The Geothermal Exploration Project
Geothermal Development in East African Rift Valley Countries

Jointly funded by the Icelandic International Development Agency (ICEIDA) and the Nordic Development Fund (NDF)
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Background

- Support for geothermal development in East Africa is defined as a priority in Iceland’s Development Cooperation Strategy.
- Links with a Compact between Iceland and World Bank, also cooperates with Argeo, UNEP, AUC and others.
- The aim is to assist countries in conducting reconnaissance and surface exploration studies and build capacity and expertise for geothermal utilization.
- The project started in January 2013 and currently almost all funding has been committed in sub-projects, it is expected that most sub-projects will be finalized by mid 2018.
Getting the first steps right

• Emphasis on holistic surface exploration studies, quality control and identification of drilling targets

• Finalizing these first steps is essential for further work, reduces risk and provides the grounds for informed decisions on next steps

• Providing assistance for getting projects into the next pipelines for exploration drilling
Brief overview to date

• The project is based on demand and requests from countries, sub-projects jointly developed to meet the status of knowledge, priorities and needs in each country, taking into consideration the involvement of other donors and organizations.

• Progress has been made on various fronts to date, moving closer to the objective of assisting countries to enhance their knowledge on their potential geothermal resources.

• Cooperation started with **Rwanda** in June 2013, drill training provided, and cooperation with EUD in Rwanda for regional project

• Cooperation started with **Ethiopia** in September 2013, focus on surface exploration studies and capacity building. Links with the World Bank programme
Brief overview to date

• Cooperation with **GDC in Kenya** started in December 2014, with a focus on capacity building and technical assistance.

• Cooperation with **UNEP** for surface exploration study in **Eritrea** started in December 2014.

• Cooperation with **Djibouti** started in September 2015 with a focus on capacity building in geothermal drilling, surface exploration and geothermal project management.

• Cooperation project with **Tanzania** started in December 2015.

• Support for reconnaissance work in **Burundi, Zambia** and technical assistance in relation to a World Bank funded surface exploration study in **Malawi**.
Regional activities

- AUC donor collaboration meeting hosted in Iceland 2014
- Support to AGID geothermal information portal which was launched at the Argeo C5 conference
- Support to Western Rift Workshop held in Rwanda 2016
- Cooperation with UNEP on technical review meetings
- Various regional training activities, including at Argeo conferences and in Kenya
- Actively supported the conceptual development of a regional training centre, Africa Geothermal Centre of Excellence
- ESMAP/World Bank GDDP Roundtable held in Iceland in April 2016 in relation to Iceland Geothermal Conference
Capacity building

• More emphasis on capacity building than originally anticipated, based on demands and gaps identified by the countries

• Collaboration with UNU-GTP and emphasis on regional knowledge sharing, through collaboration with GDC and KenGen in Kenya.

• Emphasis on hands-on and outcome oriented training activities, for instance interwoven with surface exploration studies,
Regional Geothermal Training Centre

- How can we work towards cost-effective and coordinated training activities in a regional perspective?
- Discussions at the donor coordination meeting in Iceland in May 2014 on the concept of a regional geothermal training centre
- With GDC, KenGen, AUC, UNEP and UNU-GTP the project supported a feasibility study for the concept
- Stakeholder meeting held in Nairobi in August 2015 and feasibility report submitted
- Hopeful to see the AGCE take off and be a part of the initiative
Geothermal - low temperature and direct use

- Efforts to explore the viability of geothermal uses in lower temperature areas
- Study on binary power plants with temperatures from 90-150°
- Some efforts to explore the viability of direct uses, including drying of food items, fish, tea fruit
- Currently exploring with GDC to start a pilot geothermal drying project, which could provide important lessons for feasibility
Cooperation with Ethiopia

• Geological Survey of Ethiopia and Ethiopian Electric Power Corporation are the implementing agencies
• Surface exploration in Tendaho Alalobeda and Aluto Langano are finalized, links with the World Bank programme pipelines
• Surface exploration in Meteka planned to start early 2017
• Numerous capacity building activities
• Technical assistance and equipment
Cooperation with Djibouti

- ODDEG is the implementing agency, under to Office of the President
- Training in geothermal project planning and management
- Training in geothermal drilling
- Training in surface exploration and assistance for developing conceptual model for the Lake Abhe area and other potential areas
Cooperation with Tanzania

• Started in December 2015, with TGDC as the implementing agency
• Initial reconnaissance study of three areas
• Surface exploration studies in Luhoi and Kiejo-Mbaka started in June 2016 with strong training components and equipment provision
• Technical assistance for finalizing surface exploration in Ngozi in cooperation with UNEP
• Training
Cooperation with Kenya

• Started in 2014, with GDC as the implementing agency, under the Ministry of Energy
• Support for surface exploration review in Suswa geothermal area, about to be finalized
• Technical assistance for ISO 17025 accreditation of the GDC laboratory with training, to be finalized 2016
• Training in geothermal project management
• Training attachments for GDC staff with institutions in Iceland
Cooperation with UNEP in Eritrea

• Previous work carried out funded by ICEIDA in Eritrea 2008
• Through cooperation with Argeo/UNEP surface exploration is being carried out in the Alid geothermal area
• Currently on hold, recommence in 2017
Lessons learned

• Finalize quality surface exploration studies, including a review process before decisions on further steps
• Determine training needs in relation to what has been established about the geothermal potential and development strategies
• Link training with tangible outputs and define training opportunities in ongoing activities
• Encourage regional knowledge sharing and cooperation, AGCE is important in this regard
• Technical assistance to fill gaps and imminent needs in order to assist countries to move projects forward, where geothermal potential has already been demonstrated