

SUSTAINABLE DEVELOPMENT OF SMALL SCALE MINERAL EXTRACTION OPERATIONS

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Increasing emphasis is being placed on the need for sustainable
development of natural resources. Key principles for mineral
extraction are:

- * to identify locations where extraction will cause the least damage;
- * to undertake extraction and primary processing in ways which
minimise damage to the environment and nuisance to people; and
- * to reclaim land worked for minerals to a standard suitable for
beneficial subsequent uses.

These principles should apply whatever the size of the minerals
operation but there are important differences between large scale and
small scale operations. Small scale operations may be more easily
contained within the landscape, can, potentially, have more localised
environmental impacts during working, and can be more cheaply and
quickly restored. In practice, however, operators of small sites may
have limited experience in mitigating the environmental effects of
extraction and in site restoration. The work-force is normally small
and there is limited capital to devote to environmental improvements.
Outdated approaches and technology may be used. Education, advice,
and assistance are needed in parallel with active enforcement of land
use planning and environmental protection provisions to overcome
these problems. The penalty for not doing this is a legacy of
contaminated land, polluted water, unsightly features in the
landscape, limitations on future land use and, ultimately, the need for
expensive reclamation schemes.