



A Guide to Biodiversity for the Private Sector

www.ifc.org/BiodiversityGuide

Cement

The Bottom Line

Approximately 1.6 billion tons of cement is produced worldwide each year. Mixed with water and aggregates, the resulting concrete is second only to water as the most consumed substance on Earth, according to Lafarge, one of the major cement companies. Cement consumption correlates to economic development as a base commodity for new buildings, factories and infrastructure. It is therefore not surprising that cement manufacture has increased sharply in the developing world, with China alone accounting for approximately one third of the 1.6 billion ton figure.

Limestone is the principal raw material for cement production. To date, the environmental focus of industry has been the production process the air emissions from heating materials to extreme temperatures and the dust from grinding raw materials and end product. Biodiversity is now gaining recognition as an important management issue, as the scientific understanding of limestone ecosystems grows, particularly for **karst** environments. Typically rugged, dramatic landscapes, karst provides a range of micro-habitats with high levels of endemic and little-studied species. Limestone environments also control groundwater levels and water flows which can affect communities and biodiversity many miles from the mining and extraction sites.

The construction and building materials sector was identified as a high risk (“red zone”) sector for biodiversity risk in the September 2004 report *Is Biodiversity a material risk for companies?* (F&C Asset Management plc) [Report available from: <http://www.businessandbiodiversity.org/pdf/FC%20Biodiversity%20Report%20FINAL.pdf>] The report defines red-zone sectors as those sectors in which most companies are likely to be exposed to biodiversity risks and the risks are *likely to be significant*.

Drivers for change

- Recognition of the **multi-use context** of limestone resources, including cultural and historical values, ecological service values and touristic values (community, government, NGOs, media)
- Increasing **industry competition**, prompting efficient use of raw materials (competitors, customers, financiers / shareholders)
- Demonstration of strong performance (including environmental and social) in order to secure **new limestone concessions** (government, NGOs, media)
- Growing **scientific understanding** of limestone ecosystems, with resulting calls for improved conservation and management (government, NGOs, media)
- **Global consolidation**, emphasizing the need for strong brand value and reputation (employees, customers, financiers/shareholders)
- Recognition that appropriate **closure and rehabilitation** of limestone quarry sites provides opportunity to improve biodiversity values (communities, NGOs, media)

Key sustainability initiatives and good practices

- **The Cement Sustainability Initiative (CSI):** [<http://www.wbcdcement.org>] The CSI was formed by the World Business Council on Sustainable Development to help the cement industry address the challenges of sustainable development. The CSI has ten core members (representing the majority of the world’s multinational cement companies) plus a number of participating partners. Both core and participating members agree to abide by the CSI Charter, which includes a commitment to use common environmental and social impact assessment guidelines [<http://www.wbcdcement.org/land.asp>]. The guidelines refer to biodiversity and ecosystems management, including an example from Heidelberg Cement Group.

The CSI site has numerous other resources, themed around six issues considered critical for action: CO2 and climate; Responsible Use of Fuels and Raw Materials; Health and Safety; Emissions Monitoring and Reporting; Land and Communities and Reporting and Communication.

- The majority of CSI members have their own websites with details of the environmental management programs. Some which include specific reference to biodiversity management include:
 - Lafarge: Bamburi Plant near Mombassa, Kenya (a former IFC investment):
<http://www.bamburicement.com/social.htm>
 - Holcim: examples from Mexico and Morocco:
<http://www.holcim.com/CORP/EN/b/null/oid/51570/module/gnm50/jsp/templates/editorial/editorial.html>
 - CEMEX: El Carmen project in Mexico:
http://www.cemex.com/cc/cc_lp.asp
 - *Biodiversity and Cultural Property in the Management of Limestone Resources; Lessons from East Asia*. Jan Vermeulin and Tony Whitten, 1999. The World Bank.:
<http://web.worldbank.org/servlets/ECR?contentMDK=20395883&sitePK=400856>