuing to build capacities at AGS together with the Ministry of Mines since 2008.

Afghanistan's Mineral Endowment and Development

Afghanistan possesses highly prospective geological settings, with great potential to host a variety of world-class mineral deposits.

Mining in the past concentrated mainly on extracting precious stones, such as lapis lazuli, emeralds and rubies. Intensive exploration for commodities in the 1960s and 1970s led to the discovery of large deposits of metal commodities such as copper, iron, chromium and gold, as well as many non-metallic commodities such as marble, fluor spar, barite and gypsum being discovered.

The two largest (by tonnages and value) known mineral deposits in Afghanistan are the Aynak copper deposit and the Hajigak iron ore deposit. Mining and smelting operations would generate significant tax revenues, employment, and other spin-off enterprises and initiate economic growth.

To date, more than 1300 metal and non-metallic mineral occurrences and deposits of different commodities such as copper, lead-zinc, gold, chromite & PGE, REE, marble, fluorspar, barites, gypsum, gemstones and hydrocarbons are known in Afghanistan. Yet only around 10% has been subjected to detailed exploration and evaluation.

Current information is based on old exploration and analytical techniques deployed during 1960-1970 and very limited systematic modern exploration methods have been used. Thus, the country is generally under-explored and offers tremendous potential for new significant discoveries.

On the basis of this great potential, the Afghan government considers sustainable extraction and use of the mineral raw materials to be a key factor in reconstruction and economic growth of the country.

AGS will become a technical and scientific body of national importance, which will be researching and mapping Afghanistan's mineral wealth and communicating that mineral wealth to interested stakeholders. As it is anticipated that private sector interest in exploration might be limited in the foreseeable future, AGS will develop the capability to conduct limited exploration up to an agreed, cost-effective level.

However, capacity building is still needed among the AGS staff and the necessary office and laboratory equipment is not yet complete. Moreover, the security situation hampers work and large parts of the country are inaccessible for geological field surveys.

Objectives

The aim of the GIZ-IS/Projekt Consult project is to build, strengthen and improve the technical capacity of the Afghanistan Geological Survey, in order to perform its mandated tasks effectively and helps to maximize national and international investments in the mining sector.

A further important task of GIZ-IS/Projekt Consult is to develop ideas on mineral resources development corridors, to identify key mineral deposits and highly prospective belts, with a view to encourage alignment of any infrastructural development and other economic activities with the mineral resources.

Approach

In recognition of the diverse needs, and on extending the activities of previous programmes, several approaches were devised and implemented in

- ⊕ Provision of theoretical and practical training in broader areas of geosciences.
- ⊕ Development and managing survey programs in very promising areas for resources, i.e. regions where there is a high probability of finding undiscovered resources. The programmes include geological mapping and examining and assessing mineral resources.
- ⊕ Development of an information system and information centre to disseminate information on geology and mineral resources.

- ⊕ Preparation and publication of reports of selected mineral commodities in Afghanistan. The information supports the AGS in locating mineral resources and assessing their potential.
- ⊕ Research on mineral resource development corridors with the preparation of GIS based maps and a paper on this topic.

Training

On the basis of a needs analysis, the project developed a training programme for AGS staff to map, examine and assess mineral resources. The AGS staffs are given theoretical and practical training in how to carry out a mineral resource survey, from the preliminary survey stage to a detailed assessment of prospects.

Theoretical & Practical Trainings: During the 2008/2009 and 2010 winter seasons, 46 training programs, each lasting three to four days were delivered. At these sessions, some 300 AGS attendances were recorded. Geologists learned to map, examine and assess mineral resources. The courses covered the principles of geosciences, starting with general geology and continuing via mineral resource geology through to information technologies and reporting. Other topics included environmental and social aspects.

Field Training: During the 2008, 2009 and 2010 field seasons, a total of six trips to visit and train AGS field teams were accomplished. Proper mapping and sampling techniques, use of GPS, compass and clinometers were demonstrated. Assistance was also given on plotting and interpreting their geological data.

External Training: A solitary overseas trip to Iran was completed for 20 AGS geologists. This trip offered excellent exposure to seven different phosphate, iron ore and porphyry copper mines as well as the opportunity to visit a very vibrant Geological Survey.

Continuing the development of an information system

Archive geological and mineral databases are being developed further, building on information produced by the earlier British Geological Survey project. In addition, the project is managing the establishment of a Public Information Centre to disseminate information about geology and mineral resources.

Research on Mineral Resource Development Corridors

Work is being done on resource corridors and economic linkages. Also, a geographic information system (GIS) is being developed and spatial/temporal analytical work inside the corridors is done to describe the current state of development of mine/infrastructure and linkages to local SME's, education needs and community driven development.

Results achieved to date

Training

The training programs carried out in the winter of 2008/2009/2010 was very well received by AGS staff. 90 percent of the participants were very satisfied with the trainers and the contents of the training courses.

Despite the restricted opportunities for fieldwork, in the summers of 2008/2009/ 2010 six training courses lasting several days each and six one day training courses in the field were accomplished. These courses provided training in modern geological fieldwork methods for some 120 members in 12 AGS field teams. The geologists at AGS are now able to conduct examination programmes in areas with a large probability of hitherto undiscovered mineral deposits being encountered.

Women accounted for about 10 % of the training participants and are gradually gaining a foothold status, in this previously male-dominated sector.

Development of an Information system

Since the beginning of 2009, the report archive and other geologically relevant databases have been available online and are accessible to AGS staff and the public. As a consequence around 70 per cent of AGS staff accessible for AGS staff as well as to the public

Mineral Resource Development Corridors

In June 2010 a presentation on Mineral Resources Development Corridors was delivered at the Extractive Industries Workshop in Kabul. The final report: "The case for an Afghanistan Development Corridor" was submitted in September 2010.