The Hazara region, in which Abbottabad is located, is a major mining area in the North-West Frontier Province (NWFP). Quarrying and mining are carried out in 108 villages, covering 4.8% of the total land area of Abbottabad district. Some 20 different minerals are excavated. A total of 308 licenses have been issued to date, of which 206 are for industrial rock and minerals (barite, clay minerals, dolomite, feldspar, graphite, gypsum, iron laterite, limestone, magnesite, phosphate, rock salt, silica sand and soapstone), 66 for dimension stone (granite, marble, serpentine), 19 for metallic minerals, 9 for gemstones and 8 for coal. The performance of the sector is characterised by considerable variations in output over relatively short periods of time. For instance, of the 20 minerals identified and mined in Abbottabad, currently only 13 are actively extracted.

About 73% of the mines in the district are situated in hilly areas while the remainder are on flat land. All are at a distance of less than 2 km from a water body, with the result that mine residues are polluting drinking water sources. About 18% of these mines are located in landslide zones, posing a risk not only to the environment but also to the safety of local communities. The size of mines (the leased area) ranges from 5 acres to 1,000 acres, depending on the type of mineral extracted, the category of license granted and the age of the mine. Most mines in the district are moderate to large operations, ranging between 400 and 1,000 acres.

Both underground and open-pit mining practices are employed, and the techniques in use are crude and indiscriminate. Miners are poorly paid and work...
dangerous and unhealthy conditions. Modern safety protocols, both for labour and the environment, are not followed. Oversight is practically non-existent, safety measures are ignored and environmental impact assessments are rarely conducted prior to commencing operations. As a result, mining activities pose a serious threat to the health and safety of workers, to communities residing in the vicinity of quarries, and to the ecology of surrounding areas.

Despite these drawbacks, the mining sector has the potential to contribute to poverty alleviation. Because of its obvious and extreme impact on the environment, it is also an industry that will benefit from environmental fiscal reform (EFR) measures.

Issues

As part of this study, a survey was conducted in 11 villages where mining activities are carried out, covering 8 of the 13 minerals currently extracted. The sample consisted of 59 mine workers (20% of the total number of the labourers at each site), and 33 households (20% of the total households situated within a 1 km radius of the mine). Eleven mining contractors were also interviewed.

Only 27% of contractors provide pensions to their employees and just 64% of contractors provide other types of benefits. The government pays compensation to the families of workers killed on the job but those surveyed knew of just one such case 10 years ago.

Contractors in general are unaware of rules and policies related to the mining sector, or about the impact of their operations. The majority of contractors interviewed do not believe that environmental pollution is created by mining and quarrying activities, or from the solid waste release from the mines. A few admit that solid waste is released and state that it is used as backfill. Except for one respondent, the remaining contractors do not have a reclamation and rehabilitation plan for the site once extraction is completed.

Contractors state that they already pay too many taxes and fees, and that they are dissatisfied by the manner in which the authorities utilise tax revenues. They are unwilling to pay for mitigation measures, or to provide proper benefits to mine workers. In the absence of a mechanism to enforce responsible mining operations, this situation is likely to continue.

A total of 58 mine workers from 10 villages were interviewed, half of whom are hired on a contract while most of the rest are daily wage labourers. Contradicting the information obtained from contractors, who claim that nearly a third of their workers are hired on a permanent basis, only 3.4% of the miners interviewed state that they are permanent employees. They state that they do not receive any benefits from mine owner or from the government. Meanwhile, 96.6% report that they are not allowed to unionise.

Mining activities cause many occupational diseases and the risk to workers is particularly high when proper precautionary measures are not followed. Only half of all respondents are aware of this risk. Some 40% of the miners surveyed report respiratory problems including asthma, and chest and lung disease. Besides the risk of disease, mine workers are also exposed to serious risk of injury or even death, since proper safety measures are not taken.

Mine workers are not fully aware of the environmental impact of their operations. Only 32.8% agree that mining has some negative impact on the environment, while 67.2% believe that mining does not affect the environment. When asked whether air, water, soil or noise pollution had increased in the area as a result of mining operations, 72% respond in the negative. Similarly 79% say that forests, livestock, wildlife and agriculture are not being adversely affected.

In the 11 villages that were part of the sample, a total of 33 households residing within 1 km of a mine were surveyed. These communities lack access to basic services. For example, 91% of respondents do not have adequate health care facilities or drinking water supply in their areas. They have also been adversely affected by the mining operations taking place in their areas. Allergies, asthma and other respiratory ailments, as well as gastric conditions and tuberculosis are commonly reported.

Village residents are not fully aware of the health and environmental impact of mining operations. More than half of all respondents believe there has been no effect on wildlife, while only 42% state that birds, rabbits and other wild animals have disappeared from the area due to blasting at the mine. But villagers note a wide range of other effects on natural resources, on activities such as agriculture, on their homes and on local infrastructure, with just 15% observing no harmful effects.

Households are willing to take part in activities aimed at improving their environment, with 64% indicating they would provide support to such activities and only 36% unwilling to participate, believing such work to be solely the government’s responsibility.

While survey respondents are themselves aware of many key issues confronting the sector, overriding concerns exist in a number of areas:

- Mine workers in Abbottabad are marginalised and excluded from the mainstream. Those who are provided accommodation at the mine site live in squalid conditions without access to basic services.
There is no financial mechanism to account for the negative impacts of quarrying and mining activities, or to include such costs in the pricing formula of mine outputs. There is also no mechanism to provide compensation to ailing or injured mine workers, to the families of those killed on the job, or to surrounding and downstream communities.

Mine workers and communities residing in the vicinity of mined areas have no way to influence decision making on issues that directly affect their livelihoods, health and living conditions.

**EFR options**

A collective approach is needed to tackle issues in the mining and quarrying sector. Mine owners are undoubtedly responsible for providing basic services to workers, and for ensuring occupational health and safety. The government must ensure that these requirements are met, and that existing regulations and procedures are followed. The government also has a critically important role to play in providing basic services to local communities. Donors and non-government organisations can contribute to this effort. It is also important to devise a coordinated mechanism to encourage best practices in the mining sector, to provide incentives for ecological protection and rehabilitation, and to assist mine owners in developing more responsible operating procedures.

Mine owners should assist in the maintenance of basic services for local communities, for example by contributing to the repair and maintenance of roads, water supply networks, sanitation facilities and services that are affected by mining operations.

Communities have a role to play in this regard as well, since they will benefit from improved service delivery. Community-based maintenance is an option that should be given serious consideration.

Based on survey findings and interviews with other stakeholders, the needs of local communities may be prioritised as follows: roads, health care, safe drinking water, electricity, tree plantation and forestation, labour welfare, schools, natural gas supply, and sanitation facilities. All of these basic and urgent requirements involve sectors where a pilot EFR initiative, focusing on pro-poor measures, has the potential to generate positive results.

As part of an EFR initiative, for example, a system of environmental taxes can be introduced for mine owners, although this will require that a detailed assessment is first made of the full range of levies and charges they are currently paying, so that their overall tax burden does not increase to such an extent that it becomes impossible for them to incur the costs of improving the health and safety of workers.

The government can influence mine operators through appropriate policies and robust oversight, and by creating an incentives regime. The goal of such measures should be to minimise environmental damage during operations, and to ensure restoration and rehabilitation of mined areas once extraction is completed.

Measures are required to build capacity across the board. Awareness needs to be raised among mine workers and owners, local communities, and community leaders, and public-sector staff also need training. In particular, these efforts should focus on the environmental impact of mining operations, the actual costs of negative impacts that are often overlooked, the importance of providing basic facilities and safe working conditions, and the long-term financial benefits of adopting responsible practices.

Reliable data are not available for actual production and revenues generated in Abbottabad’s mining sector. A large number of taxes and fees are currently charged at various stages of the application, approval and operation process. This complex structure of taxes needs to be simplified. Doing so will improve financial management and help create transparency in the utilisation of tax revenues.

**Recommendations**

In the current socio-economic climate, the Abbottabad district government’s financial capacity is severely constrained. Mine owners, meanwhile, insist that operating costs are already too high and are unwilling to bear any additional expense. Pilot implementation of EFR will therefore require support from donors and non-government agencies.

Robust oversight and proper implementation of the existing regulatory regime may help mitigate some of the most severe impacts of current mining practices. In this regard, key areas that require attention are as follows:

- Policies governing the mining sector need to be reviewed and revised, to ensure that miners work in a safer, healthier environment.
- Broader policy changes are also needed to mainstream pro-poor and pro-environment approaches. This includes measures to subsidise service delivery to the poor, stringent enforcement of regulations to minimise ecosystems degradation and environmental pollution from mining operations, severe penalties for mine owners who fail to follow proper procedures and guidelines, and strict oversight to ensure that ecosystems are restored after mining activities have concluded.

But deeper, structural reform is required to bring about long-term, meaningful change. In this connection, a key recommendation concerns the fiscal autonomy of the
district government. The fiscal powers of the district administration need to be enhanced, and local authorities must be given greater say both in revenue generation at the local level and decision making on how these revenues are utilised locally. These measures will need to be bolstered by capacity development and training of local government functionaries, particularly in fiscal management.

Excise duties and other levies collected by the government are not utilised for the development of mine workers or communities residing in the vicinity of mines, nor are any of these revenues reallocated for environmental conservation. Fiscal reform must address the existing structure of taxes, and begin to integrate pro-poor and pro-environment concerns. Mechanisms are required to redistribute revenue from the mining sector, in order to focus on poverty alleviation and environmental protection. Here, key recommendations include the following measures:

- **Tax on natural resource extraction:** Reforming the tax structure and introducing a levy on resource extraction can encourage sustainable practices by ensuring that incentives are not provided for over-exploitation. This will help cover environmental costs that are not currently captured in the tax regime.

- **Environmental tax:** Polluters must pay for the environmental damage they cause. Rules and regulations governing pollution charges for industry must be strictly enforced and amended where necessary.

- **Tax exemptions for the use of environmentally friendly technology:** This can serve as a strong incentive to mine operators. Mine owners importing environmentally friendly technology can be given tax exemptions and import duty rebates, and other similar financial incentives can be developed.

- **Reform of the tax structure:** Mine operators currently pay a number of different taxes, royalties and rents. While many of these levies are collected by the Directorate General of Mines and Minerals, other charges and fees are paid to various government departments. This system needs to be rationalised.

- **Research, data and analysis:** Before any new taxes are levied, it is critically important that the existing structure of taxes is analysed and reviewed. Anomalies and perverse incentives must be removed, covert subsidies abolished, the structure of tariffs simplified, and collection procedures streamlined.

- **Fiscal transparency:** The success of EFR depends on the support of stakeholders across the mining sector, from government functionaries to mine operators, and from workers in the mining industry to local communities and their leaders. The link between fiscal reform, including new taxes, and improvements on the ground must be clearly visible so that the long-term viability of EFR can be ensured. Effectively monitoring of revenue collection and spending decisions will help ensure the success of such measures.

**Conclusion**

Mining operations as they are currently carried out in Abbottabad have a massive impact on the well-being of individuals, on the standard of living of households, on entire communities residing in the vicinity of mines, and on the local economy. It goes without saying that these operations also have a devastating impact on the environment. There is no data available to calculate the actual losses incurred as a result of the operation of the mining sector but it is nevertheless clear that these costs are high. EFR in the mining sector can help defray these costs, and also help create a climate in which best practices are adopted.

**Sources**


In 2006, the International Union for Conservation of Nature, with financial support from the Swiss Agency for Development and Cooperation, launched a pilot EFR intervention in Abbottabad. This fact sheet and the others in this series present the findings of preliminary assessments that were conducted by IUCN and SDPI to determine the feasibility of implementing EFR in Abbottabad.