



Environmental Protection

Dr. David Phillips

dphillips@iway.na

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EP.1 THE KEY ISSUES

- Balochistan has abundant mineral resources, many of which are untapped as yet.
- Mineral exploitation is inherently unsustainable, but can support **sustainable** economic growth: sustainable growth is the key to both environmental and social impacts.
- Mining activities are potentially contaminating (air, water, waste), but can be controlled.
- A mix of self-monitoring by mining companies and regulatory oversight by the authorities is optimal, and should extend from baseline conditions to the post-closure period.
- Successful environmental protection is only achieved if the environmental issues are addressed from the outset, through the period of active mining, until after mining ceases.

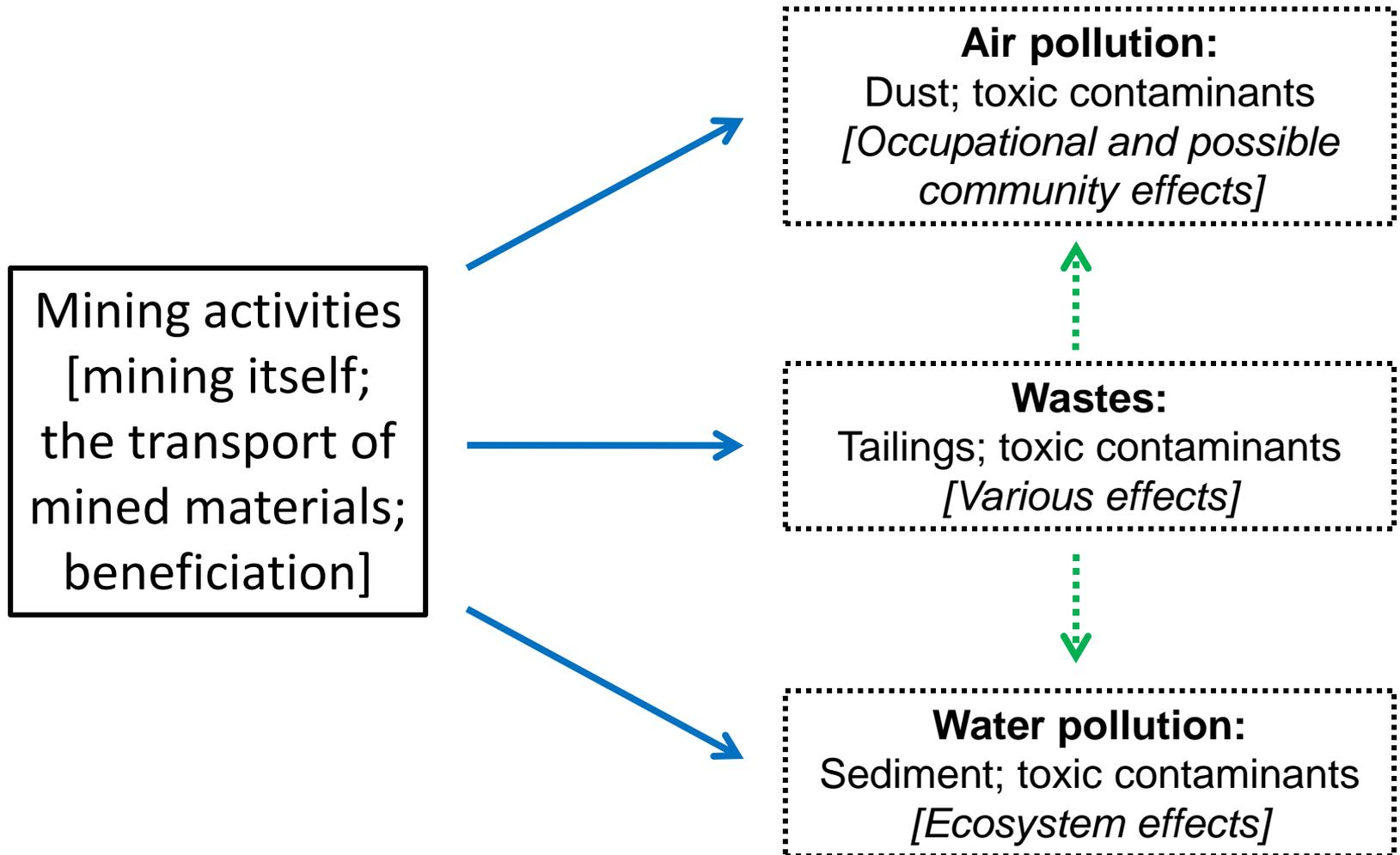
EP.2 WHEN AND HOW TO START ON ENVIRONMENTAL ISSUES

- Environmental issues should be addressed from the outset.
- The regulatory responsibilities should be clearly defined.
- Even exploration has potential adverse effects on the environment, although these are usually minor.
- The exploitation of mineral resources at any significant scale should be prefaced by Pre-Feasibility and Feasibility Studies, coupled to Environmental Impact Assessments (EIAs).
- Environmental Management Plans arising from EIAs are a key initial tool in controlling potential impacts.
- Transparency is a key objective.

EP.3 THE FIRST STEP: EIAs

- The general content of EIAs:
 - a description of the project (physical characteristics, production processes, estimate of residues and emissions);
 - a description of the main alternatives studied;
 - the environmental components likely to be affected and their baseline characteristics (human health & safety, flora, fauna, water, air, landscape, heritage, etc.) and the inter-relationships between these;
 - the likely significant effects of the activity (use of natural resources, emissions, nuisance, waste) and how these were estimated;
 - proposed measures to prevent, reduce and/or offset negative effects (the EMP);
 - a comprehensive non-technical summary;
 - a description of any difficulties encountered in compiling the EIA.

EP.4 THE ENVIRONMENTAL ISSUES OF MOST COMMON RELEVANCE



EP.5 ADDRESSING THE MINING LIFE CYCLE

- Tailor the regulatory focus to the main sources of potential impact:
 - demands for exploration activities may be quite minimal;
 - EIAs for mineral exploitation should be detailed and a primary focus of the regulators;
 - the entire life cycle should be addressed from the outset;
 - closure and post-closure activities (including remediation) must be covered from the early stages.
- Use Environmental Audits to track performance over time.
- Financial provision for later stages of the mining life cycle should be guaranteed, to avoid generating unfunded liabilities.

EP.6 REGULATING ENVIRONMENTAL ISSUES

- The regulatory base:
 - international agreements/conventions;
 - national legislation;
 - provincial/regional/local requirements.
- National quality standards, for example:
 - laboratory certification;
 - self-monitoring/reporting;
 - various forms of wastes.
- “International best practice”, including:
 - international performance standards, e.g. the ISO series;
 - the sustainability framework of the IFC.

EP.7 MONITORING AND TRANSPARENCY

- Monitoring should occur:
 - intensively by the developer during the EIA, the construction phase, the operational phase, the closure phase, and the post-closure phase;
 - intermittently by the regulatory authorities, to check the data reported by the developer.
- Monitoring data from both the developer and the regulatory bodies should be made available freely to the public at all stages, satisfying transparency requirements.
- This issue is sufficiently important that it has spawned the Aarhus Convention of 1998, addressing access to information, public participation and justice on environmental issues.

EP.8 ENVIRONMENTAL ISSUES, LAWS AND INSTITUTIONS

- Environmental issues are addressed primarily by the PEPA 1997, but several other Pakistani laws are also relevant (e.g. the Mining Act; the Mining Health & Safety Act).
- In keeping with the somewhat scattered legislative provisions, the institutional responsibilities are to some degree fragmented, e.g. amongst:
 - the national and provincial EPAs;
 - in relation to water resources, the national and regional water authorities;
 - health & safety: the industrial and medical authorities;
 - community-related issues (*Maria-Valéria to address*).
- Cooperative governance is a key objective.

EP.9 A SUMMARY OF THE KEY TOOLS

- The Environmental Impact Assessment:
 - the primary tool before activities commence;
 - may be required (often in short form) even for exploration;
 - must be completed for exploitation on any significant scale;
 - international best practice very well defined;
 - generates Environmental Management Plans;
 - skill base and reaction time of the regulators are often problematic.
- Environmental Audits:
 - highly useful and versatile, once activities commence.

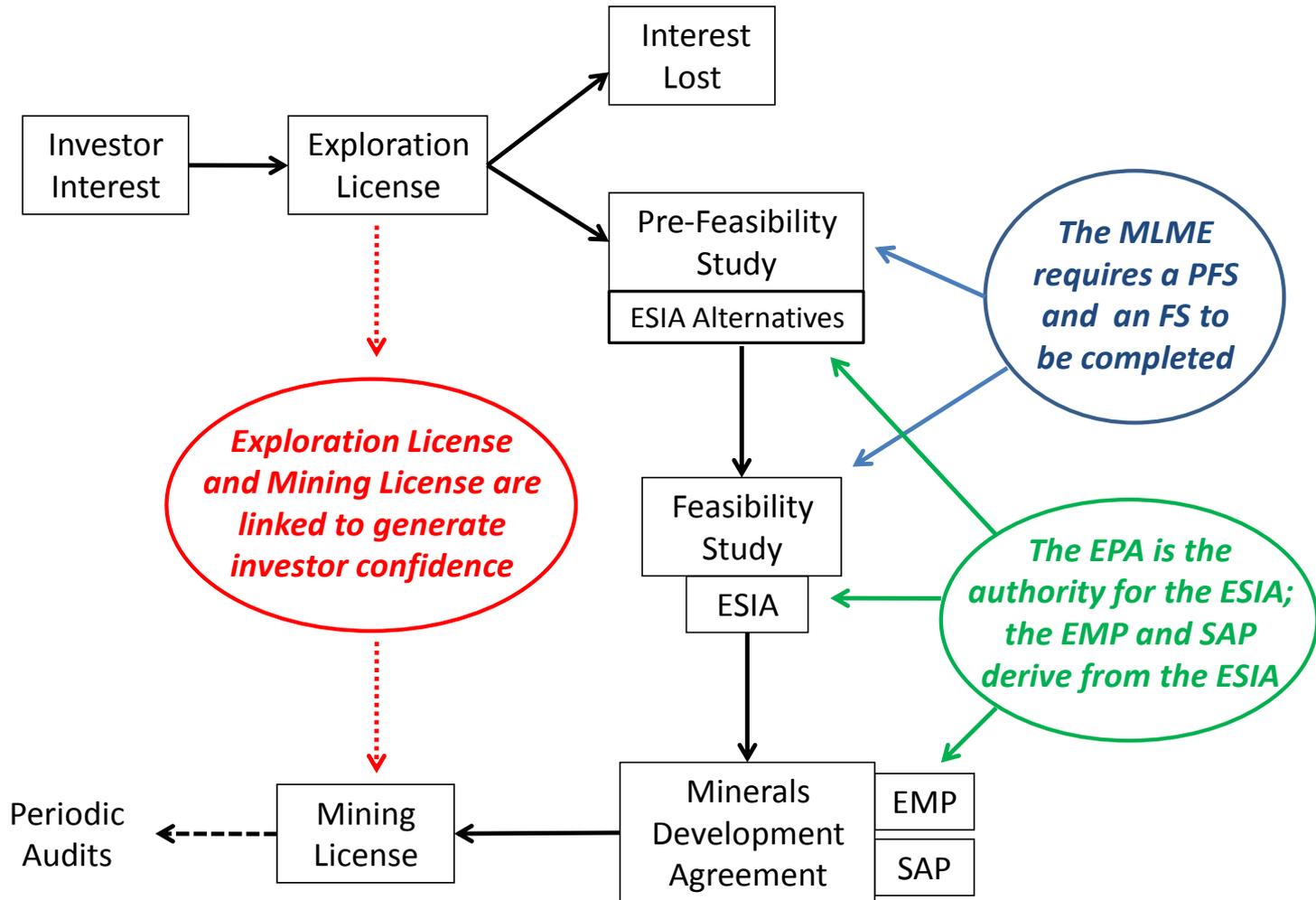
EP.10 MINING PERMITS OR LEGISLATION?

- Mining Permits can be tailored to each individual circumstance, at least to some degree.
- This has both advantages and disadvantages:
 - specific requirements can be addressed/covered; but
 - national legislation may be eroded.
- Framework legislation is certainly needed (e.g. for EIAs; Environmental Audits) and must be robust.
- Regulations supporting the framework legislation are to be preferred.
- Whichever approach is taken, company reporting and regulatory focus are the primary keys to success.

EP.11 INVESTORS AND ENVIRONMENTAL ISSUES

- The attitudes of many investors have shifted markedly over the last several decades.
- Generating environmental liabilities is an expensive and dangerous activity.
- The previous willingness to short-cut environmental requirements has been largely replaced with a desire to perform adequately – and sometimes better than adequately.
- Investors want certainty, more than anything else; regulators should therefore be both firm and consistent.
- Mining through the licensing of private sector entities is effectively a partnership, and should not be adversarial in nature.

EP.12 INTER-RELATIONSHIPS OF THE VARIOUS STUDIES: AN EXAMPLE FROM LIBERIA



**End of the
section of the
presentations on
Environmental
Protection**

