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## Biodiversity Offsets: A Proposition Paper

### Introduction

ICMM and its member companies wish to understand more about the concept of biodiversity offsets and the practicalities of their application to consider how they could contribute to a suite of measures to improve environmental performance.

At the World Summit on Sustainable Development (WSSD) in 2002, world leaders committed to a set of goals that promote human development as the key to sustaining social and economic progress. Termed the Millennium Development Goals, they set a framework of targets that the world must achieve by 2015, focusing on poverty alleviation, health, education and gender equity. At the same time, most of the governments of the world committed to a significant reduction of the current rate of biodiversity loss at a global, regional and national level by 2010 through the Convention on Biological Diversity (Decision VI/26). There are clear links between poverty alleviation, development and having in place robust and functioning ecosystems and the services they provide<sup>i</sup>. The net effect of any development activity needs, therefore, to be simultaneous social, economic and environmental improvement.

Mineral commodities underpin power, water, housing and transport provision, and are central to the technologies that are helping to promote development and social equity in developing countries. In the mid 1990s, the industry engaged in a multi-stakeholder dialogue which resulted in the Mining, Minerals and Sustainable Development (MMSD) initiative. This examined the industry's role in sustainable development and concluded that the mining industry has a vital role – alongside governments and civil society - in delivering economic and social development. It also challenged the mining industry to work to improve its performance in a number of areas, including the management of biodiversity. ICMM was formed by a group of leading mining companies and associations to take up this challenge. Since 2002, it has been working in a dialogue with the IUCN to address mining and biodiversity issues and impacts, including the issue of whether some areas should not be open to develop – the 'no-go' debate.

It is accepted that mining can potentially impact on biodiversity both positively (e.g. through rehabilitation of brownfield sites) and negatively. Impacts on biodiversity may arise directly from the mine development (primary) or be triggered by the mine's presence (secondary). The former is under the direct control of the mine, however, secondary impacts are significantly more complex and their occurrence, or otherwise, is often dependent on the activities of other stakeholders such as governments. Practices which mitigate impacts on biodiversity are well established within the mining industry, as outlined within the ICMM's recent Good Practice Guidance<sup>ii</sup>. Increasingly, however, the industry is considering how to address residual impacts which cannot readily be mitigated without significant resource requirements and which require cooperation and shared responsibility between a range of stakeholders. At the same time, the IUCN-ICMM dialogue has been considering whether, in some cases, it may be a better outcome for biodiversity if the company were to divert some resources from mitigation of residual onsite impacts to financing conservation elsewhere.

Biodiversity offsets<sup>iii</sup> – sustainable conservation actions intended to compensate for any residual, unavoidable harm to biodiversity caused by development projects – may offer one potential route to achieving this improved biodiversity outcome. First formalised in the USA system of wetlands mitigation in the 1970s, offsets are receiving increasing attention from environmental groups, a range of industries (including mining, construction, oil and gas and forestry), government and investors as a means of helping to balance competing demands of development and conservation protection. Offsets are seen by some environmental groups as way of securing more and better conservation, by some companies as a means of securing and maintaining licence to operate and by some investors as a mechanism to help minimise the risks associated with corporate impacts on biodiversity.

There are significant potential benefits for biodiversity and for the mining industry in the use of biodiversity offsets as a powerful tool in simultaneously delivering development and conservation. However, the debate is relatively new and unresolved in a number of key areas. ICMM has drafted this paper as a first step in reaching resolution on a number of these issues. We invite the conservation community to participate in a dialogue to explore opportunities and concerns posed by biodiversity offsets.

### **Why the mining industry is interested in biodiversity offsets**

The mining industry has a number of unique characteristics and experiences that give it a strong interest in understanding the concept of offsets and the issues raised by their use. These include:

- **Access to land:** There is a significant overlap between active mining and exploratory sites and areas of high conservation value<sup>iv</sup>, however, continuing un-threatened access to new land is essential if the demand for minerals is to continue to be met. In many cases, impacts on biodiversity may be avoided, minimised or insignificant. They may also be temporary in nature. However, in some cases loss of biodiversity will occur and some form of mitigation or compensatory action will be required to compensate for this.
- **The nature of mine development:** The nature of mining processes result in some land disturbance – there will always be some level of unavoidable impacts on biodiversity as a result of ore extraction.
- **Tie to ore location:** Mine viability is dependent on the location of geologically unique mineral deposits and ore demand. Hence even if the site is biologically sensitive, there may be little scope for considering a range of possible sites - impacts on such a site cannot be avoided by selecting another less sensitive site.
- **Legislation:** Legislation in a number of countries (Brazil, Canada, Europe, the USA) requires compensatory measures for land use and impacts. As a result of operating in these environments, mining companies have experience of offsets and the benefits they can bring.
- **Maintaining licence to operate:** This is increasingly important for mining operations as stakeholders show a growing concern for the conservation of natural resources. In Australia, for example, a number of states are exploring the use of biodiversity offsets as part of their attempts to balance the need for development with the need to conserve biodiversity. In addition, concerns regarding impacts on biodiversity can impact on community relations and social licence to operate.
- **Environmental stewardship:** The ethic of environmental stewardship and reducing the footprint of operations is espoused by many leading companies and by ICMM. ICMM members themselves have set a leadership position within the sector. Through ICMM's sustainable development principles, they commit to both contributing to the conservation of biodiversity, to the social, economic and institutional development of the communities in which they operate and to integrating sustainable

development considerations within their corporate decision-making processes. This commitment requires economic benefits to be balanced with equity and environmental protection.

The wider use of biodiversity offsets as elements of new mining projects is therefore attractive to many companies as they seek to meet more of the expectations of stakeholders as well as society's need for minerals. However, the uncertainties surrounding a wide range of technical and political issues that are raised by the concept and use of biodiversity offsets have hampered their wider uptake.

### **Barriers to progress**

There is not yet general consensus whether offsets are viable and valid conservation mechanisms, how best they should be designed and how their sustainability can be guaranteed to secure no net loss of biodiversity and contribute to the 2010 biodiversity target. As a result, companies may be reluctant to set their own criteria for voluntary biodiversity offsets. By doing so they may attract hostile attention from conservation organisations which are engaged in an unresolved debate on if, when and how such offsets should be used. The reputational risks associated with this may weaken the business case to undertake such conservation activities. Without resolution of the current debates and without greater clarity on what constitutes good offset practice, many companies will simply choose to wait and see. As a result there is a risk that opportunities to ensure more and better conservation outcomes are being missed.

### **Issues that need to be resolved**

The issues that require discussion and resolution with the conservation community include:

- **Appropriateness of development decisions:** The ICMM commitment not to mine or explore in World Heritage Sites acknowledges that there are some sites in which development should not occur. Discussions on biodiversity offsets are frequently based on an understanding that they should only occur as a last resort following every attempt to avoid impacts and then mitigate them. However, there are concerns remaining amongst the conservation community that offsets will allow companies to develop in sites of biological importance that would otherwise not be developed – effectively granting a right to harm biodiversity. Conversely, others see the development of industry in some areas as a means of securing greater resources and protection of conservation. There is a need to resolve these conflicting views.
- **Shared responsibility:** Many countries lack the institutional capacity and national strategies for biodiversity conservation required to enable the design and implementation of biodiversity offsets. Although mining companies can play a role in the development of offsets, support from both government and civil society will be required to ensure their success. Hence, public-private-NGO partnerships may be required.
- **Measurement of impacts and offsets:** Currently there is limited agreement on how mining impacts on biodiversity can be measured, whether they should include both primary (impacts resulting from project activities) and secondary impacts (impacts triggered by the project's presence rather than resulting from the project itself) <sup>v</sup> and how this measured value can be compared to the value of the offset. Secondary impacts are particularly contentious as they are frequently outside the control of the mining company, and are greatly influenced by local governments' policy.
- **Priority setting:** There is a lack of agreement on conservation priorities amongst conservation organisations which makes it difficult to determine what activity is likely to give rise to the greatest conservation benefit. Efforts are being made to gather this information through, for example Conservation International's biodiversity hotspots<sup>vi</sup> and WWF's ecoregions<sup>vii</sup>, however, wider agreement is needed amongst the conservation community on conservation priorities with due consideration given to potential conflicts between local and global priorities.

- **Prediction of the underlying baseline:** The biodiversity within and around a mining concession will not simply be subject to pressures as a result of the mine, but to a whole range of environmental and social pressures unique to the region of operation which will change over time. There are no agreed methodologies on how to establish a baseline measurement of biodiversity which factors in the impacts of changing external pressures on biodiversity. A number of questions remain about how best to set such a baseline, such as whether the baseline should be set at the point of exploration or concession.
- **Comparability and currency:** Unlike greenhouse gas emissions, there is no single currency for biodiversity impacts. This makes it difficult to establish which activities are acceptable offsets and compare the biodiversity lost through the mining activity with gains through the proposed offset. Many feel that biodiversity offsets should be limited to like for like exchange for land. Others support an approach that invests in conservation benefiting activities such as the management of a nature reserve, capacity building of conservation institutions or the development of sustainable use projects. There are likely to be differing priorities between conservation and development organisations, or between community and indigenous people viewpoints. Reaching a common view on comparability, currency and how to measure them will help ensure that offsets are designed for the best conservation outcome.
- **Scale issues:** A further question exists as to how far from the original point of impact a company should seek offset opportunities. Local stakeholders are likely to favour offsets that are as close to the point of impact as possible. The general view is that such offsets should be set larger in size or value than the area of impact. However, this may not result in the greatest benefit to conservation as it does not address conservation priorities at a regional scale.
- **Timing:** It is not clear when in a project life cycle an offset should be developed and for how long that offset should be maintained. Some argue that offsets should be created at the beginning of the project cycle and match the lifetime of the impact. However, the low rate of conversion of mines from exploration opportunities to development may reduce the value of such activities and create a cost to the company where no revenues may be forthcoming. Furthermore, biodiversity impacts may sometimes be minimal at the exploration phases and in some circumstances the offset may only be possible once the mine is rehabilitated.
- **Equity:** The Extractive Industry Review<sup>viii</sup> has raised some fundamental issues with the extent to which the costs and benefits of mining industry activities are distributed. The same issue affects decisions around offsets. If an offset is created in an area too far from the original mining impact, the parties that are impacted by the mine site, and therefore incur 'costs' and those that benefit from the offset are different. There is a need to resolve how to equitably distribute such costs and benefits to result in an overall impact of zero. Government and civil society have a clear role to play here in providing a clear framework for industry. Another area of concern is the need to reconcile biological science priorities for conservation offsets with the needs and perspectives of communities and traditional owners of the natural resources.
- **Inclusion and subsidiarity:** Different stakeholders will place a different value on the biodiversity that is impacted and will perceive different benefits deriving from the economic and social development generated by the mine site. Many such views will be difficult to anticipate and may change over time, thus consultation with key stakeholders – communities, indigenous peoples, environmental and development groups, government and local decision makers – will be required to understand the perceived value of the offset, and to factor in any risks associated in developing it. Mechanisms to ensure equity in decision making and proper consultation processes are often in place but are not always applied to biodiversity offsets and an appropriate inclusive decision making process is required.

- **Additionality and leakage:** A key concern regarding offsets is that they should represent a conservation benefit that would not have been possible without the investment from the company – they must be *additional* to any existing or planned projects. Another is ensuring that in their design, offsets are not responsible for the movement of adverse impacts on biodiversity elsewhere. Clear guidelines on what constitutes additionality and leakage are required and input is sought from the conservation community on this.
- **Sustainability:** Mines have finite life times and although they may span several generations, there will come a point where the mine has to close. In order to ensure no net loss in biodiversity, it could be argued that a biodiversity offset against a mining site impact must be in place for the duration of that impact, regardless of changes in ownership or closure. Devising appropriate and acceptable ownership, financing and management structures is essential if this is to be the case. The mines themselves may lack the requisite local authority and expertise to be able to manage such offsets. Furthermore, responsibility for some of the pressures on biodiversity – and recipients of the benefits of the mine development - may lie with other stakeholders such as governments and clarity is required on the role of such stakeholders, and in particular of governments, in ensuring the sustainability of offsets.
- **Assurance:** The global commitment to reverse biodiversity loss means that civil society may require assurance that offsets are appropriately designed and managed for the duration of the impact such that no net loss of biodiversity results. There is no clear agreement on what, if any, assurance is required by stakeholders on the extent to which offsets are operating effectively.

### **Possible routes to resolution**

There is a clear need to achieve resolution on these issues if a wider uptake of biodiversity offsets leading to more and better positive conservation outcomes is to occur. There are several routes to achieve this which could be investigated simultaneously:

- A number of companies are experimenting at a site and company level to improve their understanding of the value of the use of biodiversity offsets. This work, and that of initiatives such as the one by Forest Trends, which is bringing together a range of companies from differing locations and industries, will help to build capacity in industry and the conservation community to understand and design appropriate biodiversity offsets. More active engagement of industry and the conservation community in such pilot projects could greatly enhance overall understanding of the pros and cons of biodiversity offsets.
- Setting up appropriate planning and decision making processes through the development of landscape planning approaches may provide a stronger framework in which to facilitate offset decisions. These could allow for the differing needs and aspiration of stakeholders to be met as appropriate ways of delivering both the conservation and development are identified and implemented. ICMM and IUCN are both part of a group exploring this within UNESCO's Landscape Level Planning Initiative as part of the work plan established in the 2004 Terms of Reference for the IUCN-ICMM Dialogue.
- More generally, there is a need to reach agreement on the merits of, and methodologies for, the development of biodiversity offsets in a discussion led by the conservation community and industry.

### **Conclusions**

To conclude, ICMM and its member companies wish to understand more about the concept of biodiversity offsets and the practicalities of their application. We therefore wish to participate in the active debates being carried out in the conservation community and in governments on the subject of offsets and the

issues they raise. We expect that resolution of these debates will lead to greater clarity and certainty on the nature of offset opportunities and the mechanisms for establishing them and thus lead to greater use of offsets by leading mining companies. This increase may take the form of offsets agreed at the project scale or may form part of wider policy commitments to 'No Net Loss' of which the use of offsets is part. ICMM invites the conservation community to take part in transparent multi-stakeholder dialogue to determine how best to address these issues and whether further, as yet unidentified, issues exist.

### **Acknowledgements**

This paper draws strongly from the recent offsets paper produced by asset manager Insight Investment and IUCN launched at the World Conservation Forum, Bangkok in 2004 (ten Kate *et al.* 2004). It was co-authored by Fauna & Flora International and David Richards, Principal Advisor - Environment, Rio Tinto in conjunction with the IUCN-ICMM Advisory Group.

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- i Services people/ organisations obtain from their environment such as fresh water and raw materials
  - ii Good Practice Guidance (ICMM 2005 in draft)
  - iii These are discussed in detail in a paper produced by the World Conservation Union (IUCN) and Insight Investment "Biodiversity offsets: views, experience and the business case" (ten Kate, Bishop, J and Bayon, R 2004) and in a briefing paper produced by the International Council on Mining and Metals (ICMM) on the subject.
  - iv Mining and Critical Ecosystems. Mapping the Risk. (WRI 2003) Marta Miranda, Philip Burris, Jessie Froy Bincang, Phil Shearman, Jose Oliver Briones, Antonio La Viña, Stephen Menard
  - v Negative Secondary Impacts from Oil and Gas Development. The Energy and Biodiversity Initiative (2003)
  - vi <http://www.conservationinternational.org/xp/CIWEB/regions/priorityareas/hotspots.xml>
  - vii [http://www.panda.org/about\\_wwf/where\\_we\\_work/ecoregions/index.cfm](http://www.panda.org/about_wwf/where_we_work/ecoregions/index.cfm)
  - viii World Bank Group (2003) Striking a Better Balance. The World Bank Group and Extractive Industries. The Final Report of the Extractive Industries Review, Vol. I