

FINAL REPORT

MeetingPoints Mining – systematic facilitator service

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SGU

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Cover: Stones from hot spring in Zambia.
Photo: Rune Johansson, SGU.

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PREFACE

During the period 2010–2014, the Geological Survey of Sweden (SGU) has managed two development cooperation projects on behalf of the Swedish International Development Cooperation Agency (Sida):

- MeetingPoints Mining (MPM), 2010 to February 2014.
- MeetingPoints Mining – Systematic facilitator service (MPM/SFS), 2011–2014.

The two projects had a very similar approach and expected results. In principle, the only difference was that the first project was directed towards countries subject to out-phasing of traditional aid programmes, whereas the second project involved countries which continue to receive aid from Sweden.

Due to the similar characteristics and to the fact that many activities (information, stakeholder meetings in Sweden, advertising etc.) were common for the two projects, SGU managed them from the operational point of view as one single project. From the financial point of view, however, they were kept separate since they represented two different commissions.

The common nature of the projects also implies that the general conclusions and recommendations cannot be referred only to one of the projects but should instead be looked upon as syntheses of experiences gained from both MPM and MPM/SFS. Hence, especially the section “lessons learned” in the present report substantially echoes the corresponding section in the previously published MPM report (Johansson & Taromi Sandström 2014).

In this report, the acronyms MPM and MPM/SFS are used for the respective projects. When dealing with the two projects as a common concept, it is referred to as “MeetingPoints Mining” or “the (two) MeetingPoints Mining projects”.

EXECUTIVE SUMMARY

The Swedish mineral sector cluster has great potential to contribute to economic growth and poverty reduction in low to middle income countries where the mineral sector plays a very important role for the national economy. A growing mineral sector will contribute to the country's gross national product and, through job creation, to poverty reduction.

The Swedish International Development Cooperation Agency (Sida) has financed two projects managed by the Geological Survey of Sweden: MeetingPoints Mining (MPM) and MeetingPoints Mining – Systematic facilitator service (MPM/SFS). The MPM partner countries were Botswana, Namibia and South Africa whereas the MPM/SFS project was directed towards Zambia, Tanzania and Mozambique. The projects were formed as platforms for facilitator service, institutional cooperation and capacity building.

This text presents the final report of the MPM/SFS project. Since the two projects are to a great extent interlinked, the conclusions and recommendations refer to and should be looked upon as a synthesis of experience gained from both MPM and MPM/SFS.

The facilitator service provided information about cooperation opportunities, support mechanisms and matchmaking. This “partner driven cooperation” (PDC) concept was presented to more than 100 organisations from the whole spectrum of society in Sweden and Africa.

The project has supported development of education and training programmes. In Zambia, the project took part in the development of the Zambia Mining Sector Education Trust (ZAMSET). A future input from Swedish companies could be to “train the trainers” but the concept still needs to be further developed, not least when it comes to funding.

Volvo Construction Equipment has suggested a project providing vocational training on heavy construction equipment. This may become a pilot project for the ZAMSET, and MPM/SFS has supported its development by presenting experiences gained from working with these issues in Zambia and southern Africa.

The small-scale mining sector is in many areas a vital informal economic force. MPM/SFS has engaged in several projects aiming to create transparency, improve environment and health, and empowering women. These projects are still to be fully realised; the potential outcome is clear as well as the methodology for success.

MPM/SFS has used Zambia as a pilot country for mapping the environmental state and impact regarding its mining industry, and has suggested several action plans to cope with the issues found. Two of these have been the subject for further actions within the project: facilitating Swedish know-how in clean technology (cleantech) with Zambian stakeholders and preparing an international training program on mine water management.

The long term outcome and impact of the MeetingPoints Mining projects (MPM and MPM/SFS) is to be evaluated. Established business relations tend to be sustainable as long as the business is sound. There are examples of business relations that have already been established, but most relations are still in an early phase and will be consolidated only after the end of the projects. Research and educational institutions are usually very capable of raising funds for future cooperation projects and the potential for established facilitation in this area is good. The geological surveys will remain in contact even though the funding of cooperation projects may be a challenge. Work of non-government organisations in development cooperation projects was funded by Sida. The future of such projects is restricted by the frames of Swedish aid programmes.

A general conclusion is that to assure sustainability and long-term impact from partner-driven cooperation projects, the time for implementation must be reasonably long, in most cases 5–10 years, and even after the end of the project it should still be possible to continue funding of

sub-projects deemed to become sustainable with limited extra support. Preferably, the partner-driven cooperation concept needs to be introduced at an early stage so that when traditional cooperation aid is being phased out, sustainable, partner-driven cooperation is already in place.

SAMMANFATTNING

Det svenska gruv- och mineralklustret har sammantaget en stor potential när det gäller att bidra till hållbar utveckling och fattigdomsbekämpning i utvecklingsländer där mineralsektorn har betydelse för den nationella ekonomin. En växande sektor kan, rätt administrerad, bidra till en växande BNP och till fattigdomsbekämpning genom att skapa arbetstillfällen.

För att bidra till en positiv utveckling har Sida (Styrelsen för internationellt utvecklingssamarbete) finansierat två projekt som har letts av Sveriges geologiska undersökning: MeetingPoints Mining (MPM) och MeetingPoints Mining – Systematic facilitator service (MPM/SFS). Samarbetsländerna för MPM var Botswana, Namibia och Sydafrika medan MPM/SFS riktade sig mot Zambia, Tanzania och Moçambique. De bägge projekten utgjorde plattformar för facilitatorservice, institutionellt samarbete och kapacitetsuppbyggnad (inklusive forskningssamarbete).

Denna rapport redovisar resultaten av MPM/SFS. Då båda projekten är så likartade ska slutsatser och rekommendationer ses som en syntes av erfarenheter från både MPM och MPM/SFS.

Facilitatorservice har omfattat information om samarbetsmöjligheter, stödformer och matchning av företag och andra organisationer. Konceptet har presenterats för mer än 100 organisationer från alla samhällssektorer i Sverige och Afrika.

MPM/SFS har stöttat utvecklingen av yrkesutbildning. I Zambia deltog projektet i utvecklingen av Zambia Mining Sector Education Trust (ZAMSET). En viktig förutsättning för detta initiativ var att det inriktas mot praktisk utbildning, bedrivs i nära samarbete med gruvindustrin och omfatta praktiskt arbete i befintliga gruvor. Ett framtida bidrag från Sverige kan vara på temat ”utbilda utbildarna” men konceptet behöver utvecklas ytterligare, inte minst när det gäller finansieringen.

Volvo CE (construction equipment) har föreslagit ett projekt som erbjuder yrkesutbildning för arbete med tunga fordon. Projektet har potential som ett lämpligt pilotprojekt till ZAMSET, och MPM/SFS har stöttat genom att delge erfarenheter från arbete med utbildningsfrågor i Zambia och i södra Afrika.

Den småskaliga gruvsektorn är ofta väsentlig för många länders informella ekonomi. De utmaningar som finns handlar om att skapa säkra gruvbrytning, utbildning och transparenta handelsvägar. MPM/SFS har påbörjat ett flertal mindre projekt med syfte att ta fram metoder och möjligheter för bl.a. säkerhet, miljö, transparens, att stärka kvinnors roll och för att möjliggöra en formalisering av sektorn.

I berörda länder finns ofta ett stort behov av att arbeta med gruvmiljö, både avseende arbetsmiljö och konsekvensen av själva verksamheten. MPM/SFS har använt Zambia som pilotland där projektet har genomfört en nulägesstudie och lämnat förslag på vilka åtgärder som behöver vidtas. Två av dessa har sedan initierats genom facilitering av svenska miljöteknikbolag med zambiska intressenter och genom förberedande av en s.k. ITP (international training programme) inom ämnet ”mine water management”.

Det långsiktiga utfallet och påverkan av MeetingPoints Mining (MPM och MPM/SFS) återstår att utvärdera eftersom projektet nyss avslutats och det ofta krävs en längre tidsrymd på flera år för att kunna avgöra de bestående effekterna av projektets insatser. Affärsrelationer kan förväntas bli hållbara så länge som affärerna är vinstgivande. Det finns exempel på redan etablerade relationer men det är vanligare att dessa är i en tidig fas och kommer att utvecklas efter det att projektet nu avslutats. Etablerade samarbeten mellan forsknings- och utbildningsinstitutioner upprätthålls genom personliga kontakter; dessa organisationer har i regel god förmåga att hitta finansiering för framtida samarbetsprojekt. De geologiska undersökningarna kommer också att bibehålla sina kontakter även om finansiering av samarbetsprojekt kan bli en utmaning. Frivilligorganisationers arbete finansieras i hög grad av Sida och begränsas av utfasningen av det svenska biståndet.

För att säkra uthållighet och långsiktig påverkan av aktörssamverkansprojekt bör projekt-tiden göras rimligt lång, 5–10 år. Även efter att projekten avslutats bör det vara möjligt att finansiera vissa delprojekt som bedöms kunna bli långsiktigt hållbara med ett begränsat stöd. Aktörssamverkan bör med fördel introduceras tidigt så att samverkansprojekt redan är på plats när det traditionella biståndet fasas ut.

FACILITATING PARTNER DRIVEN COOPERATION IN THE MINERAL SECTOR

The Swedish mineral 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.

In many developing countries, the mineral sector plays a very important role for the national economy and has great potential to grow. A growing mineral sector will, if properly managed, not only contribute to the country's gross national product but also through direct and indirect job creation to poverty reduction. To facilitate this positive development, the Swedish International Development cooperation Agency (Sida) has financed various projects, among which two have been managed by the SGU. The projects are MeetingPoint Mining (MPM) and Meeting-Points Mining – Systematic facilitator service (MPM/SFS).

The projects formed part of the Sida concept "Partner driven cooperation (PDC)". This concept was put in place to facilitate the process of replacing traditional aid programmes by partner driven cooperation in a number of countries, namely Namibia, Botswana, South Africa, Indonesia, India and China. Sida supported this policy change by offering seed money (planning grants) for partners to apply for in order to kick-start cooperation projects with a potential to become sustainable. Through the MPM, SGU acted as facilitator to the mineral sector in Namibia, Botswana and South Africa from 2010 to February 2014.

MPM/SFS (2011–2014) was launched as a new pilot project to apply the same principles as the MPM in countries not being subject of out-phasing traditional aid programmes. This was based on the idea that when the time comes to change from aid to co-operation, the PDC concept should already be established. In agreement with Sida, Zambia was chosen as the main (pilot) country to which most efforts were concentrated. Tanzania was the next country of interest, whereas Mozambique was attended to from a fact finding, networking point of view in order to examine the pre-requisites for future PDC efforts. Responding to an invitation from the Swedish Embassy in Bogota, a short fact finding visit was also made to Colombia.

The present report presents the main results of the MPM/SFS. Apart from this final report, the project has been presented in annual and half-yearly reports. The MPM has been reported (final report) by Johansson & Taromi Sandström (2014) and corresponding annual reporting.

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 concept 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 minimised which will reduce the impact on climate. Environment friendly mining technologies are frequently also more beneficial from an economic point of view. The global trend is that modern mining operations employ a growing number of women which will enhance the role of women in industry and society. 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.

The above listed examples demonstrate the potentially positive impact from developing a country's mineral sector. However, improved living conditions for people through economic growth requires good governance to assure that the country through taxation, royalties etc. receives a fair share of the profit made from exploring its mineral resources. This must in turn be shared by the people in general instead of by an already wealthy minority.

MEETINGPOINTS MINING – SYSTEMATIC FACILITATOR SERVICE

The aim of the project MeetingPoints Mining – Systematic facilitator service (MPM/SFS) was to stimulate the establishment of sustainable relations between partners in Sweden and partners in a number of DAC (the OECD Development Assistance Committee) countries in the mineral and mining sector. The expected outcome of the project was the evolution of self-sustaining partnerships based on the mutual interests of commercial, governmental and academic partners. By establishing networks, in Sweden as well as in partner countries, an international mining cluster was expected to be formed. Such a network of active and tentative partners could provide a post project, self-sustainable facilitator service.

The project implementation period was 2011–2013. However, at the end of year 2013 not all the budgeted resources had been used and it was agreed that the period should be prolonged to include also year 2014, although within the original budget frame. During 2014, the focus was on completing activities already initiated and on networking instead of starting up new activities.

The project basically represents an expansion of the parallel Sida-project MeetingPoints Mining (MPM) to include countries not being the subject of out-phasing of traditional Swedish aid programmes. Both projects were formed as platforms for:

- facilitator service,
- institutional cooperation,
- capacity building.

Due to the close relationship between the two projects, the results are in many cases difficult to isolate as being results of MPM/SFS or MPM. This means that even if the following presentation focuses on results related to Zambia and Tanzania, these results derives in part also from the MPM project.

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

Networking and facilitator service

Through the internet, other media and, not least, by personal contacts, the project has managed to increase the knowledge among Swedish organisations about cooperation opportunities,

business environment and other local conditions in southern Africa. Similarly, organisations in southern Africa now know much more about potential Swedish partners.

As part of the MPM/SFS project, SGU contacted and in many cases established sustainable relations with a number of institutions in the partner countries. Among such institutions can be mentioned:

Zambia: ESMAZ, Namei Enterprise, ZCCM-IH, MAWE Exploration and Technical Services, Misenge Environmental and Technical Services, Ministry of Mines, Energy & Water Development, Chamber of Mines, AZMEC, TEVETA, NORTEC, Copperbelt University, Konkola Copper Mines, First Quantum Mining, Sandvik, Atlas Copco, Mineworkers Union of Zambia, Chamber of Mines.

Tanzania: Greentech4Africa/KTH, SolarWave Tanzania, HiNation, Tawoma, Mines, Energy, Construction and allied Workers Union of Tanzania, Ministry of Trade, Industry and Marketing, Small Industries Development Organization, Tanzania Chamber of Commerce, Industry and Agriculture, Tanzania Industrial Research and Development Organization, Ministry of Energy and Minerals, State Mining Cooperation, Mineral Resources Institute, Geological Survey of Tanzania, Arusha Technical College, Tanzanite One, ILQA (Improve Life Quality for All).

Mozambique: Direccção Nacional de Minas, Direccção Nacional de Geologia, Fundo de Fomento Mineiro (FFM), Salvador Mundale University (Department of Geology), Faculty of Science, Gondwana Lda., Empresa Moçambicana de Exploração Mineira, Técnica, Gold & Stones Mining(Moc) Lda.

Colombia: Servicio Geologico Colombiano, Asociación Nacional de Empresarios de Colombia (ANDI), Unidad de Planeación Minero Energética, Agencia Nacional de Minería, Banco Interamericano de Desarrollo (BID) och Fondo Financiero de Proyectos de Desarrollo (FONADE).

The facilitator service has encompassed providing information about cooperation opportunities and support mechanisms as well as matchmaking. MPM/SFS and MPM together have presented the PDC concept to more than 100 organisations comprising governmental authorities, educational and research institutions (mainly universities), NGO's and private companies in Sweden and 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 for matchmaking. Almost 50 companies and other organisations have registered with the site. The site will be up and running at least throughout 2015 and is also linked to the SGU web site.

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 subsequently will be able to inform other companies about opportunities in southern Africa. The following Swedish companies have been involved in the MPM/SFS project: Bergutbildarna AB, Rinzén Business Development AB, Impact Mining Investments AB, Ifa Produktionsutveckling AB, Business Sweden (formerly Swedish Trade & Invest Council) and Metsol AB.

It should be noted that the earlier mentioned planning grants were directed towards the countries being phased out from traditional aid programmes, to which category the MPM/SFS countries do not belong. MPM/SFS has therefore offered conditions similar to planning grants by covering travel expenses and accommodation for companies interested in visiting the partner countries for fact finding and for establishing contacts with tentative partners. The input provided by participants has been their own time and subsistence costs. Swedish organisations supported by MSM/SFS are Impact Drilling, Bergutbildarna AB, Ifa Produktionsutveckling AB and MRM AB.

Capacity building

A very early capacity building effort made by MPM/SFS was to provide GIS and geophysics training to the University of Zambia (UNZA) and the Geological Survey Department (GSD). This was done in cooperation with the Geological Survey of Finland (GTK). The training was a contribution to an ongoing development cooperation project run by GTK and made it possible for MPM/SFS to get acquainted with both UNZA and GSD.

Another capacity building effort worth mentioning is the cooperation between MAWE and SGU. MAWE is a newly established subsidiary of Zambian Consolidated Copper Mines Investment Holding (ZCCM-IH), a state owned company with private minority owners. MAWE aims, through its exploration work, at demonstrating the mineral potential of certain areas and thereby attracting investors either to acquire the exploration and mining rights themselves or to enter in joint ventures with MAWE. SGU and MAWE has signed a memorandum of understanding and developed a training programme which has been co-financed by the MPM/SFS and MAWE. The cooperation includes for instance GIS training and the development of exploration databases. Planned activities for 2015 and onwards will be fully financed by MAWE.

As in the MPM partner countries, one of the main challenges to the mineral sector in MPM/SFS countries is the lack of a skilled workforce. The project therefore supported the development of education and training programmes. In Zambia, a feasibility study was carried out together with the Swedish company Bergutbildarna AB. Input was provided by e.g. ZCCM-IH, Ministry of Mines, Energy & Water Development, Chamber of Mines, AZMEC, TEVETA, NORTEC, Copperbelt University, Konkola Copper Mines (KCM), First Quantum Mining, Sandvik and Atlas Copco. A draft Concept Note was prepared and discussed during a workshop arranged in Lusaka. A group was formed to formulate the views of the mining industry and to continue the discussions with MPM/SFS, ZCCM-IH, Ministry of Mines and the education and training institutions.

During the feasibility study, MPM/SFS learned that ZCCM-IH and others were working on a similar, more far-reaching concept for the mineral sector. It was later developed to the Zambia Mining Sector Education Trust (ZAMSET), manifested by a memorandum of understanding signed by the majority of public and private stakeholders in Zambia. The implementation of the concept will, however, depend on necessary changes of the legislation to provide for funding of the vocational education and training.

To bridge the time gap between training needed as soon as possible by the mines and the long term solution discussed by ZCCM-IH and others, MPM/SFS started to discuss more limited pilot training projects. An important aspect of such training is that it should be practical in nature, be offered in close cooperation with the mining companies and include on-site training at the operating mines. A future input from Swedish companies could be to “train the trainers” through relatively short-term engagements followed by supporting the new trainers from Sweden and, when necessary, by renewed training and updating on new technological achievements. There are Swedish companies interested, but the concept still needs to be developed further, not least when it comes to funding.

Recently, Volvo Construction Equipment has suggested a public-private development project (PPDP) to provide vocational training of drivers and other personnel dealing with heavy construction equipment. MPM/SFS considers this proposed project to be a good pilot project for the ZAMSET and has supported its development by presenting experience gained from working with these issues in Zambia but also experience gained by the MPM project in southern Africa. The MPM/SFS engagement has been channelled through Sida and personnel at the Swedish Embassy in Lusaka.

Small-scale mining

The small-scale mining sector plays an important role for many people in developing countries. In Africa, it has been estimated that there are up to 6–7 million full- or part-time small-scale miners and some 35–50 million people (including family members) depending of the sector. Despite the efforts of many governments to organise the small-scale miners, the sector remains predominantly unorganised. Consequently, the miners are not able to improve their work by co-operating with each other, with few exceptions not even at the very local scale.

Small-scale mining is associated with many risks (health and safety) for the active miners as well as environmental issues. Therefore, MPM/SFS decided to examine the possibilities to work for the development of the sector. The project met with representatives of small-scale miners, individual miners and governmental institutions responsible for the sector as well as environment protection agencies in Zambia and Tanzania. The overall conclusion was that the sector needs a long-term effort from the governmental bodies, including upgrading of legislation and the development of extensive education and training programmes. A large number of short-term projects have already been executed by the UN, EU and others with a very limited, if any, sustainable impact.

Obviously, it is not a task for a rather short-term project like MPM/SFS to develop the small-scale mining sector. Instead, and again due to the importance for poor people, MPM/SFS decided to concentrate on actions which could make a difference for individuals rather than for the sector as such. This was very much in line with the findings made by MPM in Namibia, where the challenges to the sector were discussed on a workshop to which also representatives from Zambia attended. Several projects were initiated focusing on fair trade concepts and health issues.

As a result from the Namibian workshop and a delegation journey on local small-scale gemstone mining, beneficiation and jewelry production, a pre-study was initiated on empowering women in local gemstone trade and industry by the initiation of fair trade platforms between local gemstone producers and Swedish jewelry makers. The conclusion is that this is much needed and that the Swedish market demands more and more transparency from the business.

In Tanzania, contacts were facilitated between a local Swedish-Tanzanian gold mining company, Kilimanjaro Gold and a medical company, CTI Science, in order to develop a concept for small scale gold miners to be tested in the Mara region in northern Tanzania. The concept is three-fold: 1. Develop and start a mobile beneficiation plant to replace mercury amalgamation, 2. Treat mercury poisoned and affected people in the area with a newly developed drug for curing mercury poisoning, and 3. Make a baseline study on the contamination situation of the area in order to suggest the best practice for remediation and avoidance of further exposure to mercury. This has been suggested as a concept for a public-private development project (PPDP) to Sida.

Both these projects are initiated and performed by small- to medium sized companies and local actors. They are based on sound business ideas with a high degree of transparency, and thus they are likely to succeed as partner driven cooperations for a longer duration than the actual project support timeline.

Mining and the environment

Environmental issues are of outmost importance for the long term ability of both economic and health-related sustainability. Mining and mining-related activities, such as e.g. beneficiation, waste-handling and remediation, are often highly polluting. Within the MPM/SFS project, a pre-study was made on the environmental impacts of mining in Zambia. The pre-study aimed to analyse the environmental situation, to review the governmental framework that regulates the sector, and to give an overview of previous measures taken through various development projects. A report from the study (Lindahl 2014) presents the findings of the pre-study and draws

conclusions from it by giving a number of proposals for future work with a focus on better environmental management of the mining sector. The main environmental problems associated with mines in Zambia are pollution of air, soil and water, geotechnical issues and land degradation. The emission of pollutants from abandoned mining sites have shown to be minor compared to current mining operations. Existing laws and regulations regarding environmental performance are relatively up-to-date in Zambia. The main problem for the country is that the implementation is not satisfactory. Partially, this is explained by a lack of coordination between institutions but also to a large extent on a lack of manpower and technical capacity. A special concern is the lack of supervision of the active industry and the generally low quality of environmental impact assessment reports compiled and used in the license process.

Proposals for future development work focus on better management of the active mining industry rather than mitigation of old mining sites. It is suggested to take actions to better implement existing environmental legislation, to improve the quality of environmental impact statements and management plans, to implement a strategy for good water governance, and to improve technical and geoscientific knowledge (capacity building) for relevant authorities.

This report was followed up by a workshop in Uppsala, Sweden, on the mining environment and technology in the Zambian copper belt in September 2014. Altogether 27 actors from the Swedish environmental technology and consulting businesses participated. Two experts from Zambia were invited to participate and explain the current situation from a government and business perspective, respectively.

The workshop was very appreciated by all participants, and initially around ten of the participants showed a direct interest for participating in the planned follow-up delegation trip in November to the Zambia copperbelt. However, only one company, MRM (Mark Radon Miljö), did go on the journey. The delegation trip itself was very successful. MRM got very important contacts as well as a good insight into Zambian mining environmental challenges. Several projects and cooperative suggestions are now in preparation for further development.

During the workshop it became clear that there is a great need for developing and strengthening the organisations that are responsible for implementing and controlling environmental legislation. This need is imperative for most developing mining countries around the world. Based on this information, a suggestion was initiated by Sida to investigate possibilities for an international training programme (ITP) on mining environment. Thus, the second aim for the delegation trip was to prepare and scope for the interest of such a programme in Zambia (and elsewhere). The result was that a suggestion for an ITP on mine water management will be prepared by a pre-study and scoping project, pinpointing the exact needs as well as presenting what countries are of interest for the suggested programme. Preparation for this is on the way and the pre-study is planned for the first half of 2015, with a tentative start of the ITP programme during the second half of 2015.

Outcome and long term impact

The two MeetingPoints Mining projects have been brought to an end but there is every reason to believe that the influence of the projects 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 will do so in the future. It is also anticipated that new contacts will be made by companies and other organisations 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 implementation period of the projects. In addition, SGU will have access to the whole contact network which has developed during the realisation of the MeetingPoints Mining projects.

The long term outcome and impact of the MeetingPoints Mining projects remains to be evaluated and this can only be undertaken at a later date. 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 projects.

Established business relations will tend to be sustainable as long as the business is sound. The established relations between universities will be sustained through personal contacts, and these types of institutions are usually 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 does not provide SGU with a budget for development cooperation and the Swedish government is phasing out the development aid cooperation programmes with the three partner countries (Botswana, Namibia and South Africa).

SGU will continue to be a part of the Swedish mineral cluster and hence be able to provide information and links to important contacts in the partner countries and in the region. However, future proactive initiatives will require additional funding to SGU from the government or elsewhere.

The two pilot projects MPM and MPM/SFS have shown the importance of including mining and minerals into development and capacity building as a part of poverty alleviation actions. However, in order for this to be effective, long term engagement in a region or a country is essential. The Swedish government has assigned SGU with two government commissions related to the future engagement of development projects in the minerals sector. The first has already been reported (Taromi Sandström 2014) and contains a suggestion on how to work with development projects in the minerals sector on a long term. The second (Regeringen 2014) will be reported in September 2015, and it identifies countries and tentative collaborations for development of the mineral sector on a governmental and institutional level.

LESSONS LEARNED

The general experience from the MeetingPoints Mining (MPM and MPM/SFS) projects indicates 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, taking into account lessons learned from MPM, MPM/SFS and other partner-driven cooperation projects carried out, this concept could be further developed.

In the following, major lessons learned from MeetingPoints Mining are presented. Even though they derive from working in the mineral sector they are probably relevant for other sectors in the society as well. It is concluded that the outcome of future partner-driven cooperation projects would greatly benefit from improved base-line analyses, not least on the possibility to engage local facilitators, and from focusing more on capacity building as an important facilitation tool, especially for the private sector.

The partner-driven cooperation concept (and projects) has been recurrently evaluated on behalf of Sida. Two of these evaluations have involved MPM, namely Goppers (2012) and Markensten & Lindström (2013). The evaluation by Goppers is a half-time review of two facilitator projects covering Botswana, Namibia and South Africa, whereas the study by Markensten & Lindström summarises experiences and lessons learned from all partner-driven cooperation projects funded by Sida.

Preparatory work and expected outcome

The establishment of the MPM and thereafter the MPM/SFS project was based on the prerequisite that the 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 to establish 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.

The Swedish mineral cluster is dominated by equipment suppliers and consultants. 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 to medium size enterprises with a rather hesitant approach to establishing business in Africa. It is mainly in relation to the latter category that the project facilitator can play an important role.

The conditions turned out to be significantly more complex than anticipated. The mineral sector in the partner countries was definitely flourishing, although influenced by the international business cycle and also challenged by internal shortcomings in the management of mineral resources. The sister geological surveys were not prepared to take on the task of acting as facilitators. This can be explained by a lack of resources but also by the unwillingness to accept the change from traditional aid to partner driven cooperation. Goppers (2012) made an important comment concerning Botswana and Namibia: "... *it could well be that the possibilities of transitioning from traditional grant aid to PDC in these countries have been exaggerated ...*". It could be argued, however, that the possibilities actually exist but that the length of the transition period needed was under-estimated.

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 programme was to be phased out. The time provided for this process was five years (2009–2013) and the concept was consequently given the same time frame.

Right from the beginning it was much discussed whether the timing of the partner-driven cooperation concept was ideal, and it was suggested that the concept should have been applied at an earlier stage so that when traditional cooperation aid is being phased out, sustainable partner driven cooperation should already be in place. It was on these assumptions that the MPM/SFS was launched. The experience from this project supports the idea to introduce the concept as a tool for development cooperation or aid as well as a tool for out-phasing of traditional aid programmes.

Another aspect regarding timing is the amount of time that should be provided for the facilitation of new partner-driven cooperation projects. Facilitation takes time, especially when there is a need for capacity building to assist potential partners to develop common projects. Markensten & 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.*"

The expected outcome from MeetingPoints Mining (MPM and MPM/SFS) was self-sustainable partnerships. Both projects took off with the optimistic view that this could be achieved by creating and advertising meeting points and matchmaking events. This optimistic approach worked well for facilitating partnerships between universities and geological surveys, even though the partners – in particular the geological surveys – had a tendency to anticipate "development aid" rather than "development cooperation".

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 projects to focus on development projects and capacity building as a facilitation tool.

MeetingPoints Mining has developed a conceptual model for facilitation of business through capacity building. The model was presented by Johansson & Taromi Sandström (2014) and is also found in Appendix 2 in this report.

Project implementation

Very careful preparatory work and definition of expected outcome is the foundation for a successful facilitator-supported partner-driven cooperation project. Lessons have, however, also been learned regarding the implementation phase.

Local presence in partner countries and regions is of utmost importance. If the project implementing agency cannot establish 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 organisation, 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. To assure long term impact, a local facilitator should preferably be engaged even in cases when the Swedish facilitator plans to be very much present in the partner country or region.

Meeting points are important, and supporting partners to attend scientific conferences and trade fairs is one way to open up for fruitful meetings between partners and partners-to-be. This works well for institutional organisations like universities and geological surveys but not as well for the small and medium size enterprises which is the target group within the private sector.

Concerning the private sector it has turned out to be far more efficient to facilitate business contacts by initiating development and capacity building projects. Workshops focused on a specific theme attract participants with a more pronounced interest in establishing business contacts as opposed to more general “business in Africa” events. A focused workshop, held in Sweden but with participation from partner countries, should preferably be followed up by organising a delegation trip to the partner country or countries for those seriously interested.

For announcing a PDC project, internet works well and can be complemented by announcements in the relevant trade press. A web site is also important for match making and dissemination of news about upcoming events.

Sustainability

The motivation for partners to establish sustainable partnerships depends 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. Somewhat simplified, sustainability will depend on the degree of business success.

For the academy (research and educational institutions), cooperation with corresponding organisations in partner countries will widen the scientific work and probably attract Swedish students who want to carry out work in Africa and vice versa. Sustainability will depend on for example the universities’ ability to finance joint research projects through various funding institutions and the possibility for students to be awarded grants for fieldwork in foreign countries.

Swedish governmental authorities 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 Goppers (2012) in the 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 programmes. Comments on sustainability have also been made by Markensten & 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.”*

To assure sustainability and long-term impact from PDC-projects, the time for implementation must be reasonably long, in most cases 5–10 years, and after the end of the project it should still be possible to continue the funding of sub-projects deemed to become sustainable with a limited extra support.

FINANCIAL REPORTING

Detailed financial reports for the project have been presented in the annual project reports for the years 2011 to 2014. The financial statement, shared and overall costs and costs for each partner country is presented below.

Financial statement 2011–2014

Costs by country 2011–2014	Amount (SEK)
MPM/SFS, shared/overall costs	10 566 484.77
Travel expenses	1 315 462.52
Consultants or other services	1 167 937.05
Other expenses	133 599.95
Personnel expenses	7 949 485.25
Colombia	132 482.00
Travel expenses	42 656.23
Other expenses	103.77
Personnel expenses	89 722.00
Mozambique	298 592.22
Travel expenses	96 590.91
Consultants or other services	37 727.00
Other expenses	9 422.31
Personnel expenses	154 852.00
Tanzania	708 089.70
Travel expenses	233 105.58
Consultants or other services	178 397.00
Other expenses	20 797.12
Personnel expenses	275 790.00
Zambia	3 280 875.26
Travel expenses	713 876.16
Consultants or other services	278 914.78
Other expenses	13 870.82
Personnel expenses	2 274 213.50
Total	14 986 523.95

Financial statement 2011–2014 – fees and reimbursable costs

	Accrued costs (SEK)	Recoverable costs (SEK)*	Budget (SEK)
Fees	10 744 062.75	10 734 005.25	6 150 000.00
Reimbursables	4 242 461.20	4 242 461.20	8 850 000.00
Total	14 986 523.95	14 976 466.45	15 000 000.00

*) In accordance with §5 Budget and Reimbursement, section d) Fee Adjustment of the agreement between Sida and SGU, it was agreed that the fee adjustment for the year 2012 would apply as of 2012-04-16. Hence the 2011 hourly rate applied to hours worked up to that date. The difference between hours worked multiplied by the 2011 hourly rate and hours worked multiplied by the 2012 hourly rate, is included as a cost in the project but has never been accounted for as recoverable costs towards Sida. The cost (10 057,50 kr) has been covered by SGU.

Working hours 2011–2014

MPM/SFS, shared/overall hours	10 218
Colombia	102
Mozambique	196
Tanzania	332
Zambia	2 944
Total	13 791

Comments on the financial statement

The high number of working hours related to Zambia depends on the fact that the project had one person working full time in the country for about a year and a half during 20012–20013.

The higher than budgeted fees vs. reimbursable costs ratio is a consequence of substantial time spent on activity (sub-project) generation directed towards the small-scale mining sector (Zambia and Tanzania) and the efforts made to support vocational training programmes. This is also reflected by the large number of working hours referred to as shared/overall hours since much activity generation was not focused on a particular country.

REFERENCES

- Goppers, K., 2012: *Facilitating partner-driven development cooperation in southern Africa: A review of Sidas Meeting Point program with the Swedish Trade council and the Swedish geological survey*. Report for Sida. Framework Agreement for Sida Reviews, Evaluations and Advisory Services on Results Framework, Contract number C01548, 40 pp.
- Joahansson, R. & Taromi Sandström, O., 2014: Final report. MeetingPoints Mining. *Sveriges geologiska undersökning SGU-rapport 2014:24*, 24 pp.
- Lindahl, J., 2014: Environmental impacts of mining in Zambia. Towards better environmental management and sustainable exploitation of mineral resources. *Sveriges geologiska undersökning SGU-rapport 2014:22*, 26 pp.
- Markensten, K. & Lindström, J., 2013: Experiences and lessons learned from partner driven cooperation in the seven selective cooperation countries. *Sida Decentralised Evaluation 213:49*, 138 pp.
- Regeringen, 2014: *Uppdrag att kartlägga vilka länder som utbytet inom gruv- och mineralområdet bör fördjupas med*. Regeringsbeslut 2014-09-11, Näringsdepartementet N2014/3759/FIN, 2 pp.
- Taromi Sandström, O., 2014: Mineral och utveckling: Så kan Sverige bidra till en hållbar mineralnäring i ett utvecklingsperspektiv. *Sveriges geologiska undersökning SGU-rapport 2014:18*, 36 pp.

APPENDIX 1

Organisations approached (non-exhaustive list) by the MPM and MPM/SFS projects

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

APPENDIX 2

Facilitating partner driven cooperation – a model for the future

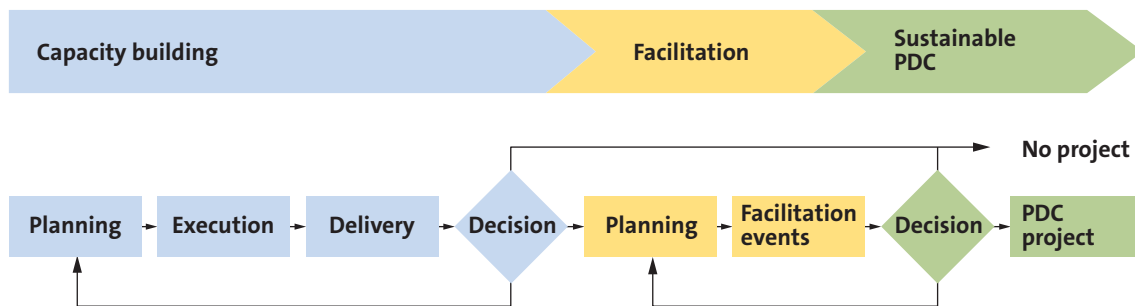
Based on experiences from MeetingPoints Mining it can be concluded that the partner driven cooperation (PDC) concept offers great potential to become an efficient tool for development cooperation. The model presented for the future is an attempt to refine the concept. It constitutes a basis for discussions 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.

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 the figure below.

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. In the MPM and MPM/SFS partner countries this is, however, generally not the case. Small and medium size enterprises often lack the skills and experience required to become equal partners. This underlines the importance of capacity building as a facilitating tool to be included in the PDC concept.

Even though a 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.