



Sustainable Economic Development in Resource-Rich Countries

Guidelines for Technical Cooperation

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Abbreviations

BGR	Federal Institute for Geosciences and Natural Resources
BMZ	Federal Ministry for Economic Cooperation and Development
CEESP	Commission on Environmental, Economic and Social Policy
CSR	Corporate Social Responsibility
DC	Development Cooperation
DEG	Deutsche Investitions- und Entwicklungsgesellschaft
EITI	Extractive Industries Transparency Initiative
FDI	Foreign Direct Investment
FC	Financial Cooperation
GDP	Gross Domestic Product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit (forerunner organisation of GIZ)
ICMM	International Council on Mining and Metals
ICTSD	International Centre for Trade and Sustainable Development
IFC	International Finance Corporation
ILO	International Labour Organization
IMRI	Integrated Mineral Resource Initiative
IPIECA	International Petroleum Industry Environmental Conservation Association
IRMA	Initiative for Responsible Mining Assurance
ISA	Inclusive Sustainability Agreement
KfW	Kreditanstalt für Wiederaufbau
M & E	Monitoring & Evaluation
MDG	Millenium Development Goals
MSME	Micro, small and medium-sized enterprise
NRO	Non-Governmental Organisation
OPM	Oxford Policy Management
PPP	Public-private partnership
PTB	Physikalisch-Technische Bundesanstalt (National Metrology Institute)
PWYP	Publish What You Pay
SED	Sustainable Economic Development
SLO	Social License to Operate
SME	Small and medium-sized enterprise
TC	Technical cooperation
TVET	Technical and Vocational Education and Training
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Programme
VC	Value Chain
WTO	World Trade Organization
ZEF	Centre for Development Research

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Preface

There is no doubt that resource wealth and in particular resource extraction can have enormous implications for the development of a country, for the better or for the worse. Against the backdrop of the commodities boom of recent years, German development cooperation is paying more and more attention to this subject. In 2010 the German government adopted its Raw Materials Strategy, which was complemented by the BMZ Strategy Paper on Extractive Resources in German Development Cooperation. The strategy paper describes the comprehensive approach employed by German development cooperation in mainstreaming sustainability in its partner countries' extractive resources policy. It highlights the following goals:

- utilising the extractive sector to develop and strengthen the economy in developing countries,
- improving legal, institutional and economic frameworks and human capacities in the extractive sector, for example by strengthening geological services,
- establishing transparency in financial flows, stemming corruption, curbing the funding of armed conflicts and reducing the inequitable distribution of income,
- taking account of ecological, social and human rights impacts,
- making more efficient use of extractive resources, and
- taking account of and contributing to dealing with conflict potential surrounding extractive resources.

These guidelines present options that show how development cooperation can deploy technical cooperation instruments to foster the use of the extractive sector for sustainable economic development. The paper therefore examines only part of BMZ's engagement in the extractive sector. Hence, references are made at appropriate points in the text to other areas of activity under German development cooperation, including German financial cooperation.

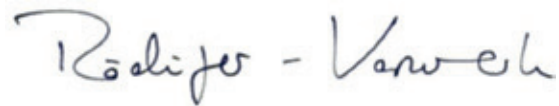
The guidelines review in particular the portfolio of the bilateral priority area of Sustainable Economic Development in the context of the economic potentials open to resource-rich countries and the economic challenges that they face. To date only a few projects have addressed the economic or economic policy issues confronting these countries. Given the great significance of the extractive sector for numerous economies among the partner countries of German development cooperation, this may come as a surprise; all the more reason, then, why BMZ is committed to increasing the attention paid to mineral resource wealth as part of sustainable economic development planning and including it in the portfolio design with resource-rich countries.

That said, there is no need to re-invent the wheel: many tried-and-tested technical cooperation approaches can be applied to the extractive sector. These guidelines can help point the way when it comes to adapting to particular circumstances, prioritising various options and adding important approaches from other priority areas. Interfaces with other priority areas of German technical cooperation in resource-rich countries are also indicated.

Including the subject of extractive resources in Sustainable Economic Development projects means strengthening economic links between the extractive sector and the rest of the economy (increasing local value added), but also strengthening other existing or new sectors that may be adversely affected by resource extraction as a result of macroeconomic impacts (diversification of economic structure). The intervention options described in the following are therefore not based on the assumption that development cooperation necessarily has to be directly active in the sector to increase its effectiveness. If the aim in the priority area of Sustainable Economic Development in our partner countries is to contribute to structural change that strengthens employment effects and enhances the reach of resource-induced growth, this can be achieved at quite different levels of intervention.

Companies in the extractive sector can also be brought in as partners to work towards achievement of German development cooperation objectives. It is in their interests, too, to contribute to development in mining regions in order to boost acceptance of their presence and their actions among the local population. With this in mind they can support German development cooperation as partners in the implementation of projects in the context of the extractive industries.

I am pleased that we now have a systematic review of these intervention options from very different viewpoints. I hope you enjoy reading about the various aspects and wish you every success in applying them.



Dr Tania Rödiger-Vorwerk
Head of Directorate 31: Sustainable Development,
Natural Resources, Economic and Financial Policy and
Infrastructure, Federal Ministry for Economic Cooperation
and Development

Executive Summary

These guidelines, drawn up against the backdrop of the immense economic significance of the extractive sector in developing countries and emerging economies, systematically present approaches within German technical cooperation's priority area of Sustainable Economic Development that are specifically geared to the key economic and economic policy issues affecting resource-rich countries. A particular focus is put on mineral resources and the context of large-scale mining.

The document is intended to provide a general overview of cooperation strategies for sustainable economic development in resource-rich countries and to be a tool for technical cooperation staff regarding the design of cooperation projects in the context of extractive resources. The relevant instruments are taken from the following sub-priority areas: (i) economic policy, (ii) private sector promotion, (iii) financial systems development and (iv) technical and vocational education and training and the labour market; and they are also employed in non-resource-related contexts. This means that the instruments are not necessarily new, nor are they specific to the extractive sector. However: all of them offer options for realising growth potential in the extractive sector and reducing obstacles to growth.

These guidelines allocate the instruments to the following three thematic fields:

- strategic planning
- employment promotion
- local economic development

This classification roughly equates to the macro, meso and micro levels: strategic planning at national level, employment promotion by way of appropriate sector policies, and local development in mining regions. The dividing line is not entirely clear-cut, of course, since employment promotion for example should also form part of national strategic planning, and local economic development is closely bound up with national economic development. Nevertheless, this structure is useful for categorising the various approaches and it corresponds to the priority areas of existing German

cooperation projects. Finally, an entire chapter of the document is devoted to the topic of involving extractive sector companies as partners in such projects.

The key messages of the document can be summarised as follows:

- German technical cooperation approaches in the priority area of Sustainable Economic Development can make a significant contribution to harnessing resource wealth for the population and avoiding a resource curse in cooperation countries.
- The extraction of mineral resources is plannable to a great degree. This allows the introduction of structured economic planning processes relating to the sustainable use of natural resources, which can be supported by German technical cooperation. The resulting strategic plans may affect many subsectors of an economy.
- Within the extractive sector many private enterprises along the value chain can be promoted through the use of tried-and-tested instruments employed by German technical cooperation. This opens up considerable employment potential among supply companies, in particular, which can be boosted by targeted advisory services.
- Beyond the extractive sector, too, private businesses should be promoted in order to counteract dependence on natural resources by encouraging diversification, and to pave the way for sustainable economic development.
- It is in large extractive sector companies' own interest to contribute to development in mining regions. German technical cooperation provides formats for them to become involved in cooperation projects in ways that can be beneficial to both sides.

1. Introduction



The extraction, trading and processing of natural resources is one of the main forces driving the development of the global economy today, as it has been in history. A large proportion of mineral resource deposits¹, including critical raw materials², are to be found in developing and emerging countries (*BGR and SWP, 2013*). With the gathering pace of industrialisation and increasing dependence on technology, the strategic significance of this sector has constantly expanded and is gaining new impetus from growth in the major emerging economies. The influence of this industry on political, social and environmental conditions and processes is patently clear, and in the form of ‘resource diplomacy’ it is increasingly shaping other areas of policy, including development cooperation. This applies equally to industrialised nations and developing countries. Nevertheless, the latter appear to be more vulnerable, as in many cases their own processes of fundamental social change have not yet advanced sufficiently far and institutions have not yet developed to an adequate extent to be able to meet the challenges of resource-driven development pathways. The effect of this can be to diminish the contribution made by the extractive industries to sustainable economic development, and there is even a risk of the resource blessing being turned into a “curse”. In the worst case this can even foster conflicts and increase fragility – as has indeed been observed in the past in many developing countries.

The starting point for this document is the (justified) assumption that extractive resources and the exploitation of those resources represent a potential for sustainable development in developing countries provided that appropriate conditions are in place. Development cooperation (DC) can help to harness this potential in pursuit of development objectives. These guidelines are intended to play a part in enabling the achievement of precisely these aims through projects and programmes implemented in the priority area of Sustainable Economic Development (SED) by German technical cooperation (TC). SED harmonises social, environmental and economic development goals and establishes the foundation

for growth from which all sections of the population are able to benefit. Various instruments from the four core segments of the priority area are available for the corresponding advisory services: economic policy, private sector promotion, financial systems development, and technical and vocational education and training (TVET) and the labour market. These guidelines are meant to demonstrate how existing SED approaches can be used to address the potentials and challenges of resource-led development pathways in developing countries. Consequently, they are primarily aimed at TC practitioners and at others with an interest in development cooperation. The document does not consider approaches used by financial cooperation (FC), for example in the sphere of financial systems development and resource extraction in the context of energy projects, nor direct corporate financing contributions made by DEG.

The relationships between natural resources and sustainable economic development are so complex and multi-layered that no single document could possibly illuminate every facet. It was therefore decided to set explicit limits so as to enable the focus to be directed at specific aspects:

- Firstly, attention is targeted exclusively at mineral resources, especially ores, as opposed to fossil resources and non-food agricultural products (renewable resources). From the perspective of German DC, mineral resources offer considerably greater development potential in the partner countries than the oil and gas industries, which in technological and economic terms are usually even more detached from the local and regional setting (for example with regard to supplier relations and employment effects). In contrast, a particular abundance of renewable resources – such as cotton – brings with it entirely different potentials and challenges than mining; these are dealt with elsewhere.
- The central focus of the document is on large-scale mining. Although small- and micro-scale mining are largely left out here, this is not meant as a value judgement; their importance (and also the human rights issues they bring along) in the partner countries of German DC should not be underestimated. Focusing on just one area of the entire sector, however, enables the issues to be viewed in a much more targeted manner.

1 The term ‘mineral resources’ covers metals, industrial minerals and other non-metallic minerals.

2 Raw materials that according to the European Commission have a high risk associated with their supply as well as a high economic importance to the EU: Antimony, Beryllium, Borates, Chromium, Cobalt, Coking coal, Fluorspar, Gallium, Germanium, Indium, Magnesite, Magnesium, Natural Graphite, Niobium, platinum-group metals, Phosphate rock, rare earth elements (heavy), rare earth elements (light), Silicon metal, and Tungsten.

The second chapter of the paper summarises the particular significance of the extractive resource sector for developing countries and explains the contributions it can make to economic development. The description quite intentionally goes into the factors that the mining industry itself usually brings to the fore (inter alia jobs, economic linkages, acceptance among the local population). It then focuses on the key levers that need to be pulled in order to address the potential challenges of the extractive sector.

Following on from this, the third chapter presents three areas of work where German TC approaches can help to pave the way for resource-based sustainable economic development: (i) strategic planning, (ii) employment promotion and (iii) local economic development. These areas reflect current priority themes of German cooperation projects and offer a platform for the application of SED instruments and for contributions from other areas of German TC. The chapter discusses in detail what specific instruments can be used at what stages of the mining cycle and points out where there are interfaces between various services in the context of extractive resources. It also puts forward a set of key questions for orientation purposes, which can be used in the context of project appraisal, for example.

Chapter four takes a separate look at what opportunities there are for cooperation between companies in the extractive sector and German TC to realise the sector's potential. It is in the interests of extractive sector companies to make a contribution to development in mining regions and to meet their human rights responsibilities, and they can even be obliged to do so in various ways. This opens up the possibility of integrating them into German TC projects as partners. The paper concludes with a recapitulation of the key messages.

2. Growth and Employment in the Context of Extractive Resources



There is widespread agreement in the international debate that sustainable economic growth is essential in order to achieve the Millennium Development Goals (MDGs), reduce poverty and promote sustainable development. The extent to which deposits of extractive resources bear the potential to create such growth is a matter of dispute within this debate.

With an eye to experience gathered in many developing and transition countries, some non-governmental organisations (NGOs)³ and voices from social science research⁴ doubt this potential and tend to highlight the risks of a resource-dependent economy instead. However, there is a growing consensus in the academic debate which assumes that the so-called ‘resource curse’⁵ is not an inevitable fate. Instead, the question that stands increasingly at the centre of attention is: under what conditions do natural resources contribute to development?⁶ As shown by a number of positive examples (such as Norway, Botswana, Chile or Malaysia), resource wealth can also be a driver of economic development if existing capacities are utilised through suitable enabling frameworks, good institutions and targeted policies. This observation is the starting point for this study. But what contribution can the mining sector really make to sustainable economic development?

2.1 The importance of extractive resources for economic growth

This section examines the economic potential of the extractive sector, its significance for development policy and the factors that prevent or hamper the harnessing of the potential. Against this background it illustrates the extent to which extractive resources are an important

subject for projects of economic promotion implemented by German TC.

Viewed from a global perspective, it can be expected that the importance of extractive resources will continue to grow over the next 30 years. Projections assume that demand for virtually all mineral resources will rise over the short, medium and long term. At the same time there are only few estimates of the anticipated trend in commodity prices. However, given the expected growth in demand, and the fact that exploration times for new mining areas are relatively long and the yield from tapped deposits is diminishing, there is little likelihood of oversupply with the accompanying permanent falls in prices of the principal products (for example aluminium, copper, lead and zinc). This does not, however, rule out considerable price volatility, as the sharp fall in the iron ore price in 2014 illustrates.

Nevertheless, in most industrialised countries and emerging economies the nominal production value of mining tends to be rather low. It usually accounts for not much more than two per cent of its Gross Domestic Product (GDP). The sector’s significance for many developing countries is quite different: over 60 of the 95 countries considered to be resource-dependent⁷ are low- or medium-income countries. As their level of industrialisation is low in most cases, and the depth of value added in their economies is limited, the contribution of resource exports to their GDP is often considerably higher than that in industrialised countries (*OPM, 2011*).

In this context, reference should be made to the extraordinary macroeconomic importance of resources for national economies, as shown in Figure 1. This importance results from foreign direct investment (FDI), the contribution to export revenues, foreign exchange earnings, government revenues and the various employment effects resulting from mining – which offer many opportunities especially in developing countries.⁸ Figure 1 illustrates the various ways in which the extractive sector influences low- and

3 For example *Oxfam US (2009)*; *CEESP (2011)*; *Irish Centre for Human Rights (2014)*.

4 For example *R. Auty, 1993*; *J. Sachs and A. Warner, 1995*; *T. Karl, 1997*; *World Bank and IFC 2002*; *OPM, 2011*.

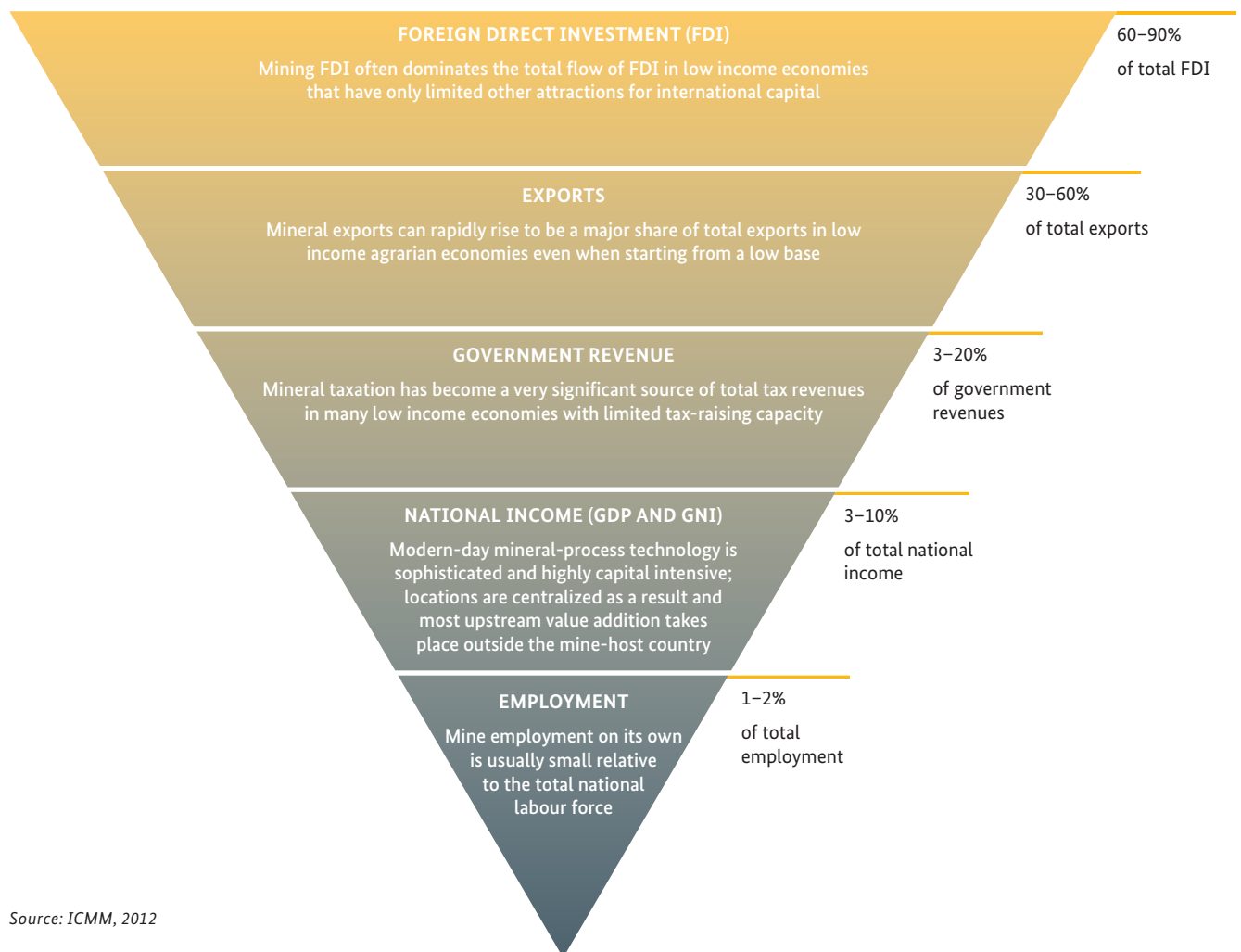
5 In the academic discourse, ‘resource curse’ refers to the apparent paradox that resource-rich countries are often characterised by lower economic growth than nations with fewer natural resources. The following sections (in particular 2.2) discuss some explanatory factors of the resource curse in detail.

6 For example *R. Torvik, 2009*.

7 Countries are considered to be resource-dependent if their mineral resource exports account for more than 25 per cent of total exports (examples include: Myanmar, Bolivia, Mongolia, Mauritania, Mali, Guinea, Burkina Faso) (*OPM, 2011*).

8 Whether growth is actually generated, and to what extent, is dependent on a number of other factors, however, which are discussed in the next section.

Figure 1: Importance of the extractive sector for national economies



Source: ICMM, 2012

middle-income national economies, and the relative sizes of these factors:

Foreign direct investment. Many developing countries strive to attract FDI as a means of overcoming the limitations of capital formation in their own economies and in expectation of long-term stimulus for growth and structural change. Mining belongs to the small number of economic sectors where relatively few conditions (for example infrastructure facilities) need to be in place in the prospecting countries in order to generate FDI. In many cases the mining industry even creates its production conditions itself to enable it to become operational. In 2005, total global direct investment in the extractive sector

amounted to USD 755 billion.⁹ Even developing countries whose markets otherwise hold little attraction for foreign investors succeed in attracting FDI in large volumes if they offer minimal governance prerequisites to protect the investments. Over the last decade, the growing involvement of foreign mining companies has helped to increase the proportion of FDI in the GDP of sub-Saharan Africa, which has otherwise attracted only limited investment. This trend has been furthered by a better investment

⁹ Global FDI in the extractive sector rose from USD 158 billion in 1990 to USD 755 billion in 2005. The amount accounted for by developing and emerging countries in 1990 was USD 22 billion, and in 2005 USD 179 billion (UNCTAD, 2007).

climate, high commodity prices and also low interest rates on the capital markets, accompanied by high profits made by multinational mining corporations.

In itself, FDI is no guarantee of economic development and structural change.¹⁰ A stable financial system is required, for example: one that is resistant to over-dependence on foreign finance in the form of FDI and loans from private, public and supranational financial institutions. Over and above that, one of the central challenges for developing countries is ensuring that incoming capital and knowledge are gainfully linked to their own economies so that they can boost sustainable employment effects, raise domestic demand and encourage technology transfer. In the mining sector the principal concern is to make use of the available room for manoeuvre (greatly limited by the sector's considerable import-dependent capital intensity and technology intensity) to ensure that nationally-sourced supplies, services and workers are increasingly involved in extraction as well as in upstream and downstream processes. The extent to which this can succeed is heavily dependent on the country context (institutional and human capacities, for example) and the mining company's requirements and sustainability strategies, but also on pre-negotiated agreements on supplies and services, such as local content agreements. Whereas at first glance the sector's relative lack of dependence on any prior provision for establishment of the industry is advantageous for many developing countries, at the same time there is a risk that a relatively detached island structure might be formed in the subsequent course of events. In the worst case the only links between the mine and the country's economic structures are via a few low-value exchange flows and negative macroeconomic impacts (such as Dutch disease – cf. text box 1). Appropriate (economic) policy measures can be taken to counteract this.

Export revenues and foreign exchange earnings. The generation of export revenues is considered to be one of the main macroeconomic contributions made by extractive industries. Export revenues are accompanied by foreign exchange receipts, which are vital in order to purchase essential imported goods. The importance of commodity exports for many developing countries has already been stated above. Their growing dependence on exports of mineral resources is now becoming apparent.

The magnitude of this tendency is shown not only in the rising number of developing countries dependent on commodity exports but also in certain economies' growing dependency on mining products¹¹ – something that is often a danger to economic stability and development (cf. section 2.2).

Public revenues. The extractive sector can make a significant contribution to public revenues, although this depends on the country's tax system and the capacity of the tax authorities. In light of the considerable capital investment needed, as well as the technological demands, few developing countries are in a position to operate mines themselves. On the small number of occasions when this has been tried, mainly in the 1980s, inefficiently administered state-owned enterprises were subsequently privatised. Most state revenues directly associated with mining production therefore come from the granting of extraction permits, royalties, various types of taxes and duties, and where applicable contractual agreements on production shares, dividend shares or partial shareholdings. In addition, domestic economic activities induced by mining can generate further revenues (for example income tax from additional employment, value-added tax, business taxes), provided the national tax system is in a position to collect them. The contribution made by the extractive sector to public revenues varies greatly (for example Ghana 2 per cent, Peru 9 per cent, Norway 21 per cent, Cameroon 26 per cent, Mongolia 32 per cent, Kazakhstan 71 per cent)¹². It largely depends on the sometimes complex revenue management system being designed and implemented effectively (negotiation, ease of administration, transparency vis-à-vis civil society, establishment of a certain continuity of revenues, etc.). Using these funds in a way that is conducive to development – especially for the creation of long-term growth effects, not only in the extractive sector – is crucially important if revenues from the extractive sector are to be exploited for sustainable development.

Employment. The justification for investment in the extractive sector is often that it holds a significant potential for employment promotion in regions that are

11 For a detailed statistical explanation of fuel and non-fuel dependence, see *OPM, 2011*.

12 These precise figures can be quoted because these countries participate in the EITI (cf. section 2.2). It is difficult to access reliable data on public revenues from the extractive sector for other countries.

10 For a critical examination of FDI, see: Re-Define (no date).

otherwise economically weak. However, the employment potential of the extractive sector varies greatly, according to the type of mining involved. It is estimated that 13 million people work in informal micro and small-scale mining in 30 countries (*World Bank, 2013*). In many cases their working conditions are extremely poor: unsatisfactory safety standards, serious risks to health, incomes below the level of a living wage and child labour are all commonly encountered. In contrast, the large-volume segment of international mining corporations, with its high inputs of capital and technology, offers considerably fewer employment opportunities. There are distinct differences between surface mining and the more labour-intensive underground mining, as well as within the various phases of the mining cycle (cf. section 3.1). In many cases the indirect employment effects in upstream and downstream production and service processes, together with those induced by additional income and additional demand in other sectors, make a greater contribution than the direct employment opportunities.¹³ Country studies have revealed that, depending on the level of development and the local employment situation, between 4 and 14 indirect and induced jobs can be created for each direct job in the mining industry (*ICMM, March 2007; ICMM, July 2007; World Bank, 2002*).¹⁴

in demand play a role here, as do stock management practices, the influence of speculators, the strength or weakness of the invoicing currency (for example the dollar), or state intervention (for instance in the form of customs duties, subsidies or quotas). For those developing countries that are dependent on resource exports, this means considerable economic variability – for example in tax receipts, export earnings or the inflow of foreign currency. Among other things this gives rise to uncertainties in budgetary development, problems with the financial viability of investments, a lack of funds for essential imports and an inability to pay salaries to public employees.

Risk factor: Dutch disease. Another economic explanation of why resource wealth does not appear to be correlated with high rates of economic growth is the phenomenon known as ‘Dutch disease’ (cf. text box 1). Its effect is to limit growth in other sectors with which mining competes for human and other resources. These may well be high-value sectors of the economy.¹⁵ As well as resources such as land and water, which primarily affect agriculture, the focus here is also on conflicts surrounding resources such as energy or skilled workers, on which manufacturing industry in particular is heavily dependent.

2.2 Factors that reduce or inhibit growth

In addition to the challenges briefly discussed above which can diminish the growth potential of the contributory factors in section 2.1, a range of risk factors can be identified that have the effect of directly curbing growth. They are also cited as (partial) explanations for the ‘resource curse’. The order in which they are presented here is not intended to reflect their relative importance.

Risk factor: price volatility. Although it can be expected that prices of mineral resources will be on a relatively high level in the long-run (cf. section 2.1), this does not rule out the possibility of great price volatility. Cyclical fluctuations

¹³ An explanation of the types of employment effects is given in section 4.3.1.

¹⁴ The employment effects may vary enormously, depending on the context.

¹⁵ One example is wine production in Chile, one of the country’s traditional export industries; it is adversely affected by mining as a result of greater exposure to pollutants and higher water extraction.

Text box 1:**Dutch Disease – the danger of focusing on one product or one branch of the economy**

Dutch disease is a much-quoted problem in the context of the resource curse. Short explanations mainly present it as a foreign trade paradox. The name goes back to a phenomenon observed in the Netherlands in the 1960s in the context of the gas boom. Foreign trade surpluses generated by large-volume exports of a particular product or natural resource can lead to appreciation of a nation's currency. The country's other export goods thus become more expensive, while imports are cheaper. The subsequent loss of competitiveness may cause falling sales and even entire branches of industry to disappear. The more active an economy is in foreign trade, the more relevant the phenomenon is likely to become. For developing countries, which in many cases have limited foreign trade relations, it appears that a wider explanation of the Dutch disease is more adequate, one that is less focussed on the effects of

exchange rates and more on impacts on the domestic economy. In the broader context of resource extraction, for example, it is possible that capital and labour will be withdrawn from other sectors (agriculture, for instance, or skilled labour from manufacturing industry) because the 'incentives' (higher wages, better returns, use of infrastructure for own benefit, etc.) are more attractive. Possible consequences include labour market bottlenecks, higher labour costs, preference for investment in the higher-income environment of mining activities and inflationary price rises for consumer goods and services as a result of higher costs for labour or higher levels of local consumption. The Dutch disease model, originally framed in purely economic terms, is now increasingly supplemented by consideration of further factors (such as good institutions, political economy, conflicts etc.).

Risk factor: social, environmental and human rights impacts. Such trends may be reinforced by the various environmental pressures associated with resource extraction, and by the occasionally heightened social tensions. The latter do not only pose a burden for the environmental and social dimensions of sustainable economic development, they also have a restricting effect on the economic one. Resource extraction may also have negative impacts on the human rights situation in the country. For example, the people's right to water, nutrition or health as well as the freedom of assembly and association, occupational safety and health norms or the prohibition of exploitative child labour may be violated in connection with resource extraction. If resource extraction takes place in indigenous territories, their internationally recognized rights to self-determination, maintenance of their cultural identity and prior consultation are frequently affected. From the macroeconomic perspective, growth potential is limited by factors such as infringements of land ownership, harmful effects on health or damage to other sectors through environmental pollution (for example in agriculture, tourism or small-scale industry). It is not uncommon for these to lead to violent confrontations between the local population and mining companies or the forces of law and order. At the commercial level in some cases this means mining

companies losing their "social licence to operate"¹⁶, with huge costs arising for them as a result of protests and resistance among the population.

Risk factor: local inflation. When mining activities first start up, the influx of higher-earning mine workers can lead to greater demand for local and regional goods and services. The result is a localised inflationary trend that reduces the standard of living of the remainder of the population and has a detrimental effect on local companies because of higher cost levels. This can be the start of a downward spiral of impoverishment for the local population, which could reach rock bottom with the closure of the mine because of the lack of employment options.

16 The social licence to operate (SLO) refers to the social acceptance of companies. Such acceptance can be promoted in various ways, for example by consistently respecting human rights, establishing dialogue, and maintaining good relations with all stakeholders of mining activities. CSR measures are also useful in this context – for instance regarding safety standards for workers, the environmental impacts of mining and local social projects. As a rule, foreign companies do not have an SLO from the outset, and have to work to acquire it. The SLO can also be lost again, in which case it is difficult or even impossible to regain. It should therefore continuously be fostered.

Risk factor: corruption. In many contexts, widespread corruption is a major obstacle to development-oriented resource extraction. This issue is relevant across large parts of the mining cycle, and is aggravated by the high degree of intransparency of state revenue and expenditure flows. In response to this, the Extractive Industries Transparency Initiative (EITI) was founded in 2003 in order to increase the transparency of money flows for all stakeholders in society on a voluntary basis.

Risk factor: violent conflicts. Mineral resources become an obstacle to development and growth inter alia if, in countries characterized largely by fragility and violent conflicts, they turn into conflict resources.¹⁷ Two kinds of conflicts can be distinguished: On the one hand there are conflicts in which resources are a trigger for distribution conflicts and / or where different population groups are competing to secure access to resources. Particularly the exploitation of resources that wilfully neglects the interests of affected communities may reinforce and perpetuate violent conflicts. On the other hand there are conflicts which are originally independent from resource extraction, but in which resources serve as a means of finance. In the most violent form of conflict the wealth-creating potential of the resources is fully undermined, and depending on the nature of the conflict the local or national population may be caught up in the dispute.¹⁸

This list of risk factors is non-exhaustive. There are still more obstacles to sustainable economic development in resource-rich countries, which are not part of this paper.

2.3 Key elements for pro-development exploitation of extractive resources

In conclusion, there is a range of interconnected success factors often quoted in the international debate which is conducive to the creation of a 'resource blessing' and directly counters the risk factors outlined above:

- Transparent and effective governance structures and processes, regulating the resource sector (including environmental and social standards), preventing corruption and promoting political participation and civil society engagement.
- Effective and efficient taxation of the extractive sector and pro-poor, sustainable use of the public revenues obtained from that taxation.
- The existence of a long-term development vision in which mining is appropriately integrated and – based on that vision – a macroeconomic plan with coherent investment, fiscal, finance and relevant sector policies that harness resource wealth as a bridge to the development of a more diversified, interconnected economy with greater depth of value added.
- Institutional structures of the public, private and non-governmental sectors with adequate capacities for dialogue, planning, design, and implementation to develop and implement national, regional and local strategies (and to represent them in the international negotiation environment where applicable).
- Dialogue and consensus-building mechanisms that ensure the active participation of civil society actors and mining companies in relevant negotiation and planning processes. Such dialogue platforms also play a role in terms of "do no harm" and the prevention of violent conflicts. Important instruments in this context are the mandatory consideration of consultation and participation rights in legislative processes and safeguarding their enforceability.
- The fulfilment of state obligations to ensure compliance with labour, social and environmental standards and human rights (for example, preventing forced relocation that violates human rights; ensuring the consultation rights of indigenous peoples; and

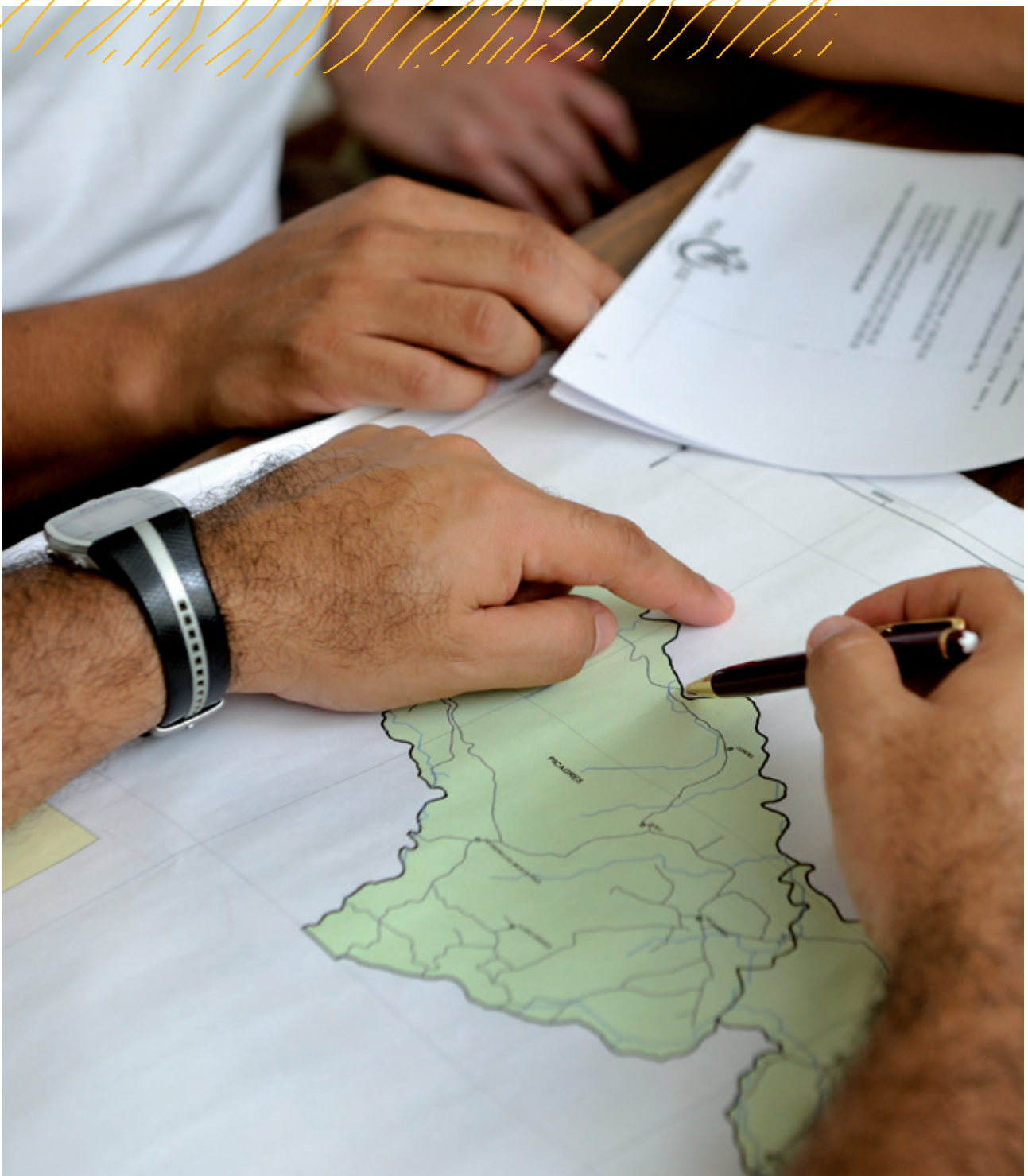
17 One interesting source of information on this topic is the German Federal Agency for Civic Education's information portal on war and peace (*Informationsportal Krieg und Frieden der Bundeszentrale für Politische Bildung*, retrieved at: <http://sicherheitspolitik.bpb.de/index.php?page=rohstoffe-und-konflikte> – in German)

18 Attempts are made to take preventive action against (latent) resource conflicts via resource governance regimes. These national or, in some cases, international initiatives seek to exert influence on businesses and governments through regulation (for example national due diligence requirements in the supply chain, relating to matters such as transparency and environmental standards), agreements (EITI and Publish What you Pay (PWYP)), proofs of origin (fingerprinting) or consumer engagement (such as fair trade initiatives for gold).

protecting against health risks as well as against water degradation).

German TC can contribute to these success factors with approaches from various priority areas. To date, most effort has been invested in promoting transparency with regard to revenues from the extractive sector and in increasing the effectiveness of public revenue collection. The next chapter looks at possible additional approaches from the priority area of Sustainable Economic Development.

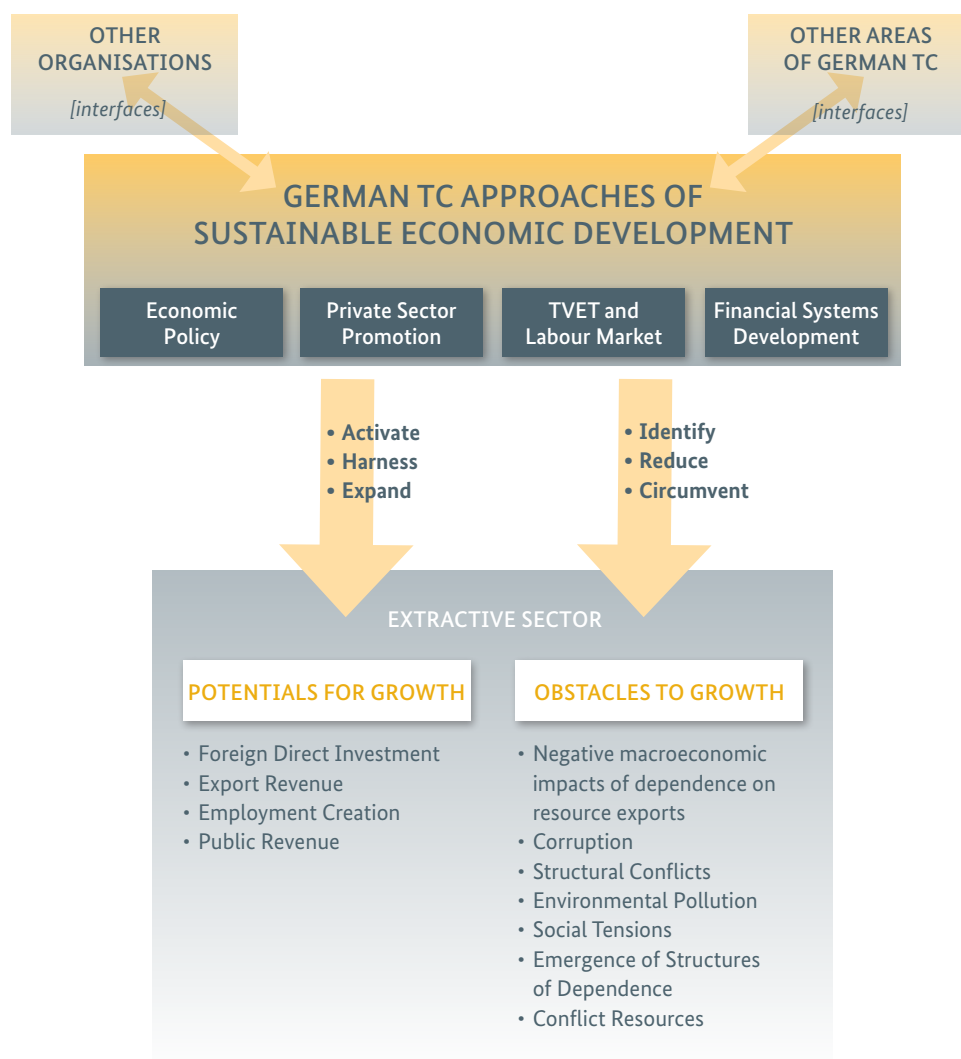
3. Options for Promoting Sustainable Economic Development



As a branch of industry with links to numerous other economic sectors and spheres of society, which can have a very distinct (both positive and negative) influence on development processes, the extractive resources sector is an important (potential) field of work for various German development cooperation priority areas and implementing organisations (for example BGR, PTB and KfW). These guidelines specifically address the options

open to TC to harness the potential of the extractive sector for sustainable economic development. They therefore focus on approaches used in the priority area of Sustainable Economic Development, but also point to interfaces with other services offered.¹⁹ This means that other service providers' know-how, experience and instruments can be utilised to complement the SED approaches and thus produce greater added value for partner countries.

Figure 2: SED approaches employed by German TC can address the economic opportunities offered by and challenges related to the extractive sector. There are interfaces with other areas of German TC and with other organisations.



Source: GIZ

¹⁹ A comprehensive overview of the advisory services offered by the various priority areas of German TC with regard to the potentials and challenges in resource-rich countries – and the interfaces between them – is provided in Annex 1.

This chapter outlines the specific requirements for TC in the extractive sector and introduces the concept of the mining cycle, which provides a planning framework for interventions in and around the extractive industries (section 3.1). It then presents approaches from the priority area of SED that can help developing countries to address the potentials and challenges of resource wealth. These approaches are allocated to the following three thematic fields, which are based on priority areas of existing German cooperation projects:

- strategic planning (section 3.2)
- employment promotion (section 3.3)
- local economic development (section 3.4)

Tables at the end of each section show how the described advisory services are assigned to the various stages of the mining cycle. Additionally, guiding questions are provided which can assist TC practitioners in planning, implementing, and evaluating issues presented in the relevant section.

3.1 The extractive sector: a special setting for interventions within the priority area of Sustainable Economic Development

To ensure that interventions in the context of extractive resources are as effective as possible, it is crucial to take account of certain aspects that significantly influence their form and content, as well as the type of cooperation with the various stakeholders.

Although the role of extractive resources in the development process is contentious (see above), they have not lost their importance as sources of hope. However, the debate has raised awareness of the risks arising from resource extraction and of the need for active, strategic management of the resource economy and its environment. This new sensitivity exhibited by many governments, but also mining companies, presents an opportunity for TC to apply its knowledge and experience to the shaping of development processes in a more focussed and vigorous manner than it has to date.

There is great political interest in the exploitation of mineral resources. Firstly, in many countries such resources are identified as being state-owned as a matter of principle. At the same time, more and more often they are the object of up-front bilateral resource diplomacy, which precedes the actual commercial negotiation processes with the influential – mostly foreign – extractive companies. Their access to ‘strategic national goods’ and the fact that the investments that they make are the starting point for pivotal (regional) structural changes are likewise a reason why the upper echelons of government become involved. Politicians’ economic self-interest can further reinforce this trend. It follows, then, that interventions must be designed with political sensitivity in mind.

It is quite common for the extraction of mineral resources to be a trigger of conflict (cf. section 2.2). Even if this might present particular opportunities for German development cooperation – often seen as an honest broker – to act in a conflict-reducing capacity, it does entail considerable risk of being drawn into conflicts involuntarily. Cooperation in such conflict-laden contexts thus has to be designed with a special feel for the situation and demands a high level of dialogue skills and negotiation expertise. It is often precisely the conflict latency that makes the broad network of inter-relationships between the mining sector and other sectors of the economy particularly apparent. Ultimately, the pursuit of an economically sustainable form of mining, which also opens up future options for development, can only succeed through cross-sectoral approaches. In the real economy this calls for a high degree of coordination and cooperation between the key stakeholders in various technical disciplines, administrative structures and economic fields. Effective German TC does not only have to strengthen the relevant capacities, but must itself exhibit the necessary openness to cooperation.

An important component of TC in the mining context is cooperation with the private sector. In fact, extractive sector companies can be brought in as partners to help achieve the objectives of German DC. Their financial strength, their political and economic influence, the long-term nature of their entrepreneurial engagement and in many cases their international character lead them to operate according to a logic that – at least as far as the mining sector is concerned – is still relatively new to TC. Until a few years ago large companies were at best seen as intermediaries in the context of projects in the priority area of SED. Incorporating the instrument of development

Figure 3: The stages of the mining cycle serve as a planning framework for TC measures in relation to the extractive industries²⁰.



Source: GIZ

partnerships with the private sector into standard TC substantially reduced the degree of detachment from the larger-scale enterprise segment, albeit often only in isolated cases. This is experience that can be utilised. One new aspect, however, is likely to be the changing nature of the cooperation relationship, which can take various forms depending on what is involved: the private sector can sometimes be part of the target group and at others an implementing organisation. This requires both cooperation partners to be highly flexible and to closely engage in comprehensive dialogue (cf. section 4).

The extraction of mineral resources follows a development pattern of its own, the mining cycle, which is shown in Figure 3. The various stages and segments of the cycle are representative of the previously described potentials and challenges at different points in time and at different levels of intensity over the course of time. It serves as an initial rough guide for all stakeholders, including TC partners, to help with more detailed planning of preparatory measures or interventions. If relevant consideration is paid to it, the mining cycle enables frameworks to be put in place – especially in the early stages – which not only benefit development of the sector itself but also leave scope in time to utilise the available development opportunities beyond that. One good example is employment potential: this can be harnessed completely differently if developing countries prepare for the future demand for skilled workers from the mining sector by setting up and expanding their vocational training capacity. In principle it would be conceivable to enter into bilateral cooperation agreements that relate to specific stages of the mining cycle in selected mines or regions and to design the concepts of TC projects and programmes

according to the options that arise. In this context it should be remembered that there may be various ongoing mining activities at different stages of the mining cycle in a given cooperation country. Consequently, TC interventions must be planned and tailored precisely to suit their respective setting. The earlier that cooperation begins in the mining cycle, the greater the scope of fields of activity and strategic options available to German TC.

3.2 Planning visions and implementing strategies coherently

The extractive sector, just like other sectors, needs a favourable enabling environment to be able to realise its optimum potential. The aim of government strategies and economic policy measures in this regard should be not only to promote investment in the sector by establishing appropriate conditions but also to ensure that the investment contributes to sustainable economic development. German TC can provide relevant support in this context.

Designing favourable legal, institutional and economic policy conditions has now become standard advisory practice for projects and programmes in the priority area of SED. The lessons learnt in this field can also be transferred to the resource context and add particular value if they contribute to greater sustainability in the extraction of mineral resources. Sustainability is relevant here in two respects:

²⁰ The periods of time shown here for the individual stages are merely examples. They depend on the type of resource and the size of the deposit in each individual case.

- As latent environmental and (possibly resultant) social conflicts can impede growth in the extractive sector and in ‘competing’ sectors, ecological and social aspects (including human rights²¹) must be an integral component of all strategies and measures, especially if their primary aim is economic promotion.
- Extractive resources are finite. This must be taken into consideration when creating adequate framework conditions to enable the exploitation of extractive resources to contribute appropriately to the establishment of future development options, in the resource sector and beyond. Long-term development planning is therefore particularly important.

3.2.1 The starting point: long-term, prudent strategy development

DC projects focusing on economic policy, which support national and local governments in strategy development and implementation, can play a valuable part in incorporating a (potential) resource boom and its economic impacts into planning and strategic processes at an early stage.

It is not merely a matter of offering advisory services on strategies for the sector as such. In light of the diverse macroeconomic impacts of resource extraction, it may also be advisable to consider these sectoral strategies in the advisory services provided for other policy fields (such as industrial policy).

If the best use is to be made of the development potential of the mining sector, systematic planning and strategy formulation processes are a key prerequisite within the set of macroeconomic governance instruments. This is particularly true in light of the foreseeable finite nature of mineral resource deposits and the limited “local participation” in their exploitation as a result of the dependence on exogenous capital and know-how. It can therefore be particularly effective to support partner governments in the creation and expansion of institutions for planning and strategy development (structures, authorities, processes,

methods and instruments) and to build implementation capacity. This applies not only to the central level but also to the regional and local levels where the mining activities take place and are integrated into the local environment. Issues such as decentralisation, the participation of regional/local actors, site development etc. must be considered from the outset. The long lead times prior to the start of mining operations present an outstanding opportunity in this regard. The earlier the topic of resources is included in national, regional and local planning and strategic processes, the better the economy will succeed in adjusting to the impending economic, social and environmental changes and reaping the benefits from those changes. The lead times therefore open time windows which can be used for effective development cooperation.

That said, advisory services in this field should have specific qualitative features. This is because developing the mining sector – the technology of which is mostly determined by external actors – is only part of the concern. Beyond this, exploiting the potential of linkages with the national and regional economic structures is of particular importance. The third dimension to be considered is the strategic and visionary determination of the mining sector as a long-term engine and change agent for resource-driven development pathways. In most cases, mining countries’ national development plans do not contain any truly strategic orientation for action that covers these aspects. The guiding documents tend to focus on purely sector-related projections, for example on production and export volumes, targeted employment figures, anticipated foreign exchange earnings and general statements on efforts to extend value creation. They generally do not address questions of how exactly the mining sector is meant to contribute to the economy’s long-term viability, and how its decade-long stimulus can be actively utilised as a facilitator of change for sectoral structures and qualification profiles and as a possible agent of gradual technology transfer (and thus serve as a catalyst for development in selected sectors and regions). The central concern should therefore be to introduce and mainstream this systemic and future-oriented perspective at all levels in new or existing planning and strategy building processes.

21 In the preparation of project proposals for German DC, an ex-ante analysis of principal human rights risks of the projects is conducted, which is supported by the mandatory “Guidelines on Incorporating Human Rights Standards and Principles, Including Gender, in Programme Proposals for Bilateral German Technical and Financial Cooperation”.

3.2.2 Strategy development as interface management

Unless national and development strategy planning is sufficiently visionary and cross-sectoral, there will be little guidance for subsequent sector strategies and policies, including those applicable to the mining sector.

Projects and programmes in the priority area of SED, on the other hand, can contribute substantially to formulating economic policy strategies in a resource-sensitive way, because German TC's SED programmes have links and interconnections in many policy fields relevant to the extractive sector. This relates primarily to structural policies (infrastructure, regional and sectoral structural policy, including industrial and location policy) and some process policies (labour market, financial, fiscal, trade and investment policy, as well as social policy). The challenge lies in coordinating these policy fields and creating synergies. One important concern is ensuring coherence between the various strategies and policy areas, especially with regard to strategies and planning in the extractive sector. The latter aspect is often neglected, and not pushed with sufficiently systematic vigour. One outcome of this can be that economic potentials (employment effects, for example) and possible synergies between policy fields (such as complementarity between technology policy and promotion of SMEs) are not adequately utilised. Negative interactions can also occur – for instance if liberal import regulations conflict with local industrial promotion policies.

There are also various connections with other sectors and themes beyond SED, among other things because the extractive sector:

- makes use of a variety of services (e.g. energy supply, transport companies, extraction technologies),
- is linked to other sectors via upstream and downstream processes (e.g. tool manufacturers, processing industries) or
- affects them in other ways (e.g. health, education, environment, administration, landscape management, community development).

SED projects and programmes can help to identify and formulate such interrelations and provide appropriate advisory services on strategy development and policy

measures. SED interventions are well positioned for such processes, and have a supportive and coordinating role to play.

3.2.3 Integration into dialogue and consensus-finding processes

Dialogue and consensus-finding processes are hugely important when it comes to vision creation, planning, strategy formulation, and implementation in relation to extractive resources. Studies, forums, and conferences on the subject of resources regularly pick up on this need, although they do not always take it as their central theme. The key focus is on identifying actors' interests, putting expectations into perspective, and realistically assessing what is feasible. Early negotiation, participation in and joint support for decisions and the prevention and solving of conflicts are additional prominent issues. In this context it is of crucial importance to lay down binding participation rights and dialogue processes with affected people/communities and NGOs in mining laws – and that stakeholders are also able to assert their rights effectively taking legal action if necessary.

This is increasingly being addressed by dialogue initiatives. Examples include:

- in-country workshops held by mining companies (Peru, Tanzania, Ghana, Colombia);
- local mining and development forums (Chile, Mongolia, Papua New Guinea);
- institutionalised mechanisms for commenting on new regulations (South Africa).

Nevertheless, a distinct lack of interministerial interchange, involvement of civil society and active dialogue between central government and local/regional administrative authorities as well as between mining companies and local actors continues to be reported. In particular with respect to affected indigenous population the effective consideration of consultation rights²² is so far frequently underdeveloped. Dialogue and the exchange of

²² Principle of free, prior and informed consent (FPIC) according to ILO Convention 169 as well as the United Nations Declaration on the Rights of Indigenous Peoples

ideas are inherent elements of SED approaches and instruments, enabling appropriate support to be provided for processes that establish, formalise and structure dialogue mechanisms and their operational capability. In this context, provisions for early announcements of and continuous communication around resource projects, laid down in binding planning procedures and mining laws, are crucial for affected interest groups to be informed and to get the chance to assert their interests.

3.2.4 Positioning advisory services in the mining cycle

Advisory services on planning, strategy development, and implementation can in principle be provided at every stage of the mining cycle (cf. table 1). However, it appears to be most effective to introduce them at an early stage in the exploration phase. Governments should engage in intensive planning when the investment profile starts to take clearer shape. A sectoral and indeed cross-sectoral culture of dialogue takes time to develop and to produce tangible results. Once the relevant substantive orientation is in place – enhanced by dialogue – the adaptation and implementation of plans, strategies, and policies can follow.

KEY QUESTIONS

- > *Is there a vision in the cooperation country as to what role the extractive industry is meant to play in the development process and how it can be harnessed for structural change over the long term? To what extent is this vision designed to guide actions?*
- > *On what levels (national, regional, local) are planning and strategy building processes established and which actors participate in them?*
- > *To what extent do activities in the extractive sector affect other sectors of the economy? How is the issue of mining addressed in other areas of economic policy governance (e. g. investment, trade, labour market etc.)? Are they planned coherently?*
- > *What dialogue initiatives do exist in the mining context, and how are they used?*

Table 1: Intervention options for vision building and strategy development.

Mining cycle	State	Private sector
Prospecting	■ Support for national development planning and legislation	■ Raising awareness for development planning
Exploration (1 – 10 years)		
Appraisal / approval (1 – 5 years)	<ul style="list-style-type: none"> ■ Formulation of sector (sub-)strategies (for example infrastructure, industry, mining, SMEs, technology, employment) ■ Economic policy advice: infrastructure, industrial, technology, labour market policy ■ Design of intersectoral exchange & coordination mechanisms ■ Design of a sector-specific public-private dialogue 	<ul style="list-style-type: none"> ■ Raising awareness for development planning (national, regional, municipal) ■ Incorporation of the development perspective into feasibility studies ■ Design of the dialogue between mining companies and the state (particularly the national & municipal level)
Construction (1 – 3 years)	<ul style="list-style-type: none"> ■ Support for national & regional municipal planning & subsequent strategy development ■ Creation of policy coherence ■ Formulation of sector (sub-)strategies (for example SMEs, investment, employment) ■ Economic policy advice: in particular infrastructure, investment, location, regional / sectoral structure & labour market policy (especially training) 	<ul style="list-style-type: none"> ■ Design of the dialogue between mining companies and the state (all levels) ■ Design of the dialogue within the private sector ■ Active participation in development planning (regional & municipal level) ■ Planning of CSR measures
Production (1 – 30 years)	<ul style="list-style-type: none"> ■ Regional & municipal planning and subsequent strategy development ■ Economic policy advice: in particular trade, fiscal, labour market, financial & social policy 	<ul style="list-style-type: none"> ■ Active participation in development planning (regional & municipal level) ■ Planning of CSR measures ■ Design of dialogue within the private sector
Closure (1 – 2 years)	<ul style="list-style-type: none"> ■ Transformation-oriented economic policy advice (especially industrial, labour market and social policy) ■ Transformation-oriented adaptation of sector (sub-)strategies (for example SMEs, industry, investment, employment) 	<ul style="list-style-type: none"> ■ Active participation in transformation-oriented development planning (regional & municipal level) ■ Conclusion of CSR measures and if applicable transfer to alternative agencies
Rehabilitation (3 – 10 years)		

3.3 Activating and expanding employment potential

Employment creation in the resource economy is a particularly important factor for poverty reduction and offers huge potential, above all for local development. Creating productive and decent employment is one of the prime objectives of development plans, poverty reduction strategies and sector programmes. Both in the literature

and in international debate the employment effects of the extractive sector are often considered to be negligible in view of the sector's high capital intensity. Nevertheless, their relevance in developing countries and their possible leverage should not be underestimated. Although the number of people directly employed in large-scale mining rarely accounts for more than two per cent of a developing country's total working population, in individual regions it can be much more significant. Mining companies' activities have a very narrow geographical focus, so the

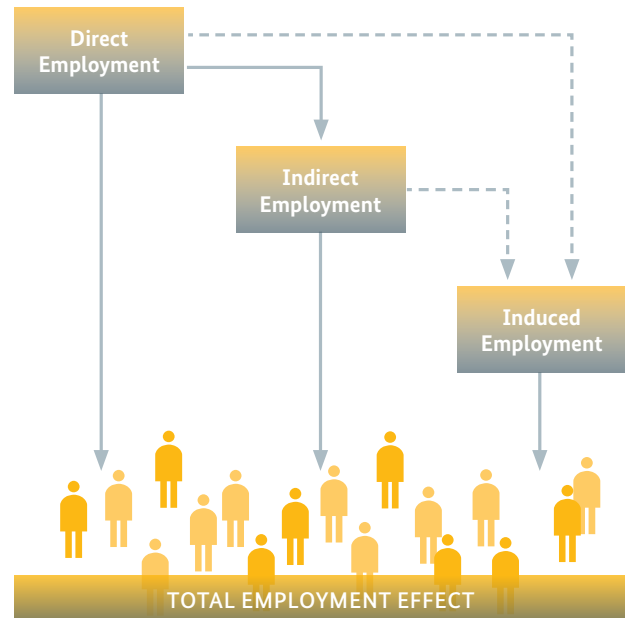
locational effects for the areas in question – which are often extremely underdeveloped economically – are very important, and from the construction phase of the mining cycle onwards can lead to fundamental structural changes on the local and regional labour market within just a few years.²³ In some cases the development of the whole local economy is highly dependent on the dynamism of the extractive activities (cf. section 2.1). Accordingly, events that have a notable adverse effect on this dynamism (such as local armed or social conflicts, long-lasting price collapses, expropriation, market losses, technological changes etc.), as well as the closure of a mine (cf. text box 5), have radical repercussions for employment and income within the region.

3.3.1 Direct, indirect and induced employment

The employment effects of mining activities (cf. figure 4) can be classified as follows:

- **Direct employment**²⁴ refers to jobs that are directly linked to extraction and production. The scale of this employment is partly dependent on the size of the extraction facility, geological conditions (extraction methods – for example surface or underground mining) and on technical factors (degree of mechanisation), but also on the management models used.²⁵
- **Indirect employment effects** arise partly from downstream value creation (for instance refining and processing) and partly from goods and services procured by the mining industry (upstream value creation). Typically, these include energy, mechanical engineering, financial services, transport, construction and repair services, health services, insurance and so

Figure 4: Employment effects



Source: GIZ

on. These sectors also make use of supply chains, so further employment effects arise.

- **Induced employment effects** are essentially based on the income generated by direct and indirect employment effects, which flows into consumer expenditure. They fuel growth and employment in other sectors, with their multiplicative effect gradually diminishing.

The examples given in table 2 and text box 2 are illustrative of the magnitude of the multiplier effects arising in developing countries and the relative volumes of the employment effects. The effects depend on factors such as the extraction method, the technologies used, the availability of skilled workers and the potential linkages with the domestic economy. It should be maintained, however, that as capital goods are imported from industrialised or newly industrialising countries a considerable proportion of the indirect employment effects do not arise in the mining country itself. The scope available to adopt suitable policy measures to counter this is subject to technological limits. That said, a good policy mix comprising industry policy measures, private sector development and training activities can offer opportunities to harness these effects and thereby increase the share accruing to upstream sectors and downstream value creation (for example certain spare parts, maintenance and repair services etc.). Furthermore, induced employment effects are especially

23 The proportion of international workers employed in mining in developing countries varies according to the country's own labour supply, the nature of the mining and the technology used, ranging between less than 1 per cent (e.g. Chile) and 10 per cent (e.g. Laos). It also differs in the various phases of the mining cycle.

24 Sometimes another effect is mentioned, that of associated employment (for example employees in coal-fired combined heat and power plants), which is very closely related to this category but has little bearing in the context of developing countries and for which therefore no figures are recorded.

25 The resultant employment effects can be estimated with the aid of input-output analyses (and, most recently, with the ILO's further developed social accounting matrices instrument), although there are limitations to this in developing countries given the paucity of available data.

important in developing countries, in particular if there is little prospect of success in developing other branches of industry with similar employment effects. The three examples below reflect the differences encountered in the generated multiplier effects.

Text box 2:

Labour market effects from copper mining in Zambia

The area known as the Copper Belt in Zambia is home to several high-yielding copper mines. The Kansanshi mine is the largest in Africa, situated in northern Zambia on the border to the Democratic Republic of Congo. Some 4,900 people work there, directly employed by the Canadian company First Quantum Minerals. Calculations of employment effects in the region put the number of jobs indirectly dependent on the mine at almost 27,000. If further effects are factored in, namely that tax receipts from the company and workers finance infrastructure projects, educational institutions and other state-run programmes, the figure for induced employment rises to over 50,000. And the Kansanshi mine is only one of many mines. All in all, it is estimated that 267,000 jobs will be directly related to the mining sector in 2015, and 570,000 indirectly. This will be roughly 10 per cent of the Zambian population of working age.

The the planned investments in the region give rise to the hope that even more jobs can be created in the coming years (G. McMahon and B. Tracy, 2012).

Table 2: Because of structural limits to direct employment, greater potential tends to be found in the creation of indirect and induced employment

	Employment		
	Direct	Indirect	Induced*
Escondida mine (Chile – 2004)	2,800	5,270	8,500 (up to 12,800)
Obuasi mine (Ghana – 2005)	6,670	1,000 (up to 5,000)	20,000 (up to 50,000)
Sepoon mine (Laos – 2008)	2,460	2,450	12,300

*The indirect and induced employment figures are based on estimates on the assumption that certain multipliers (or multiplier options) apply. They relate solely to domestic employment effects.

Sources: ICMM March & July 2007, 2011.

3.3.2 Scope available for boosting employment effects

In ‘mining countries’, i.e. countries that are heavily dependent on mineral resource extraction, the extractive sector can be a key agent and driver for an employment-oriented growth strategy. This enables the sector’s potential to be harnessed and exploited over the long term.

The long-term nature of investment in mining offers the opportunity to address change processes in the labour market situation in a comprehensive manner so as to adapt labour supply and, thus, to have a structure-building impact on labour market policy beyond the mining sector. As the mining cycle proceeds in stages, it presents predictable time windows for which employment visions and strategies or sub-strategies can be developed and subsequently implemented. These windows can be utilised if entrepreneurial project planning and management dovetail with government planning and implementation processes. The characteristics of the stages of the cycle, along with companies’ practical experience of project development over many years, permit a basic projection of employment needs and the respective profiles. With such a projection, preparatory actions can be taken to prepare the necessary labour supply.

The technological stimuli coming from mining can encourage the introduction of new employment profiles that over the long term can support structural change in areas outside mining (in fields such as occupational health and safety, pollution control engineering, maintenance, logistics, waste disposal and recycling, etc.).

The multiplier effects triggered by mining activities (for example by subcontracted supply, value creation, income effects) can be shaped and expanded by influencing the way that mining is interconnected with the regional and national economy. In this regard it has become increasingly common to draft 'local content' agreements, through which governments attempt to codify part of the inter-connection between mining activities and the national economy. Employment is typically one element of such agreements.

Meanwhile, the CSR (corporate social responsibility) activities adopted by almost all large mining companies

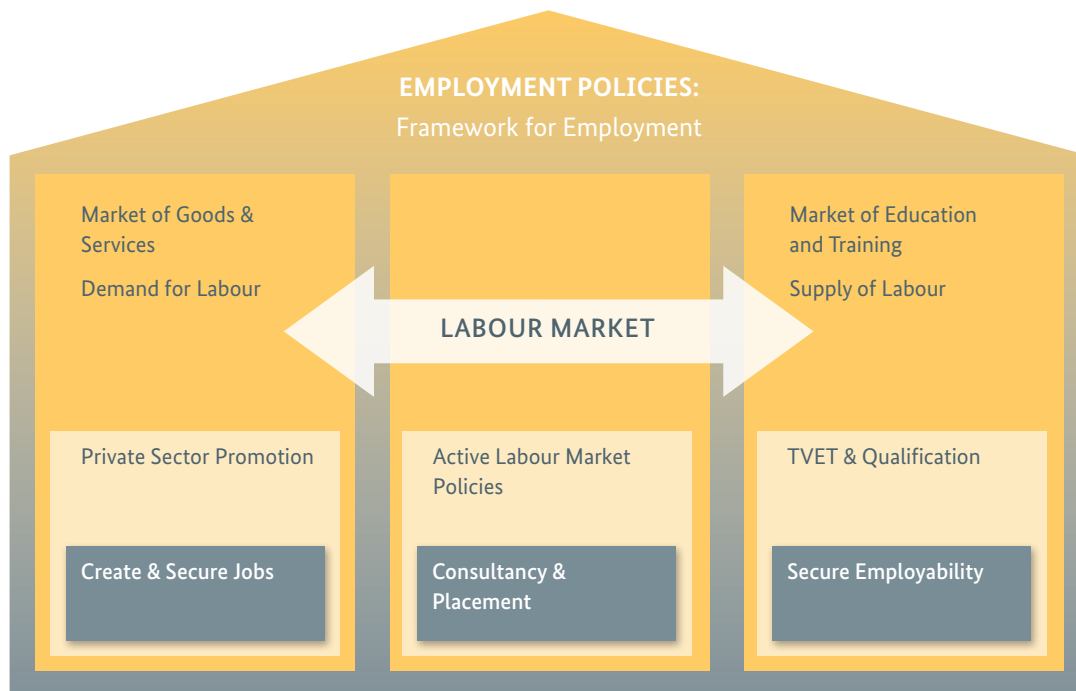
can be used actively to create or reinforce employment effects. This applies particularly to improvements to current working conditions.

3.3.3 Intervention options: the integrated approach to employment promotion

To make use of the potentials outlined above, German DC is able to fall back on the tried-and-tested integrated approach for employment promotion illustrated in figure 5. The starting point is the recognition that, for employment promotion to be successful, both the supply side and the demand side of the labour market need to be addressed and they must be brought together through effective conduits.

The aim must be not just to create jobs but to fill them as much as possible with local, adequately qualified workers.²⁶

Figure 5: The integrated approach to employment promotion covers all areas of the labour market



Source: GIZ, 2010

²⁶ The GIZ publication 'Guidelines for an Employment and Labour Market Analysis (ELMA)' (GIZ, 2014), which identifies the obstacles to creating productive employment in the country context, can be used for the ex-ante analysis of the labour market situation on both the supply and demand side.

At this point it should be explicitly pointed out that the creation of jobs for the local population and the provision of qualified workers are two sides of the same coin, and are equally in the interest of the state and the companies. Precisely because many mining companies complain that there is a shortage of local experts at all levels of qualification in developing countries, there is much willingness to engage in technical cooperation.

Creation of jobs in and by the mining sector

Interventions in private sector promotion are often specifically geared to the generation of structural employment effects. Support for business start-ups and SMEs is one of the traditional areas of experience of German TC, with strong methodological and instrumental backing; in recent years this has been expanded by the addition of value chain and cluster approaches. All of these approaches offer particularly interesting potential in connection with the mining sector – especially for initiating and shaping economic partnerships (cf. chapter 4). Advisory services relating to the appropriate design and implementation of tendering and procurement guidelines, guidelines for CSR measures and regulations on local content agreements are likewise of interest with regard to employment creation.

Infrastructure and construction measures, which imply indirect and induced employment effects (particularly at the pre-operational stages of the mining cycle), are a very specific intervention option. Within the priority area of SED there is relevant experience of how such measures can be put into practice from an employment promotion perspective in order to achieve various development effects, and to specifically address employees in the informal economy and their working conditions. One possibility is to carry out public-works employment programmes in which infrastructure and construction measures are not processed via the usual construction supplier market and short-term employment impacts can be achieved. At the same time, with the skilful use of on-the-job training, these programmes are suitable for providing employees with basic qualifications. Job-creating SME promotion instruments can also be put to targeted use.

In other fields of economic policy governance, too, employment-oriented advice can be provided with regard to the relevant instruments to be used (for instance incentives systems, special tariff arrangements, depreciation concessions, even employment subsidies) and the

respective rules for implementing such instruments. Among those policy fields are for example import, export, and tax policies. Likewise, the investment climate and related policies can be designed to create employment (cf. annex 2).

Securing employability: qualifications for the labour market

Training local skilled staff at the right time and in accordance with actual needs is vital in generating employment effects. This applies to the training of personnel both for the mining sector itself and for the value creation processes upstream and downstream of the sector.

Initial indications of the direct demand for workers and skilled professionals and – based on estimation of pre-operative work to be conducted – also of indirect demand can be given relatively early in the mining cycle, when exploration has reached an advanced stage. In an ideal situation it will be possible to fall back on previous labour market and employment analyses and on standard experience in the mining sector. In addition, employment aspects can be addressed in the course of negotiations on the award of concessions – for instance in the form of local content agreements.

The feasibility studies produced by the mining companies (at the latest during the approval phase) provide even more detailed information about employment needs. To complement this, TC can promote regional labour market analyses and training needs studies, to determine the demand for experts and managers within the sector and beyond.

Personnel training is a highly significant matter for mining companies, and at the same time it presents interesting cooperation opportunities for TC in the context of generic and customised training solutions. Almost all mining companies have their own internal training units and work with external training providers. What is important in this connection is preparing the personnel for the mining activities, whether in relation to general topics such as safety at work and health regulations or in order to be able prepare workers who have good basic qualifications to cope with specific technological requirements. A lack of experience of working in mining is often the reason why even highly qualified workers (for example engineers) who are available in developing countries do not find appro-

priate employment. In many cases mining companies even engage in training for supplier companies, as they are reliant on good-quality services from them. Table 3 underlines the importance of this issue, along with the willingness of the private sector to invest, using the example of a medium-sized mine in Laos (MMG Sepon).

In order to secure the long-term employability of people who have completed training measures, it is important to ensure that the training also enables them to take up employment in other sectors. Qualifications give the people the opportunity to be employed across a broad vocational range so that they are able to make themselves available on the labour market in an appropriate way. This is why, for example, a mechatronics engineer is trained with the focus on subsequent work in the mining sector but not exclusively for that context.

Technical and vocational education and training can be part of local content agreements or employment pacts; TC can assist both the developing countries and the mining companies in designing, negotiating and planning these. Such agreements can be set up for the long term, and can be central pillars of the employment vision mentioned above, allowing the planning of an increasing crowding-in of national personnel across the mining cycle, right up to the level of highly qualified posts. This calls for corresponding measures on the supply side in return (such as training courses, placements, grants to study abroad, career planning models), which can also form part of the agreements. Viewed over the medium to long term, establishing cooperation and designing training partnerships with specialised institu-

tions in Germany (mining academies, for instance) can be encouraged via SED instruments.

Coordination mechanisms on the labour market

Economic and labour market policy measures can add significantly to employment effects. This becomes particularly evident in the context of advisory measures on active labour market policy. With its regulatory function it can contribute to linking labour supply and the direct and indirect demand for labour of the mining sector – as well as the demand arising from income-induced economic activities. The range of possible SED services in this context covers areas such as introducing advisory and placement instruments (job exchanges, for example), setting up employment agencies and labour market information systems, promoting cooperation between the mining sector and training providers, and TVET (see above). The labour market policy instruments can further help to improve the integration of women into the extractive resources industry, which thus far remains underdeveloped (cf. text box 3).

Table 3: Demand for training in the extractive sector (taking the Sepon mine in Laos as an example) has risen in recent years (in US dollars).

	2005	2006	2007	2008	2009	2010
Processing – Training	327,506	–	–	–	–	–
Total Training – Management	–	857,741	1,485,107	2,070,206	1,656,091	4,611,393
Total Training – Professional Development	–	161,728	449,531	494,565	135,245	866,731
Total Training – Maintenance and Apprentices	–	148,889	551,549	795,247	565,828	925,701
Total spend per annum	327,506	1,168,365	2,486,187	3,360,018	2,357,164	6,403,825

Source: ICMM, 2011

Text box 3:**Women do not benefit sufficiently from employment effects in the extractive sector.**

Although the role of women in the male-dominated extractive sector is supposed to be strengthened by promotion programmes initiated by donors, jobs in companies in the (formal) extractive sector largely go to men – not only in developing countries but also in Germany, for example. Women rarely account for more than 10 per cent of the employees in the extractive sector; usually the proportion is below 5 per cent (*World Bank, 2009*). The reason for this is often not a lack of education or training for women but rather traditional values that preclude women from working with heavy machinery, or inadequate working conditions for female personnel – frequently there are no special facilities such as changing rooms for women or appropriate work clothing, for instance.

While it is mainly men who benefit from employment effects in the extractive sector, induced employment effects can also contribute to strengthening women within the community. A higher general income level in local communities results in higher demand, for example in the catering industry, in laundries and tailoring businesses – areas where mostly women are employed, who are therefore able to boost their incomes and provide themselves and their families with a higher standard of living.

Apart from the disparate employment effects, other socio-economic impacts frequently vary too: the way land rights are handled is a matter of particular concern. In many cases these are held by men, even though agricultural land is usually worked by women for subsistence farming. The exploitation of mineral resources often implies that agricultural land is sold, either for mining itself or for the expansion of infrastructure, making subsistence farming more difficult. Because of the prevailing traditional division of labour, women are pushed back, and their voices are barely heard in dialogue processes (cf. section 3.2.3). Consequently, their interests are generally given insufficient consideration even when extractive sector companies actively engage in community development.

Deeply rooted ideas of social roles and gender-based occupational profiles are high barriers – often unconscious ones and therefore difficult to grasp – to the realisation of genuine equality in the sector.

KEY QUESTIONS

- > *How is the issue of employment integrated into existing strategy and planning documents, and to what extent do they guide actions? What scope for development is still available in this regard, and how can it be activated?*
- > *What degree of willingness for dialogue and cooperation is there on the part of the mining companies and supplier firms? In what way can this be shaped over the long term?*
- > *Is there an employment vision for harnessing the potential in and around the extractive sector? What is the quality of this vision, and how is it reflected in policies, areas of governance, institutional activities etc.?*
- > *Are public decision-makers aware of the available scope for employment policy within the framework of applied economic policy and private sector development, and do they have the necessary expertise to utilise this?*

3.3.4 Positioning advisory services in the mining cycle

Advisory services provided by German TC in the area of 'employment and employment promotion' are extremely important in every phase of the mining cycle, both in support of government agencies in the cooperation country and in support of the private sector (cf. table 4). Government representatives receive advice throughout the cycle of an active mine, while they are involved in

ongoing planning. To ensure sustainable economic development, it is also important that the partner country receives effective support in the closure and rehabilitation phase to cushion the effect of jobs being lost and to sustain economic development through employment promotion in other sectors. With that in mind, measures should already be taken while the mine is still in production to prepare workers for an economic future after mining.

Table 4: Intervention options in the field of employment promotion.

Mining cycle	State Support for...	Private sector Support for...
Prospecting Exploration (1 – 10 years)	<ul style="list-style-type: none"> ■ Design of employment-oriented poverty & growth strategies ■ Design of a sustainable & market-oriented vocational training system ■ Long-term strategic orientation of the vocational training sector 	<ul style="list-style-type: none"> ■ Performance of supply and demand analyses
Appraisal / approval (1 – 5 years)	<p>Analyses and strategy development</p> <ul style="list-style-type: none"> ■ Design of employment-oriented poverty & growth strategies ■ Strategic development of the vocational training sector ■ Development of resource-related, gender-sensitive training strategies (sector strategies) ■ Regional analyses of employment & demand for skilled labour <p>Improvement of supply</p> <ul style="list-style-type: none"> ■ Design of a sustainable, market-oriented vocational training system ■ Employment policy advice, especially use of upstream & downstream value chain (VC) approaches, interministerial coordination of employment interventions, information systems ■ Initial and further training of teaching staff at vocational training establishments ■ Development of partnership models with the extractive sector including PPP measures <p>Guidelines</p> <ul style="list-style-type: none"> ■ Local content regulations & preparation of negotiations on employment (local / regional / national perspective) ■ Strategies for & regulation of health & safety at the workplace (labour market regulation) 	<ul style="list-style-type: none"> ■ Performance of supply and demand analyses ■ Development of partnership models with the state on the subject of sector-specific vocational training ■ Preparation of local content negotiations on the issue of employment (local / regional / national level) from the perspective of mining companies

Mining cycle	State Support for...	Private sector Support for...
Construction (1 – 3 years)	Improvement of supply <ul style="list-style-type: none"> ■ Development of resource-related, gender-sensitive training strategies ■ Establishment & modernisation of vocational training institutions (operational capability) ■ Initial and further training of teaching staff at vocational training institutions ■ Sector-related curriculum development Cooperation <ul style="list-style-type: none"> ■ Development of partnership models with the extractive sector including development partnerships with the private sector ■ Establishing cooperation with German mining training institutions Policy advisory services <ul style="list-style-type: none"> ■ Design of labour market policy instruments (e.g. information, placement services, career advice) ■ Employment policy advice, especially use of upstream & downstream VC approaches, interministerial coordination of employment interventions ■ Employment-oriented design of fields of economic policy governance (investment, SMEs, industry, location promotion, taxes) & proactive capacities ■ Formulation & implementation of employment and private sector development programmes 	<ul style="list-style-type: none"> ■ Development of partnership models with the state on the subject of sector-specific vocational training ■ Initiation and preparation of development partnerships with the private sector ■ Design & implementation of internal training measures ■ Demand-oriented capacity development for external training providers ■ Design of dialogue platforms on the issue of employment ■ Definition & implementation of employment-oriented CSR measures
Production (1 – 30 years)	<ul style="list-style-type: none"> ■ Design & reform of vocational training institutions (operational capability) ■ Design of labour market policy instruments (e.g. placement services, career advice) ■ Establishing cooperation with German mining training institutions ■ Implementation of employment-oriented community development programmes 	<ul style="list-style-type: none"> ■ Design & implementation of internal training measures ■ Demand-oriented capacity development for external training providers ■ Integration into a dual vocational training system ■ Initiation and preparation of PPP measures ■ Definition & implementation of employment-oriented CSR measures
Closure (1 – 2 years)	<ul style="list-style-type: none"> ■ Adaptation of labour market policy instruments (e.g. placement services, career advice) ■ Reform of vocational training institutions ■ Employment-oriented adaptation of fields of economic policy governance (investment, SMEs, industry, location promotion, taxes) & proactive capacities with a view to economic transformation 	<ul style="list-style-type: none"> ■ Design & implementation of external training measures ■ Conclusion of CSR measures and if applicable transfer to alternative agencies
Rehabilitation (3 – 10 years)	<ul style="list-style-type: none"> ■ Formulation & implementation of employment and private sector development programmes with a view to economic transformation 	

3.4 Developing sites and their surroundings

By their very nature, the core operational processes involved in the extraction of mineral resources are tied to a specific location. In addition to the macroeconomic impacts of the mining sector, the question of site development in and around mines and mining activities is therefore particularly important. Economic, ecological, social and cultural matters are all affected. Text box 4 looks at certain aspects of this change process, by way of example.

In the context of large-scale mining, the following are considered to be **success factors for advantageous site development**:

- The **creation of conducive conditions**, which are also a vital prerequisite for the development of individual economic areas. These include a stable financial system, a developed infrastructure (ports, roads, energy and telecommunications), exploration of and transparency about available mineral deposits and above all political stability. Although in many respects (especially in developing countries) it is the task of central government to develop advantageous conditions that allow economic activities to flourish, this can also be supported by local actors.
- A **focus on sustainability**, with the aim of making the best possible use of the impetus emerging from the mining sector over the course of time and to convert it into new, future-oriented development options (diversification, deeper added value, development of supplier industries) which will also be of enduring worth after the mine is closed (cf. text box 5).
- An **information process and dialogue** that begin as soon as possible between the mining companies, state agencies at various levels and the affected population. The local level should be particularly highlighted here: often it is involved too little and too late in direct exchanges and has very little capacity for constructive dialogue.

Text box 4: Effects of mining activities on sites and their surroundings

Additional income from jobs and higher wages / Rising accident rates / Higher prices for local consumer goods / Immigration of workers and their families from other regions and neighbouring countries / Higher numbers of apprenticeships and training places / Changes in the use of resources (water / energy) / Higher crime rates / Increasing prostitution / Need for resettlement / Changes to consumption habits / Higher traffic volumes / New opportunities for entrepreneurial activities / Influences on matters of local concern (language, values, traditions, clothing, food, behaviour etc.) / Infrastructural development (including hospitals and schools) / Increased environmental pollution / Temporary shortage of supply of services, but also new services / Increase in local corruption / Greater visibility at national level / Representatives of central government exert influence over local politics

- The **establishment and expansion of local social capital**²⁷, which enables local actors to identify the benefits of the mining company and its activities located in the region, to negotiate their distribution, and to play their part in jointly managing the process of change to achieve the best possible results.

All of these success factors are either an integral part of the concepts and implementation practice in the priority area of SED or they are part of specific approaches with a spatial development perspective, such as local and regional economic promotion (also in the context of creating resource corridors), and are explained in more detail below.

²⁷ A sociological term coined by Pierre Bourdieu (1983) that applies in particular to the value of participation in the network of social relationships.

Text box 5:

Mine closure: after a mine has been closed it is crucial to maintain and continue the development impetus that arose as a result of the extraction work.

The way in which the closure of a mine at the end of the mining cycle impacts the economic situation in a region is often not taken into account in planning, or not until it is too late – so, too, are the possible means of mitigating serious adverse effects. The following aspects should be borne in mind in this connection:

- employment and labour migration
- public revenues, social services, and infrastructure
- community cohesion
- long-term environmental impacts.

The most serious consequences for the community where the mining company was located are not just the result of the decline in direct employment effects but above all the removal of indirect and induced employment effects (cf. section 3.3.1), for example because suppliers lose their main customers. In many cooperation countries of German DC there is a lack of stable and long-term jobs, which guarantee a sufficiently high income; this situation is worsened by the closure of a mine. Usually, therefore, a restructuring and diversification of the economy is encouraged by political means. This includes not only promotion of local SMEs, whose supplier relationships should extend to several mines, but also the pursuit of an active labour market policy in order to place the available workers in jobs matching their qualifications. With this in mind, too, it is important when setting up and expanding training programmes that attention be paid to making qualifications applicable in various contexts (cf. section 3.3.3). If education and training are exclusively geared to the extractive sector, this often leads to greater labour migration after a mine is closed, which can jeopardise social cohesion in the community.

This is not only a strain on public budgets. The drop in tax revenues also causes a shortfall in financial receipts to cover expenditure on infrastructure, education and health. Additional burdens are placed on the community as a result of the need to clean up contaminated sites, if this is not or not completely done by the mining company. In most cases using the land for agriculture after closure of a mine is only an option if mining companies fulfill adequate environmental requirements. If this does not happen, workers might move away from the area.

Recommendations for action in this connection include:

- Mining companies should be encouraged to make provisions for covering the costs resulting from the mine closure already from the beginning of their activities.
- Calculate the remaining costs arising for communities as a result of mine closure as accurately as possible and at an early stage. The calculation should be taken into account in the individual mining cycle.
- Use capacity development approaches to support the orientation of state and private institutions towards the regional economy in order to be able to take up and reinforce the impetus from the extractive sector.
- Take early action to involve the private sector in the mine closure process and the resultant challenges.

Highly specific objectives tailored to the community can emerge from the points listed above. They should be drafted at the very beginning of the mining cycle and set out in detail at the appropriate time. Close collaboration between the state and the private sector is essential if these objectives are to be achieved efficiently and sustainably (cf. chapter 4).

See also: Planning for Integrated Mine Closure: Toolkit (ICMM, 2008).

3.4.1 Enabling conditions for and at the local level

For the most part, the enabling conditions relevant to mining companies are defined at central government level. This is where the ground rules are established for matters such as investment, foreign trade and taxes. Regional and local governments rarely play an active role in shaping these in most cooperation countries – unless those countries have well-advanced decentralisation processes and associated dialogue mechanisms that enable decentralised interests to be channelled to central government level.

An extractive sector that is in the process of being established or expanded can be the starting point and stimulus for the development of an active regional and location policy. This can lead to the gradual upgrading of efforts to bring about decentralisation, from the delegation of administration to the handing over of decision-making competencies. Advisory services from the priority area of SED can assist this process from both the macroeconomic and the local economic side (cf. table 5).

Advice on planning and strategy development was already discussed in section 3.2, where its relevance for the local and regional level was also highlighted. As well as support for the formulation and implementation of regional and location policies (for example on regional development

programmes, some of which operate in the context of resource corridors) the regional governance areas of economic policy present an opportunity to realise the potential of the extractive sector for sustainable economic development, shown as local determining factors in figure 5. If possible, the relevant processes should begin in the pre-operational phase of the mining cycle. One good example of this is fiscal policy in prospecting countries, which should be designed to keep the concerns of all sides in mind but often displays weaknesses in this regard (*EITI, 2009*). There should be a balance between the interests of central government and local interests when government revenues from resource extraction are distributed, such as taxes, charges and royalties. In many countries, however, local authorities have no say at all in the award of licences or in the imposition of levies. This makes it difficult to reconcile the interests of central government with those of mining regions.

In the field of sustainable economic development, tried-and-tested capacity development approaches can be used to help give the services and products of state and private institutions a regional angle to enable them to take up and reinforce the impetus from the extractive sector. Relevant stakeholders who could be supported range from ministries (including decentralised structures), local administrative units, local chambers and associations, institutions within the local financial system, education

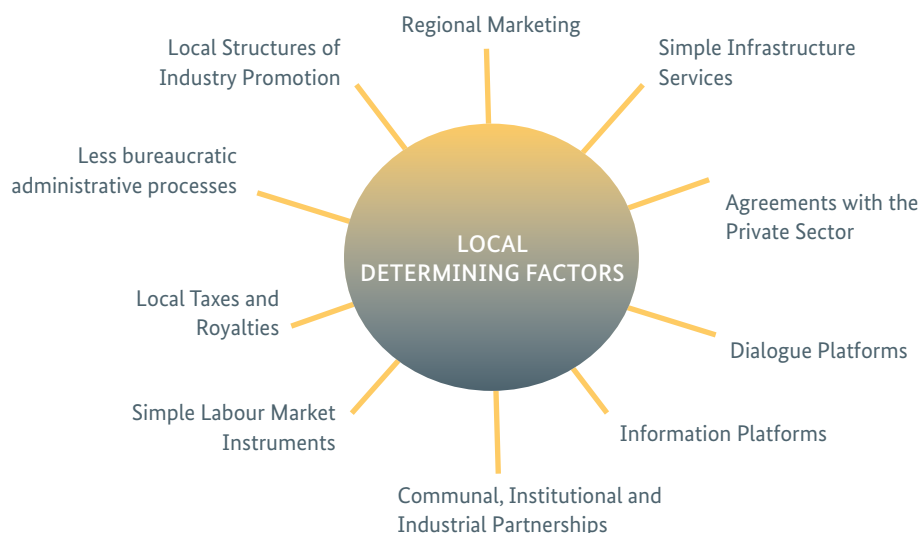
Table 5: Advisory services from German TC on employment promotion are delivered at various levels.

Macro level	Meso level	Micro level
<ul style="list-style-type: none"> ■ Advice on the shaping of political, legal & institutional frameworks for vocational training in the extractive sector ■ Integration of vocational training into a sustainable local and regional economic development approach ■ Analyses of the labour market & training needs: determination of sector-specific & cross-sectoral demand for experts and managers ■ Development of sector-specific training strategies as well as advice for ministries & authorities ■ Public-private dialogues & stakeholder forums 	<ul style="list-style-type: none"> ■ Training of vocational trainers & school management ■ Development of standards & curricula for relevant occupational profiles (including mechatronics, transport, mining, electrical/electronic engineering, construction) in cooperation with the private sector ■ Improving the overview of the labour market by offering information & advisory services & through job placement for skilled workers ■ Employment promotion & training in upstream & downstream service sectors (processing industry, laboratory technology, general service provision etc.) 	<ul style="list-style-type: none"> ■ Advisory services for vocational education institutions & training establishments to improve the training of technical staff, experts & managers ■ Training in health & labour standards, safety regulations ■ Promotion of local employment & development through integrated development plans or employment pacts

and training providers (including higher education establishments) and regional business support organisations to private providers of business development services. Improving the ability of local institutions to take action is part of a series of possible activities aimed at creating favourable development conditions at local and regional level. The illustration below shows a number of levers that can help to improve local business conditions and make better use of resource-induced drivers for

growth. These levers all come under the umbrella of local and regional business development within the priority area of SED, and some were discussed in previous sections of this document. SED also offers many other levers to help improve development conditions at local and regional level.

Figure 6: SED approaches can have a positive influence on various determining factors in resource-rich regions.



Source: GIZ

3.4.2 Using the extractive sector to promote local (economic) development

The main topics relevant to sustainable economic development in the immediate vicinity of mines and in their surrounding areas include economic integration, import substitution, diversification, processing and spatial competitiveness.

The aim should be to utilise the economic impetus from the extractive sector so that a dynamic, competitive private sector emerges in the locality which then generates economic growth, employment and income independently of the mining activities. This is an aspect – referred to collectively as ‘linkages’ – that is becoming increasingly

important, and may be one of the most promising areas for SED. Ramdoo (2013) classifies the various linkages as follows:

Backward or upstream linkages relate to the procurement of inputs (e.g. equipment, machinery or services) for the extractive sector by supplier companies. The complexity of the linkages depends on the mining company’s specific requirements. The production process in the extractive sector is site-specific, so local suppliers have an advantage in terms of context, location and price over international suppliers when it comes to meeting the mining company’s (product) needs. One example is the backward linkages in the platinum sector in South Africa (cf. text box 6).

Text box 6:
Backward linkages in the South African platinum industry.

Over 85 per cent of the world's platinum deposits are situated in South Africa. The country is the largest producer in the world, and the location of numerous international mining companies. Local supplier firms – both high-tech and low-tech – are an integral part of the value chains, and ensure the provision of many types of products and services to the mines. Over recent decades the vast amount of mining activity has enabled a local business landscape to flourish. Growing demand for services and intermediate products promotes competition and opens up opportunities for entrepreneurs: a large platinum mine can have between 2,000 and 5,000 supplier companies. According to business managers, the economic prospects of the platinum industry have improved more over the past 10 years than those of other sectors. Company turnover has grown steadily, and employment in the sector has risen by 20 to 50 per cent. In the course of this process, linkages were also created between suppliers (horizontal linkages), mainly through research projects or harmonised processing processes (*M. Lyndall, 2009*).

Forward or downstream linkages relate to the use of outputs in the extractive sector. These linkages enable clusters of firms in the processing trade to be formed around the extractive sector, mostly involving refinement or enrichment. The quality and specialisation of the products therefore depends on the minerals that the company is mining. If there is a high degree of specialisation, it may be possible for the products not only to be consumed locally but also to be exported. Geographical proximity to the minerals does not guarantee, however, that the companies will indeed carry out production locally. Downstream processing companies often choose their location close to large, international resource markets, far from extraction areas. Companies therefore have to be offered incentives so that they can produce cost-effectively in the vicinity of the mining company and thereby create local jobs, and do not move elsewhere.

Horizontal or side-stream linkages²⁸ relate to possible activities and employment opportunities in sectors that are not directly linked to the extractive sector. Typically, first and foremost this means the service sector (logistics, distribution and transport services, for example). In countries with a dual economic structure, the agriculture sector also benefits from side-stream linkages. From the strategic viewpoint, strengthening such linkages is a relatively easily attainable objective that can help to achieve positive effects within a short space of time. This is particularly interesting considering that resource wealth does not last forever. Side-stream linkages thus have the greatest potential to radiate outwards to other branches of industry.

The factors determining which of these linkages offer the greatest potential for economic development, including productive employment for the local population, are the level of training of local skilled workers, the existing economic structure, the nature of the markets for the relevant minerals and products and the technological prerequisites (both national and international). The various categories of linkages are closely related to the types of employment described in section 3.3.1 (direct, indirect and induced). In this section, however, the emphasis is more on the potential of large-scale mining to contribute to development of the private sector and on the TC approaches that can assist this. As far as methodology is concerned, existing private sector development instruments (such as cluster promotion, the establishment of business-oriented services and the use of value chain approaches) or also financial systems development can be used to promote SMEs and start-ups.

Cooperation with the purchasing departments of large and medium-size mining companies is a key consideration when establishing upstream and side-stream linkages, because it is also in those companies' interests that local suppliers should be built up. This is not only in consideration of developing or maintaining the social licence to operate, it is also useful for cost efficiency. Before an intervention begins, therefore, a survey should be undertaken of the demand for locally produced goods and the conditions for their purchase by mine operators. In some cases quality standards, especially for large international corporations, are so high that local companies are unable

28 These are sometimes also placed in the category of upstream linkages.

to provide them at competitive prices.²⁹ Since relatively small local mining companies generally constitute only a minor alternative sales market, it makes sense to develop the capacity of local suppliers by supporting them in meeting international corporations' quality standards for export business, and in that way generate multiplier effects. This is an important criterion if long-term dependence on the national (or even local) extractive sector is to be avoided.

Depending on market access, competition and existing infrastructure, there may also be promising development potential to be found in promoting the supplier industry and processing industry. Some cooperation countries of German DC pin high hopes on this field, but in some cases these are dashed when the realistic potential is subjected to specific analysis. Advice in such cases can help to improve the fact base and ensure that debates are objective. Increasingly, setting up local industries to deal with supply and processing is becoming part of local content agreements, or community development agreements. More and more developing countries, but also industrialised countries such as Australia and Canada, make use of such agreements to secure certain development advantages from mining activities for the region in question. Community development agreements provide a framework for this which is otherwise often insufficiently provided for in existing legislation or regulations.

If the countries have their own mining codes, this type of agreement is often an integral part of them. Typically, they address issues such as community development measures, requirements relating to employment quotas and training schemes, obligations regarding local procurement and supply, and ways in which the state or municipalities take a stake in mining activities or their products. There are no standard definitions, however.

Both the implementation of activities in these fields and the general strategic design of local content / community development agreements can be used as a principal reference point in the provision of advisory services. Support can be given to encourage dialogue processes between key stakeholders, for example, and to assist with the implementation of agreements. The aim here should be to strengthen capacity in local administrative bodies,

civil society and the private sector in such a way that they will be able to manage the relevant processes without further support.

If possible, community development agreements should be integrated into appropriate regional planning, or at least be based on it.³⁰ All local actors, including the mining companies (whether local or foreign), need specific support in this regard. Typically there is a need for clarification on statutory and contractual regulations, on conformance with bilateral agreements concerning investment (such as bilateral investment treaties), on necessary sanction and conflict resolution mechanisms and on how to take account of voluntary CSR measures.

A similar point of departure for German TC to assist and provide strategic advice to governments comes from arrangements known as resources-for-infrastructure agreements, under which major infrastructure projects (building ports, railways and roads, for example) are carried out in return for extraction rights. As a rule, such agreements are the object of long-term contracts between industrialised or emerging countries on the one hand and resource-rich developing countries on the other, by means of which the former secure access to the relevant resources. China is a prominent player in this field, for example.

3.4.3 Information, dialogue and participation

Although the international literature regularly discusses the generally prevailing information and dialogue deficit and the lack of participation by certain actors, it does not address the whole breadth of this topic nor does it highlight the resultant consequences or the additional development benefits if the flow of information is improved.

Lack of information concerns all stakeholders in equal measure. Shortcomings in handling information - whether seeking it or supplying it - can be identified on all sides of the stakeholder landscape. However, the availability of information is just one essential link in a chain in which

29 Supplier qualification requirements set by large companies, such as Anglo American.

30 Selected sources for an in-depth examination of the issue of local content in a practical context include: *ICMM, 2006*; World Bank, 2010; *IPIECA, 2011*, or the online information provided by MENAS Associates (currently at: www.menas.co.uk/localcontent/home.aspx), LCS – Local Content Solutions (currently at: www.localcontentsolutions.com).

ultimately it is a matter of optimising decision-making and improving the ability of the stakeholders to take action while harnessing the resource-induced potential.

The prospect of extractive mineral resources being mined and of mining companies locating in the region regularly raises huge expectations as to the economic momentum emanating from that sector and its investments, both in advance of mining operations and while they are going on. This is a momentum that can develop into a real ‘gold rush fever’, beside which the ecological and social challenges that are now often mentioned at an early stage frequently pale into insignificance until they return to public debate in the form of concrete problems and conflicts. High expectations founded on a lack of information often lead to poor macro and microeconomic decisions being taken in the initial phases; these then have an adverse impact at regional and local level in particular and can exacerbate negative ecological, social and economic effects. Examples of such misguided decisions include:

- suboptimal / excessive control mechanisms (for example counter-cyclical development of tax rates, misplaced incentives for investment and employment)
- unrealistic demands vis-à-vis mining companies (such as stipulations regarding the use of local workers or the outsourcing of orders to local firms, both often inadequately qualified)
- inaccurate assessment of risks by the state (for example the consequences of regional migration movements, competition for local resources such as water or labour, the formation of new areas of poverty around the location of the mine)
- inadequately adapted regional promotion programmes and services (for instance integration of information systems, appropriate local financial services, training schemes covering the mining sector’s outsourcing requirements).

The mining industry has a duty to provide information early in the process, in its own interests; it can be supported in this by TC, with the aid of appropriate methodological approaches. At the same time, awareness must be raised among local stakeholders so that they actually ask for the information. If not, it is quite common for frustrations about unfulfilled expectations specifically at

local level to grow, causing a strained relationship between the sector and the local population / authorities. Equally, there is demand for information on the part of mining companies regarding matters relating to the establishment and operation of their mines (for example codes, regulations and procedures, terms of environmental permits, local supply options, availability of labour, utilities, awarding of concessions etc.). In most instances the local and regional state authorities in the cooperation countries are not sufficiently informed about these matters either, if at all, and sometimes are unaware of their own options to shape proceedings or of their own responsibilities. Knowledge of local / regional values, culture, or communication habits in many cases only comes to the fore when it becomes necessary to deal with latent or open conflicts. Information deficits, which are often caused by a lack of organised and institutionalised processes of exchange and dialogue between the stakeholders, make it more difficult to exploit resource wealth to drive local development. Limited participation by local governments and administrative units as well as by civil society in the drafting of local content agreements is an example of this.

A variety of established SED approaches lend themselves to helping to boost local participation. Instruments promoting entrepreneurial thinking and action (such as CEFE³¹), for instance, are suitable means of strengthening stakeholders’ personal proactive capacities (not only of entrepreneurs). This enables them to develop their entrepreneurial characteristics and to engage in local economic processes in more targeted fashion. Access to resources as an important expression of participation at local level can be promoted through interventions already mentioned in previous sections, such as strengthening access to financial services and developing business development services, and primarily benefits relatively small and medium-sized local business segments. The aim of strengthening local producer organisations (chambers and associations, for example), business partnerships (e.g. production or purchasing consortia) and other forms of network building is that local entrepreneurs should be in a better position to represent their interests in the local context – vis-à-vis both local authorities and large companies – and to be able to enhance their competitiveness. Creating dialogue forums is one of the standard instruments used to improve the participation of local

31 CEFE – Competency based Economies, Formation of Enterprise. For more information, see CEFE International (retrieved at www.cefe.net).

stakeholders both in promotion of a particular location and in dealing with problems and conflicts. Multistakeholder dialogues as well as other participation and co-decision-mechanisms are necessary above all if resource projects lead to relocations or land grabbing in indigenous peoples' territories. It has to be ensured that representatives (including women), of the local population are included appropriately and that effective means of complaint and appeal are at their disposal.³²

3.4.4 Building and expanding social capital

Capacity development geared to relevant themes and methods coupled with promotion of business associations and institutions are key to the expansion of social capital. Effective local actors can make a significant contribution to sustainable development in mining locations. Building social capital in the context of mining activities thus becomes a major factor in achieving success. This includes measures to enable key, already organised stakeholders to tackle the challenges of local resource-driven development, and activities to determine the quality of their interaction with each other – while actively involving the broader population in the relevant processes. All of these areas provide starting points for approaches, instruments and methods used under the umbrella of SED; only a selection can be described here.

Elsewhere in this document there has already been mention of the central role of capacity development, in its various dimensions, in strengthening partners and actors in the priority SED. It can be tailored to suit the development of mining activities in the local context (for example dialogue, negotiation, mediation, M & E, local development planning etc.). Cooperation with other priority areas where there is specific expertise in fields such as decentralisation and municipal development is hugely important in this connection.

There are separate approaches for certain actors such as business chambers and associations. The latter have a lot of experience in promoting locally constituted structures and can undergo specific preparation to perform their role in a resource context. Proven self-help approaches within the SME sector on the other hand, such as the Nucleus Approach³³, support the learning process that the enterprise sector has to go through in dealing with the requirements and opportunities of the extractive sector.

In the context of local development it is essential to support the key local actors not only technically and organisationally but also in their role as change agents, so that they are able to shape processes proactively, with strategic foresight, and can position themselves as dialogue partners on an equal footing with mining companies and central government. In this regard, local governments in particular often find it difficult to achieve a gradual transformation from their traditional mandate of administration and supervision into the role of a developer and change agent. Programmes on leadership and local management, along with approaches promoting entrepreneurial behaviour, have a long and successful tradition among the instruments of SED as a means of exerting influence on this role pattern. Another area in which local actors (both business associations and administrative authorities) can be supported is the management and granting of certificates for companies in the extractive sector. Introducing globally accepted standards in mineral extraction and monitoring compliance with those standards is therefore an avenue for German TC³⁴, as illustrated by the IMRI multi-actor approach in Mongolia (cf. text box 7).

33 The Nucleus Approach is a group-based self-help approach in the (small and medium-sized) enterprise sector that is mainly driven by business chambers and associations (in Brazil, Algeria, Mozambique, Sri Lanka and Rwanda, for example), which use it to increase the efficiency of the services they provide. Organisations using this approach: GIZ, sequa, Training and Development Centers of the Bavarian Employers' Associations. For further information: Nucleus – the Entrepreneurs' Network (retrieved at www.nucleus-international.net/Nuc_English/index.htm).

34 The multi-stakeholder Initiative for Responsible Mining Assurance (IRMA), for example, has set itself the task of developing such standards. They cover topics such as employees' rights, human rights, the rights of indigenous peoples, the preservation of cultural heritage, conflict resolution, environmental pollution and mine closure (www.responsiblemining.net).

32 UN Guiding Principles on Business and Human Rights, Guiding Principles 25–31.

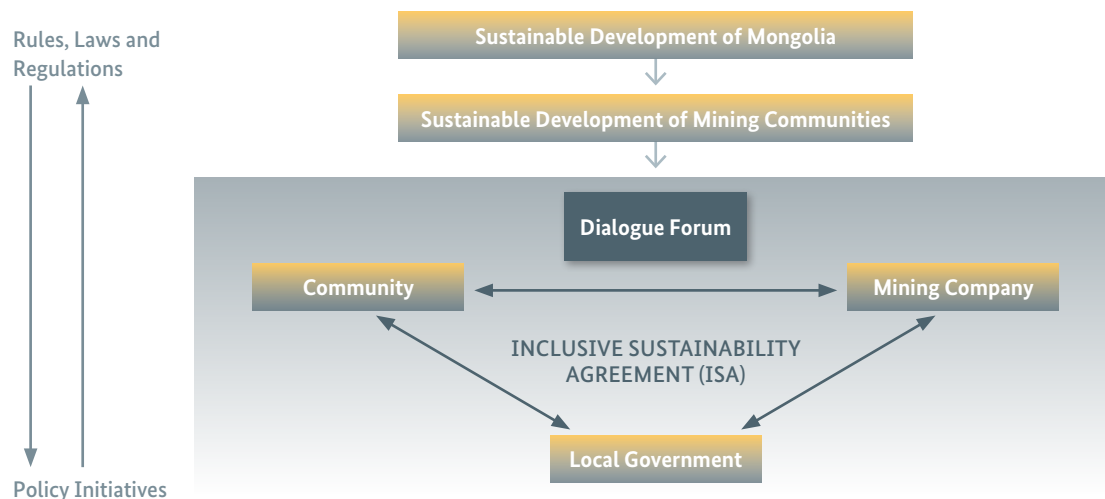
Text box 7:

German TC supports a multi-stakeholder approach in the context of the Integrated Mineral Resource Initiative (IMRI) in Mongolia.

One example of the interaction between the various stakeholders in the extractive sector is the approach adopted by the Integrated Mineral Resource Initiative (IMRI) in Mongolia, introduced by GIZ on behalf of BMZ.

In the field of community-based development under the broader-scale programme of IMRI, a multi-actor approach is used that extends from the decentralised level through to central bodies. At its core are Inclusive Sustainability Agreements (ISAs), under which mining companies, civil

society and local governments (at various levels) all come together to meet in a dialogue forum. The ISAs provide a multifunctional framework for dialogue, mutual learning, training and capacity development and for the design of local development measures. In some regions a youth organisation supported by IMRI has set up civil society groups for this purpose, which articulate the population's concerns and introduce them into the dialogue (S. Hanselmann, 2013).



KEY QUESTIONS

- > *Are there regional and local policies in the cooperation country and what influence do they have on the instruments that steer economic policy and on the actions of stakeholders at local and regional level?*
- > *Are local content agreements used, and if so what is their (strategic) quality? How can they be combined with TC that is geared to sustainable economic development?*
- > *To what extent do local / regional authorities use the scope available to them to shape favourable settings?*
- > *Are the information needs of the individual stakeholders addressed systematically and across a wide spectrum? What exchange processes have been set up for this, and how can they be improved?*
- > *How can the quality of participation by local stakeholders in decision-making for local development be improved?*
- > *What expertise or skills do key local stakeholders lack, preventing them from becoming more closely engaged in the local development process?*

3.4.5 Positioning advisory services in the mining cycle

As far as local and regional economic development is concerned, advisory services are particularly important during the planning and production phase (cf. table 6). Advice can be employed in at all stages of the mining cycle apart from prospecting and exploration, and can assist both governments and the private sector. With a view to long-term, sustainable economic development around the mine itself, particular importance should be attached to local content approaches in the advisory services provided in the relevant cooperation countries.

Table 6: Intervention options for development of the location and its surroundings

Mining cycle	State Support for...	Private sector Support for...
Prospecting		
Exploration (1 – 10 years)		
Appraisal / approval (1 – 5 years)	<ul style="list-style-type: none"> ■ Design of a broad information & communication policy on potentials & challenges of the extractive sector ■ Formulation of regional & location policies including their instruments ■ Location-oriented design of fields of economic policy governance (for example taxes and promotion of investment, SMEs and industry) & strengthening of proactive administrative capacities ■ Preparation of local content agreements (vision, content definition & preparation of negotiations from a local / regional perspective) 	<ul style="list-style-type: none"> ■ Design of an information policy & campaign on potentials & necessities of the large-volume mining sector ■ Preparation of local content agreements
Construction (1 – 3 years)	<ul style="list-style-type: none"> ■ Preparation of local content agreements (vision, content definition & preparation of negotiations from a local / regional perspective) ■ Location-oriented design of fields of economic policy governance (for example taxes and promotion of investment, SMEs and industry) & strengthening of proactive administrative capacities ■ Formulation & implementation of MSME funding programmes including strengthening financial institutions & local systems ■ Improvement of local business conditions ■ Formulation & implementation of location & private sector promotion programmes with a local focus (MSMEs, value chains, clusters) ■ Training of local state & civil society actors on issues concerning location policy & economic promotion ■ Promotion of local business associations and institutions 	<ul style="list-style-type: none"> ■ Design of an information policy & campaign on potentials & necessities of the large-volume mining sector ■ Preparation of local content agreements ■ Formulation of guidelines on contract award & supply ■ Awareness-raising & training on CSR, and preparation of an in-house CSR strategy oriented towards sustainable local development measures ■ Drafting of & support for a long-term CSR programme in conjunction with local stakeholders
Production (1 – 30 years)	<ul style="list-style-type: none"> ■ Formulation & implementation of location & private sector promotion programmes with a local focus (MSMEs, value chains, clusters) ■ Advice on location-based marketing ■ Training of local state & civil society actors on issues concerning location policy ■ Formulation & implementation of MSME funding programmes including strengthening financial institutions & local financial systems ■ Design of mechanisms & institutional formats for initiating business partnerships ■ Establishment of regional & supraregional learning platforms 	<ul style="list-style-type: none"> ■ Awareness-raising & training on CSR, and preparation of an in-house CSR strategy oriented towards sustainable local development measures ■ Drafting of & support for a long-term CSR programme in conjunction with local stakeholders ■ Formulation of guidelines & quality requirements for contract award & supply

Mining cycle	State Support for...	Private sector Support for...
Closure (1–2 years)	<ul style="list-style-type: none"> ■ Continuation of local & private sector promotion programmes ■ Active labour market policy 	<ul style="list-style-type: none"> ■ Conclusion of CSR activities together with local stakeholders and if applicable transfer to alternative agencies
Rehabilitation (3–10 years)	<ul style="list-style-type: none"> ■ Formulation and implementation of regional & location transformation strategies (post-extraction) ■ Transformation-oriented adaptation of fields of economic policy governance (for example taxes and promotion of investment, SMEs and industry) & strengthening of proactive administrative capacities ■ Active labour market policy 	

4. Extractive Sector Companies as Levers for Development Cooperation



The extractive sector has a major influence on political, social and ecological conditions and processes in resource-rich countries. Many companies in the sector recognise the need for corporate social responsibility, also in their own business interest, but often face significant challenges in putting it into practice. Cooperation between businesses and development agencies is therefore clearly a matter of mutual benefit in many cases.

4.1 The role of extractive sector companies in the development process

It is now widely accepted that the private sector has an important part to play in the achievement of development goals, such as the MDGs. Extractive sector companies that locate in countries with low levels of development can trigger local and macroeconomic development impetus through their investments and commercial activities. However, such companies do not bear sole responsibility for building adequate infrastructure and for creating jobs and therefore income for the population. In short: the task of improving general conditions in the locality cannot and should not be left just to the extractive sector companies. The local business community and local SMEs must actively participate in expansion of the new infrastructure and must be involved in the process. This is all the more the case because the finite nature of business in the extractive sector implies that the mining companies will withdraw from the region as soon as the deposits are depleted. The local communities are then faced with the challenge of funding and making efficient use of the newly created infrastructure that until that time has been supported by the mining company. However, if local schools and hospitals for example are exclusively financed by the mining company, after the mine is closed the communities usually lack the funds to continue running these facilities independently. The mining company should therefore be seen as a partner from the very beginning, one which works efficiently with the communities and, for example, German TC to achieve development goals in a region.

4.2 Cooperation between German TC and extractive sector companies

Companies in the extractive sector can be significant drivers of local and national economic development. Their commitment and creativity also have an impact in fields where the state is barely able to exert influence, for political, economic or logistical reasons. Cooperation with extractive sector companies is therefore an ideal supplement to German TC's advisory services on economic, employment and financial policy in the priority area of SED. Acting as an intermediary in the extractive sector, German TC can help ensure that development and business interests complement each other and both sides benefit from cooperation (cf. table 7 and text box 8).

Companies operating in the extractive sector assume social and ecological responsibility³⁵ in order to obtain and retain their social licence to operate as well as acceptance within society, and to minimise risk of conflict. German TC's technical expertise is primarily in demand from companies aiming to ensure that investments with social and ecological components also make commercial sense over the medium to longer term. Through their mining operations, extractive companies in developing and emerging countries can thus play a part in sustainably improving living conditions on the ground well into the future. In this, German TC and the companies must act as partners in jointly planning, financing and implementing projects, and both sides must take equal responsibility for opportunities and risks. Entrepreneurial expertise is required above all in the management of extraction-related processes – including their geological, technical and ecological challenges and risks – and in market analysis, along with risk management in financial services.

35 This includes many companies' efforts to meet international standards in mineral resource extraction so that they and their products can be certified accordingly.

Table 7: Cooperation between German TC and extractive sector companies links development interests with business interests.

Advantages for German TC	... the private sector
Advantages of cooperation between German TC and the private sector	<ul style="list-style-type: none"> ■ Support for national development planning ■ Additional private-sector contributions to development-policy processes and objectives ■ Raising awareness of companies for global challenges ■ Creation of jobs and sources of income for the local population ■ Transfer of know-how and modern technologies ■ Improvement of working conditions in industry and agriculture ■ Ensuring sustainability, for example through the introduction of environmental and social standards and the implementation of UN Guiding Principles on Business and Human Rights 	<ul style="list-style-type: none"> ■ Financial and human resources support from experienced development organisations in the planning and implementation of projects ■ Easier access to state and private institutions and decision-makers ■ Access to specific know-how about countries, sectors and legislation ■ Easier market entry and opening up of new, lucrative markets for companies' own products and services ■ Building local networks ■ Reduction of production costs

Certain themes are particularly suitable to being addressed jointly by German TC and extractive sector companies. These include:

- **Advice on local and regional economic development**, to strengthen upstream and downstream value chains in local and regional resource extraction, including the relevant supplier industries. This is of interest to companies because it enables them to strengthen their social licence to operate, but it also enables them to save costs through local procurement of goods such as food or protective clothing.
- **Advice on employment promotion and TVET**, to shape the political, legal and institutional frameworks for TVET in the extractive sector and related sectors and to develop sector-specific training strategies.
- **Promotion of micro, small and medium-sized enterprises (MSMEs)**, to realise business opportunities in enterprise clusters, such as small hotels and guest houses, restaurants and catering services, and transport, vehicle and equipment maintenance services. This also includes assuring the availability of demand-driven financial services.
- **Matchmaking** between German and foreign companies in the extractive sector. Companies in partner countries frequently request German technology (one example is Mongolia), and interest in conferences, trade fairs or study visits for this purpose can be high.³⁶
- **Advice and capacity building on CSR**, to support extractive sector companies in the voluntary assumption of social and environmental responsibility. Not only can this lead to changes being made to in-house processes, it also has repercussions all along the value chain. Putting national and international standards into effect can help to improve general social and environmental conditions in the production and supply chains.
- **Advice and capacity building on the UN Guidelines on Business and Human Rights** to raise awareness of corporate obligations regarding human rights that go beyond voluntary initiatives and to support their implementation. This can help to identify aspects critical to human rights at an early stage and to avoid human rights violations through business activities.
- **Other advisory services** for example on the efficient use of inputs in the extractive sector or capacity development for institutions in this field (granting of licences, exploration, conducting negotiations).³⁷

³⁶ There is an interface here to the work carried out by GIZ's Specialised Business Unit for Cooperation with the Private Sector.

³⁷ There is an interface here to the work carried out by BGR, which is likewise active in this field.

Text box 8:**Objectives of existing cooperation arrangements between German TC and extractive sector companies****‘Responsible mining for a better future in Southern Africa’ in cooperation with Rio Tinto in Mozambique and Madagascar.**

Rio Tinto’s core business is in the extractive sector, so cooperation between Rio Tinto and German TC focuses on economic diversification among the local communities through the promotion of SMEs in non-mining activities and in the (further) development of agricultural value chains. The project’s objectives are clearly defined:

- an increase of 30 per cent in SMEs providing goods and services to local suppliers to international companies;
- at least three vocational training centres in the communities have adapted their curricula to the requirements of the local labour market;
- there are at least five market-oriented rural development projects that have as one of their priority areas ‘improving the livelihoods of small-scale farmers’ and integrate poverty-oriented interventions into their value chains;
- three examples of good practice from the above projects are exchanged with the private sector and civil society at national level and with Rio Tinto, the World Bank and the International Council on Mining and Metals (ICMM) at international level.

The aim is thus to integrate the mining company into the local community. There is a particular need to prepare the communities for the time after mining has come to an end and to develop income-generating activities, thereby reducing the people’s dependence on the mining project over the long term.

‘Access to Finance for the Poor’ in cooperation with the Minerals and Metal Group in Laos.

This Australian company operates the Sepon gold and copper mine in Laos. Until cooperation with the Minerals and Metal Group began, the financial sector in the community where the mining company is located was poorly developed. The objectives of the joint project, which was launched at the end of 2011, were therefore:

- village banks have been founded in 48 villages;
- the banks’ savings and loan services have been adapted to the needs of the local population;
- at least 50 per cent of the village banks’ financial resources are covered by the local population’s savings deposits and invested capital.

Poor rural households had only restricted access to financial services. As well as the supply side, the aim is increasingly to strengthen the demand side. To do this, basic financial education needs to be improved, first and foremost so that women and ethnic minorities benefit from better access to financial services. By September 2013 a total of 41 village banks had been founded as a result of the cooperation, with 2,061 users.

4.3 Choice of cooperation partners

Future cooperation partners for German TC must be chosen with great care. Extractive companies operating on an international scale, especially in the exploration business, often have a poor reputation with the public; the impact of this on German TC must be examined very closely. Consideration must also be given to whether cooperation is in line with the development policy principles of German DC, and whether it demonstrates clear development relevance and is environmentally sound and socially equitable.

The purpose of this is to ensure that the service is delivered responsibly and to highlight possible risks before a project is launched. If it emerges in the course of review that cooperation involves potential risks, risk-reduction measures must be integrated into the project strategy at an early stage. The partners' inputs must complement each other in such a way that both sides attain their objectives – i.e. development benefit and business success – more cost-efficiently, more effectively and more quickly than they would without cooperation.


GIZ, which has previously entered into cooperation with companies such as London Mining and the Minerals and Metal Group on behalf of BMZ, has a process known as 'business partner screening' to use for this review. It involves detailed scrutiny of the company and the future project design. It must be ensured that neither the extractive company nor the project will have any adverse effects on human rights, and that the core business in the extractive sector will not be ethically questionable or pose acute health or environmental risks. Companies or natural persons named on any of the EU or World Bank blacklists are excluded from all forms of cooperation.

KEY QUESTIONS

- > *What local development impetus can the extractive company provide?*
- > *What is the extractive company's reputation? Are there concerns that it should not be brought in as a partner for sustainable economic development?*
- > *How can the extractive company and German TC jointly ensure that development impetus is formed and implemented effectively? How is that reflected in the joint project concept?*
- > *Are there dialogue forums in place between the private sector and the public sector? Are the parties involved in any negotiation processes (relating to local content agreements, for instance)?*
- > *What needs does the extractive company have (human resources, capacities, materials, technologies)?*

5. Key Messages





What role does resource wealth play in sustainable economic development in the cooperation countries of German TC? How can positive development results be reinforced by the extraction of resources, and how can adverse effects be reduced? What are the public and private sectors' roles here? What does this mean for the design of German TC programmes in resource-rich countries? These are all relatively new questions. These guidelines provide initial answers which now have to stand the test of time in practical implementation. A series of key messages have emerged as these guidelines have been compiled; they can be summarised as follows:

1. Extractive resources can be a driver for both local and national economic development. However, in many developing countries extracting these resources is also associated with significant risks and challenges. Advisory services provided by German TC on sustainable economic development can make a considerable contribution to harnessing the value of resource wealth for the population and avoiding a resource curse through adequate policies. To a large extent German TC can make use of successful approaches from the fields of economic policy, private sector promotion, financial systems development, and TVET and the labour market. For interventions to be effective, however, it is essential to look closely at the extractive sector's specific requirements.
2. Strategic economic planning is one of the keys to harnessing natural resources for sustainable economic development. At every stage of the mining cycle there are options to design the utilisation of the remaining resource deposits and the relevant economic policies in such a way that inclusive development is promoted. German TC can provide professional advice to cooperation countries on the planning processes required to achieve this.
3. Economic promotion in the context of extractive resources does not necessarily mean promoting the extraction of resources as such. Promoting related industries (such as supplier industries) offers even greater potential for creating productive employment and higher incomes. In the extractive sector itself, on the other hand, the focus of TC is usually on matters of environmental and human rights protection, occupational safety, or CSR.
4. Resource-sensitive design of German TC programmes can also mean explicitly strengthening other sectors if they are marginalised by macroeconomic effects triggered by resource extraction and they lose competitiveness. The purpose of the diversification that this is aimed to achieve is above all sustainable development of economic structures in the extraction regions and countries. This approach should be in balance with exploitation of the growth potential in the extractive sector, however.
5. Large companies in the extractive sector are interesting partners for German TC for the implementation of programmes focused on private sector promotion and cooperation with the public sector. They often face similar challenges to those facing TC, and they want to contribute to development in mining regions in order to maintain their social licence to operate. Involving these companies can therefore be a good lever to make German TC interventions more effective.

6. Annex

Annex 1: Advisory services provided by German TC regarding growth potentials and obstacles in the context of the extractive industries

The tables below present an overview of which SED approaches lend themselves to realising the growth potential in the resource economy and to reducing obstacles to growth. They also point to overlaps with other fields of German TC ('interfaces') and indicate areas in which it makes sense for complementary services to be

integrated ('alliances'). The need for cooperation alliances becomes particularly apparent in matters relating to environmental protection and the efficient use of resources (such as energy and water). Figure 2 (cf. page 22) explains the logic of the tables in graphical form.

Table 8: Advisory contributions relating to growth potentials.

Growth potential	Activating potentials for growth	Possible Sustainable Economic Development contributions and interfaces / alliances with other priority areas ...
Foreign direct investment	<ul style="list-style-type: none"> Integrate into national and regional development strategies 	<ul style="list-style-type: none"> Development planning and strategy development (including modelling, M & E) Advice on economic reform policies (Interface: Good Governance)
	<ul style="list-style-type: none"> Attract and design (complementary) investment, both foreign and national 	<ul style="list-style-type: none"> Investment policy and investment promotion (incl. poverty and social impact analysis, assessment of alternatives) (Interface: Good Governance) Business and investment climate Tax policy and systems (Interface: Good Governance) Cooperation with the German private sector (Interface: Private Sector Specialised Business Unit)
	<ul style="list-style-type: none"> Link investments and anchor them in national economic and employment structures Promote structural change Implement partnerships between the state and the private sector 	<ul style="list-style-type: none"> Development planning and strategy development Industrial, structural and fiscal policy Privatisation Labour market and employment policy Cooperation with the (German) private sector Design of PPPs (Interface: Private Sector Specialised Business Unit)
	<ul style="list-style-type: none"> Identify and make use of scope for (partial) technology transfer 	<ul style="list-style-type: none"> Technology promotion Industrial policy Labour market and employment policy Vocational education and training

Growth potential	Activating potentials for growth	Possible Sustainable Economic Development contributions and interfaces / alliances with other priority areas ...
Foreign direct investment	<ul style="list-style-type: none"> ■ Harmonise relevant sector policies (e.g. energy, water, environment, tourism) 	<ul style="list-style-type: none"> ■ Cross-sectoral policy advice <i>(Alliance with priority areas: Water, Energy, Transport; Environment and Climate)</i>
	<ul style="list-style-type: none"> ■ Strengthen relevant state institutions in policy and strategy competence and in technical, administrative and organisational development know-how ■ Establish / strengthen advisory bodies, negotiation processes 	<ul style="list-style-type: none"> ■ Institutional capacity building and organisational advice from the sustainable economic development perspective ■ Promotion of chambers of commerce and business associations ■ Process management ■ Multi-stakeholder approaches ■ Capacity development for setting up land registry systems, exploration, conducting negotiations, granting licences, etc. <i>(partly interfaces with BGR)</i>
	<ul style="list-style-type: none"> ■ Strengthen capacity to negotiate pro-development international investment (protection) agreements and to avoid and resolve resultant legal disputes with investors 	
Export revenues	<ul style="list-style-type: none"> ■ Improve and facilitate exports 	<ul style="list-style-type: none"> ■ Trade policy and trade promotion <i>(in particular trade facilitation)</i> ■ Promotion of quality infrastructure
	<ul style="list-style-type: none"> ■ Shape and consolidate revenues from mineral resources 	<ul style="list-style-type: none"> ■ Resource management ■ Trade policy and trade promotion ■ Policies on taxation and duties <i>(Interface: Good Governance)</i> ■ Setting up and management of funds / participation models
	<ul style="list-style-type: none"> ■ Reduce currency fluctuations 	<ul style="list-style-type: none"> ■ Monetary policy ■ Central bank's interest rate and lending policy
Employment	<ul style="list-style-type: none"> ■ Configure the scope for employment-intensive growth 	<ul style="list-style-type: none"> ■ Employment-oriented economic policy
	<ul style="list-style-type: none"> ■ Use the extractive companies' direct employment needs to integrate training courses geared to the extractive industries 	<ul style="list-style-type: none"> ■ Labour-market-oriented vocational training (including system design, demand forecasting, curriculum development, institutional capacity building, training vocational training staff) <i>(Alliance with the priority area Education)</i>
	<ul style="list-style-type: none"> ■ Ensure that the extractive companies' employment needs are met as much as possible from the national / regional labour market 	<ul style="list-style-type: none"> ■ Labour market policy instruments (including information, advice and placement)
	<ul style="list-style-type: none"> ■ Improve young people's access to the labour market in the extractive industry 	<ul style="list-style-type: none"> ■ Promotion of youth employment ■ Migration policy for the internal labour market
	<ul style="list-style-type: none"> ■ Gradually increase the degree to which the local and regional labour supply is utilised. 	<ul style="list-style-type: none"> ■ Vocational education and training (demand forecasts, provision of initial and further training) ■ Vocational training partnerships with German businesses and training institutions

Growth potential	Activating potentials for growth	Possible Sustainable Economic Development contributions and interfaces / alliances with other priority areas ...
Employment	<ul style="list-style-type: none"> Promote indirect employment (supply, outsourcing, expansion of upstream and downstream entrepreneurial activities) Promote induced employment (income-induced expansion of the local and regional market) 	<ul style="list-style-type: none"> Sectoral industrial policy, siting policy SME promotion, enterprise promotion Cluster and value chain approaches Promotion of the quality infrastructure Financial systems development and microfinance / MSME finance Business partnerships
	<ul style="list-style-type: none"> Improve working conditions for persons in dependent employment in the extractive sector (decent work and a living wage) 	<ul style="list-style-type: none"> Multi-stakeholder dialogue formats Training in health and labour standards, safety regulations (Interface: BGR) Non-formal training measures, training inter alia aimed at teaching life skills etc.
Government revenues	Generation of government revenues	
	<ul style="list-style-type: none"> Secure, differentiate, negotiate and administer sources of income Consolidate revenue flows 	<ul style="list-style-type: none"> Medium- to long-term financial and budget planning Taxation and duty policies and systems Fiscal transparency approaches Management of public finances (Interface: Good Governance)
	Use of government revenues	
	<ul style="list-style-type: none"> Shape geographically defined economic dynamics and cycles in the immediate vicinity of resource extraction and beyond Strengthen local and regional administrative units and business associations and institutions 	<ul style="list-style-type: none"> Local and regional development planning Resource management Local and regional economic development (Interface with Rural Development / Management of Natural Resources) Location promotion; structural policy Business partnerships and procurement policies Value chain and cluster approaches
	<ul style="list-style-type: none"> Draft, implement, follow-up and evaluate development programmes Provide guidance for CSR measures (guidelines for mining companies) 	<ul style="list-style-type: none"> Programme and strategy development Employment promotion Enterprise promotion, MSME promotion Technology promotion
	<ul style="list-style-type: none"> Mould dialogue processes between public, private and civil society actors regarding the planning, implementation and monitoring of development programmes Reduce local conflicts between actors 	<ul style="list-style-type: none"> Multi-stakeholder approaches Alliance with the priority area Good Governance (specifically promotion of civil society participation and gender)

Table 9: Advisory contributions relating to obstacles to growth.

Obstacles to growth	Addressing obstacles to growth	Possible Sustainable Economic Development contributions and interfaces / alliances with other priority areas...
Corruption	<ul style="list-style-type: none"> ■ Increase transparency and accountability in the public and private sector ■ Use supervision and sanction mechanisms / codes of conduct in public administration ■ Improve the level of integrity in the justice sector 	<ul style="list-style-type: none"> ■ Management of public finances ■ Alliance with the priority area Good Governance (specifically corruption prevention and reform of public finances)
Structural conflicts	<ul style="list-style-type: none"> ■ Cross-sectoral strategic and planning processes during the exploration phase (land use, infrastructure) ■ Improvement of energy efficiency ■ Improvement of water resource management ■ Dialogue forums 	<ul style="list-style-type: none"> ■ Development planning (national & regional) ■ Investment, structural and location policy ■ Multi-stakeholder approaches ■ Possibly alliance with the priority area Water, Energy, Transport
Environmental impacts	<ul style="list-style-type: none"> ■ Improve the policy, planning and regulatory frameworks ■ Introduce participatory governance approaches ■ Employ modern environmental technologies 	<ul style="list-style-type: none"> ■ Development planning (regional / sectoral) ■ Investment, structural and location policy ■ Multi-stakeholder approaches ■ Eco-efficiency ■ Alliance with the priority area Environment and Climate / Biodiversity ■ Interface: BGR
Social tensions	<ul style="list-style-type: none"> ■ Better information management and risk management ■ Dialogue processes between the actors regarding reconciliation of interests, social cohesion measures ■ Social transfer options 	<ul style="list-style-type: none"> ■ Multi-stakeholder approaches ■ Alliance with the priority area Good Governance (specifically promotion of civil society participation, gender and where applicable human rights)
Emergence of a culture of dependence	<ul style="list-style-type: none"> ■ Greater participation in local / regional development decisions ■ Greater efforts to find cooperative solutions ■ CSR conditioned by contributions, with joint responsibility 	<ul style="list-style-type: none"> ■ Participatory local development planning ■ Enterprise promotion ■ PPP approaches (Interface: Private Sector Specialised Business Unit)
Conflict resources	<ul style="list-style-type: none"> ■ Prevention of violence; conflict monitoring, negotiation processes 	<ul style="list-style-type: none"> ■ Certification of resources from conflict regions ■ Take advantage of synergies with peace work institutions (for example ZFD) with experience in designing dialogue processes for conflict management in the context of extractive resources. Alliance with the priority area Security, Reconstruction and Peace ■ Interface: BGR
Negative macro-economic impacts of dependence on mineral exports	<ul style="list-style-type: none"> ■ Reduce / avoid the possible adverse macroeconomic effects of dependence on mineral exports (e.g. worsening terms of trade, Dutch disease, recession caused by fluctuations in commodity prices) 	<ul style="list-style-type: none"> ■ Economic and stabilisation policy (stabilisation fund, accumulation of savings, debt reduction, infrastructure policy etc.) ■ Structural and industrial policy ■ Central bank's monetary policy ■ Labour market, education and employment policy ■ Management of public finances (Interface: Good Governance)

Annex 2: Short glossary

Table 10: Glossary

Concession	The granting of a right of use of a common good (a public good or common pool resource) by the responsible state or municipal authority, for example the granting of a right to extract a resource.
Conflict resources	Conflict resources are natural resources whose systematic exploitation and trade in a context of conflict contribute to, benefit from or result in the commission of serious violations of human rights, violations of international humanitarian law or violations amounting to crimes under international law. (Source: NGO Global Witness).
Economic policy	Economic policy includes a) competition policy as regulatory policy; b) infrastructure, regional and sectoral structural policy as structural policies; and c) labour market, financial, fiscal, monetary, trade and business cycle stabilisation policy as process policies. Social policy and foreign exchange policy are also classified as economic policy.
EITI – Extractive Industries Transparency Initiative	Initiative to increase the transparency of money flows associated with the exploitation of extractive resources, enabling civil society (and other stakeholders) in the countries where extraction takes place to monitor where the money goes. EITI is a voluntary initiative; both governments of resource-rich countries and commercial companies are able to become members.
Extractive resources	Extractive resources are not renewable. They comprise mineral resources (metals, rare earth as well as non-metallic resources) and energy resources (fossil fuels and nuclear fuels).
Extractive sector	Essentially this is concerned with locating, prospecting for, extracting and processing raw materials from the earth. The broader term ‘resource sector’ also includes other branches of industry (such as waste management and recycling, the management of secondary raw materials, metallurgy).
Local content agreements	In order to boost linkages with the national economies in developing countries, a defined target is set for the local, regional or national share of supplies, purchases, services or work performed by way of legislation or agreements entered into between the state and the mining companies. In some cases there is debate as to whether such agreements are an infringement of WTO law, as trade-related investment measures
Mineral resources	The term ‘mineral resources’ covers metals, industrial minerals and other non-metallic minerals.
Mining cycle	As a rule, the mining cycle is considered to comprise the following stages: prospecting, exploration, appraisal / approval, construction, production, closure, rehabilitation / post-closure use.
Price volatility	Fluctuations in price over the course of time. It is used as a criterion for estimating certain risks in the context of investment and production, but also with regard to market or budget trends.
PWYP – Publish What You Pay initiative	An international coalition of over 50 non-governmental organisations. It mobilises citizens of resource-rich countries in the global North to urge their governments to deal responsibly with revenues from the oil, gas and mining industries. The initiative goes beyond the transparency of revenues and also covers the transparent and responsible handling of public funds and the disclosure of resource contracts and licensing procedures.
Resource agreements	International agreements aimed at regulating trade in resources. The aim is to safeguard supply and stabilise commodity markets and prices. The instruments under discussion include buffer stocks, purchase guarantees and quota systems.
Royalties	In general terms, compensation or remuneration for the use (copyright, patents, licences etc.) or exploitation (concessions for natural resources) of property. In the mining field the payments are usually linked to production. The way royalties are set varies from country to country, and does not necessarily follow a predefined pattern or good international practices.

Annex 3: Links relating to the extractive sector

Sources of news and information about the sector

ICMM – International Council on Mining and Metals

www.icmm.com

Founded in 2001, the Council is a grouping of 22 mining and metals companies and 34 national, regional and global mining and commodity associations. Its aim is to improve the ability of the mining and metals industry to achieve sustainable development. As well as an events calendar, the website provides access to many of the ICCM's own publications, which are often of interest from a development perspective.

MBendi – Information Services

www.mbendi.com/indy/ming/p0005.htm

MBendi is a privately owned business information service based in South Africa. MBendi collates and presents information about the mining sector as well as other sectors under headings such as news, events, facilities, projects, country profiles, extraction data, companies and organisations etc.

Portal Minero

www.portalminero.com

Portal Minero is a privately owned information service covering topics relating to the mining sector, with the primary focus on Latin America. The website presents news about the sector, invitations to tender, training opportunities and sector events. It includes a press review, provides market information on metals and has a search engine for supplier companies. The site's original language is Spanish, but it is linked to a translation engine.

The extractive sector and its relevance to development cooperation

BMZ – Federal Ministry for Economic Cooperation and Development

www.bmz.de/en/what_we_do/issues/raw-materials/German-development-cooperation-in-the-raw-materials-sector/index.html

General information from BMZ about the engagement of German development cooperation in the resource sector: links to the BMZ strategy paper and related themes.

BGR – German Federal Institute for Geosciences and Natural Resources

www.bgr.bund.de/EN/Home/homepage_node_en.html

A central authority subordinate to the German Federal Ministry for Economic Affairs and Energy. It advises and informs the German Government and the German private sector on issues relating to geosciences and natural resources, and it runs the German Mineral Resources Agency DERA. BGR is also an implementing organisation of German development cooperation on behalf of BMZ. Information about ongoing projects is provided under the topic of National/ International Cooperation.

World Bank Group

www.worldbank.org/en/topic/extractiveindustries

Website of the World Bank Group on the subject of the extractive industries from the perspective of their contribution to economic growth and poverty reduction. Numerous sub-topics, publications, media centre and information about events.

IFC – International Finance Corporation

www.ifc.org/wps/wcm/connect/Industry_Ext_Content/ifc_external_corporate_site/industries/oil,+gas+and+mining

IFC, which is part of the World Bank Group, devotes a section of its website to oil, gas and mining, with information about ongoing activities, news about its projects and information about advisory services in the mining sector.

AUSAID – Mining for Development

aid.dfat.gov.au/aidissues/mining/Pages/home.aspx

Mining is covered as a separate thematic area on the website of Australian official development cooperation, with information about AUSAID activities and publications.

Afrika-Verein – The German-African Business Association

www.afrikaveerein.de/de/nachrichten/kurznachrichten

The Afrika-Verein is the German foreign trade association for businesses and institutions with a focus on the African continent. Under the heading 'Kurznachrichten' on its German website it provides a simple search engine filter under 'Branchenzugehörigkeit' that offers mining ('Bergbau') as a category for searches. This brings you very up-to-date information about resource issues from the various countries.

Revenue Watch Institute

www.revenuewatch.org, archive-2011.resources.revenuewatch.org/en/resource/mineral

Revenue Watch is an international non-governmental organisation that supports the promotion of effective, transparent resource management. Its website holds a collection of research papers, case studies, training materials and official documents on themes surrounding the management of natural resources in the extractive sector.

OPM – Oxford Policy Management

www.opml.co.uk

OPM is an international consultancy company with a development-policy focus. Inter alia, it provides advice in a range of sectors, targeted at political decision-makers. Under the 'Policy expertise' heading it presents a series of topics on 'Extractive industries', with news from the sector, information about projects and publications.

SWP – German Institute for International and Security Affairs

www.swp-berlin.org/en/start-en.html

SWP specialises in information dissemination, consultancy and research, serving policy-makers, businesses and the scientific and academic community. One of the subjects covered by SWP is the field of minerals and metals, with information about resources and markets and transparency in the extractive sector. Suggestions for further reading are also provided, and a glossary (in German) of terms from the extractive sector.

Specific issues

IBA Research Network www.impactandbenefit.com	
	<p>A Canadian (civil society) network with information on Impact and Benefit Agreements (IBAs) in the mining context between national and regional / local governments and Aboriginal communities on Canadian territory.</p>
CSRM – Centre for Social Responsibility in Mining www.csr.uq.edu.au	
	<p>This website from a research centre at the University of Queensland in Australia is intended to be a platform for helping to improve the social performance of the global resources industry. As well as an extensive library, it has information about research projects and education and training activities in partner countries.</p>
bicc – Bonn International Center for Conversion www.bicc.de/program-areas/resources-and-conflict	
	<p>BICC is a non-governmental organisation working in the field of peace and conflict research. The website presents material and descriptions of ongoing research projects relating to resources and conflict.</p>
bpb – Federal Agency for Civic Education sicherheitspolitik.bpb.de/index.php?page=rohstoffe-und-konflikte	
	<p>The bpb's information portal on war and peace (<i>Informationsportal Krieg und Frieden</i>) deals with the issue of resources and conflict from a range of perspectives, and provides relevant background information along with further reading, sources and materials. The country profiles also include data on resources.</p>
World Bank http://go.worldbank.org/BE8FH2VK40	
	<p>The website of the Oil, Gas and Mining Unit also addresses the issue of Extractive Industries and Gender, with background material, an events agenda, literature and links to further information.</p>

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Sector Project Sustainable Economic Development

Registered offices

Bonn and Eschborn, Germany

Friedrich-Ebert-Allee 40

53113 Bonn, Germany

Tel. +49 (0) 228 44 60-0

Fax +49 (0) 228 44 60-17 66

Dag-Hammarskjöld-Weg 1-5

65760 Eschborn, Germany

Tel. +49 (0) 6196 79-0

Fax +49 (0) 6196 79-1115

info@giz.de

www.giz.de

Editor

Uwe Weihert

Contributors: Hasso Anwer and Stefanie Reiher

Comments: Andreas Beckermann (BMZ Division 311), Carolin Helmreich (BGR),

Martin Ondrejka (BMZ Division 304), Peggy Schulz (BGR), Henrieke Sievers (BGR),

Nils Warner (BMZ Division 301), Natascha Weisert (BMZ Division 313)

and employees of the GIZ Department “Economic Development and Employment“

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Addresses of the BMZ offices

BMZ Bonn

Dahlmannstraße 4

53113 Bonn, Germany

Tel. +49 (0) 228 99 535 - 0

Fax +49 (0) 228 99 535 - 3500

BMZ Berlin

Stresemannstraße 94

10963 Berlin, Germany

Tel. +49 (0) 30 18 535 - 0

Fax +49 (0) 30 18 535 - 2501

poststelle@bmz.bund.de

www.bmz.de