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Extractive Resources in German Development Cooperation



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Preliminary remarks

Ever since the boom in commodity prices began in 2004/2005, extractive resources have been moving up the development policy agenda. This is because the extractive industries sector intersects in a number of ways with economic and development policy goals. In addition to rising prices, the German private sector also sees supply bottlenecks on the horizon, and is seeking new and reliable paths of access. At the same time the utilisation of income from extractive resources harbours considerable potential for our partner countries' sustainable economic development, provided that appropriate frameworks are in place or can be created.

The extractive industries sector offers scope for analysing the causes and effects of underdevelopment. The present paper does not set out to analyse in depth the various facets of this extremely complex sector. It rather aims to present the current position of German development policy, and outline what action is needed. It focuses on mineral and fossil resources, and especially the ores and rare metals that are important for technological development. It also touches on the issue of secondary resources (recycling) where this is relevant to the primary resources.

1. The context

Extractive resources are non-renewable¹. These are broken down into mineral and energy resources. The **mineral** resources include metals such as iron, steel stabilisers, non-ferrous metals, precious metals and less common resources such as the rare earths used in the high-tech industries and non-metallic minerals (for example industrial minerals, construction materials, salts, fertilisers, gemstones, other non-metallic minerals etc.). **Energy resources** include the fossil fuels crude oil, natural gas and coal, and the nuclear fuels such as uranium. Finally, also important are **secondary resources**, in other words waste products that are recycled and returned to the production cycle.

Growing attention is now being focused on the term “**critical resource**”, also in the context of the development debate. To be categorised as “critical”, a resource must meet the following criteria: a) major economic importance for key sectors, b) high supply risks, c) lack of substitutes. These include “high-tech metals” such as cobalt, platinum, rare earths, germanium, tantalum and tungsten. Germany’s Federal Institute for Geosciences and Natural Resources (BGR) estimates that an elevated supply risk for neodymium and other rare earths will remain until 2030.

Foreign exchange earnings depend very predominantly on the extractive industries sector not only in Latin American countries (Mexico, Jamaica, Venezuela, Colombia, Brazil, Peru, Chile) and Asian countries (China, India, Philippines, Indonesia), to name but the most important, but also in a number of African countries. In sub-Saharan Africa alone, export earnings from extractive resources in 2008 amounted to around 180 billion US dollars. The vast majority of this sum, however, was accounted for by the resource-rich republic of South Africa. Yet in the Democratic Republic of the Congo too, some 10 per cent of gross domestic product is generated

by the extractive industries sector. The estimated (theoretical) potential annual tax revenue from this is around 380 million US dollars. Yet only a fraction of this is raised or actually enters the public coffers (the Extractive Industries Transparency Initiative – EITI – estimates that public revenues from resource extraction in 2005 totalled 27 million US dollars).

Examples such as Mexico, Brazil, Chile, India, China, Botswana and now Ghana demonstrate that resource wealth can mean prosperity for countries and their populations, provided that the right political and legal frameworks are in place. Key to this are sustainable and pro-development economic frameworks that incorporate systematic environmental protection and good governance; these are reflected in strong institutions, transparency and anti-corruption measures and, in the medium term, a diversification of economic sectors.

The German economy is heavily dependent on imports of metallic mineral resources and energy resources. In 2009, German imports of energy and mineral resources totalled 83.9 billion euros². The largest share of that (71.7 per cent) was and is accounted for by the energy resources crude oil, natural gas and hard coal, followed by the metals (26.3 per cent) and non-metals (2 per cent). By contrast, a considerable share of Germany’s demand for non-metallic mineral resources is covered by domestic production. Imports have come both directly from countries producing these resources,

¹ The present paper does not deal with **agricultural resources**. This term covers agricultural commodities that are subsequently used as food or fodder, or as renewable resources. The term **renewable resources** is used in this context to mean organic resources produced in agriculture or forestry that are used in the non-food sector (in other words, not as food or fodder). Renewable resources can be used both in industrial production (for example in the chemicals industry or the automotive industry), and as renewable sources of energy in the energy sector.

² To put this into perspective: according to the Federal Statistical Office, total German exports in 2009 amounted to 808.2 billion euros.

especially in the form of ores and concentrates or alloys, but also from countries with a processing industry (smelting plants and refineries), some of which themselves have only a limited resource base.

To date, developing countries have contributed only a small share of Germany's crude oil and natural gas imports (the main countries supplying crude oil and natural gas are Russia and Norway). Ores are also supplied by industrialised countries (for example Ireland, Sweden, Canada, Russia and Australia), though also on a significant scale by the emerging countries Brazil, Chile, South Africa and the People's Republic of China. Many of the aforementioned "critical resources" such as cobalt, platinum, germanium, niobium, tantalum and tungsten, as well as the aluminium ore bauxite and nickel ores, come from developing countries.

The "hunger for resources" seen in the emerging countries, and most especially in China, is becoming a growing focus of debate. The impression has arisen that an attempt is being made to "secure" resources through massively subsidised investments by public enterprises, in order to obtain a competitive advantage in times of tight supply. A sober analysis, however, allows us to make two remarks on the supply situation:

→ In recent years there has not been a single known case in which resources were not available on world markets at an affordable price over a prolonged period. In the medium and long term, supply and demand always balance each other out.

→ The extractive industries sector is technically complex, particularly capital intensive, and needs its customers of tomorrow even at the planning stage. So from a European perspective too, we should basically be glad when companies risk operations abroad, provided that the investments they make are developmentally, ecologically, socially and technologically sustainable (also bearing in mind the security aspects) for the resource-producing countries.

As well as investment, German and European thinking on securing access to resources therefore also needs to focus primarily on guaranteeing free world trade, in conjunction with international agreements. This must be accompanied by a dialogue with the producing countries and competing purchasers to ensure that these investments are aligned with national development strategies. Here it will be necessary to continue arguing firmly in favour of the benefits of international environmental and social standards.

A further aspect that is of considerable importance to all sides is the "volatility" of resource prices in response to economic fluctuations. Over the years, almost all resources have been subject to very considerable fluctuations in price, and periods of peak prices have usually been followed by very low prices, which then average out over several years to at most moderate price increases. Both these trends create major fiscal challenges for the producing countries. The very major swings in both directions – which often involve either a strong market position for suppliers, or a dominant position for purchasers – make it considerably more difficult to create a fair and reliable market regime. This is particularly true for those developing countries that are themselves dependent on resource imports.

2. Challenges in the extractive industries sector

If a country is rich in natural resources, that does not necessarily mean that it will experience positive economic and social development.

In principle, income from natural resources harbours major potential for a country's sustainable economic development. In many cases, however, revenues from resources do not benefit the whole population. Poor transparency with regard to the scope and distribution of income, corruption and poor government accountability are encountered in many developing countries. Often a vicious circle is created. Resource wealth is itself conducive to poor governance and weakens institutions, and the high revenues generated breed corruption, abuse of political power and a policy of patronage. Moreover, resource revenues may also play a role in the funding of armed conflicts, thus prolonging and/or extending them. Over the medium term, there is then a danger that the conflict parties' original aims are superseded by economic motives. In extreme cases, a war economy can emerge in which the parties involved, or their economic activities, are dependent on the perpetuation of the conflict.

In many cases, in resource-rich countries poverty even increases in relative terms. Paradoxically, in countries heavily dependent on the export of mineral and fossil resources economic growth may be lower than in resource-poor countries, even when prices for these resources rise. One special problem facing countries whose economies depend to a large extent on the exportation of raw materials is the phenomenon known as "Dutch disease". First observed in the Netherlands in the 1960s, this can occur when

a country exports large volumes of one product, most commonly oil or gas. These large exports of a certain product cause the country's currency to increase in value, thus increasing the price of its other export products on the world market. If a developing country loses potential markets in this way, it counteracts any efforts it may make to diversify its economy. At worst, it can lead to the collapse of the manufacturing sector, the most labour-intensive sector of the economy. The country's foreign exchange revenues are then dependent on just a few export products; in the extractive industries these are generally subject to considerable fluctuations in price.

If minimum ecological, social and technical requirements are not complied with, then the extraction of resources is often associated with environmental problems, human rights violations, danger to life and limb, and negative social impacts on the local population. Environmental destruction usually impacts negatively on a country's long-term economic development. Decisions concerning resource extraction are usually based only on short- to medium-term development potential, while long-term impacts are ignored. To harness the benefits for sustainable development it is essential to consider and weigh up all the social and ecological risks, and to perform a comprehensive cost-benefit analysis that includes external costs, before resources are exploited.

From a development policy perspective the **key solution** is the comprehensive mainstreaming of **sustainability strategies** in extractive resources policy.

3. The right path: establish a sustainable extractive sector

The point of departure for development policy measures is the observation that the sustainable utilisation of extractive resources and the responsible management of resource wealth are key prerequisites to poverty reduction, conflict prevention and sustainable development.

The BMZ is committed to helping ensure that resource wealth can be harnessed sustainably for pro-poor economic growth. This can be achieved by managing the extractive resources sector in developing and industrialised countries alike comprehensively on the basis of economic, ecological and social sustainability principles.

These include above all else the implementation of good governance, transparency, corruption prevention and – on this basis – the creation of a framework that guarantees binding compliance with internationally recognised minimum standards to prevent negative ecological and social impacts, as well as human rights violations. At the same time efficient and effective structures need to be established in the extractive industries, and measures need to be implemented to increase value creation and diversification. Furthermore, the utilisation of valuable resources needs to be improved either by increasing efficiency or by establishing recycling practices.

Sustainable management must encompass the entire extractive sector. It begins with the exploration of resource deposits, and includes licensing and leasing agreements, the extraction and processing of resources under socially and environmentally sound conditions, the decommissioning and recultivation of disused extraction sites, trade and revenue management, and re-cycling of the end product.

The extractive sector often brings together highly unequal economic partners. These actors include

major multinational companies, small and medium-size enterprises, and the informal sector. It is therefore necessary to apply appropriate strategies and structures that take account of the highly diverse conditions under which resources are extracted. (This will depend on the nature of the extraction process – highly mechanised and automated industrial mining, or small-scale mining, which is often informal.)

I. UTILISE THE EXTRACTIVE SECTOR TO DEVELOP AND STRENGTHEN ECONOMIC FRAMEWORKS IN DEVELOPING COUNTRIES

In the majority of resource-rich developing countries, **local value creation** in the extraction of resources, in processing industries, and in supply chains is still just getting started. Reforms are often blocked by established structures or individuals with vested interests. In many cases the extractive sector is geared exclusively to profit and export; generally speaking only few additional better-paid jobs are created. Furthermore, concentration on a single resource as the sole source of income often leads to one-sided dependency on volatile resource prices. Economies of this kind therefore face public revenue risks that are not always calculable.

On the other hand, establishing the necessary physical infrastructure in itself already creates jobs and can entail increased domestic value creation (for instance in the construction sector, the financial sector and in trade). Revenues from resource extraction can boost the growth process and in the medium term even lead to a larger number of better-paid jobs in the sector and in downstream industries (smelting, artisanal trades, processing industry, recycling). Locating processing in the country of extraction can not only increase the proportion of local value creation, but also lead to significant diversification within the sector.

Developing domestic value creation in the extractive sector creates a need for the establishment of modern, efficient and environmentally-friendly technologies and strategies for processing, finishing and recycling. This includes not only the introduction of appropriate plant and machinery, but also the development of technological capacities and training.

Also key in this context is a **pro-development monetary and fiscal policy** that can counteract any unsustainable rise in the real exchange rate, and minimise the impacts of “Dutch disease” and debt crises.

One problem with fiscal revenues in developing countries is what is known as transfer pricing. This manipulation of prices within companies is considered the most important means of avoiding or reducing taxes. It involves the sale of goods, for example extractive resources, to a subsidiary in a tax haven at a price that is below the going market rate. The profit then accrues tax-free to the subsidiary in the tax haven, entailing a loss of tax revenues in the producing country.

The development of local audit capacities should therefore be accorded high priority in order to stem shady transfer pricing policies. Germany is working within the EU and OECD to promote innovative strategies and projects to help developing countries calculate fiscal revenues, including for the extractive sector, at low cost.

Areas of activity for development cooperation:

- Advise countries on identifying their own potentials and tapping additional sources of income. Create awareness of the risk of one-sided dependencies and measures to counteract these.
- Train professional experts and managerial personnel.
- Establish and develop appropriate structures at all levels.
- Promote producers' associations.
- Support the development of models for cooperation with the private sector (especially models that include small-scale producers).
- Support international tax justice and price stability in the extractive sector.
- Stem shady transfer pricing methods under the BMZ initiative for an International Tax Compact (ITC), which supports countries in establishing efficient, transparent and fair taxation systems.

EXAMPLES OF MEASURES UNDER IMPLEMENTATION:

- 5 DEG finance projects for mineral resources (non-metallic minerals, ore mining, crude oil/natural gas) currently under way, mostly in Africa.
- Microfinancing for modern mining methods in small-scale mining in Africa.
- Aid for Trade: Through its Aid for Trade Germany is promoting diversification, productivity and value creation, mainly in sub-Saharan Africa. In this context it is also supporting the establishment and improvement of quality control and assurance infrastructures (for example harmonisation of quality standards, internationally recognised accreditation of testing laboratories).

Contributions and requirements to be met by the private sector

- Technology transfer: export of machinery and plant, for example for processing – in conjunction with the comprehensive transfer of expertise and training of local producers.
- Identify the demand for procuring products from higher stages of processing.
- A willingness to enter into purchasing agreements on a preferential basis with cooperatives that also include processing.

II. DEVELOP EFFICIENT AND EFFECTIVE STRUCTURES IN THE EXTRACTIVE SECTOR

One key constraint to managing the extractive sector on the basis of sustainability principles is inadequate legal, institutional and economic **frameworks** and a lack of **human capacities**. Professional expertise for the exploration of resources, and for the design and monitoring of frameworks, laws and agreements in the sector, are often still very much in need of further development. In many cases there is a lack of basic knowledge on resource potentials in countries; this needs to be remedied, for example by supporting the capacity development of geological services. Decision-making processes and negotiating ability (for example when awarding mining licences or negotiating contracts) at state level are impaired by a lack of administrative, legal or technical expertise amongst the public servants

responsible for these matters. This increases the risk of inappropriate conduct and poor responsibility among both private- and public-sector actors.

The same is true for public **financial management**. The extractive sector is often subject to taxation rules that create particular challenges for the tax authorities when taxing or auditing companies. This is often compounded by administrative structures that are highly bureaucratic, yet possess little expertise. Further problems include poor transparency and accountability. Weak institutions are conducive to corruption and make it possible for revenues from resources to be channelled away from the public budget (for example through transfer pricing, see above).

It is therefore necessary to strengthen or create stable political frameworks and structures that

allow resource extraction and trade to be monitored. This is achieved by supporting the development of appropriate professional expertise and capacities within the relevant state institutions, downstream agencies, technical and research institutions, and the private sector.

This includes the development of a consistent resources policy combined with relevant legislation/regulation based on it (adapting international standards for the mining and extractive industries sector). Implementing this will then create an ena-

bling environment for investment (legal certainty). Inefficient fiscal systems, often accompanied by a lack of incentives for taxation, need to be removed, in order to counteract a rent-seeking economy and abuse of power resulting from a concentration of sources of public revenue.

Independent **monitoring bodies** are also required to help combat the illegal extraction of and trade in extractive resources at all levels (from multinational companies to the informal sector), and monitor compliance with international standards.

Areas of activity for development cooperation:

- Pursue a multilevel approach by advising countries on improving frameworks and the investment climate at national level (national legislation, fiscal systems etc.), and supporting them in developing and strengthening the structures required (public institutions, professional institutions, quality infrastructure etc.). At the same time, provide training and support (vocational training, on-the-job training) to develop the relevant human and institutional capacities.
- Identify areas of cooperation with the private sector, including the development of PPPs for the extractive sector.

EXAMPLES of measures under implementation:

- Technical Cooperation project Investment Policy Advisory Services in Mongolia (IPAS).
- Mongolia / Tanzania: investor manuals (non-metallic and selected metallic resources).

- Mongolia: environmental protection in mining; certification of reference materials, training in the coal sector.
- Viet Nam: establishment of the mining supervision department.
- Development of professional public institutions for the geosciences/resources (Ghana, Mongolia, Malawi, Namibia), mining authorities (Viet Nam, Mongolia) and geo-information, exploration, assessment of resources/deposits.
- UNCLOS
- Good Financial Governance in Ghana: capacity development for fiscal administrations.
- Resource governance in fragile states of West Africa: contract monitoring, concession management.

CONTRIBUTIONS AND REQUIREMENTS TO BE MET BY THE PRIVATE SECTOR

Establishing a stable, efficient and effective extractive sector and professional state actors will create an important enabling and investment-friendly environment, from which the German private sector can also benefit. A willingness to directly support development cooperation measures in this field will create opportunities for long-term cooperation.

Companies will be required to specify investment projects of their own, and identify related concerns and constraints to investment. This will make it possible to identify specific action required, which German development cooperation actors can then put forward during dialogue with the partner countries concerned. Private sector investment can then be supported by efforts to facilitate necessary improvements in the investment environment.

III. ESTABLISH TRANSPARENCY

Experience has always shown that a sustainable extractive sector must be based in the first instance on transparent frameworks that all interest groups are able to understand. This starts with exploration, and includes the award of concessions, the extraction of resources, trade, and processing. Transparent flows of goods and payments are key to stemming corruption, curbing the funding of armed conflicts, and reducing the inequitable distribution of income. German development policy is therefore strongly committed to establishing transparent financial flows in the extractive industries.

One key element in the promotion of good governance in the extractive sector is the involvement of state, private sector and civil society actors (in other words a multi-stakeholder process). An integrated approach of this kind is pursued by the **Extractive Industries Transparency Initiative (EITI)**, which makes a key contribution to good financial governance in the public sector in resource-rich developing countries. The initiative aims to support responsible management by these countries of the income they generate from their resource wealth. The participating countries undertake to disclose public revenues from these resources and payments made by oil and mining companies. Representatives of

the companies concerned, civil society and government actors are all involved in the implementation process in equal measure. The initiative makes two key contributions to good governance:

1. It raises the transparency of **income** from resources.
2. It strengthens civil society by enabling it to demand **accountability**.

EITI is one approach to good governance, though is not in itself sufficient to guarantee it. The support Germany provides to EITI through development cooperation is complemented by further measures for good financial governance. These include, for example, measures to support institutional reforms in public financial management, to create monitoring mechanisms (such as capacity development for national audit institutions), to involve parliaments, and to strengthen administrations.

Transparency initiatives should not be limited to the use of earnings from the extractive sector. They should rather be extended to include the entire value chain. This already begins with transparency in the award of rights of use, and includes most importantly the nature of resource production, and trade. Another instrument, albeit a less important one,

is **Certified Trading Chains (CTCs)**. These involve the certification of compliance with internationally recognised standards in the extraction of resources in small-scale mining operations. They also make transparent the quantities of resources produced and the chains through which they are traded. One component of this approach is the possibility of improving poor transparency by identifying the provenance of a resource (for instance by means of geochemical fingerprinting). Efforts are also under way within the scope of international negotiations –

for example in the WTO process – to establish certification procedures as a binding standard. In the long term, certification should promote the engagement of recognised actors while marginalising those actors who undermine good practices. Certification systems aim to raise the proportion of resources obtained through responsible production, in order to meet rising demand. This is difficult, however, without the constructive support of the government agencies that are actually responsible.

Areas of activity for development cooperation:

- Strengthen good governance at the national and local levels, providing the key to transparency in the extractive sector.
- Promote and further develop transparency initiatives.
- Promote municipal projects to return tax revenues to regions where resources are produced.
- Develop internationally recognised and verifiable standards and certification procedures including the implementation of proofs of origin (for example fingerprinting). Create the needed enabling environments in the international context (including WTO), and operationalise measures on the ground.
- Develop standards for lending, involve banks in the implementation of Technical Cooperation projects.
- Continue strengthening civil society in developing and industrialised countries in their capacity as watchdogs and monitoring bodies, and as advocates and the voice of local interests.

EXAMPLES of measures under implementation:

- **Rwanda:** pilot project on Certified Trading Chains for mineral resources; Democratic Republic of the Congo: programme for transparency and monitoring in the extractive sector.
- Regional: geochemical fingerprinting / coltan fingerprint.
- Regional certification approach: support of the International Conference on the Great Lakes Region (ICGLR) in implementing the Protocol on the Fight against the Illegal Exploitation of Natural Resources.
- EITI: political and financial support of the Extractive Industries Transparency Initiative (EITI), which provides an internationally recognised standard for transparency. The BMZ is promoting transparency in the extractive sector, implementation of the EITI and public financial management in numerous bilateral Technical Cooperation projects and programmes.

Contributions and requirements to be met by the private sector

The soundness of procurement sources and trading chains for extractive resources is becoming increasingly important for companies. This is not only a question of corporate social responsibility (CSR) or competitive advantages. It is also gradually becoming a necessity in order to minimise the risk of restrictions on market access, or in order to comply with legal requirements. One example is Section 1502 of the Dodd-Frank Act, a law signed by Barack Obama in 2010 that seeks to regulate US financial markets. Under the law, any company listed in the United States that sources raw materials from the Democratic Republic of Congo classified as “conflict minerals” must be able to prove that the imports have not contributed to the simmering conflict there, in other words that they are “conflict-free”.

IV. ESTABLISH ECOLOGICAL AND SOCIAL MINIMUM STANDARDS

The key requirements for a sustainable extractive sector include environmental and social standards – a particular concern of German development policy. Generally speaking, resource extraction tends to be influenced by three major and potentially conflicting factors: environmental concerns, social issues and economic interests. Therefore, when decisions are taken on issues affecting concessions it is necessary to involve all interest groups, and where appropriate provide them with adequate

compensation for any restrictions that arise. Moreover, interventions in the ecosystem usually also impact the life setting of the local population. Impacts on the landscape may even be irreparable (consumption of land, lack of recultivation, destruction of ecosystems, and loss of biological diversity). The climate may be damaged by forest clearance. The vital natural resources on which livelihoods depend may be destroyed. Land titles and cropland may be lost, and water and soil may be polluted, which may have dramatic negative consequences for the environment.

Furthermore, the basic labour rights of those employed in the mining sector may be violated: child labour, forced or compulsory labour, repression of trade unions, and significant damage to health caused by a lack of occupational safety. Often there is also a lack of social protection for the population and the labour force (public health systems, social security systems such as accident insurance or provision for old age).

These factors must be taken into account appropriately in the cost-benefit analysis conducted when planning new resource extraction projects. One key instrument in this connection is **minimum standards**. A number of these have been laid down within a legally binding international framework, such as the international covenants on human rights and the ILO labour standards; others are found in voluntary instruments such as the UN Global Compact and the OECD Guidelines for Multinational Enterprises. These instruments formulate minimum standards for economic activities in the extractive sector, including activities in developing countries. German development policy sees them as a key tool for bringing about measurable and sustainable improvements in people's lives and working conditions in industrial enterprises in developing countries and emerging economies.

To discharge their responsibility for **human rights**, enterprises must exercise due diligence. This obligation extends beyond the company itself to include relations with subsidiaries, suppliers and other actors. It also includes not only a duty to refrain from certain actions, but also a duty to actively perform others: for instance, to introduce and maintain mechanisms to analyse, monitor and if necessary intervene in order to change the direct and indirect impacts of corporate governance on human rights. It also includes participation by the local population, and a special focus on protecting

indigenous peoples in the context of the business activities of foreign companies in developing countries. The special importance of respect for human rights is being dealt with in a separate chapter in the current process of revising the OECD Guidelines for Multinational Enterprises.

Certified Trading Chains aim to promote the implementation of environmental and social standards, especially in **small-scale mining**. This usually informal mode of mining is highly labour-intensive, and is often the only source of income for the local population. Worldwide approximately 20 million people are directly employed in artisanal or small-scale mining, many of them children and women. The number of people whose livelihoods are dependent on small-scale mining is estimated to be around 100 million. Small-scale mining is practised on the one hand on a traditional basis by the local population in order to obtain resources for their own use (for example raw materials for construction). On the other hand it is also practised on a secondary or parallel basis to industrial mining. In many cases it is not only relatively poor deposits that are mined here. On the contrary, new resources may be located in this way, which then smoothes the path for industrial extraction. Artisanal mining possesses powers of attraction that also extend far beyond local boundaries, due to the quick profits that are anticipated. This can lead to significant migratory movements. Measures to make small-scale mining socially and ecologically sustainable, and safe, help directly reduce poverty, raise people's quality of life and protect the environment. **Micro-financing** is also becoming more important in this context. It is being used in some projects to make more modern extraction and enrichment methods financeable, also on a small scale.

The boundaries between informal and illegal small-scale mining are often blurred. This means that

measures to formalise these activities also entail a higher degree of legalisation and legal certainty for the operators, as well as providing them with more opportunity to better represent their interests vis-à-vis other actors in the mining sector, and especially the government. At the same time, governments profit from the generation of additional income, and therefore strengthen in a positive way their control over previously informal activities.

Poor implementation of minimum standards is often due to inadequate knowledge and a lack of awareness on the part of mine operators, as well as an absence of the kind of monitoring structures and legal foundations in place in industrial nations. The private sector is playing an increasingly important role as an actor and partner. Many consumers

in industrialised countries are now looking more closely at how the products that they purchase are being sourced. As the provenance of a resource and the conditions under which it is produced gain importance, this creates a demand for compliance with minimum standards in the social field (for example no child labour, participation by local user groups), the political field (the phrase “blood diamonds” springs to mind here) and the ecological field (for example no clearance of tropical forests, no use of environmental toxins). Only enterprises that are able to satisfy this demand, so it is assumed, will be able to survive on the market in the long term. Sustainable resource extraction is therefore becoming a factor for competitiveness. In this sense, **corporate social responsibility** is more than a moral stance.

Areas of activity for development cooperation:

- Help create and implement appropriate international and national frameworks.
- Implement the recommendations of the UN Special Representative on Business and Human Rights.
- Transfer simple, low-cost and ecologically sound technologies for mine operators and farmers; provide micro-financing products to support projects that make more modern extraction and enrichment methods financeable, also on a small scale.
- Support capacity development in regional and local public institutions, and in small and medium-sized enterprises; this includes sensitising the actors involved to the need to minimise risks to human health and the natural environment.
- Raise the awareness of the private sector and the approval authorities concerning the importance of conducting comprehensive cost-benefit analyses that include external costs prior to investment.
- Strengthen the role of civil society.
- Focus on promoting environmentally-friendly and innovative approaches, and sustainable forms of business, in order to build a green economy.

EXAMPLES of measures under implementation:

- Projects for environmental protection in (small-scale) mining, and for managing disused mining sites (Kyrgyzstan, Colombia, Namibia, Mongolia, Peru).
- Projects promoting environmental geology for urban and spatial planning (Ghana) and dumping sites.
- G8 pilot project in Rwanda for Certified Trading Chains, designed to foster compliance with ecological and social minimum standards in small-scale mining

Contributions and requirements to be met by the private sector

The issues discussed here concern in the first instance enterprises that import extractive resources from developing countries, and possibly also extract and process them there. They are called upon to commit themselves to implementing human rights as well as social and ecological minimum standards, and to trade only in those resources or products that are certified accordingly. There is also a need for improvement in the developing countries themselves, though. When engaging in international exchange these countries also need to be able to meet purchaser demands on appropriate terms.

The private sector in Germany also has a role to play in the introduction of modern, environmentally-friendly technologies, and safety engineering, for mine operators.

V. MAKE MORE EFFICIENT USE OF EXTRACTIVE RESOURCES

The current high level of resource consumption in the face of growing resource scarcity is creating economic challenges for industrialised and developing countries alike. For some resources (namely crude oil and rare earths) the signs of scarcity are already obvious today, and are manifested inter alia in rising and heavily fluctuating prices. Moreover, deposits are often confined to a small number of producer countries, which leads to trade dependencies for the remaining states. This is the case with a number of metals and the rare earths, which play a key role in new technologies involving renewable energies and energy storage, as well as information and communication technology. It is to be assumed that the demand for rare earths will increase around fourfold by 2030 as these technologies are further developed.

Against this background it is crucially important to focus not only on a more sustainable extraction of resources, but also on improving their utilisation through extended value chains and closed materials cycles. The first aim here is to increase **resource efficiency** by reducing the quantity of materials used in production processes (which includes achieving longer life spans by making products easier to repair and recycle, and by consuming less process energy). The second aim is to achieve more efficient extraction methods and techniques. The potential for raising efficiency and lowering costs by reducing the use of materials is large. In Germany, for instance, in manufacturing enterprises over 46 per cent of production costs are accounted for by materials and resources costs, while labour costs account for only about 18 per cent, and energy costs far less. In developing countries and emerging economies the proportion of raw materials costs is

likely to be even higher in most cases. Despite this fact, potential savings have so far been realised by cutting labour costs, and increasingly also by improving energy efficiency. Yet raising resource efficiency by reducing their use harbours by far the greatest potential for lowering costs. This will also be made easier in future by new applications (for example lightweight construction). Technological developments in the metal recycling sector are also well advanced in Germany. Major potential exists here for Technical Cooperation and export promotion to help develop and establish the recycling sector in partner countries. More efficient methods of extraction encompass the development of new and efficient methods of exploration, improved mining management to achieve a better ore/waste ratio, increased output, the rehabilitation of mining industry waste dumps and the utilisation of dumped material for other purposes.

A further aspect is the exploitation of **secondary resources** through recycling. This is also an attractive option for emerging economies and developing countries because it enables them to increase their supply of resources and also export materials. To meet their own demand for resources and create additional jobs, explicit efforts are required to create new added value, as in the primary sector. In many developing countries and emerging economies the recovery of precious metals is performed using very basic methods such as incineration in the open air, and using cyanide and mercury, which creates considerable hazards to people and the environment. Here we need to promote the devel-

opment of local structures and the introduction of simple but efficient and environmentally-sound technologies for the recovery of metals³.

A special focus is placed on the possibility of recovering iron, steel, lead, copper, zinc, aluminium, and rare metals from electronic scrap and construction materials. These resources are present in particularly high concentrations in densely populated urban zones, which is why we speak of resource sinks and urban mining. Secondary resources are often not only of major economic importance, but may also make a significant contribution toward environmental protection and climate change mitigation, if used correctly. Recycling often requires only a fraction of the energy that would be needed to extract the same resources through mining, though to make these savings the materials must be used in specialised smelting facilities and refineries. Furthermore, recovering these resources reduces the need to extract primary resources, thus reducing costs and the burdens for the human population and the environment entailed by the extraction process. In industrialised countries, the recycling of resources is often accompanied by calls for a ban on exports of electronic scrap or vehicles, even though this contravenes the WTO principles, and seems untenable in the long run. Here too, there is ultimately no alternative to cooperation between industrialised, emerging economies and developing countries in order to achieve an optimal regime for recycling management based on an international division of labour.

³ See also the BMZ Strategy Paper "Waste as a Resource" (forthcoming)

Areas of activity for development cooperation:

- Advise countries and support capacity development for modern, efficient and environmentally sound extraction and production methods, and improved resource management, while at the same time improving conditions for employees and the local population.
- Support specific demonstration and pilot measures, for example demonstrating technical-improvements in small-scale mining.
- Promote the development of waste management strategies and the establishment of a recycling sector in partner countries.

→ Cooperate with research institutions in the field of resource efficiency and waste management: development of new efficient exploration methods, processing methods, dump modelling adapted to the development context.

→ Train local experts in waste management.

Contributions and requirements to be met by the private sector

Manifold opportunities for technology transfer, for example in the field of modern mining technology or mine management, or the establishment of a recycling sector. The introduction of plant and machinery must be preceded by comprehensive consultancy and advisory measures, and supported by appropriate training.

VI. RESOURCES AND CONFLICTS

The role of extractive resources in the emergence, and especially in the financing and prolongation of armed conflicts and civil wars (which are often rooted in ethnic or territorial conflicts), has often been the subject of close international political and media scrutiny. Examples include diamonds from Sierra Leone, lapis lazuli in Afghanistan and coltan from the Democratic Republic of the Congo.

An increased demand for resources on regional and international markets, combined with a willingness on the part of commercial enterprises to also procure resources from conflict regions, can exacerbate these conflicts. High-value resources in particular, which due to their low volume can easily be transported at low cost, thus making them easy to smuggle (for example gold, precious stones/diamonds), harbour major potential for conflict. In

the context of these resources the term “resource-based conflicts” is often used. This refers to violent conflicts driven by a quest for control over resources and their marketing.

Weak or fragile states are often incapable of performing the most basic functions of the state. The virtual legal vacuum that results from this is a breeding ground for corruption, smuggling and abuse of power. The parastatal structures that emerge are financed in part by informal small-scale mining. Resources that are required in Germany also sometimes originate from unstable or fragile states. Often, these states are sub-Saharan countries in a conflict or post-conflict situation.

Today, instruments such as certification proving that resources originate from non-conflict regions (for example the Kimberley Process Certification Scheme to certify “conflict-free” diamonds, and

geochemical coltan fingerprinting), the involvement of the extractive resources sector in regional peace processes (as in the Great Lakes Region in Africa), transparency initiatives such as EITI and regional and international cooperation all help

counteract these tendencies. The priority here must be to remove the structural causes of crises and conflicts by introducing mechanisms such as the reconciliation of interests, participation and strengthening of transparency in the extractive sector.

Areas of activity for development cooperation:

- Promote transparency initiatives and good governance at all levels (see above).
- Support specific projects in small-scale mining to test exemplary model solutions.
- Include conflict-related issues in cost-benefit analyses, and make this a precondition for financial commitments.
- Assess the conflict-sensitivity of resource-related engagement receiving financial support from the German government (investment support etc.) in developing countries affected by conflicts (Peace and Conflict Assessment at project level, do-no-harm approach).

EXAMPLES of measures under implementation:

- Support of the International Conference on the Great Lakes Region (ICGLR)
- Coltan fingerprinting in Rwanda
- EITI (see above)

Contributions and requirements to be met by the private sector

The German private sector needs to become even more sensitive to the issue of resources from conflict regions, and should be willing to commit to using only certified resources extracted under “conflict-free” conditions (in other words, by making a voluntary commitment to CSR that goes beyond legal requirements). The development and strengthening of certification initiatives and the introduction of proof of origin mechanisms (for example fingerprinting methods) should be actively supported, also within the framework of development partnerships and at the international level (WTO).

4. Trade in raw materials: European and international interaction and cooperation

In recent years the distortion of international markets (including secondary raw materials markets) has been raised within the EU. Addressing these issues is a key element of the EU raw materials strategy.

EU Raw Materials Initiative

In autumn 2008 the European Commission published an announcement on the EU Raw Materials Initiative (RMI). The initiative comprises three pillars designed to address aspects of the European Commission's economic, foreign, trade and development policy:

1. **Ensure access to raw materials on international markets under the same conditions as other competitors.**
2. **Promote the sustainable management of raw materials.**
3. **Reduce the consumption of primary raw materials in the EU.**

The European Commission Directorate-General for Development is currently preparing a statement on the development policy dimension of raw materials in an informal working group.

The EU intends to systematically tackle discriminatory access to raw materials in non-member countries. It also intends to employ all its trade policy instruments (free trade agreements and investment protection agreements) to secure access to raw materials. The role of development policy in this context is to help ensure that agreements reached take due account of the special needs and interests of poor countries. In some countries, for instance, export taxes are a key source of income for the pub-

lic coffers and cannot be replaced in the short term. They can also be used within a country as an industrial policy instrument to stimulate the processing of raw materials. The Raw Materials Initiative therefore advocates taking different approaches for different countries, as appropriate.

Bilateral investment protection agreements and investment guarantees provided by the German government (with PricewaterhouseCoopers as its authorised representative) support safe investment by German companies in developing countries, and in the raw materials sector there. The BMZ is committed to helping ensure that these investment protection agreements between Germany and developing countries (and between the EU and developing countries), and the provision of investment guarantees, do not conflict with development policy goals or international minimum standards.

Through Aid for Trade, developing countries are being advised on the formulation of trade and development policies designed to achieve diversification and sustainable development. This also includes establishing/strengthening the institutions required (for example customs authorities, tax authorities). Aid for Trade also directly strengthens the private sector in its efforts to become more competitive (also domestically) by processing raw materials.

Finally, the European Commission is committed to supporting more sustainable management practices in the raw materials sector. It aims to support developing countries in improving their social and ecological standards, including human rights and child labour practices.

At the EU-China Summit in Beijing in November 2007, the two sides agreed to step up talks on African issues and explore possibilities for three-way cooperation (EU, Africa and China). According to

the European Commission guidelines this will focus on the following areas:

- **peace and security in Africa**
- **support of African infrastructure**
- **sustainable environmental and natural resource management**
- **agriculture and food security.**

INTERNATIONAL INSTITUTIONS

Germany is a member of the international resource study groups for copper, nickel, lead and zinc and of the Common Fund for Commodities (Amsterdam), an international fund that finances projects designed to strengthen competitiveness and diversification in the raw materials sector.

Further activities include:

- OECD Working Group on Due Diligence in the Mining Sector: development of guidelines for enterprises in the mining sector in conflict regions.
- Exchange between mining authorities and ministries through the Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IFMMMSD), which promotes global governance in the raw materials sector.
- Germany also uses its membership of international development banks to influence the criteria for the appraisal and award of loans, and for the implementation of high environmental and social standards in investment activities.
- The BMZ is committed to helping ensure that the work of the World Bank makes a more systematic contribution toward improving people's lives in countries, and toward the implementation of human rights. For instance, it is envisaged that stronger emphasis will be placed on respect for human rights in the revision of the performance standards for the World Bank subsidiary the International Finance Corporation (IFC).

5. Summary and outlook

If a country is rich in natural resources, that does not necessarily mean that it will experience positive economic and social development. Many factors are key to sustainable development.

Development cooperation in the extractive sector currently focuses on reducing corruption and the tendency of certain resources to promote conflict, by improving the transparency of financial and trade flows, and by strengthening public institutions in the extractive sector.

Detailed analysis clearly shows that the extractive sector is very closely linked to social issues, environmental issues, financial and fiscal policy, economic policy, trade issues and legal issues etc..

For countries producing these resources, free world trade is a basic prerequisite for the sale of their products and their sustainable development, especially since they too import a large share of their raw materials. Germany and the EU are working hard within the WTO to establish free world trade in extractive resources. From a development policy perspective, though, exceptions should be possible. In the interests of their own development, resource-rich developing countries must be allowed to raise export duties within prescribed limits. A blanket ban on export restrictions is neither politically feasible nor helpful for development.

Public revenues from the management of extractive resources can be a key to the sustainable development of the producing countries. They enable countries to develop self-reliantly, because the extraction of resources can generate considerable public revenues in the long-term. Extractive resources projects, however, require stamina – from both the country and the enterprises concerned. A further aspect is the pronounced “volatility” of prices for resources. These create major fiscal challenges for the produc-

ing countries. This is particularly true for those developing countries that are themselves dependent on resource imports.

Transparent frameworks that all interest groups are able to understand are fundamentally important for a sustainable extractive sector. This extends from the granting of concessions to the use of revenues obtained from the resources. International transparency initiatives, the most important of which in this sector is EITI, have an important role to play here. German development policy is committed to establishing transparency of financial flows and the certification of trading chains in the extractive industries.

Implementing and enforcing an appropriate legal framework for environmentally sound and socially balanced mining requires strong professional and administrative institutions. One focus of development cooperation will therefore be to support development of the institutional framework, and train professional personnel.

Small-scale mining merits special attention. Depending on the price of gold, the number of people employed in informal small-scale mining worldwide can vary between 15 and 30 million people. Informal small-scale mining is usually illegal, and often takes place under catastrophic working conditions as well as causing severe environmental damage. Given the complexity of the problem it will only be possible to identify comprehensive solutions on a case-by-case basis.

On the basis of the development policy position for a sustainable extractive sector outlined in the present paper, and the understanding of the problems on which it is based, Germany will be raising these issues more vigorously in the political dialogue with its partner countries. Subject to those coun-

tries' agreement, these issues will be incorporated into country strategies, which may also involve increased agreement on and implementation of development cooperation projects in the extractive sector. In the future these projects will be implemented even more systematically hand-in-hand with partners from the private sector.

The BMZ is especially closely involved in inter-ministerial activities and cooperation in which the private sector and its organisations are also directly and increasingly involved. We intend to pursue and develop this path further. These activities include the BMZ's involvement in the Inter-Ministerial Committee on Raw Materials, which also involves

integrating elements of development policy into the Federal Government's Raw Materials Strategy. The BMZ will also be actively involved in the dialogue on raw materials with German companies launched by the Federal Ministry of Economics and Technology (BMWt), as well as the joint initiative of the BMWt, the Federal Foreign Office (AA), the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and the German private sector to design raw materials partnerships with resource-rich countries. Inter-ministerial flagship projects involving the BMZ will be developed inter alia in the extractive sector. A first extractive resource initiative (Mongolia) has already been launched.

Published by the
Federal Ministry for Economic Cooperation and Development (BMZ),
Division for development education and information

Edited by the
BMZ Division for water; energy; urban development; geoscience sector

Design and layout
BLOCK DESIGN Kommunikation & Werbung, Berlin

As at
September 2011

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