

FINAL REPORT

MeetingPoints Mining

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SGU-rapport 2014:24



SGU

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Cover: Small-scale mining operation in Namibia.
Photo: Erik Jonsson, SGU.

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EXECUTIVE SUMMARY

Sweden has a long tradition in mining and the Swedish mining sector cluster has great potential, to contribute towards sustainable economic growth and the reduction of poverty in developing countries. This report briefly presents the results of the project MeetingPoints Mining (2010–2014), managed by the Geological Survey of Sweden. The project was funded by the Swedish International Development Cooperation Agency (Sida) and set up as a platform for:

- Facilitator service
- Institutional cooperation
- Capacity building (including research cooperation)

The expected outcome of the project was the establishment of self-sustaining, partner driven cooperation between partners in Sweden, Botswana, Namibia and South Africa. Partnerships were expected to be formed among commercial, governmental and academic partners.

A parallel Sida project, *MeetingPoints Mining – Systematic facilitator service* (running 2011–2014), is also managed by SGU, focusing mainly on Zambia, Tanzania and to a lesser extent Mozambique.

Facilitator service

The partner driven cooperation concept was presented to more than 100 organizations comprising governmental authorities, educational and research institutions (mainly universities), non-governmental organizations and private companies in Sweden, Botswana, Namibia and South Africa. Eleven Swedish companies were engaged in the project on a commercial basis, the anticipation being that they in turn would encourage other companies to look for business in southern Africa.

MeetingPoints Mining estimates that the opportunities provided have resulted in a minimum of 50 “serious” matchmakings, i.e. where two or more potential partners, private or public, have met to explore how they can cooperate. Most matches have been made through the delegation trips and workshops undertaken. Five to ten Swedish companies are currently discussing business opportunities with partners in the region.

The report presents one of the delegation trips to Namibia as an example of a successful matchmaking event. The trip was organized for five small to medium size Swedish companies with an interest in learning about the small-scale mining sector. Understanding the sector and the working conditions for the miners is essential for any company interested in fair-trade concepts. The delegates learned not only about the conditions for Namibian small-scale miners but also about the legislation governing the sector, including the procedure involved in obtaining export licenses for geological material. Shortly after the delegation trip, one of the participating companies sent 20 kg of minerals to Namibia to be worked at the cutting and polishing centre in Keetmanshoop – a possible start of a sustainable business relation.

Institutional cooperation and capacity building

The Geological Survey of Sweden has established sustainable relations with its sister organizations in the partner countries, formalized through the signing of Memoranda of Understanding. Capacity building projects have been carried out as part of the institutional cooperation between the Swedish geological survey and:

- Department of Geological Survey, Botswana: Aggregate Quality Mapping.
- Geological Survey of Namibia: Geochemical Analyses, Gravity Surveys.
- Council for Geoscience, South Africa: Aggregate Quality Mapping.

The Aggregate Quality Mapping project in Botswana was initiated to accumulate knowledge of how to replace river sand by crushed rock material as construction aggregates and for use in concrete. The project provides an example of how partner driven cooperation can yield multiple results, spanning from capacity building to facilitating business contacts as well as contributions to environmental protection and job creation. The facilitation process started with a workshop in Sweden followed by a delegation trip to Botswana. Swedish companies have subsequently visited Botswana several times to follow up contacts and are now working intensively to establish business in the country.

Research cooperation

Research cooperation has been established between

- Council for Scientific and Industrial Research in South Africa and Uppsala University on the project *Petrophysical analysis and geophysical modelling of mineral deposits in South Africa and Sweden*.
- Council for Geoscience in South Africa and the Geological Survey of Sweden on the project *Prospectivity mapping*.
- University of Namibia, Geological Survey of Namibia, Uppsala University, Lund University and the Geological Survey of Sweden on the project *Matchless Belt*.
- Uppsala University and the Geological Survey of Sweden on the project *Comparative study of established test methods for aggregate strength and durability of Archean rocks from Botswana*.

The Matchless Belt project is a multi-disciplinary research project focused on the Matchless amphibolite belt which is a pronounced geological feature in Namibia extending for more than 340 km. It is highly interesting not only from a scientific point of view but also from an economic perspective. A number of pyritic copper and gold mineralizations, including two mines in operation, are associated with the belt. The project has attracted interest from the company operating the mines as well as from consulting exploration companies active along the belt.

Outcome and long term impact

The MeetingPoints Mining project has been brought to an end but there is every reason to believe that the influence of the project will continue. This is evident when considering the cooperative relationships already established, as well as the relationships and cooperation projects which are currently emerging or which will do so in the future. It is also anticipated that future contacts will be made by companies and other organizations within the network established as a result of the project. In the long run, a sustainable and growing network is more important than the actual partnerships established during the relatively short time period available for the MeetingPoints Mining project.

Even though the MeetingPoints mining project has ended, the Geological Survey of Sweden will continue to be a part of the Swedish mineral cluster and able to provide information as well as links to important contacts in the partner countries and in the region. Contacts will be upheld through e-mail and personal relations whereas more proactive initiatives would require additional funding.

SAMMANFATTNING

Sverige har en lång tradition som gruvnation och det svenska gruvklustret har stor potential när det gäller att bidra till hållbar utveckling och fattigdomsbekämpning i utvecklingsländer. Föreliggande rapport presenterar resultaten av projekt MeetingPoints Mining (under åren 2010–2014) som genomförts av Sveriges geologiska undersökning. Projektet finansierades av Styrelsen för internationellt utvecklingssamarbete (Sida) och utgjorde en plattform för:

- Facilitatorservice
- Institutionellt samarbete
- Kapacitetsuppbyggnad (inklusive forskningssamarbete)

Förväntat resultat var etablering av självbärande, aktörsdrivna samarbeten mellan parter i Sverige, Botswana, Namibia och Sydafrika. Aktörssamverkan förväntades etableras inom både privat och offentlig sektor.

Ett parallellt Sida-projekt som genomförs av Sveriges geologiska undersökning, *MeetingPoints Mining – Systematic facilitator service* (mellan 2011–2014), fokuserar på i första hand Zambia och Tanzania samt i viss utsträckning på Moçambique.

Facilitatorservice

Aktörssamverkanskonceptet har presenterats för mer än 100 organisationer, inkluderande regeringsorgan, utbildnings- och forskningsinstitutioner (huvudsakligen universitet), NGOs och privata företag i Sverige, Botswana, Namibia och Sydafrika. Elva svenska företag har engagerats i projektet på kommersiell basis med tanken att de i sin tur kan uppmuntra andra företag att undersöka affärsmöjligheter i södra Afrika.

MeetingPoints Mining uppskattar att projektet bidragit till minst 50 seriösa matchningar, när två eller fler parter möts för att utvärdera hur de kan samarbeta. Delegationsresor och workshops har varit de tillfällen när de flesta mötena ägt rum. Fem till tio svenska företag diskuterar för närvarande affärsmöjligheter i södra Afrika.

Ett exempel på en framgångsrik matchning är en delegationsresa till Namibia som anordnades för en grupp små till medelstora svenska företag som önskade studera småskalig gruvverksamhet. Förståelse för sektorn i stort, och för människors arbetsförhållanden, är grundläggande för varje företag som intresserar sig för rättvis handel. Deltagarna fick därutöver information om den lagstiftning som reglerar sektorn och hur man ansöker om licens för utförelse av geologiskt material. Strax efter delegationsresan skickade ett av de deltagande företagen 20 kg mineral (kristaller) till Keetmanshoop i Namibia för slipning. Detta som inledning på en möjlig affärsrelation.

Institutionellt samarbete och kapacitetsuppbyggnad

Sveriges geologiska undersökning har etablerat långsiktiga relationer, formaliserade genom underbyggande av avsiktsförklaringar ("Memoranda of Understanding"), med samtliga sina systerorganisationer i samarbetsländerna. Kapacitetsbyggande projekt har genomförts mellan den svenska undersökningen och:

- Department of Geological Survey, Botswana: Kartering av bergkvalitet.
- Geological Survey of Namibia: Geokemiska analyser, tyngdkraftsmätning.
- Council for Geoscience, South Africa: Kartering av bergkvalitet.

Bergkvalitetsprojektet i Botswana startades för att bygga upp kunskap om hur flodsand kan ersättas av krossberg som ballastmaterial och i betong. Det är ett exempel på hur aktörssamverkan

kan ge resultat som spänner över kapacitetsuppbyggnad och facilitering av affärskontakter till miljövard och skapande av arbetstillfällen. Faciliteringen startade med en workshop i Sverige som följdes av en delegationsresa till Botswana. Svenska företag har därefter vid flera tillfällen besökt Botswana och arbetar intensivt med att etablera affärsverksamhet i landet.

Forskningssamarbete

Forskningssamarbete har etablerats mellan

- Council for Scientific and Industrial Research i Sydafrika och Uppsala universitet. Projekt *Petrophysical analysis and geophysical modelling of mineral deposits in South Africa and Sweden*.
- Council for Geoscience in Sydafrika och Sveriges geologiska undersökning. Projekt *Prospectivity mapping*.
- University of Namibia, Geological Survey of Namibia, Uppsala universitet, Lunds universitet och Sveriges geologiska undersökning. Projekt *Matchless Belt*.
- Uppsala universitet och Sveriges geologiska undersökning. Projekt *Comparative study of established test methods for aggregate strength and durability of Archean rocks from Botswana*.

Projekt Matchless Belt är ett multidisciplinärt forskningsprojekt som berör ett amfibolitbälte i Namibia. Bältet är en framträdande geologisk formation som sträcker sig över mer än 340 km. Det är högintressant, inte bara ur vetenskaplig synvinkel utan även ekonomiskt. Ett antal koppar- och guldförekomster, inklusive två aktiva gruvor är kopplade till Matchless Belt. Projektet har mött stort intresse från både det företag som driver gruvorna och från prospekteringsföretag som är aktiva i området.

Långsiktigt resultat – ”outcome” och ”impact”

Projekt MeetingPoints Mining har avslutats men det finns anledning att anta att de resultat som uppnåtts kommer att leva vidare. Detta är uppenbart när det gäller redan etablerade samarbeten och det finns dessutom många samarbeten som för närvarande är under utveckling eller kommer att utvecklas i framtiden. Det kan dessutom antas att kontakter kommer att tas i framtiden av företag och andra organisationer som ingår i det nätverk som byggts upp. På sikt är ett sådant hållbart och växande nätverk av större betydelse än de partnerskap som de facto etablerats under den relativt korta tid som MeetingPoints Mining verkat.

Trots att MeetingPoints Mining har avslutats kommer Sveriges geologiska undersökning även fortsättningsvis att ingå i det svenska gruvklustret och därmed ha möjlighet att tillhandahålla information och förmedla kontakter i såväl samarbetsländerna och regionen som sådan. Kontakter kommer att upprätthållas med hjälp av e-post och personliga relationer men för mer proaktiva insatser skulle krävas ytterligare finansiering.

MEETINGPOINTS MINING – FACILITATING PARTNER DRIVEN COOPERATION

The Swedish mining sector cluster comprises mining companies, exploration and equipment manufacturing companies, consultants, trade associations, government agencies, NGOs, universities, research institutions, innovation centres and others. The cluster has great potential to contribute to sustainable economic growth and poverty reduction in partner countries.

This report briefly presents the results of the project MeetingPoints Mining (MPM), managed by the Geological Survey of Sweden (SGU). The aim of the project was to stimulate the establishment of sustainable relations between partners in Sweden and partners in Botswana, Namibia and South Africa in the mineral and mining sector. The expected outcome of the project was the establishment of self-sustaining partnerships based on the partners' mutual interests. Partnerships were expected to be formed with commercial, governmental and academic partners.

The project formed part of the Sida (Swedish International Development Cooperation Agency) concept "Partner Driven Cooperation (PDC)". The PDC concept was put in place to facilitate the process of replacing traditional aid programs by partner driven cooperation.

Sida supported this policy change by offering seed money (planning grants) for partners to apply for in order to investigate and kick-start cooperation projects with a potential to become sustainable. A requirement for receiving Sidas support was that the project should have the potential to contribute to Sidas overall aim of poverty reduction and, more generally, to the Swedish Policy for Global Development.

In addition to the offer of planning grants, Sida commissioned selected organizations to act as sector-wise facilitators of the PDC concept. For the mineral sector, this task was given to SGU to be implemented through the project MeetingPoints Mining. A parallel Sida project, *Meeting-Points Mining – Systematic facilitator service*, is also managed by SGU, focusing mainly on Zambia, Tanzania and to a lesser extent Mozambique. This project runs from 2011 to 2014 and a final report will be presented early 2015.

Figure 1 illustrates the relationships between the expected output, outcome and impact from the MeetingPoints Mining project. The program was intended to be implemented over the four-

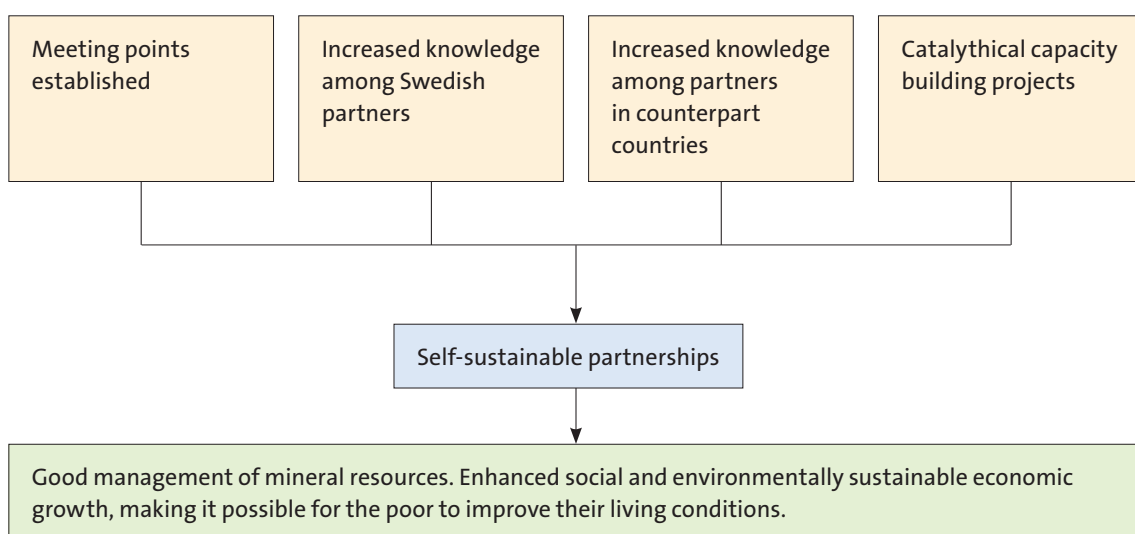


Figure 1. Relationships between the expected output (yellow), outcome (blue) and impact (green) from the MeetingPoints Mining project.

year period 2010–2013. However, towards the end of this period the implementation period was extended to include January–February 2014, although within the original budget frame.

The results presented apply to the mineral sector and so do the challenges identified and lessons learned. However, the experiences gained could very well, with appropriate adaptations, be considered when discussing similar projects in other sectors of society.

PROJECT RESULTS

The project MeetingPoints Mining was formed as a platform for:

- Facilitator service (meeting points, matchmaking, links to support mechanisms etc).
- Institutional cooperation (SGU and relevant partners).
- Capacity building (catalytic aid, research cooperation, education).

Important outputs provided by the project are the creation of meeting points for matchmaking through delegation trips and workshops, as well as the encouragement and support for African and Swedish partners to participate in relevant conferences.

Through the internet, other media and not least by personal contacts, the project has managed to increase the knowledge among Swedish organizations about cooperation opportunities, business environment and other local conditions in southern Africa. Similarly, organizations in southern Africa now know much more about potential Swedish partners.

The long term impact is more difficult to predict. There are examples of business relations already established but more often such relations are in an early phase and will be consolidated only after the end of the MeetingPoint's mining project. Established business relations will tend to be sustainable as long as the business is sound. The established relations between universities will be sustainable through personal contacts, and these types of institutions are usually very capable of raising funds for future cooperation. The geological surveys will remain in contact even though the funding of cooperation projects may be a challenge. From the Swedish perspective, the government is not providing SGU with a budget for development cooperation and the Swedish government is phasing out the development aid cooperation programs previously in place concerning the three partner countries in southern Africa.

Facilitator service

The facilitator service has encompassed providing information about cooperation opportunities and support mechanisms as well as matchmaking. The PDC concept has been presented to more than 100 organizations comprising governmental authorities, educational and research institutions (mainly universities), NGOs and private companies in Sweden, Botswana, Namibia and South Africa, see Appendix 1. The MPM web site (www.meetingpoints-mining.net) as well as media announcements and participation in conferences in Africa and in Sweden have provided various ways of reaching the target groups. Apart from being a news site, the web site has served as a tool to get in touch with potential partners. A total of 47 companies and other organizations have registered with the site. The site will be up and running at least throughout 2014 and is also linked to the SGU web site.

In addition to individual companies within the private sector, entities organizing and representing groups of companies have also been approached, e.g. the Chamber of Mines in the three African countries, SACEEC (South African Capital Equipment Export Council) and SMTG (Swedish Mining and Tunnelling Group). Delegation trips have been organized to all three partner countries and, when deemed relevant, Swedish companies have been engaged in the project on a commercial basis. The latter has provided a way of engaging companies which sub-

sequently will be able to inform others companies about opportunities in southern Africa. The following Swedish companies have been involved: the Raw Materials Group, C Renkel AB, AB Glad tjärnen, Viaductor AB, Boes Consulting, Rin zén Business Development AB, Impact Mining Investments AB, Sten Stenbeck Consulting AB, Rosmarus Consulting AB, Sweroad (Swedish National Road Consulting) AB and the Swedish Cement and Concrete Research Institute.

The above activities have opened doors and provided matchmaking opportunities. MPM estimates that the opportunities provided have resulted in a minimum of 50 “serious” matchmakings, i.e. when two or more tentative partners, private or public, have met to explore how they can cooperate. Most matches were made through the delegation trips and workshops.

Adopting the Sida planning grant guidelines, MeetingPoints Mining has supported the participation in delegation trips and workshops by covering accommodation and travel expenses. The input provided by participants has been their own time and subsistence costs. Swedish organizations supported were: to Botswana: AB Krossekonomi, Chalmers Rock Processing Group, Semcab AB, Swedish Cement and Concrete Research Institute; to Namibia: AA Ädelstenar, C Renkel AB, Cerulean Corporate, Geoloco, Impact Mining Investments AB, Luleå Technical University, Sekanum, University of Gothenburg, University of Uppsala; to South Africa Gigasense AB, Ifa International, Semcab AB, Skolverket. Analogous support has been offered to organizations in the partner countries visiting Sweden: From Botswana: Chamber of Mines, Department of Geological Survey, Shali Mining; from Namibia: Chamber of Mines, Epangelo Mining, University of Namibia; from South Africa: SACCEEC, Mintek, and CSIR.

In Namibia, a Swedish drilling company, supported by Sida through the awarding of a planning grant, has established a company together with local partners: *Impact drilling – Namibia*. In all three partner countries, Swedish companies are currently considering business opportunities with local partners. Examples of such companies are AB Krossekonomi, Semcab AB, Gigasense AB, Geoloco AB and Sekanum AB.

The establishment of a similar company, *Impact drilling – Namibia*, and the efforts made by Ifa International to establish business in Zambia, as well as the keen interest shown by many of the delegates from the Namibian small-scale mining trip (see below) to look at Tanzania and Zambia, constitute spin-offs from the MPM project, even though facilitated by the parallel project *MeetingPoints Mining – Systematic facilitator service*.

Successful matchmaking in Namibia – an example

One of the delegation trips to Namibia provides a good example of a successful matchmaking event. The trip was organized for small and medium size Swedish companies with an interest in getting into contact with small-scale miners for business relations and to learn about the sector. Understanding the sector and the working conditions for the miners is essential for any company interested in fair-trade concepts.

The delegates, representing Cerulean Corporate, AA Ädelstenar, Sekanum and Geoloco were presented to small-scale miners at mining sites and to existing market places (Fig. 2) and centres for cutting and polishing crystals. They learned not only about the conditions for the Namibian small-scale miners but also about the legislation governing the sector, including the procedure involved in obtaining export licenses for geological material. This was made possible by visiting the Ministry of Mines and Energy (the geological survey and the small-scale mining division) and the Ministry of Trade and Industry.

Shortly after the delegation trip, one of the participating companies, Sekanum, sent 20 kilograms of minerals (crystals) to Namibia to be worked on at the cutting and polishing centre in Keetmanshoop. If the result from this test turns out well, this may lead to a sustainable business relation.



Figure 2. The T-Junction mineral market in the Erongo district, Namibia. Photo: Ulf Boivie, SGU.

The Keetmanshoop centre has been established through a Finnish development cooperation program. The centre provides training to small-scale miners and the produce is traded. The Swedish company Kristallen AB is responsible for the establishment of the centre. This company participated in the delegation trip and supported it by introducing their established contacts to the delegation. Subsequent to the delegation trip, Kristallen AB and SGU have initiated discussions on how to work together in a joint project by combining geological knowledge (SGU) and value addition expertise (Kristallen AB). The project concept discussed is the application of experiences made in Namibia to other countries where similar development projects are much needed. This however, is beyond the scope of the present MPM project but will be presented to Sida and other potential funding organizations as a spin-off from the project.

Institutional cooperation

As part of the project, SGU has established sustainable relations with its sister organizations in the partner countries, paving the way for institutional cooperation. Memoranda of Understanding (MoU) have been signed between the Geological Survey of Sweden and the Department

of Geological Survey (DGS), in Botswana, the Geological Survey of Namibia (GSN) and the Council for Geoscience (CGS) in South Africa. The MoUs with DGS and GSN have been extended until 2016. The MoU with CGS runs until November 2014 with the intention of extending it thereafter.

The institutional cooperation with the geological surveys and other partners (e.g. universities) has mainly focused on capacity building programs and research cooperation. The general approach has been to strengthen the institutions in the partner countries. Future phases of the cooperation under the respective MoU:s will be much more focused on mutual benefit, not least due to the absence of catalytic Sida funding of the SGU engagement.

Capacity building

Capacity building projects have been carried out as part of the institutional cooperation between SGU and the sister organizations:

- *Department of Geological Survey (DGS), Botswana: Aggregate Quality Mapping.* The project was designed to introduce crushed rocks as aggregates for road construction and to find rocks suitable for manufacturing “machine sand” for concrete.
- *Geological Survey of Namibia (GSN): Geochemical Analyses, Gravity Surveys.* These cooperation projects focused on strengthening the capacity of the GSN to perform geochemical analyses and to apply gravity measurements to mineral exploration and bedrock mapping.
- *Council for Geoscience (CGS), South Africa: Aggregate Quality Mapping.* The aggregate quality mapping concept from Botswana was also introduced to the CGS in South Africa.

The aim of the above projects was mainly to transfer Swedish know-how to the African partners and to introduce and apply Swedish experiences to local conditions. In addition much experience and knowledge was gained by SGU from the projects and the challenge of applying SGU know-how in different environments.

Capacity building as a facilitation tool – an example

The Aggregate Quality Mapping project in Botswana was initiated by the Botswana Department of Geological Survey and the Geological Survey of Sweden to accumulate knowledge of how to replace river sand with crushed rock material for use as construction aggregates and for concrete. As well as being a limited resource, exploitation of river sand causes serious environmental impact and therefore needs to be abandoned.

The project provides an illustrative example of how partner driven cooperation can yield multiple results, spanning from capacity building to facilitating business contacts and business establishment as well as contributions to environmental protection and job creation.

The facilitation process started with a workshop in Sweden on functional minerals in Botswana. A few months later this was followed by a delegation trip to Botswana meeting several industries and key stakeholders. Alongside these activities, information on the results from the capacity building project was continuously disseminated to stakeholders and discussed with respect to future business development.

A workshop was held in Gaborone in February 2014 (Fig. 3) to present the results obtained (Göransson et al. 2014). Delegates from Botswana representing the Department of Geological Survey (DGS), Belabela Quarries, Botswana Investment & Trade Centre and the “Tribal Administration” attended. From Sweden, the Swedish Cement and Concrete Research Institute, Semcab AB (also representing AB Krossekonomi) and the Geological Survey of Sweden participated. A committee with a temporary chair person, Dr. Gomotsong Tshoso (head of Economic



Figure 3. Participants in the workshop "Construction aggregates of Greater Gaborone – Quality, demands and future challenges" at Linneaus, Gaborone 2014-02-04. Photo: Linneaus.

Geology at DGS) was formed to address the task of replacing river sand for concrete with machine sand.

The Swedish companies AB Krossekonomi and Semcab have subsequently visited Botswana several times to follow up contacts established during the workshops and delegation trip. The companies are working intensively to establish business in Botswana.

Research cooperation

Research cooperation has been established between

- *Council for Scientific and Industrial Research in South Africa and Uppsala University* on petro-physical analysis and geophysical modelling of mineral deposits in South Africa and Sweden (Malehmir et al. 2013). Project meetings and excursions have been arranged in both South Africa and Sweden. The project was supported by Sida through a planning grant.
- *Council for Geoscience in South Africa and the Geological Survey of Sweden* on prospectivity mapping (Sadeghi and Billay 2013). There is a pronounced interest from both parties to further evaluate and develop the method.
- *University of Namibia, Geological Survey of Namibia, Uppsala University, Lund University and the Geological Survey of Sweden* on the Matchless Belt in Namibia (Jönsson 2014).
- *Uppsala University and the Geological Survey of Sweden* on aggregates in Botswana (Stålheim 2014).

MeetingPoints Mining has furthermore facilitated contacts between Swedish universities and the Universities of Cape Town, Witwatersrand, KwaZulu-Natal and Stellenbosch. Some of these

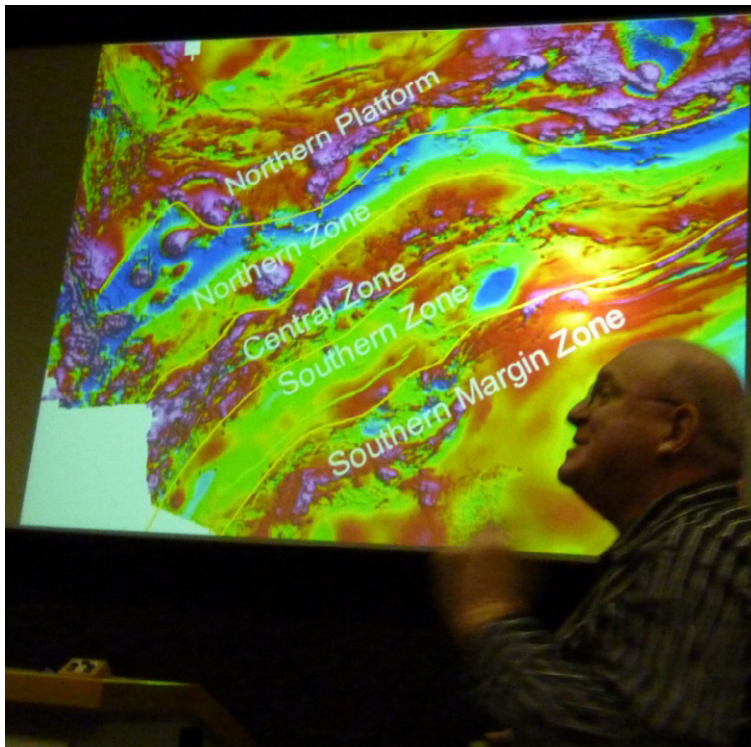


Figure 4. Magnetic data from airborne surveys in the south-western part of the Matchless Belt presented by Gregory Symons (Gregory Symons Geophysics) at the Matchless Belt workshop, June 29–30, 2011. Photo: Rune Johansson, SGU.

institutions were already running or planning for research cooperation projects but the contacts were re-vitalized through the MPM project.

The Matchless Belt project – an example of research cooperation

The Matchless Belt project is a multi-disciplinary research project, based on structural, metamorphic, metallogenic, geochemical, geophysical, stable and radiogenic isotopic and geochronological studies. It was initiated by the University of Namibia, the Geological Survey of Namibia and the Geological Survey of Sweden and kick-started with a workshop held in Windhoek in June 2011 (Fig. 4).

The Matchless amphibolite belt is a pronounced geological feature in Namibia extending for more than 340 km. It is highly interesting not only from a scientific point of view but also from an economic perspective. A number of pyritic copper-gold mineralizations, including two mines in operation, are associated with the belt. The project has attracted interest from the company operating these mines as well as from consulting exploration companies active along the belt.

In addition to the kick-off workshop, research work and exploration results have been presented at a second workshop in Windhoek, and a third workshop (without support from MeetingPoints Mining) is already being discussed. Master thesis works on the belt have been carried out by Swedish and Namibian students.

Education and vocational training

Right at the beginning of the project, it became clear that one of the main challenges to the mineral sector in all partner countries is the lack of a skilled workforce. It was formulated thus by one company representative:

“It is not as difficult to find a project and come up with a winning tender, as it is to find the skilled workers to do the job”

MeetingPoints Mining has put much effort into supporting the development of education and training programs. This has been done by bringing together the “Swedish” multinational companies active in southern Africa, suggesting that e.g. Atlas Copco, Sandvik, Volvo CE and Scania should join forces to address the pronounced challenge to recruit students to the companies’ respective “training academies”.

The companies’ representatives in both Sweden and southern Africa have shown great enthusiasm for the ideas to jointly either support existing technical colleges, or set up new facilities. One company went as far as to agree on participating in a feasibility study of a vocational training concept. The feasibility study was to consider two main alternatives; one being that a single company should support vocational training, and the other that two or more companies should join forces to do so. The potential to commercialize vocational training was also to be considered.

Unfortunately, the company eventually abandoned the idea of participating. The reason presented was that the company was not able to guarantee that funding would be available to realize the action plan that may have resulted from the feasibility study. The concept, still judged to be relevant and much needed, has been presented to Sida for further development.

The experiences from working with skills development has been reported by Klöfver (2013).

Future facilitation contacts

The Geological Survey of Sweden will continue to be a part of the Swedish mineral cluster and will be able to provide information on, as well as links to, important contacts in the partner countries and in the region.

Even though no single organization carries the responsibility for facilitating partner driven cooperation, there are many organizations willing to act as “facilitating contacts”. The most important ones are:

Botswana: Department of Geological Survey
Botswana Innovation Hub
Namibia: Geological Survey of Namibia
University of Namibia
Appiah Endresen & Co
South Africa: Council for Geoscience
South African Capital Equipment Export Council
Council for Scientific and Industrial Research

In addition, the Geological Survey of Sweden will have access to the whole contact network which has developed during the realization of the MeetingPoints Mining project, and contacts will be upheld through e-mail and personal contacts. However, any proactive initiatives will require additional funding to SGU from the government (or from elsewhere).

Outcome and long term impact

The MeetingPoints Mining project has been brought to an end but there is every reason to believe that the influence of the project will remain. This is evident when considering the cooperative relationships already established, as well as the relationships and cooperation projects which are currently emerging or which will do so in the future. It is also anticipated that new contacts will be made by companies and other organizations within the network established as a result of the project. In the long run, a sustainable and expanding network is more important than the actual partnership projects established during the relatively short time period available for the MeetingPoints Mining project.

From the above it can be concluded that the long term outcome and impact of the MeetingPoints Mining project remains to be evaluated and this can only be undertaken at a later date.

MeetingPoints Mining and the thematic priorities

The thematic priorities in common for all Swedish development cooperation initiatives are:

- Democracy and Human Rights.
- Environment and Climate.
- Gender equality and the Role of women in development.

A project like MeetingPoints Mining, primarily focusing on the sustainable management of mineral resources and on economical growth, may not appear to have obvious links to the thematic priorities.

However, economic growth is of great importance to positive development and the Swedish Government has stated (Appendix to Government Decision 11 February 2010, UF/2010/6949/UP) that

“Economic growth is absolutely crucial for poverty reduction. There are no examples of countries that have successfully combated poverty without sustained economic growth. Economic growth is an essential prerequisite for long-term poverty reduction and improved living conditions.”

Poverty reduction gives people better opportunities to strive for democracy and human rights and for women (and men) to strive for gender equality. A more prosperous family can afford to offer their children better education which in turn forms the basis for further development.

Sustainable mining requires that the environmental impact from mining and refining is minimized. This will also reduce the impact on the climate. The global trend is that modern mining operations employ a growing number of women which will enhance the role of women in the industry and in society. The Aggregate Project in Botswana to replace river sand with crushed rock material will bring both environmental benefits and job creation.

Supporting the small-scale mining sector is of great importance for improving the life of many miners including a substantial proportion of women. Furthermore, the impact on health and environment, e.g. from the use of mercury for the extraction of gold, may be mitigated if the sector receives relevant support.

LESSONS LEARNED

Lessons learned from MeetingPoints Mining indicate that the partner driven concept is successful in order to facilitate business contacts, education and training as well as research cooperation and institutional cooperation. Nevertheless, the concept needs to be further developed in terms of

- Preparatory work and expectations.
- Implementation.

The PDC concept (and projects) has been recurrently evaluated on behalf of Sida. Two of these evaluations have involved MeetingPoints Mining, namely Gopper (2012) and Markensten & Lindström (2013). The evaluation by Gopper is a half-time review of two facilitator projects covering Botswana, Namibia and South Africa, whereas the study by Markensten & Lindström summarizes experiences and lessons learned from all PDCs.

Preparatory work and expectations

For future PDC facilitation, the experience from the MeetingPoints Mining underlines the need to thoroughly analyze the pre-requisites for the project in advance. It is of the utmost importance that the project is well prepared and that the expected outcome is well defined and realistic. The timing, i.e. when the concept should be introduced, as well as the time provided for implementation, is also important, and to accomplish good results in terms of long term impact, the aspect of sustainability becomes crucial.

The advance analyses may be made of a country or a region but could also be detailed to a specific theme (e.g. environment, small scale mining, value addition/local content). Mutual interest from potential partners in both Sweden and the prospective partner country(-ies) for the facilitating process being initiated should exist and the development of the mineral sector must be politically prioritized by the governments involved.

Pre-requisites for the project

When the MeetingPoints Mining project was established, it was based on the fact that the three partner countries were endowed with mineral wealth and a flourishing mining sector. Furthermore, it was assumed that there was significant interest within the Swedish mining cluster in establishing business contacts and among e.g. Swedish universities to develop education and research cooperation. It was also presupposed that the geological surveys in the partner countries and in Sweden were equally developed and that the partner geological surveys should act as local facilitators.

In reality, the conditions turned out to be significantly more complex. The mineral sector in the partner countries is definitely flourishing, although influenced by the international business cycle and also challenged by internal shortcomings in the management of mineral resources.

The Swedish mineral cluster is dominated by equipment suppliers and consultants. The only Swedish mining company presently showing some interest in mining in southern Africa is Boliden AB. Furthermore, the companies can roughly be divided into two main categories: self-sufficient world class suppliers of equipment and services (e.g. Atlas Copco and Sandvik) already well established in the region; and small and medium size enterprises with a rather hesitant approach to establishing business in southern Africa. It is mainly in relation to the latter category that the PDC facilitator can play an important role.

The “sister” geological surveys were not prepared to take on the task of acting as facilitators. This can be explained by lack of resources but also by the unwillingness to accept the change from traditional aid to partner driven cooperation. Gopper (2012) made an important comment concerning Botswana and Namibia:

“... it could well be that the possibilities of transiting from traditional grant aid to PDC in these countries have been exaggerated ...”

Expected outcome

The expected outcome from MeetingPoints Mining was facilitating the formation of self-sustainable partnerships. The project took off with the optimistic view that this facilitation could be successfully undertaken by creating and advertising meeting points and match-making events.

This optimistic approach worked well for facilitating partnerships between the universities and geological surveys, even though the partners – in particular the surveys in the partner countries – had a tendency to anticipate “development aid” rather than “development cooperation”. However, it soon became clear that the facilitation of business contacts for small and medium

size enterprises, would require more than the creation of meeting points. This encouraged the project to focus on capacity building as a facilitation tool.

According to the original project plan, active local facilitators were supposed to be engaged. The requirement to compensate for the lack of active partner facilitators by extended on-site presence was not budgeted for. The lack of an active local partner made it more difficult to assess local conditions and to identify the most promising projects to support. Furthermore, the capacity building projects had initially not been intended as a tool for facilitation of business contacts, but rather as part of the institutional cooperation.

During the life span of the project, these matters were discussed with Sida and attempts were made to overcome the challenges. While the shifted focus of the capacity building projects, to be tools for facilitating business contacts was not difficult to introduce, the much needed extended site presence was severely hampered by budget restrictions.

The outcome of future PDC projects would greatly benefit from improved pre-requisite analyses, not least of the possibility of engaging local facilitators and of focusing more on capacity building as an important facilitation tool. The expected outcome in terms of cooperation projects initiated will vary substantially from country to country and from one (sub)sector to another.

Timing

The partner driven cooperation concept was introduced in order to bridge the transition from traditional aid to cooperation on equal terms in seven countries where the Swedish aid program was to be phased out. The time provided for this process was five years (2009–2013) and the PDC concept was consequently given the same time frame. The countries in question were China, India, Indonesia, Vietnam, Namibia, Botswana and South Africa. The latter three constituted the partner countries within the MeetingPoints Mining project.

Right at the beginning it was much discussed whether the time frame for the PDC concept was ideal, and it has been suggested that the concept should have been applied at an earlier stage. When traditional cooperation aid is no longer required, sustainable partner driven cooperation should already be in place. This suggests that the PDC concept should be seen as a tool for medium to long term facilitator supported development cooperation.

Another aspect regarding timing is the amount of time that should be provided for the facilitation of new PDC projects. Facilitation takes time, especially when there is a need for capacity building to assist potential partners in the developing countries in cooperating on equal terms. The experience from MeetingPoints Mining is that even though an individual cooperation project does not necessarily need more time to develop, the period given for the facilitator role to mature and be fully efficient was too short. Much in line with the above, Markensten and Lindström (2013) pointed out that:

“PDC is a long-term aid modality. It takes a long time to forge partnerships and personal relations and to do joint planning. It also takes time to accomplish sustainability. At least five years is normally needed for a PDC project. The short time available for PDC implies higher risks.

This entails that PDC is normally not suitable for quick phasing out of development cooperation. Theoretically, the government could take decisions to phase out from a country over a very long period, and then PDC could be used.”

Sustainability

The motivators for partners to establish sustainable partnerships depend on the type of partners involved, and so does the probability that sustainability will be obtained.

Cooperation between private partners based on business development will normally be sustainable as long as a reasonable profit is made or foreseen.

For the academy (research and educational institutions), cooperation with corresponding organizations in partner countries will widen the scientific work and very likely attract Swedish students who want to carry out work in Africa and vice versa. The academic institutions have long experience in funding projects from various sources supporting research projects.

Swedish governmental authorities, e.g. geological surveys, can provide the expertise and personnel required to successfully carry out long term development cooperation projects but generally lack the necessary funding. This was also pointed out by Gopper (2012) in a mid-term review stating that

“A circumstance holding back the willingness or readiness of Swedish institutions to not only engage in PDC but also be willing to invest some of its own funds is that they need a budget appropriation from the Swedish government to do so.”

The work of NGOs in development cooperation projects has largely been funded by Sida but the future of such projects will be restricted by the phasing out of Swedish aid programs in the partner countries involved in the MeetingPoints Mining. Comments on sustainability have also been made by Markensten and Lindström (2013):

“The main obstacle identified for continued relations is possibilities to finance continued cooperation. Universities can apply for funds in their respective countries and internationally, and businesses could continue to buy and sell to each other. Swedish government agencies and municipalities do normally not have any funds for a continuation of joint activities, but most of them will probably continue with personal contacts via mail, telephone and Skype. NGO’s with a common agenda would presumably continue to push for it, but for them both new financing and cost sharing is difficult.”

Project implementation

The preparatory work and definition of expected outcome is the foundation for a successful facilitator-supported PDC project. Lessons have, however, also been learned from MeetingPoints Mining regarding the implementation phase. For future projects, the most important aspects of the implementation phase which require attention, are:

- Local presence.
- Simplified support mechanisms.
- Capacity building as a tool for facilitating business.

Local presence

The MeetingPoints Mining suffered from lack of permanent local presence combined with the fact that the sister organizations to the Geological Survey of Sweden – contrary to what was initially assumed – were unable to act as local facilitators.

Local presence is of utmost importance. If the project implementing agency cannot provide a permanent representation in the country or region of interest, a partner facilitator should be identified and contracted as part of the project planning. The partner facilitator may be a governmental organization, a business association, an individual private company or an NGO. The

partner identified must have or be provided with the personal and economical means to take up this position.

Simplified support mechanisms

The experience gained from discussing support mechanisms with organizations within both the public and the private sector, is that within the public sector there is a fairly widespread acceptance and experience of the current system. The small and medium size enterprises in the private sector on the other hand, are significantly frustrated by the complexity of the system. There are examples of private companies which have refrained from applying for support (e.g. Sida planning grant) urging that the cost of making the application exceeds the economic support which can be applied for. This situation is further pronounced because the private sector, as opposed to the public, cannot obtain economic support to cover labour costs.

It is not a primary task for a facilitator to establish simplified support mechanisms, only to assist partners in understanding the available support systems and to apply for funding. Nevertheless, if simplified mechanisms are elaborated, the facilitation of partner driven cooperation would be easier and the outcome in terms of established PDC projects much improved.

Capacity building as a tool for facilitation business

The importance of capacity building projects as a tool for business facilitation has been commented on earlier in this report and does need to be further developed here. It is, however, worth pointing out that mutual interest to develop business contacts may at times evolve only when a capacity building project is well under way. If there is a pronounced interest from potential partners to participate in capacity building, even without a commercial perspective at the onset, this could very well be a good reason to carry out the project.

FACILITATING PARTNER DRIVEN COOPERATION – A MODEL FOR THE FUTURE

Based on experiences from MeetingPoints Mining it can be concluded that the partner driven cooperation (PDC) concept offers great potential to become an efficient tool for development cooperation.

The presented model for the future is an attempt to refine the concept. It constitutes a basis for discussions and comparison with experiences made by other facilitators in sectors of both a similar and very different nature.

It is anticipated that the general model will require modification depending on which sector of society it will be applied to. It may for example very well be that the best model for the mineral sector and e.g. the cultural sector will differ substantially from each other.

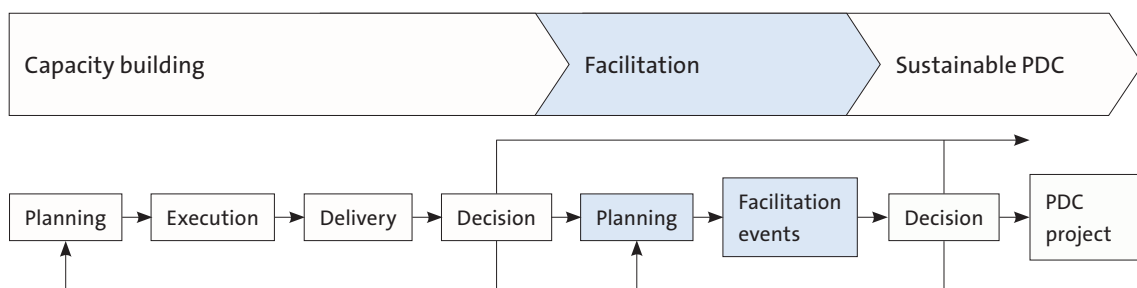


Figure 5. Experience gained from the MeetingPoints Mining project has revealed a best practice strategy divided into three major stages: Capacity building – Facilitation – Establishing of PDC.

General strategy

Experience gained from the MeetingPoints Mining project has revealed a best practice strategy divided into three major stages: Capacity building – Facilitation – Establishing of PDC. The project sequence is described in Figure 5. The idea is to start with capacity building projects that may be facilitated into partner driven cooperation which can become self-sustainable. A sustainable PDC functions without external funding and can be upheld over time.

Capacity building

Capacity building is, in many cases, an important first step to establishing partner driven cooperation. If the cooperation is to be driven by equal partners on equal terms, the partners involved must have the same or complementary capacities. Even in the flourishing mineral sectors of South Africa, Botswana and Namibia, it soon became obvious that potential partners to Swedish companies often lack the skills and experience required to become equal partners. This will pose an even more pronounced challenge when the PDC concept is introduced in less developed countries.

Even though the eventual PDC project may be large-scale, the corresponding capacity building project may range from small to medium scale. These projects should be catalytic and their relevance in this context related to the facilitating of sustainable PDCs. The time frame for such a project should not exceed two years; it may, however, be necessary to follow up with additional capacity support in order to make the PDC project self-sustainable.

Apart from strengthening potential partners in the developing countries, capacity building projects should ideally include Swedish “partners-to-be”. This way the Swedish partner(s) will be introduced to the country in question and gain knowledge of the market conditions and conditions in general in the country. This, in fact, constitutes a very essential first facilitation effort.

Facilitation

In its simplest form, facilitation can be achieved by quite a simple process: creating meeting points and making the available support mechanisms known through participation in conferences as well as by advertising in media (sector relevant journals, newspapers, web sites etc.).

For small and medium sized private companies, facilitation based on the results of capacity building has proved to be far more efficient than the above methods, at least in the mineral sector where Swedish companies may initially be only mildly interested and require to be persuaded into participating.

If the capacity building project is carefully defined and aimed at resulting in a sustainable PDC, and if the project allows tentative stakeholders to meet, work together and consequently learn from each other, then it is likely that a mutual and healthy respect will emerge. It is also important that the capacity building includes involvement of potential customers for the products and services to be provided. Taken together, these methods can provide a way for partners to develop business plans and establish businesses where the sustainability is granted as long as the business is sound.

FINANCIAL REPORTING

Detailed financial reports for the project have been presented in the annual project reports for the years 2010 to 2013 and 2014 (January–February). The financial statement for the whole project period is presented below, divided into fees and reimbursables for each partner country in accordance with the agreement with Sida.

Financial statement 2010–2014

Contry		SEK	SEK
Botswana			
	Fees	5 339 496	5 400 000
	Reimbursables	2 940 743	2 600 000
	Total	8 280 239	8 000 000
Namibia			
	Fees	4 871 152	5 400 000
	Reimbursables	3 229 094	2 600 000
	Total	8 100 246	8 000 000
South Africa			
	Fees	4 491 224	4 700 000
	Reimbursables	2 307 416	2 300 000
	Total	6 798 640	7 000 000
Conuntries total			
	Fees	14 701 872	15 500 000
	Reimbursables	8 477 253	7 500 000
	Total	23 179 125	23 000 000

Costs by country

The following tables present the different types of costs involved for the three countries and for the respective sub-projects.

Botswana

Summary financial statement 2010–2014

Project	Expenses	SEK
Botswana		3 434 392
	Travel expenses	735 623
	Consultants or other services	832 516
	Other expenses	168 863
	Personnel expenses	1 697 391
Botswana, Aggregates		2 615 192
	Travel expenses	483 838
	Consultants or other services	244 266
	Other expenses	23 282
	Personnel expenses	1 863 807
Botswana, Mineral Identification		83 276
	Travel expenses	23 387
	Personnel expenses	59 889
Distributed shared/overall costs		2 147 378
	Travel expenses	213 453
	Consultants or other services	165 323
	Other expenses	50 193
	Personnel expenses	1 718 409
	Total	8 280 239

Namibia

Summary financial statement 2010–2014

Project	Expenses	SEK
Namibia		4 920 384
	Travel expenses	978 407
	Consultants or other services	1 322 334
	Other expenses	76 519
	Personnel expenses	2 543 125
Namibia, Matchless belt		148 341
	Travel expenses	55 122
	Consultants or other services	5 164
	Other expenses	12 483
	Personnel expenses	75 571
Namibia, Geophysics		755 974
	Travel expenses	200 761
	Consultants or other services	95 200
	Other expenses	6 714
	Personnel expenses	453 299
Namibia, Geochemistry lab		128 205
	Travel expenses	47 421
	Personnel expenses	80 784
Distributed shared/overall costs		2 147 343
	Travel expenses	213 453
	Consultants or other services	165 323
	Other expenses	50 193
	Personnel expenses	1 718 374
	Total	8 100 246

South Africa

Summary financial statement 2010–2014.

Project	Expenses	SEK
South Africa		3 133 654
	Travel expenses	640 950
	Consultants or other services	769 113
	Other expenses	36 042
	Personnel expenses	1 687 550
South Africa, Prospectivity mapping		912 845
	Travel expenses	170 672
	Consultants or other services	98 544
	Other expenses	7 147
	Personnel expenses	636 481
South Africa, Aggregate quality mapping		604 772
	Travel expenses	152 872
	Other expenses	3 106
	Personnel expenses	448 794
Distributed shared/overall costs		2 147 369
	Travel expenses	213 453
	Consultants or other services	165 323
	Other expenses	50 193
	Personnel expenses	1 718 400
	Total	6 798 640

Working hours 2010–2014

Contry	Project	Hours
Botswana		7 140
	Botswana	2 233
	Botswana, Aggregates	2 560
	Botswana, Mineral Identification	123
	Distributed shared/overall hours	2 224
Namibia		6 229
	Namibia	3 234
	Namibia, Matchless belt	89
	Namibia, Geophysics	574
	Namibia, Geochemistry lab	108
	Distributed shared/overall hours	2 224
South Africa		5 912
	South Africa	2 281
	South Africa, Prospectivity mapping	836
	South Africa, Aggregate quality mapping	572
	Distributed shared/overall hours	2 224
	Total	19 281

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APPENDIX 1

Organizations approached (non-exhaustive list)

AA Ädelstenar	Gigasense AB	Sekanum AB
Aakerman Geokonsult	Goldbar Juveler och Design	Semcab AB
AB Krossekonomi AB	Golder Associates AB	Shali Mining
Asea Brown Boveri (ABB)	Graptolit Geoscience	Svensk Kärnbränslehantering AB (SKB)
African Copper	Guld Adam Sverige	Scandinavian Geopool Ltd.
Allied Gold & Copper Mines Ltd.	Hagab	Skolverket
Alvenius Industrier	H Ask Geoconsult Ab	SMA Mineral AB
Anna Häggström Jewellery	Ifa International AB	Swedish Mining and Tunneling Groip (SMTG)
Armand Investments Ltd.	IF Metall	Spectral Geophysics
Assa Abloy	Jindal Mining Namibia Pty.	Sten Stenbeck Consulting
Atlas Copco AB	Kai Batla	Stillwatersrand University
BCL	Kilimanjaro Gold AB	Styrud Arctic AB
BelaBela Quarries	Kodo Drilling	Swanshire Minerals Ltd.
Bergutbildarna	Kristallen i Lannavaara AB	Swedish Geological AB
Bio Diesel Botswana	Kwena Concrete	Tect Geological Consulting
Botswana Investment and trade Centre (BITC)	Luleå Technical University	The Jackson Clayworks
Boliden AB	Midsummer AB	Tiny Masters
Bombardier	Minexp AB	Umindevco Ltd
Botswana Chamber of Mines	Mintek	Mati Sallert
Botswana Innovation Hub	Mirab Mineral Resources AB	University of Botswana
C Renkel AB	Motjola	University of Cape Town
Caliterra AB	Murray and Roberts	University of Gothenburg
CBI Betonginstitutet	Namibian Chamber of Mines	University of KwaZulu-Natal
Cerulean Corporate AB	Namiban Underwater Technologies and Mining (Pty) Ltd	University of Lund
Centek	Nordkalk AB	University of Namibia
Chalmers Rock Processing Group	Plutus Group	University of Uppsala
Chamber of Mines South Africa	Raw Materials Group	University of Stellenbosch
Datagrid International	Rebecca Bonaparte Jewels	University of Stockholm
Debswana	Respect Sustainable Business	UnEarth AB
Discovery Metals	Rob Guldsmed	UpHigh Intelligence
Ecostrate AB	Rock Fountation	URS Corporation
Enetjärn Natur AB	Roctim AB	UV Botswana
Epangelo Mining	Rosmarys Consulting	Wassara AB
Etiska Ädelstenar	Saab Automobile	Weatherly International
Fair Trade Center	South African Capital Equipment Export Council (SA-CEEC)	Västra Götalands Återvinning AB
FerroGrow	SA Environment AB	White Pine Consulting
Fineway Holdings	Sakawe Mining Corporation	ViaDuctor AB
Geo Earth International	(Samicor)	Volvo (Babcoc)
Geoflux Ptd	Sandvik	Volvo CE
Geoloco AB	SavannaHome	Xovico Investment
Geovista AB	Scania	Ångpanneföreningen (ÅF)
		World Wildlife Fund (WWF)