



Mining, Minerals and  
Sustainable Development

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# Report of the First Workshop on Mining and Biodiversity

London, 11–12 June 2001

*This report does not necessarily reflect the views of the MMSD project, Assurance Group or Sponsors Group, or those of IIED or WBCSD.*



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## Background

The 2-day workshop was facilitated by the Mining, Minerals and Sustainable Development project, and marked the beginning of the ‘Mining and Biodiversity’ sub-component of the overall MMSD process. The aim of this sub-component is to identify the critical issues that surround mining and biodiversity, in a direct and objective way, and provide suggestions on possible ways forward. The written output will contribute towards MMSD’s Final Report, and various other initiatives, such as the work of IUCN/World Commission on Protected Areas and Conservation International.

The workshop brought together individuals from mining and energy companies, conservation and development NGOs, research institutions, international organisations and government from different regions (Australia, Canada, Chile, Philippines, Russian Federation, South Africa, Uganda, the UK and the USA) – see page 42 for the full list. With such a mix of participants, a wide range of interests was present, thus presentations and discussions were able to reflect on and consider the implications of the diversity of views and the context specific nature of mining and biodiversity issues.

## Summary of Key Issues

1. The issue of ‘no-go’ in protected area categories I-IV (as expressed in the IUCN resolution) remains a key concern for both mining and conservation interests. The workshop recognised that there is a real need to build more trust and transparency on this issue.
2. Several proposals were presented on how to move forward from the current stalemate. These included: reaching a better understanding of the real implications of mining-induced biodiversity losses; developing mechanisms that can weigh out the relative costs and benefits at the planning stage more effectively (e.g. through establishment of regional land use planning frameworks); compensating for losses of biodiversity e.g. through use of offsets; and, making best practice and lessons learnt information much more widely available.
3. Valuable biodiversity is not just found within protected areas’ categories I-IV. Mining interests need to ensure that impacts on all biodiversity are minimised not just that found within protected areas. Much more work needs to go into developing better indicators and better systems of measuring mining impacts on biodiversity.
4. There was broad recognition that the government plays a critical role in managing mining and biodiversity issues, whether in land use planning or regulation or establishing suitable incentives. However, in many parts of the world, the government is not playing an active role in resolving conflicts that might occur on mining and biodiversity issues (and those relating to indigenous peoples rights). Addressing the lack of interest and capacity within government on this poses significant challenges to all concerned. There needs to be more thought and analysis on what could be done by mining and conservation interests to help governments address this issue.
5. Users of mining products (consumers, processors etc.) need to be more aware of some of the ‘ground’ dilemmas to enable a more equitable distribution of responsibility along the supply chain.

# Day 1 – Monday 11 June

## Introduction to MMSD

After the participant introductions, Richard Sandbrook gave an introduction to the MMSD project process and how it came about. See [www.iied.org/mmsd](http://www.iied.org/mmsd) for these details.

## Workshop Objectives

Izabella Koziell introduced herself as the coordinator of the mining and biodiversity process for MMSD. She stressed the fact that she is to maintain, as far as possible, an objective overview of the issues.

She gave a short overview of some of the key issues emerging from the work she conducted on biodiversity and poverty for the UK Department for International Development. This work had highlighted the need to recognise that biodiversity is about variety and variability of all living things, wherever they are found, and that the way we prioritise biodiversity issues is strongly influenced by our own value systems or world views. Also, that some of the critical functions of biodiversity in human development, (e.g. in maintaining options or maintaining the productivity of both modern and more traditional agricultural systems etc.), are often overlooked, as most attention falls on the more ‘fashionable’ species. She stressed that there is increasing incidence of conflicts between conservation and development interests, as those choosing to maintain biodiversity dependent or less material lifestyles (e.g. indigenous and other more ‘traditional’ peoples) constitute only a very small proportion of the world’s population. The challenge is to think imaginatively on how to ensure that conservation and sustainable use of biodiversity becomes a competitive form of land use, whether it is through the use of mechanisms such as offsets, policy incentives or addressing governance.

The objectives of the work on mining and biodiversity are to be framed within the broader context of sustainable development. The outputs of this process are to contribute towards the MMSD Final Report sections that address the Challenges 4 ‘*How can minerals industries become leaders in environmental management*’ and 5 ‘*What are the ground rules for land: its management, access, control and use?*’. Above all, this process intends first to develop a better understanding of the current situation, especially to understand what are the underlying processes and actions that may be exacerbating conflicts, and particularly to assess what might be the outcomes of these, on what and for whom? Secondly, the process intends to look at whether there are areas where trade-offs are and are not possible, and if so, what (i.e. policies, institutions etc.) can ensure that the trade-offs are suitably balanced.

The specific objectives of the June 11-12 workshop were to:

- Understand the range of organisational and regional perspectives and interests on biodiversity and mining issues.

- Identify and learn from existing initiatives at policy level and in practice, within mining and other sectors.
- Agree on the sort of trade-offs, processes and actions that might prove useful next steps in achieving greater convergence on mining and biodiversity.
- Agree on the scope of the MMSD mining and biodiversity process, including research and information needs, objectives for the next meeting, follow on activities, etc.

There were a series of presentations on Day 1, which aimed to ‘set the scene’, i.e. highlight the range of different institutional and regional perspectives. Presentations on Day 2 focused down on learning from specific initiatives, at policy level and within institutions, and on the ground. This was followed by 3 break-out group discussions on biodiversity measurement, land use and governance, which identified a series of follow up actions.

The process schedule was also presented for further discussion, as follows:

- First workshop: June (proceedings early July)
- Identification of critical issues, necessary technical inputs, case study material and other literature: end July
- Dialogue, discussion, commissioned work, first draft: July – September
- Review of first draft: September – October
- Second workshop: October
- Finalisation of report and comments: October – November
- Integration with MMSD report and others: December

Points raised in discussion included:

1. The need to be explicit about what ‘biodiversity’ the MMSD process is concerned with, whether it is that biodiversity held within hotspots and protected areas or all biodiversity..?
2. There is a need for more effective ‘situation analysis’, to get a better understanding regarding the relationship between mining and biodiversity impacts within different contexts, including the relative impacts of mining *vis. a vis.* impact from other sectoral activities (e.g. agriculture, forestry etc.).
3. The need to map governments capacity to get a better understanding of whether or not they will be able manage increasing development pressures on land. However, it was pointed out that with the current levels of instability in the civil service in many African countries, capacity can change rapidly from one year to another. The longevity of such a study would therefore be limited. Capacity issues also relate directly to the Managing Mineral Wealth component.
4. Industry needs to recognise that actions cannot only be *in-situ*, i.e. mitigating negative impacts resulting from a particular mine, but that there is a need to consider biodiversity (and other sustainability issues) in a wider context.

5. That this process should work towards developing a code of conduct which industry signs up to.
6. The need to address cultural diversity, as well as biodiversity.

Participants were reminded that this meeting adhered to MMSD's Principles of Engagement.

### ***Differing Perspectives on Mining and Biodiversity***

#### **Charles Secrett, Director, Friends of the Earth UK, 'NGO perspectives on mining and biodiversity.'**

Summing up 'NGOs perspectives' is difficult because there are many different views on mining and biodiversity across the range of NGOs. For the NGO community, mining deals with non-renewable resources, often within pristine and wilderness areas, and there is an appalling track record of mining within these areas. NGO views range from the radical to the more fundamentalist. For some mining issues are about protesting against the robbing from the South to maintain luxury lifestyles in the North, for others it is about how to instigate better practice. There is a wealth of experience in policy and practice from which to draw on.

In terms of assessing company performance, there is a need to consider economic, social and political issues, as well as ecological ones. FoE have various established criteria and objectives against which to measure of gauge company activities across all these aspects of sustainable development. Essentially, in all these areas, we are dealing with political decisions that are framed by certain political and cultural perspectives – the diversity of which, between north and south is very wide. Could we make more effective progress if we developed a matrix/set of guidelines that would be used for guiding negotiations on how to maximise 'win-win-wins' through effecting change within and between the different dimensions of sustainability?

Within FOE there are 15 organisations that make up the mining campaign group, nine of which are based in the South. Overall, FOE is looking towards radical reductions in mineral extraction and improvements in resource use efficiencies. Over a 25-50 year time frame, improvements are necessary by a factor of 10. This is because there is a need for a radical shift in consumption patterns if equitable distribution and access to benefits is to be achieved within and between countries and regions. FOE International has developed a methodology for measuring resource use efficiencies, which bases itself on equitable distribution on a per capita basis for access to resources and having sufficient inherited legacy for future generations.

It is very important for companies not to ignore the radical or fundamentalist perspectives, as Internet technology enables networks of NGOs to work together very effectively and there are some remarkable coalitions forming. Their effectiveness in collaborating and bringing people together has been demonstrated recently through their success in preventing governments to accept the Multilateral Agreement on Investment, their ability to work on governments to prevent the Seattle round and the fate of Monsanto.

With regard to biodiversity, FoE's minimum requirement is that there be 'no-go' areas for mining and any other types of adverse development. The 'no-go' areas are best categorised as IUCN's Categories I-IV. The integrity of these areas must not be affected, i.e. from a biodiversity or ecosystems point of view. However, this does not mean that an economic or commercial return is not possible, in some cases, returns are also possible without adverse consequences. Given the range of possible impacts and outcomes, each site does, however, need to be looked at on a case-by-case basis. Ultimately, these are all political issues, and the principle of subsidiarity should apply, i.e. the country decides. There are not absolute answers to many of these questions, and many issues can only be decided and agreed upon through negotiation.

FOE maintains that there are areas that are non-negotiable, in sustainability terms. This means staying within the tolerance limits of ecosystems, ensuring equitable access on a per capita basis to natural resources and ensuring that biological systems will be sustained. There will be trade-offs here, but these need to be made on a case by case basis, it is not possible to be too precise. FOE International has recently published a book, which discusses how certain environmental calculations can be made and applied to inform countries how to make the transition to more sustainable paths over the next 50 years. Whether or not existing tools are adequate enough for making the right assessment, is a moot point. There is still much uncertainty, but the tools are improving, however, we do need to be aware that the interpretation and use of results will vary widely between cultures.

Points raised in discussion included:

How are the trade-offs between biological and mineral resources dealt with?

The biggest impediment to science lies in how data is interpreted, that it can be strongly influenced by cultural interpretation.

**Adrian Phillips, Senior Adviser to IUCN, 'Mining, Biodiversity and Protected Areas – an IUCN viewpoint'**

IUCN is a global alliance for conservation (bringing together 80 governmental and 800 non-governmental organisations) and a forum, where issues such as mining and biodiversity can be addressed. The role of protected areas is not limited to biodiversity conservation, but there are also other environmental, social and economic functions. There are six management categories of protected areas and currently there are more than 30,000 protected areas, covering about 10% of the total land surface. There has been growth in protected area coverage since 1900, with the fastest growth since the 1970s. Certain biomes are much better represented than others. Though it is expected that future expansion will occur mainly in Categories V and VI (multiple use sites), some further expansion of more strictly protected categories is also to be expected because some biomes are poorly represented (e.g. marine), and many countries are only at the early stages of developing their protected areas system. Mining does have negative impacts on protected areas, but there can also be positive interactions.

IUCN adopted a resolution at the Amman World Conservation Congress in October 2000 that provides clear guidance on mining and protected areas, and is based on a draft developed by the World Commission on Protected Areas. The resolution recommends no mining in Categories I-IV (which constitute less than 4% of the earth's surface). In

Categories V and VI some mining may be acceptable, if compatible with the protected area objectives, subject to EIA and strictly controlled. There should be strict control over any mining around all protected areas and it stresses that there should be no easy process of de-designation or boundary adjustment of protected areas. IUCN has been particularly involved with World Heritage sites (areas of outstanding universal value protected by the World Heritage Convention – an international legal instrument) and mining, together with the UNESCO World Heritage Centre and ICME. WH sites may be considered the ‘best’ sites of all, and cover less than 1% of the earth’s surface. IUCN assists governments to identify these areas, and to monitor the state of conservation in them. There is now a joint UNESCO, IUCN and ICME statement of 10 principles arising from a workshop held in September 2000. This statement acknowledged, though, that there was a difference of opinion over the issue of respect that should be shown to World Heritage sites.

There are areas of agreement between mining and conservation interests, e.g. that mining plays an essential role in society, that a sustainable future is vital, that some areas have to be ‘no-go’ etc. But there are also areas of disagreement, e.g. on which areas should be ‘no-go’ and whether mining and biodiversity conservation objectives are compatible with mining in Categories I-IV and how to identify areas of future mining potential and future protected areas.

There is scope for continuing dialogue, within and beyond MMSD, focused on best practice guidance, World Heritage and mining. Much of this work could be focused on the World Congress on Protected Areas to be held in 2003 – an excellent opportunity to showcase good environmental practice by mining companies.

Points raised in discussion included:

1. There is a need to address the protection of deep sea areas from mining, which are beyond any government’s jurisdiction, as currently there is no framework for this.
2. There is a growing realisation that addressing needs and interests of local communities in the context of protected areas demands a different approach to that in the past.
3. World Heritage sites fall into two categories: natural and cultural. There are approximately 4 cultural sites for every natural site, however, natural sites are usually much larger.
4. The lack of financial resources available for managing protected areas, especially in developing countries and how to address this, e.g. through developing a better understanding of how protected areas might contribute to the local economy and the global environment, or through more technical or financial assistance to developing countries for protected areas. However, despite the availability of resources in developed countries, protected areas within these regions are not necessarily better protected than in developing countries.
5. The categorisation of a protected area is not a commentary on how well the areas is managed, but reflect the objectives of management.
6. Many protected areas were originally selected on the basis of aesthetic qualities rather than any other value (e.g. in the UK), or because it was marginal land that no-one else wanted (e.g. some parts of Africa). Whilst the use of such criteria is not necessarily



universal, the fact that this has happened in the past is worthy of further consideration, as more importance is often now attached to scientific rationales for establishing protected areas.

### **Dave Richards, Rio Tinto plc, 'Mining and Biodiversity: A Personal View of the Industry'**

Society is faced with a significant challenge if the real improvements in living standards for a global population set to double, within the next 50 years, are to be achieved, without collapsing the Earth's biological systems. Raw materials come from biological resources, fossil fuels or non-fossil minerals – it is therefore hard to foresee an end to primary minerals production, even if resource consumption patterns are reformed and even if technology reduces the demand for minerals. No-one has a right to mine, but society has the right to provide the materials needed to sustain adequate living standards, hence society has a right – a duty to set equitable conditions on the permission to mine.

To continue meeting society's needs, the mining industry needs continuing access to land, but not without conditions. It will require approval by government and the informed consent of local communities. Biodiversity issues are a key element of this informed consent, affecting decisions relating to land access. Mining does impact on biodiversity – whether through direct activities, or secondary development, but with good planning and management this can be minimised. There are also aspects of mining (water and land management) that can enhance biodiversity. Compensation for biodiversity should be considered, which might be delivered through other mechanisms as overall, the industry should be aiming for no net loss of biodiversity arising out of mining projects.

Whilst industry concedes that mining is inappropriate in some rare, fragile and unique ecosystems, there is also concern within the industry that the processes for designation, classification and management of these areas has not been consistently implemented throughout the world. Moreover, protected areas also do not address the needs of poor local communities. Strong, effective and equitable development and land-use plans should therefore be the means of delivering biodiversity conservation objectives over areas much larger than the areas currently protected for this purpose. There should be other mechanisms that make projects located in areas of high biodiversity conservation value more difficult, e.g. up front assessments should be longer and more costly, investments required for impact mitigation should be higher, and financial bonds should be in place to cover closure and emergency costs.

Points raised in discussion included:

1. The need to consider the fact that impacts of mining on freshwater are greater than on land was raised. However, freshwater *per se* may not be entirely appropriate as the key area of focus, as land is the point of entry for most mining activities, and it is land-use that is negotiated with government, rather than impacts. EIAs should tackle any associated impacts on freshwater.
2. Much 'critical' and 'valuable' biodiversity is found outside protected areas, so reducing mining impacts on protected areas should not be the only focus. Looking at these issues

from a broader multiple land use perspective, and the costs and benefits presented by different land–use activities, may help provide a effective way forward.

3. A good situational analysis of threats to biodiversity from mining is needed. There are many claims about threats to freshwater ecosystems caused by mining, we need to assess how far this is actually true. Conservation International (in collaboration with WWF, WRI and the Nature Conservancy) has done some work through its ‘priority setting workshops’ on mapping multiple threats to biodiversity within different watersheds. The various organisations that are working on threats analysis should bring their work together to put together a composite picture.
4. There are significant differences of opinion regarding ‘no-go’ and ‘go’ areas within mining companies. There are few mechanisms within companies for resolving such differences. Furthermore, if a decision to abandon exploration is made, there will usually have to be several reasons for this.
5. Companies could look into ways that build trust and confidence, by communicating and promoting any decision that is taken for improved conservation, or reduced impacts on biodiversity.
6. How can smaller companies be pressurised to ‘tow the line’? Larger companies are making significant efforts to be responsible, however, it is likely that the smaller companies will be left behind. In some countries, e.g. Uganda, they are given a free reign by local governments to behave and act as they choose. Should larger companies be providing guidance to smaller companies on what is appropriate and inappropriate development?

**Ross Jeffree, Environment Division, ANSTO, Australia, ‘Impacts on U-mining on aquatic biodiversity – generic conclusions’.**

The impacts of uranium mining (from contemporary and old mine sites) in areas south of Darwin and the Northern Territories has been monitored for the last 25 years. There has been a demonstrated absence of impacts on aquatic biodiversity from the Ranger U mine within Kakadu National Park, and these conclusions have been derived only after intensive assessment of effluents, pre-release, and post-release biological monitoring. The Rum Jungle natural laboratory where annual loads of ARD contaminants were measured against their biodiversity impacts demonstrated that biodiversity can recover, even when ARD loads are still high. Therefore, science says that impacts on aquatic biodiversity from U mining can be minimised, i.e. such mining can be done well.

Issues raised in conducting research in remote mine sites include the problem of taxonomic uncertainty, the alienation of indigenous foods through contamination - whether this is real or perceived and the increasing importance of paying attention to indigenous land-use values in ecological risk assessments. The opportunities that arise include the possibility to use impacted sites to determine contaminant dose-biodiversity impact relationships, to understand the mechanisms that are of detriment to biodiversity and to predict the remedial effects on biodiversity and validity of ecological risk tools.

The Australian Centre for Mining and Environmental Research is collaborating with the MMSD project to look at impacts on biodiversity from mining, how to measure these

impacts, how to develop suitable management strategies, enhance protection and opportunities for indigenous communities.

Points raised in discussion included:

1. When measuring impacts on biodiversity, the indicator chosen can bear a very strong influence on conclusions drawn, as different aspects of biodiversity respond in very different ways. The Australian research focused mainly on measuring impacts at family level, however, in South Africa research on soil invertebrates has revealed that indicators should go down to at least species level. Otherwise impacts on unknown species (that would remain unknown if family indicators are chosen), would remain unnoticed. Great care must be taken here to be fully aware when family level indicators are suitable, and when not. Furthermore, there are other discrepancies, for example high plant diversity does not necessarily directly correlated with high animal diversity.
2. There is a real need for more work to develop better indicators of ecosystem health. The science of biodiversity is not easily accessible and translatable into meaningful methods of measurement.
3. Mining was the only anthropogenic activity occurring within these areas, so the impacts could only have been mining induced.

*End of session discussion points:*

1. On whether or not there should be 'no-go' areas: some participants acknowledged that there are 'no-go' areas already, although these may not be protected areas. However, generally, the issue of 'no-go' areas still raises differences of opinion, and for this reason dialogue between industry and certain conservation interests remains difficult. Conservation interests believe that industry should acknowledge that some areas should be 'no-go': World Heritage Sites could be the minimum requirement. For FOE it would have to be all Category I-IV, WHS is too small a commitment.
2. In the USA there are buffer areas around national parks that are 'no-go' areas, and in some areas, these buffer areas are increasing in size. However, there is some controversy over how the process that makes decisions on these areas is governed. Usually, it is the Federal Government which decides and can do so without inputs from any other stakeholders.
3. The conservation lobby pressurises the mining companies without respite, it is very rare that the conservation lobby will offer any positive acknowledgment of a company's achievements, if and where they do exist. This does not help build trust as in any relationship there needs to be give and take, on both sides, or at least an attempt at 'bargaining', instead of continually imposing demands, which cannot be met.
4. The whole issue of 'no-go' areas needs to be considered in the context of a doubling of world population in the next 50 years and the increasing demands on land that it will place.

5. Other sectors (e.g. forestry, agriculture, fishing) cause as much biodiversity loss as does mining. Real progress in conservation can only occur when all sectors are also engaged in mitigating their impacts on biodiversity.
6. There are inconsistencies between the actual biodiversity value of an area and the IUCN category, which has been assigned. Shell recently backed out of drilling within a Category II protected area in Pakistan, after intense lobbying and pressure from FOE not to go ahead with the development. The area is, however, populated by 100,000 people already, with one-third under cultivation and does not appear to be as critically important for biodiversity (or ecosystems services) as its categorisation implies. This case raises some critical questions over: who judges whether or not biodiversity benefits are more important than social or economic benefits; and who will compensate the Pakistan government for economic benefits foregone? It also implies that there needs to be much more transparent and rigorous selection procedures with regard to protected areas categorisation.

## Regional Perspectives

### *Gordon Drake, WMC Australia, 'An Australian perspective'*

Australia has unique flora and fauna with high levels of endemism. The last 40-60,000 years of human settlement and land management practices, including fire, have all contributed towards shaping Australia's flora & fauna that exists today. Throughout this period there have been periods of major change and extinction, especially in the last 200 years, for instance, following the introduction of feral species – rabbits, foxes and through forest clearance for agriculture. Overall, with regard to its biodiversity, Australia is still a relatively undiscovered continent. It's biodiversity has yet to be fully understood.

Australia is a federation. Responsibility for land use lie with the state governments, although national government oversees any national level land use interests. There have always been strong government policy incentives to clear vegetation and develop land. Land has also been set aside in National Parks for conservation, recreational and aesthetic reasons. Many of these areas were not suitable for any other form of land use, at the time of designation. As a result, many ecosystems are poorly represented e.g. mangroves, arid lands, within Australia's National Park complement.

The 1970s saw the proliferation of many new conservation groups and major shifts of concern in federal government regarding the National Parks, World Heritage legislation. The incidence of major conflicts over land use also increased especially between forestry and mining, e.g. Fraser Island, and development and conservation interests.

The footprint from mining is estimated at less than .02% of Australian land surface. Mining tends to occur in remote areas and, as a result, mining is (ironically) often the vanguard of new species identification. As mining is usually the first form of development activity, baseline surveys of flora & fauna have to be carried out. Rare species, even some species previously thought to be extinct (e.g. the Pebble Mall mouse?), have even been discovered by the mining industry.

The lack of a strategic and comprehensive approach to biodiversity triggered federal and state governments to develop a national biodiversity conservation strategy. As part of this process, national parks and reserves are being reviewed against their ‘comprehensiveness, adequacy and representativeness.’ The strategy process also recognises that biodiversity conservation is (a) not just about saving large tracts of land; (b) that there are fringe areas that are important, but not highly protected; (c) that many of those ecosystems that are currently not well represented in the protected area system also coincide with areas of high population density. The strategy promotes multiple land use, but acknowledges that there will be some ‘core areas’ where the biodiversity values are so high that no development of any sort is allowed, these will be the so called ‘no-go’ areas. In principle, therefore, the Australian industry has signed off to the fact that there are areas of high biological importance that will not be mined.

There is also a Biodiversity Conservation Act that has brought together the various pieces of environmental and wildlife legislation. Any company that breaches this legislation can face criminal penalties. Within the legislation there is a stronger focus on regional than point source assessments. In order to support this the government has established a web site where all data from EIA is freely available.

Mining companies can be said to contribute towards tax revenue, basic taxonomic research, species protection and enhancement programmes, research funding, improving public knowledge and increasing awareness within companies on biodiversity issues.

WMC are major pastoral land holders. They own 11300 sq. km around the Rostie? Uranium mine. Whilst this land is owned to protect the mine, WMC manages the land to enhance its pastoral values (e.g. by reducing alien invasive species, re-introducing endangered species etc.).

Points raised in discussion included:

1. Land rights have tended to be a more critical issue for indigenous people than biodiversity conservation
2. Mining and the mining industry could play a much more significant role in contributing towards global species assessments, given all the information they are collecting.
3. Much of what is done by mining companies has to be determined by whether or not there is a clear business case. It is not possible for mining companies to be purely altruistic as the core business must remain viable. It is therefore extremely important that governments provide the right incentives for companies to consider and implement biodiversity conservation objectives.
4. There are many concerns regarding EIA effectiveness. Many EIAs contain a lot of old recycled information, some of which has never been ground-truthed. Companies should make data freely available on the web so that it can be reviewed independently by stakeholders. This would help companies ensure that their data is viable. There is one initiative currently underway to try and put EIA information up on the web – coordinated by UNEP-WCMC and Rio Tinto and Shell.
5. There is a long legacy of disputes over mining in Australia. Mining is often the pioneer activity occurring within the ‘wilderness’ hence the concern over disturbance and

knock-on effects of other associated developments e.g. settlements, roads etc. Land has also been systematically abused by agriculture, but Australia still has a romantic view of agriculture. These issues are social and political: most people in Australia live on the coasts and they don't make the connection between the need for mining as providing for their own consumption needs. There is still much to do if these issues are to become less contested.

**Florisa Almodiel, Department of Environment and Natural Resources, Philippines  
'Mining and Biodiversity in the Philippines'**

The history of stretches to pre-colonial times where small scale mining was carried out by indigenous peoples in the mountain areas. The first mining company (Benguet) entered in 1906. Since then only private companies have been allowed to mine commercially, and small scale and artisanal mining has become illegal. There is now a legacy of environmental degradation, social and cultural disintegration and political instability that surrounds mining in the Philippines. The government has more recently tried to promote the concept of sustainable mining, however, this has proved extremely controversial.

Currently there is a petition pending, that contests the Mining Act of 1995, which states that all natural resources belong to the state. There is an exception to this Act, whereby under the Financial Technical Assistance Act (FTAA), any foreign company can enter the Philippines and mine, following approval from the state. There are many concerns over the legality of this arrangement. The Mining Act also conflicts with the Indigenous Peoples Rights Act, which states that natural resources including minerals belong to the ancestral domain of indigenous peoples and prior informed consent is required before any activity takes place on such lands. If these two cases are declared unconstitutional, it is likely that the Philippines will have to revert to the old mining laws, which stipulates that certain areas are closed to mining (and other sectoral activities), except if the government allows mining to go ahead. These areas are: old growth or virgin forests, proclaimed watersheds, wilderness areas, mangrove forests, mossy forests, parks, game refuge and bird sanctuaries, areas expressly prohibited under the National Integrated Protected Areas System.

There have been several recent controversial cases regarding the impacts of mining on biodiversity. The island of Palawan has been closed to mining under the Strategic Environmental Plan of Palawan. However, there are now claims on the area by a mining company, despite it being closed to mining! In fact, only activities that were agreed before the Strategic Environmental Plan was put in place, can be permitted. Other such cases include the Biak na Bato National Park from Rosemoor Mining and the Sulu-Sulawesi marine eco-region.

Points raised in discussion included:

1. There is great distrust for mining companies in the Philippines, given the unfortunate history. This prevents any further dialogue as NGOs will not sit at the same table as the mining companies.
2. Whilst agricultural interests and small scale farmers are doing as much damage to biodiversity, mining companies are seen as the greatest culprits. This may be because they are an easier target to 'hit', but it is also a result of the unfortunate history.

3. It essential to bear in mind that there are clearly enormous variations between governments, their capacity and their willingness to engage, and between arid and tropical areas. It is almost true to say that each individual case needs to be considered separately.
4. A key challenge lies in managing expectations within a country and a community over the sort of returns and benefits that a mining initiatives can bring.
5. An examination of alternative land use options needs to be carried out. Looking at rates of return from different forms of land use.

**Ian Redmond, Ape Alliance, UK Rhino Group and African Ele-fund, 'Coltan boom, gorilla bust'**

There are also indirect impacts on biodiversity arising from mining activities. A case in point is mining of the mineral called coltan (a combination of two ores columbite and tantalite). The price of this mineral has recently escalated as it is used in one of the key components used in high-tech equipment, especially mobile phones, laptops etc. These two ores are found together in significant proportions in the Congo, making these highly valuable deposits. The population of gorillas (previously 8000 or so Grauer's gorillas) is now being severely affected by mining of coltan, as the growing number of people living in the forest has triggered a ever rising demand for bushmeat (to feed the miners, traders, prostitutes, etc), including gorilla meat. Coltan is now the currency for bushmeat – 1 spoonful of coltan will buy a porcupine or half a monkey!

Whilst this is triggering a significant decline in all wildlife, the decline in the gorilla population is more serious, as gorillas are keystone species in the ecosystem. If gorillas disappear, the ecosystem will change. Mountain gorillas live on the extinct volcanoes and contribute towards maintaining the stability of the ecosystem services, the forests that enhance infiltration of rainwater and water supply.

The area where coltan is being mined is also controlled by militias called Mai-Mai, who are a sideline to the larger Congolese civil war. These people have guns and – because of the Coltan trade - a lot of money. This means the absence of any democratic governance and kills any hope of controlling wildlife hunting. The Kahuzza-Biega National Park (a World Heritage site) is also found in this area, however, currently the park staff are managing to control only 5% of the park area, elsewhere it is simply too dangerous. As a result, all forms of natural resources are being traded illegally from within the park (ivory, protected timber species, minerals).

Industrial interests trading in coltan try to avoid buying coltan from the Kahuzza-Biega area. However, this is a difficult issue. Refusing to trade means that certain miners who have been mining coltan as a key source of livelihood for the last 40 years will suffer. Various other compensation initiatives have not really worked either.

For further information see the 'Coltan boom, gorilla bust' report at [www.bornfree.org.uk/coltan](http://www.bornfree.org.uk/coltan). And [www.dianfossey.org](http://www.dianfossey.org) Also Ape Alliance [www.4apes.com](http://www.4apes.com) and Tantalum Industry [www.tanb.org](http://www.tanb.org).

There is some potential to track the source by determining the relative proportions of tantalum. That emanating from the Kahuzi-Biega area is not very high quality and contains only about 6% tantalum, so it could be traced. There were also some indications 2 years ago where the UN Foundation pledged to contribute £3 million towards protecting the five World Heritage Sites in DRC, including Kahuzi-Biega and the Okapi Faunal Reserve which are both being mined for coltan, but these funds have yet to reach the ground.

The Ape Alliance has delivered some limited, but immediate, funds and equipment through its DRC Parks Emergency Relief Mission. Recently, UNEP has launched GRASP (the Great Apes Survival Project), which may also attract support to this beleaguered park. The indirect evidence indicates that there has been an 80/90% reduction in eastern lowland gorillas. Previously, there was a thriving tourist industry, based on the gorillas, from which local people benefited – now the gorillas are all but gone. The gorillas are also essential part of the biodiversity of the region. Could the mining industry do something about this? Could the larger companies demand a boycott on smaller companies that continue to support the trade in coltan from this region?

So, when you buy a mobile phone - even if you ask where they got their tantalum from – can they ensure it was not from the Kahuzi-Biega national park region?

Points raised in discussion included:

1. There is disconnection up and down the supply chain on all these issues. The refining end of the mining industry is not willing to engage, and the product and consumer ends seem to be totally unaware of where their raw materials are coming from. We need engagement on these issues at all stages: mining, processing and production and marketing. Perhaps some of the solutions lie outside the conservation agencies and the mining industry, but within government, investment bodies, processes and consumers.
2. The anonymity of metal markets is another major challenge. Identifying what has been mined in a biodiversity-friendly manner, and what not, and tracking what has been traded legally and illegally is virtually impossible. Could mining companies help tackle this by finding ways of discriminating between different mine products? Such techniques could then be applied to other sectors where the same problem exists. There has been some work done on this on using isotopic analysis for metals.
3. Artisanal mining is a crucial component in this.
  - Senior management would generally not consider entering an area where there is civil war, until the government has had an opportunity to bring a halt to hostilities. It is only then that a mining company can help contribute towards reducing ‘rogue’ mining practices, but not before.
  - There is also the potential problem that if large companies place heavy requirements on the small scale miners it could also be interpreted as uncompetitive behaviour.

Elena Armand, Russian Federation, ‘Mining, minerals and sustainable development’  
Mining has underpinned the Russian economy for the last 20 years. It has influenced internal and foreign policy, and has made a significant influence on the prosperity of certain



regions. Biodiversity, on the other hand, has been protected mainly by enthusiasts and NGOs. Russia contains much valuable biodiversity.

About ten years ago, the Law on Entrails was adopted together with the Laws on Nature and Protected Areas at federal level. The government has therefore maintained strict control over both mining and biodiversity. At a minimum, this demonstrates that the government is somehow committed to maintaining not only the mining industry, but also the Russian Federation's biodiversity.

Mining companies profit from mining. The tax revenue generated is received by the federal budget, then a proportion is returned back to the mining industry to support further exploration and mining activities. Biodiversity activities are also funded out of the federal budget, but only around 0.2% of the annual budget ever goes towards biodiversity activities. This demonstrates that the government perceives biodiversity as a low priority activity. Mining companies do sometimes make charitable donations to biodiversity, but this is often done to avoid taxes.

The key challenges faced in addressing mining and biodiversity issues are political. Mining rules over biodiversity. The tax system provides no sustainable development opportunities. "Dirty" technologies harm wildlife and state ecological controls are still weak. There are, however, some isolated success stories. There are a few responsible companies, which have conducted their own audits (using ISO 14000) and certification procedures. In some cases, this has resulted in making considerable voluntary financial contributions to local, not federal, budgets, primarily for social and environmental programs. In other cases, environmental insurance has been incorporated into the company's internal policies. These cases have demonstrated that biodiversity protection can be profitable. Several gas and oil companies operating in Russian Arctic have taken this on board, and they are now exploring options for moving forward on sustainability issues within their own policies.

In terms of the 'vision for the future', one idea would be to develop appropriate policy and legislation framework for an environmentally sound taxation system. Other actions could include developing a mining 'code of honour', that expounds general principles on biodiversity and other sustainable development issues. Some steps have already been made in this direction – 3 days ago the National Forum of Biodiversity Conservation adopted two documents: National Biodiversity Conservation Strategy which includes extended perspectives for partnership with mining companies and Appeal to mining companies working in Russian Arctic. Two other documents: 'Nature and/or Profit' and a guide for policy makers were presented to the audience as successful examples of interaction/partnership between NGOs, government and private mining companies. The development of economic mechanisms for supporting sustainable development from federal to local to municipal levels will have to function together, not separately.

Points raised in discussion included:

1. 40% of mineral reserves lie in Russia.
2. Many of Russia's strict natural reserves are influenced by mining activities to some extent, but the Government has recently paid more attention to their protection.

**Jose M. Fariña, Charles Darwin Research Station, Galapagos, Ecuador ‘Copper Mining Processes in Chile: learning from past impacts.’**

Copper mining is one of the most important economic activities in Chile. Copper production has increased by a factor of five, between 1970 to 1996, when 3,500,000 tonnes were extracted. This constitutes 25% of the world’s production of copper and yields more than US\$5,300m. Copper mining in Chile has occurred within ten open and underground mines, spread along the Andes and in the Atacama Desert.

The northern region contains some of Chile’s most valuable biodiversity. The main mining concerns are located within one of the driest habitats in the world. The coastal zone of Chile is one of the most productive marine ecosystems in the world, caused by the unique interaction of the cold Humboldt current with the land. The mountain area also constitutes a fragile and unique ecosystem, especially in the east (the Altiplano).

The main environmental impacts are associated with the use of water for the mining process from the altiplano ecosystem. Historically, this threatened various small native colonies of flora and fauna, as they were competing for water. Other environmental impacts are associated with the disposal of copper mine products and water in the coastal areas.

One of the most conspicuous examples of historical environmental impacts is that of the El Salvador Copper Mine. Between 1938 and 1975, 150 million tonnes of untreated copper mine tailings were deposited directly onto the shoreline of Chañaral city. Between 1975-1990, after one of the first environmental assessments in Chile, the disposal site was moved 8 km north to a new location. However, as production increased, 126 - 150 million tonnes of waste were still deposited here. From 1990 the disposal of untreated tailing waste was banned and company was had to start treating all the waste at the mine site.

The impacts of copper tailings disposal on the shoreline, and especially the rocky intertidal communities, has been studied since 1990. In some places, the shoreline has been altered by 1-2km and the coastal system has changed from a rocky composition to that of copper mine derived sediments. In other places, these sediments have caused drastic changes within the intertidal rocky shore communities. Up to 80-90% of previously existing species have disappeared and the rock surface has been monopolised by one species of green algae.

The results of these studies contributed towards the development of the first Chilean Environmental Policy Law and the Environmental Mining Regulations. Environmental Impact Assessment is now a legal requirement, and it must include a baseline survey, a prediction of major impacts and proposal for mitigating measures and/or any compensatory actions. Furthermore, given the unique biodiversity found in northern Chile, biodiversity and ecosystem monitoring and survey programmes have also become a requirement under this legislation.

All new mining projects have adhered to this legislation. The La Escondida Copper Mine, started in 1991, produces almost one million tonnes of copper p.a. (or 28% of national production). This mine also has an area of influence stretching from the mountains to the sea. It voluntarily applied the environmental regulations provided by the new Environmental Law. It has adopted a more efficient mining process, which uses less water

thus impact on the altiplano ecosystem has been minimised. It has also developed a waste treatment process that cuts out the need to dispose copper mine tailings on the coast.

Environmental performance has been assessed through the monitoring of *Pyura stolonifera* - found with rocky intertidal communities in Australia and South Africa. In Chile it is found only in the Antofagasta Bay, which lies downstream of the La Escondida Copper mine, and it is also commercially important. It was therefore selected a key indicator for assessing environmental quality of the bay. An extensive and intensive monitoring programme was established for this species and, after 20 scientific publications and 2 PhD's, no impacts have been detected. The studies were supported by the La Escondida mining company, which also supported the development of a successful fishery management model for *Pyura stolonifera*.

In terms of a way forward, Chile must continue promoting and improving the Environmental Law. More effort needs to be placed into established effective collaborative relationships between scientists, mining companies and government. And, there is a need to increase communication and information transfer between environmental managers and the development economists.

Points raised in discussion included:

1. When companies fund studies, there is a need for independent verification.
2. There has been significant progress on these issues in Chile since the 1990s. The Environmental law is now well supported and levels of trust regarding the quality and results emanating from the studies between government, companies and NGOs are improving. Different stakeholders are beginning to work more closely together.

A 'tour de table' at the end of this session brought up the following as priority issues (grouped in following clusters for ease of comprehension):

1. Access to information
  - The information that is currently held by companies, e.g. EIAs needs to be more accessible
  - There needs to be greater coherence and collaboration between the range of different biodiversity information initiatives.
  - There need to be more case studies, demonstrating positive and negative impacts and results, and lessons learned reviews.
2. *Land use planning and decision making*
  - Biodiversity is only one of the many variables considered in decision making over sustainable development choices.
  - A decision-making tree/matrix, which incorporates the whole range of issues that surround mining and biodiversity, might help guide companies and NGOs towards better solutions. Drawing up such a matrix collaboratively may also help build trust and improve transparency.

- Is it really possible to provide answers that everyone is happy with?
- Decisions need to take into consideration local and global differences of opinion.
- We need to clear what we mean when we talk about trade-offs. Trade-offs between what, for whom?
- Mining needs to be set against other sectoral activities and the backdrop of globalisation.

### 3. *Access or not to proposed 'no-go' areas?*

- The issue of 'no-go' areas is a political and an ethical one. There needs to be 'give and take' on both sides.
- There are many unresolved issues surrounding the issue of 'no-go' areas, therefore, it is unlikely that industry will adopt a unequivocal policy of no go.
- There is a need to look at existing PAs and their classification: where, what, why is the land question a PAs?
- In some cases, a piece of land may have been designated a PA on previous scientific information that is no longer viable, so the boundaries are not truly applicable. Thus, accepting this, and allowing some modification, more effective win-win-win situations could be found.
- Pushing the larger companies to adhere a policy of 'no-go' in Categories I-IV, will not prevent other sectoral interests from using the land within these areas, nor will it prevent the free-riders or small-scale miners.
- On 'no-go' governments are ultimately sovereign and they can decide what to do with this land. If they do so, however, and chose to instigate a change of land use, then the process of change must be very exact, with all stakeholders involved and transparent.
- There is a huge amount of consensus within the conservation sector on 'no-go' areas, this provides a great opportunity for pushing this through, especially in terms of agreeing where the lines are to be drawn.

### 4. *What is biodiversity and where is it?*

- Biodiversity conservation is often seen as area or species conservation *per se* rather than protecting ecosystem functions. The focus should lie more with the latter, even though there are many 'grey' issues here.
- All biodiversity is important, not just that biodiversity that is found within Categories I-IV protected areas.
- The strong relationship between biological diversity and human or ethnic diversity should not be ignored.

### 5. *Use existing biodiversity policies*

- Companies should be more aware of the various biodiversity policies and processes, such as those around the Convention on Biological Diversity. The CBD has the

potential to provide a useful framework for the conservation and sustainable use of biodiversity.

#### 6. *The challenge of biodiversity measurement*

- Biodiversity has so many dimensions that we need to be clear on what we really mean by biodiversity, before embarking on any major biodiversity initiative. For some it is about genetic diversity, for other it is more about ecosystems.
- Identifying the right indicators for biodiversity, that will allow meaningful (and quantified) comparison of company performance between areas, and that ensure the most critical aspects of biodiversity are being assessed, is extremely difficult.
- Indicators should not be chosen just to help improve transparency but also to enable companies' to ensure their performance is meaningful – the Global Reporting Initiative (GRI) has some useful insights on how to do this.
- Ways of incorporating the social and cultural links to biodiversity in biodiversity measurement needs to be developed.
- There needs to be thought put into what is acceptable from biodiversity point of view and what is acceptable from a wilderness point of view. Is it different, the same?
- More investment in development suitable 'metrics', e.g. methods, indicators, guidelines is needed.
- There is a great wealth of knowledge within many indigenous groups and NGOs on biodiversity, that could be of potential value especially in terms of how to integrate social and ecological objectives in conservation.

#### 7. *Strengthening capacity and building up the right expertise*

- Governments need to be better supported to manage the trade-offs between different land uses, e.g. to have the awareness and be equipped with the right tools (e.g. offset mechanisms)
- Mining could do a lot more for conservation if it was more organised, currently the number of free-riders and illegal users prevent this from happening. Doing things for conservation could also present a great marketing opportunity for countries and for companies.
- There is a need to address the lack of 'biodiversity' skills and expertise especially in developing countries (two taxonomists in the whole of Angola). A first step could be to do doing a capacity inventory.
- There are many taxonomic 'black spots' where the knowledge and expertise is sorely lacking, especially the 'non-sexy' areas. One of the biggest biodiversity problems lies in the continued support that is provided to certain 'narrow focus' taxonomists. How and what to support in terms of capacity building within taxonomy requires careful and serious consideration.

#### 8. *More work on 'best practice'*

- Currently, there are huge discrepancies within and between companies, better practices should be far more widespread across the different parts of the industry than at present.
- There is a need for more practical methods, manuals and guidance on how to do this and how to 'multiply' better practice, e.g. through financial incentives, such as taxes, at ALL stages of the mine cycle from exploration, extraction, closure through to use, and also within the smaller companies.
- Consumer-driven incentives for 'cleaning up the act' vary between industries. Where the producer and consumer relationship is very direct, such as in the aluminium industry, the incentive to change behaviour is stronger as the impacts are more visible and easier to track.
- Mine life can also influence the ability to develop better partnerships. Some aluminium mines may be 'alive' for 50 years, during which time there is good opportunity to develop close relationships with local communities and employees. This can all contributed towards more effective implementation of 'better practice'.
- Abandoned mines can have huge environmental impacts in some areas, and this issue warrants further discussion.
- Improving practice within mining companies is only part of the solution, governments also need to take action, if more broader sustainable developments are to be derived.

#### 9. *EIAs*

- Social and cultural issues need to be incorporated into EIAs
- Targets for reducing impacts need to be part of the EIA.

#### 10. *Consumers and curbing consumption*

- Targets for resource use need to be set so that societies can start moving towards achieving greater resource use efficiencies.
- Society also needs to move away from a dependency on primary mining towards secondary use of resources – this means looking issues surrounding access and use of these secondary resources.

## Day 2 – Tuesday 12 June

### Learning from Existing Initiatives

#### Michael Totten, Conservation International

Conservation International has set itself a very ambitious goal: of helping save 1/3 of hotspot areas, and of a larger fraction of existing wilderness areas. CI agrees on ‘no-go’ areas that are off-limits to development.

CI identified the following concepts and suggests the following actions:

1. Mining in protected and restricted areas: in certain areas, the environmental and social costs of development will be too high. Those protected areas that are legally ‘off-limits’ to extraction should be respected. In other areas, development should be restricted, based on assessments of environmental and social sensitivity. In such situations the following actions can be taken:
  - overlay conservation priorities with mineral development priorities;
  - identify potential restricted areas (legal and voluntary) in regional workshop with governments, industry, NGOs and development agencies
  - consider restricting development in certain areas on a case-by-case basis, consulting with all interested stakeholders.
2. On footprint indices: a common set of metrics to measure the impact of projects on biodiversity would allow governments, NGOs and investors to evaluate relative performance and for companies to demonstrate performance and leadership. Such metrics should attempt to measure the biodiversity value of affected areas, the development footprint and to monitor the performance of environmental and social management plans. The following actions were suggested:
  - Hold sector wide dialogues and consultation with stakeholders on metrics;
  - Conduct small-scale workshops and conferences, leading to broad sector initiatives;
  - Develop a standard set of guidelines and indicators.
3. On conservation partnerships: all projects in sensitive ecosystems will have some level of impacts. However, investments in conservation can offset a project’s footprint on biodiversity. The most effective investments will be when companies partner with NGOs and governments. Conservation partnerships should be standard practice for all projects in sensitive environments. The following actions were suggested:
  - Develop partnerships based on local needs at individual project sites. These partnerships can engage in biodiversity research and education, establishing new protected areas, creating conservation trust funds, conservation-based community development programmes.

- Consider sector-wide initiatives.
  - Link conservation partnerships to carbon sequestration investments.
4. On economic of environmental practices: good environmental and social practices can have measurable business benefits (e.g. improving reputation and brand, access to resources and capital, avoidance of conflicts and delays, lower liabilities, reducing environmental compliance costs, good will). Most evidence on benefits is anecdotal so solid research would help build support among project managers. The following actions were suggested:
- Analyse the economics of applying good environmental practices in selected projects.
  - Survey activities across the mining sector, e.g. compare environmental practices and their economic performance, and analyse the correlation between environmental and financial performance.

CI is engaged setting up the Mining and Biodiversity Initiative (MBI), which will involve half a dozen companies and NGOs. This initiative will be convened and facilitated by the Centre for Environmental Leadership in Business at CI, but will be shaped and owned equally by all participants. It will involve global dialogue, combined with pilot projects and partnerships in the field. The output will be a published product that sets a consensus standard for good practice.

The key issues that the MBI aims to address include:

- Making the business case for mining companies, host governments and civil society to integrate biodiversity conservation into mining operations;
- Implementing best practices, tools and processes for integrating biodiversity conservation into project planning and implementation;
- Evaluating, measuring and reporting impacts (both negative and positive of mineral development on biodiversity); and,
- Developing processes and tools for national and regional land-use planning to address questions of whether some areas should be off-limits to mining.

Potential MBI outcomes will include:

- Databases and maps highlighting the overlap between priority eco-regions for conservation and areas of current and potential mining activity;
- Case studies of biodiversity conservation projects at mining operations in sensitive ecosystems;
- A set of practical tools to help mine managers integrate biodiversity conservation into their operations;
- New agreements and partnerships between mining companies, NGOS and local actors.



The objectives of the MMSD report on biodiversity and mining issues and the MBI are different, but complementary. The MBI will be informed by the work of the MMSD but will extend this to delivering guidelines developed by a group of NGOs and mining companies and tools that will be implemented by the actors themselves. The exploratory meeting of the MBI will probably be held in September/October 2001, and it is intended that the MBI process will run over 2 years. There will be a final public event in Autumn of 2003.

**Miguel Ruiz-Larrea, Shell Gas and Power, 'Shell's perspective on biodiversity: challenges and actions'**

The oil, gas and energy industry does impact on biodiversity, together with the range of other drivers of biodiversity loss, such as population growth, climate change etc. There are now various drivers pushing the industry to consider impacts on biodiversity, such as the CBD at international level, various national government requirements, our own company commitments to sustainable development and increasing civil society expectations and rise in activism.

Shell consulted with various civil society organisations within the UK, in order to develop a better understanding of what civil society's expectations are in terms of Shell's biodiversity policy. Shell has now committed itself to the following biodiversity policy tenets:

- working with others to maintain ecosystems
- respecting the basic concept of protected areas
- seeking partnership to enable the Group to make a positive contribution towards the conservation of global biodiversity

Shell is also committed to: 'conducting environmental assessments, which include the potential impacts on biodiversity, prior to all new activities and significant modifications of existing ones, and to bring focused attention to the management of activities in internationally-recognised hotspots, including the identification of, and early consultation with, key stakeholders.'

So far, Shell has instituted a Biodiversity Unit at Group level. A key priority is to build biodiversity into the EIA process, which includes trying to improve the quality of EIAs and looking at developing common criteria and indicators so that more effective comparisons between different sites can be made. There has also been an attempt to share EIA data more freely through Ecoshare. Shell is engaged directly in the Energy and Biodiversity Initiative, being coordinated by Conservation International and it has established a 'Biodiversity Working Group' across the business, a learning forum through which lessons are shared and various relevant issues discussed. The Biodiversity Unit also raises awareness within the operating companies and is establishing a 3 'Science, Partnership and Conservation' projects – the first of which will be in Gabon. The aim is to learn more about biodiversity from these projects, so that more effective mainstreaming can take place. Shell is also entering strategic partnership and secondment arrangement with various NGOs, the first will be with IUCN.

The key challenges that lie ahead include: developing the right methodologies for incorporating biodiversity as part of business operations, there are many problems around measuring biodiversity and knowing how to integrate CBD needs and commitments. Operating in sensitive environments is a sensitive issue and there are concerns within Shell over the proposal to have 'no-go' areas. There are many questions being asked on this issue, especially with regard to criteria and processes used for protected area establishment. Other challenges include measuring Shell's ecological footprint, how to manage the trade offs between social issues and strict conservation, and creating widely represented discussion forums. Shell recently engaged in a series of Harvard dialogues, which discussed how to establish processes that will enable all stakeholders to be adequately represented in debates over biodiversity; and, how to manage local communities' expectations.

Points raised in discussion included:

1. The protected areas classification system is open to criticism. For example, there are areas that are not found within the protected area system that contain very valuable biodiversity. At the same time, there is much inconsistency regarding the categorisation of existing land within the I-IV categories. Furthermore, if mining and energy companies accept 'no-go', how will the 'no-go' be applied to other sectors interested in the same area, such as agriculture, whose activities are more difficult to control? It is for these reasons that companies are unwilling to accept that some areas should be 'no-go' to mining. This does not mean that companies are not prepared to understand and address biodiversity concerns, just that some of the inconsistencies need to be ironed out.
2. The Energy and Biodiversity Initiative should help throw some light on the whole issue of site selection and protected areas categorisation. It is not yet time to reject the concept of 'no-go' areas outright. At present, every case is assessed on the basis of its unique individual characteristics.
3. There is almost always significant inconsistency within companies on these issues.
4. Shell had established a thorough programme of action on biodiversity in Peru, but had to withdraw the development for other reasons. There are a couple of other interesting recent case studies.

### **Jane Robertson, MAB UNESCO, 'Man and the Biosphere'**

UNESCO's programme on the Man and the Biosphere is a 30 year old governmental program that aims to 'Develop the basis, within the natural and the social sciences, for the sustainable use and conservation of biological diversity, and for the improvement of the relationship between people and their environment globally.' It is an intergovernmental programme, and provides a useful potential channel for companies that wish to help national governments support the planning and implementation of research and training programmes in relevant areas. Over the 30 years of operation, MAB has developed a network of sites for experimenting with the MAB approach – these are called 'biosphere reserves'.

Within each country there should be MAB National Committees, which coordinate any national contributions to the Programme. Key areas of action for 2002-2003, identified in

November 2000, include research and development of the ecosystem or bioregional approach. This will involve reconciling biodiversity conservation and rural/peri-urban development while enhancing and supporting cultural values, working with the CBD secretariat and the IUCN Commission on Ecosystem Management.

Biosphere reserves are intended to fulfil 3 basic functions: conservation, development and logistics (research and monitoring). Each biosphere reserve has core area, a buffer zone and an outer transition area or area of cooperation. This schema can be used creatively for different ecological, socio-cultural and legal settings. The World Network of Biosphere Reserves is formally recognised by 188 Member States of UNESCO, but they remain under the sovereign jurisdiction of the State within which they are located. In short, 'biosphere reserves are more than protected areas.'

There are now 393 biosphere reserves located in 94 countries. Only some 40% can be said to be operational, but there is a periodic review process that aims to improve old sites and delete others. Mining has not yet been specifically broached by the MAB council, but the Secretariat would like to be in a position to advise Member States on mining issues as it is certain that many of the 393 sites contain mining activities of some sort. The Statutory Framework, which governs the World Network, is a 'soft' law.

Biosphere reserves could act as models of best practice, or as sites for conflict mediation between different interests. Good examples where this has happened include Clayoquot Sound and addressing the logging activities; and, Lac St Pierre, where there has been large-scale clean-up of polluting metal industries.

Points raised in discussion included:

1. Biosphere reserves offer a good collaborative framework between conservation and development interests, however, they also suffer inconsistencies in implementation. There are 12 biosphere reserves sites in Australia. As 10 of these are already National Parks, they are not really operating as biosphere reserves but as National Parks.
2. Mining and conservation interests should aim towards working collaboratively and agreeing on a MAB type concept. However, before this happens more work is needed to elaborate further on the issue.
3. The core area of the biosphere reserve can be compared to IUCN's Category I-IV and the buffer zone area can be compared with Category V-VI. All sectors must strictly respect the core area, but some activity is allowed in the buffer zone.
4. MAB has worked on indicators and the results of a 5 year programme of applying these indicators is due to be posted on the web soon. Indicators development is an area that still needs further research.

#### **Natalie Bennett, English Nature**

English Nature is a statutory body advising both UK central and local government on nature conservation, and promoting the conservation and management of wildlife and geological features of England. It also manages National Nature Reserves across the country and maintains 4000 Sites of Special Scientific Interest. English Nature does not work in isolation, but collaborates closely with a range of different organisations and interests.

English Nature works closely on minerals extraction issues, especially the aggregates (sand and gravel) and peat producers. The biggest problems with regard to extraction in England lie around existing permissions. Many of these were granted many years ago and without time limits. Any permission granted today lasts only until 2042. As a result, 187 minerals and waste permissions now fall within existing SSSIs.

Government policy for applying for new permissions is now quite restrictive. However, there are many mineral extraction operations without permission, but operating in sensitive environments, which are a focus of attention for English Nature. One approach that EN has taken is to embark on various collaborative initiatives with the mineral extraction industry. One such initiative involved signing a Statement of Intent with the Quarry Products Association to agree to communicate, learn from each other, manage resources and sites for more effective nature conservation and involve and influence others etc. There are some individual companies, which have signed MOUs with EN, Hanson Quarry Products Europe is one of them. The objective of the MOU is to ensure favourable conservation conditions are reached on the site. There is also a clause that commits Hanson to making no new applications on SSSI land, 'unless an over-riding national need for the mineral is clearly identified, or if it can be demonstrated that the scientific interest will not be significantly adversely affected by the company's operations'.

Other initiatives instigated by EN include the: Minerals and Nature Conservation Forum. One of the outputs of the Forum has been the "Biodiversity and Minerals" booklet.

EN has also done a set of sector analyses, which demonstrate how they deal with land development. Work on how to measure biodiversity impacts has also been carried out and is encapsulated in a publication. An aggregates levy due out in 2002 that requires report back on biodiversity as part of the EMS.

Points raised in discussion included:

1. The Quality of Life document sets targets for biodiversity, the UK biodiversity action plan has also set some targets and English Nature has set targets too.
2. The MOUs aim to create favourable conditions for conservation. There is still a lot of work to do in setting appropriate targets, and agreements are on hold until the taxation issues are settled.

### **Jim Robertson, Placer Dome**

Placer Dome has engaged in dialogue with various conservation NGOs: IUCN, WRI, CI, UNESCO (heritage sites) and WWF. The aim of these discussions has been to discuss land stewardship issues and sustainability management around protected areas for new mining projects. Areas of focus for collaboration on sites near protected areas include: prioritising key issues in exploration; addressing new issues including biodiversity and social aspects as applied to existing mines; and, the application of risk assessments early in exploration projects as a means of avoiding conflict. So far Placer Dome has engaged in mapping sensitive sites against exploration sites, and reviewing where past exploration has occurred within Category I-IV protected areas. There has also been a more recent review of the

policy on no exploration in Categories I-IV, and it has been decided that Placer is unable to commit itself to adhering to the 'no-go' areas requirement. The rationale behind this lies in the fact that Placer Dome is operating in a highly competitive environment, and adhering to such a policy may undermine their commercial viability. There is therefore unclear business advantage in adhering to 'no-go' in Cats I-IV, and this cannot be ignored by a commercial company. Furthermore, if Placer Dome is to agree to a policy, it does not want to renege on any commitments that are made. There is also concern that developing countries' can change the land status and promote other development activities within an area that was previously protected.

Placer Dome has not agreed to 'no-go' for exploration activities in Cats I-IV, and as this was put down as a condition of continuing dialogue, it is likely that discussions with NGOs will end. Generic needs in terms of future activities include improving coherence between the various biodiversity mapping systems, whether those focused on the exploration sector, or applicable to the entire industry. Such mapping systems will also provide governments with better information for managing their resources.

Points raised in discussion included:

1. Dialogue and interaction between mining companies and conservation NGOs are critical components of the whole process. It is important to being to understand how each other thinks and operates, and on what basis.
2. Apparently some financial and insurance institutions are to sign up to the IUCN recommendation on Categories I-IV, which means that getting insurance for activities within these areas will become increasingly difficult. There is a potentially serious issue around hegemonies here: do governments have sovereign rights over their natural resources or do financial companies control what can or cannot be done? The World Bank extractive industry review highlighted the fact that governments believe they have sovereign rights to their natural resources. If this requirement is pushed through the investment and insurance institutions, then the campaign may be won but the problem will remain unsolved.
3. One way forward is to embark on a process whereby the integrity of Categories I-IV will be revisited and governments will have to ratify that these are protected areas, for no other use. Otherwise, it is likely that other activities will continue to occur within these areas.

### **Dave Richards, Rio Tinto, 'Corporate Biodiversity Strategy: Rio Tinto's Experience'**

A corporate biodiversity conservation strategy means recognising the importance of biodiversity to society, the mining industry and the company. It also means a commitment by Rio Tinto towards ensuring that the assessment and management of biodiversity issues are considered in decision-making. Implementation of the requirement of the strategy across the Group will be designed to raise standards of performance in this area and to improve the reputation of the company with key audiences including, regulators, investors and employers.

Developing such a strategy has a strong business case. The benefits and opportunities certainly outweigh the costs and risks, e.g. screening can help reduce future liabilities, a better reputation can help bring other benefits such as ability to influence policy etc. There are many other reasons why developing a biodiversity makes sense. For example it helps:

- address the concerns of many stakeholders in what is otherwise seen as a conflict area;
- develop structured approaches to conservation and sustainable use of biological resources;
- demonstrate a company's commitment to stewardship of natural resources;
- contribute to improving the reputation of the industry by helping deliver improved performance;
- seek solution in perennial problem areas such as secondary development protected areas.

A strategy should consist of: policy, objectives, action plans, indicators and reporting. It has to be a process designed to support the CBD and other frameworks for priority action on biodiversity. It needs to be linked to EMS – Environmental Management System - processes. Incorporating a range of community views, involving external organisations and expertise, ideally through partnerships, and establishing clear links to project assessment procedures are also important aspects. It should also provide advice on how to develop mechanisms for offsetting the unavoidable losses of biodiversity in project areas.

The strategy development process must marry operational strengths and experience with corporate needs and stakeholder inputs and expertise. An Internal Steering Group can scope out needs, commission inputs and review the process. An External Advisory Panel can help critique the strategy during its development and advise the Internal Steering Group. Baseline tasks include developing a business case, conducting an operations survey and a review of the CBD.

Rio Tinto estimates that baseline tasks including setting up the project structure will be completed in 2001. The development of tools and pilot implementation will take place in 2002-2003. Full implementation incorporating best practice and lessons learned will occur in 2005-2005. Biodiversity actions and progress against commitments and targets will be reported in external reports, and audits will cover compliance with the requirements of the strategy.

Points raised in discussion included:

1. The conservation sector needs to seriously consider whether it has the capacity to meet the technical demand that will be placed on them if every oil, gas and mining company decides to undertake such a comprehensive biodiversity strategy process. There is a critical need for this message to be passed on to the educational institutions – to provide enough technical expertise to meet the potential future demand.
2. It is very difficult to put a \$ value on the business case for biodiversity, but this is something that could be done in liaison with the NGOs.
3. The UK Ape Alliance drew up model code of conduct with timber industry. This could be modified for the mining industry especially relating to impacts on e.g. bushmeat.

**Ed O’Keefe, Independent/Flora and Fauna International, ‘The Kyrgyzstan Community and Business Forum’**

The Kyrgyzstan Community and Business Forum was established to promote informed dialogue, between the various stakeholders, to build partnerships and encourage sustainable social, economic and environmental benefits. It has received funding from EBRD. There is a steering committee, with 9 representatives from local and national NGOs, government and business. The UK NGO Fauna and Flora International has been involved in management.

55% of population of Kyrgyzstan fall below the poverty line with an average wage of \$21 per month so set again this context, talk about protected areas and saving endangered species is meaningless to many. This study looks at Kumtor Gold Mine, which is by far the largest single business in Kyrgyzstan, and is a joint venture between the Canadian and Kyrgyz governments. The mining concern has also engaged in infrastructure development and in social investment programs. The mine pit is at very high altitude – 4500m – and will eventually be glaciated over, and so it is very hard to rehabilitate a site in located in such conditions. There are high environmental standards in Kyrgyzstan. There is a protected area nearby but as it is located within a different watershed, there are no direct interactions.

The areas constitutes quite a diverse ecosystem, with many endemic and endangered specie as well as wild relatives of various domesticated species, such as apples, walnuts, apricots etc. It offers some commercial opportunities through tourism and agriculture. Biodiversity is also intrinsically linked with cultural and social aspects of local life, e.g. folklore. However, there is poor institutional capacity between state and local NGOs to do anything about it; limited economic opportunities; high levels of pollution, even though the company has been tried to improve the area.

The Community Business Forum came about following a cyanide spill in May 1998. Flora and Fauna International got involved because of their previous work in Kyrgyzstan. They were aware that they needed to look at wider social and economic development issues as well as conservation concerns. There was a significant effort to engage with local and national government and to use the media for disseminating information. So far CBF activities have involved building relationships through conducting mine site visits and national and local workshops etc. There has also been a sharing information using newsletters, local consultations and the Internet. CBF has also promoted models for action, through a small grants programme and production of an emergency response plan.

The CBF has provided an increased voice for local communities and improved NGO capacity and experience, especially at the local level. There is an more understanding between the local groups, and CBF has provided an example to learn from and build upon. It has opened up opportunities for support to protected areas and conservation, through promoting a positive and proactive approach to mining and biodiversity issues.

The holistic approach adopted proved critical to the success of the process. It allowed differing and even conflicting perspectives to be incorporated – without having to achieve consensus on all issues. Partnership and dialogue is complex slow and contested – it

doesn't happen over night. However, it is important to enable people to make their own decisions and decide on their own initiatives. Providing access to information is important, but it is most important to ensure that the information is appropriate. Ambiguity can sometimes create a better space for discussion. Flexibility and learning are important as many outcomes from such dialogues are completely unexpected. Building trust happens more effectively through action, rather than just dialogue.

There are still many ongoing questions: How can different perspectives and priorities be reconciled? How much does the institutional culture and structure determine an organisation's approach? What are the respective governance responsibilities of international NGOs, financing institutions and companies? When should initiatives be voluntary and when mandatory? How can differentials in power be addressed? How can those not sitting around the table become engaged? What about the other mining companies – are we concentrating too much on high-profile companies? Or are we listening too much to NGOs? Where is there room for manoeuvre to bring about concrete action?

Points raised in discussion included:

1. There is a need to create a more sustainable funding mechanism for the CBF, such as an endowment fund or other long-term funding mechanism. In order to ensure sustainability, the company could take on more responsibilities for issues currently addressed through CBF.
2. It is often harder to engage with informal local community groups than formal national organisations.

### **Jim Miller, Freeport**

P.T. Freeport Indonesia embarked on a series of extensive biodiversity studies during 1990s. A variety of organisations have provided technical inputs into these studies. The final output consists of 11 volumes of work on various aspects of biodiversity, concentrating on the ecosystem in its Contract of Work (COW), which is located near the Lorentz National Park. Another book has also been published with Freeport's support on freshwater fishes of the Timika Region of New Guinea. Freeport has cooperated with Conservation International. It is also in partnership with Kew Gardens and is sponsoring their study of local flora. This study has already resulted in five publications, but it is likely that this research will result in several hundred publications. It also participates with regional and national universities in biodiversity projects and studies.

The Freeport Indonesia mine is located next to Lorentz National Park, which is classified as a World Heritage Site. The Park covers about 2 million hectares and there are thousands of people living there. A management programme for the park has been on the table for years, but this is not yet up and running. Freeport is keen on establishing a series of priorities for what sort of work can occur in the park. Freeport is keen to collaborate with other companies to develop a common programme to deal with this project.

In Indonesia the main problem is the insufficient government capacity to tackle some of the problems around mining and biodiversity, caused by political issues and a lack of financial resources. As a result, sustainability issues have not been given a high degree of attention. A



case in point is inaction regarding the 28000 illegal gold miners that are operating in North Sulawesi and who are putting some 14 tons of mercury a year into the environment.

Freeport is committed to assisting people who want to undertake research within the mining concession. The mine is also working with officials and interested parties to help develop an effective management program for the Lorenz Park.

Points raised in discussion included:

1. The biodiversity survey work from PTFI COW area is available on CD.
2. Freeport has invested in employee awareness on environmental and other issues. They have 17000 direct and indirect employees in the area. Awareness and education activities have included putting up posters on biodiversity and protected species.
3. The government is not consistent with regard to its policy over the Park. Oil exploration is currently proceeding within the Park, with the government's approval. Freeport has, however, at the government's request decided not to explore within the Park.
4. Freeport is exploring an organisation called Friends of Lorentz Park with whom they will work to put a trust fund together. This will then be used to support park management. The government should, however, be a key partner in such activities.
5. Mining companies, which are located in remote areas, tend to invest heavily in provision of local social services and infrastructure. At the same time, they are making direct payments to the government (in form of taxes, royalties etc.). However, it is often the case that only a minute proportion of this revenue ever flows back to the area (or local government) where the mine is located. This implies a form of 'double taxation' for mining companies. It also means that government are able to absolve their responsibility for such areas, as social services and other infrastructure have been provided by the mining company. In the Freeport case, the Indonesian government is now taking steps to correct the imbalance, including proposing greater autonomy and a greater share of mineral revenues for Papua.
6. The population of the area has grown from 1000 to 110,000 people in 30 years, a growth rate far greater than any projections. In a cooperative effort between Freeport, the government and Indonesian universities, comprehensive studies of the social changes taking place in the area are under way and will guide future planning decisions.
7. Freeport's operations have been intensely scrutinized both by the Indonesian news media, who are aware of Freeport's status as one of the country's largest taxpayers and private employers, and by international news media. In the past several years, more than 700 journalists have visited Freeport's operations.

#### **Craig Wood, Noranda Technology Inc.**

In March 2000, ICME organised a biodiversity roundtable meeting with Kew Gardens, with various NGOs and ICME companies. It provided participants with the opportunity to find out where others stand on these issues. There was also broad acknowledgment that biodiversity management cannot happen independently, it must be carried out in concert

with other social and cultural issues. Some of the highlights from the meeting included:

- Concern over the weaker levels of understanding of biodiversity issues by small to medium size mining and exploration companies as compared to the larger companies.
- The need to develop, apply and disseminate 'best management' practices for all phases of mining.
- The real impact of mining on biodiversity can extend far beyond the footprint of the mine site.
- Mineral resource assessment should be based on sustainable development objectives
- The lack of credible scientific data and skills is a problem. Mining companies have an important role to play in improving understanding in the areas that it operates.
- There was a consensus that there had to be biodiversity criteria for exploration through mine closure and site remediation.

The next steps discussed at the meeting included the need to work in partnership with relevant organisations (e.g. protected area and conservation specialists, international agencies). The UCN/ICME/WCPA Gland workshop was a first step in this direction. For IUCN to invite the mining industry to present 'best practice' case studies at the World Parks Congress in 2003. To develop specific guidelines for best practice on how to minimise negative impacts on biodiversity. Also, to elaborate on principles, guidelines, and management systems and metrics relating to exploration, design operation closure and offsets.

Points raised in discussion included:

1. It is important to try and understand each other's perspectives.
2. It might be useful to follow up Freeport's work on biodiversity research in mining areas. ICME is looking to produce report on biodiversity and exploration. Exploration could be used as starting point for understanding the range of issues at stake.

## **Breakout Groups Sessions**

### ***Metrics, measurement and science***

**Chair: Caroline Mitchell**

**Participants: Roger Blench, Craig Wood, John Cooke, Michael Totten, Peter Whitbread-Abrutat, Clive Wicks, Tom Burke, Izabella Koziell, Ross Jeffree, Bob Johns, Ben Sandbrook (minutes)**

1. There are many different biodiversity assessment initiatives. The mining industry should build on learn from these initiatives. A first step might be do pull together a list of all these initiatives, understand which elements of biodiversity they aim to assess, and pull out those aspects and those lessons that are most relevant to the mining industry.
2. A quick tour de table revealed the following initiatives and organisations working or with relevant information on biodiversity assessment :
  - The Energy and Biodiversity Initiative (EBI) has a working group looking at biodiversity metrics and measures.
  - The World Bank Task Force on extractive industries and biodiversity.
  - The European Community Initiative on Indicators for Sustainable Development.
  - The UK Department of Trade and Industry Product Stewardship Initiative is looking at indicators for marketing consumables produced sustainably.
  - Conservation International has collected a large body of information on indicators and this information is available from Michael Totten on .pdf.
  - WCMC has a database of biodiversity hotspots specifically targeted at the mining industry, which serves as an initial guide for mining companies as to whether or not they are mining within a sensitive area.
  - The Shell biodiversity strategy (produced with the support of WWF)
  - The BP Biodiversity statement
  - The Secretariat of the Convention on Biological Diversity (CBD)
  - The United Nations Development Programme (UNDP)
  - The United Nations Environment Programme (UNEP)
  - Canadian and other provincial initiatives
  - The US Environment Protection Agency (USEPA)
  - The US National Academy of Sciences
3. There are problems with accessibility and quality and relevance of data that is available. There may vast reams of information held within baseline studies but it is questionable whether or not anything meaningful can be derived from this information, as the level of detail is often insufficient.

4. If a company is serious about measuring impacts on biodiversity, it also needs to have enough resources available for repair any damage that may be revealed through such measurement. Otherwise measurement is pointless.
5. A phased approach to assessment is the most appropriate for the mining industry. Such an approach would enable the company to get consensus on what needs to be measured at what stage of the mine cycle. Clear TORs could then be developed for each stage. This could then evolve into a code of practice for mining, that clarifies what needs to be done re. biodiversity at each stage.
6. Such a code of practice needs to be developed for exploration activities first and foremost. Most exploration is now done by juniors, who are perhaps not as fully aware of sustainability issues as some of the senior companies, nor are they equipped with the right scientific knowledge. The multinationals should be building awareness and capacity for the juniors to consider biodiversity issues during exploration. This could be done through developing a code of practice (this was also discussed at the Kew Roundtable meeting last year).
7. A code of practice developed for the exploration stage would need to incorporate guidance on the following criteria: scale, phased approach, extent of baseline (how far does it go?), methods (what level of surveying is appropriate), EMSs, ethnobiology, sampling effort, intellectual property issues, data integrity (inc. protocols), indicators and accessing existing data. An possible output for the next MMSD mining and biodiversity meeting could be a draft code of practice for exploration.
8. When selecting what to measure, and indicators of biodiversity, it is not enough to just look at individual species (as not all species are of equal 'value'), but also at communities of species, at the relationships within and between communities of animals, plants, soils etc. Thus, selecting indicators that represent functional groups can help indicate how activities might be impacting on ecosystem services, as the relationship between biodiversity and ecosystem services is a key one. However there is still a lack of information and knowledge on this especially on the nature of the relationship between species, functional groups and ecosystem services. It is also important to recognise that impacts will have very different effects in different ecosystems.
9. Ethnobiology is an important component of any biodiversity assessment, but it is also very time consuming (e.g. work in Sacred Forests of Kenya). There also need to be protocols for engagement in ethnobiological work.
10. Tackling the lacunae in taxonomy must be a priority area, as without taxonomists nothing can be done. There are many taxonomic 'blackspots' that are being ignored. Firstly there is a lack of taxonomic capacity in many developing countries. Secondly, existing taxonomic capacity in developed world is so highly specialised and so focused within very specific areas, that it cannot be made more broadly relevant. There is therefore a critical need to: identify these taxonomic 'blackspots'; to compile a database of taxonomists skills, and where to find them (e.g. the UK DETR Darwin Initiative is a possible source of funding); and, to put pressure on public institutions (including donors) to address this gap within the education sector. WWF UK has done an analysis on the lack of taxonomists and the lack of funding for science.
11. Mining colleges should be encouraged to incorporate biodiversity components in their curricula.

Points raised in plenary discussion included:

1. Who will be responsible for creating the code of practice, as one of the major figures who could have led the construction of this code, ICME, has now changed its focus.
2. Need to remember that some of the junior exploration companies are ‘cowboys’ – they will try to oppose any rule applied to them.
3. There is deep suspicion amongst NGOs about guidelines. Codes of practice have far more credibility. Also, don’t look to writing a code for exploration with the intention of extrapolating it into the other phases.
4. The feasibility of adopting a phased approach to biodiversity needs to be assessed.

### **Governance and Capacity**

**Richard Sandbrook, Ed O’Keefe, Elena Armand, Eddie Routledge, Silvia Kyeyune (minutes), Colin Bowater, David Newton, Ed Matthew, Florisa Almodiel, Ian Redmond, Jose Fariña**

1. Mining activities are expanding mainly in developing regions, in remote areas away from the cities, often in areas of sensitive biodiversity. These areas are usually seriously neglected by the local governments, so when the companies move in, they often become the *de facto* government. Mining industries should accept that their role in governance is moral and ethical. This can be done without taking on the role of the government or leader, as is the case with most large mining companies in the developing world.
2. Most governments in developing regions do not have legislation, which could guide the mining industry on biodiversity issues. As a result the conservation sector lobbies and pressurises governments to formulate legislation. Then the companies respond by being defensive and uncooperative.
3. The most basic requirement for good governance is that of transparency between all stakeholders. The route to transparency would be telling everyone what you are doing and why. Instead of dealing directly with governments, sometimes it helps to use intermediaries/agencies - like the UN. Many companies choose not engage with international organisations because they fear opening themselves out to criticism. Many of these organisations do not have the necessary capacity to act as effective intermediaries.
4. An example is chemical industry in Thailand. There are 200,000 enterprises dealing in toxic chemicals with only 40 inspectors so there is no credible inspection. This is a case where the local community, labour and government need to form an enforcement mechanism from within the local community. This is what happened in Ok Tedi, the local community is involved in the ongoing management of the mine.
5. In cases where the host countries are ridden with corruption, a joint campaign should be set up by investing companies to try and reduce corruption.
6. In order to move forward:

- Mining companies should work on improving and working within existing institutional structures instead of creating new ones (new mechanisms are often not sustainable).
  - Good governance activities could include: strengthening planning mechanisms; instigating mutual wealth distribution; developing infrastructure; building capacity; review tax funds with local inputs. This will help ensure that derived are not attributed only to the mining industry/company.
  - There need to be mechanisms for getting community buy in/involvement in biodiversity issues, through e.g. provision of alternatives or establishing incentive mechanisms.
  - Mining companies should do more capacity building.
7. Investing in the community without the company being seen to take over the governance of the region, is a difficult challenge. When discussing these issues there should be an equitable balance and stakeholders should engage voluntarily. E.g. in South Africa the minerals bill has been accepted by all stakeholders: government, labour organisations and civil society. It should be noted that one of the reasons why it has been a success is its mining history and mining is one of the main contributors to the country's economy - (site specific reasons). The South Africa case could be used as a case study in the next workshop.
8. Options for moving forward include:
- Seeking out suitable case studies of existing processes and institutions. The South African case where civil society, labour, management and government successfully negotiating and agreed on the recent mineral bill. This was a major success in terms of transparency i.e. all stakeholders were involved. There are similar cases in Canada- Northwest territories and the Philippines. Looking at different case studies is important because different cases have different capacities.
  - Consideration of biodiversity issues in governance should include
    - What are the respective roles and responsibilities (common but differentiated)? How much does company get involved and how much responsibility should be handed over to other stakeholders?
    - In terms of self-Regulation instead of employing external watchdogs, tripod bodies within the community could be employed to monitor company practices. The question arises of what happens when such communities are not there? It was however noted that there should be an independent body doing such monitoring or certification. Self-certification is not globally acceptable.
    - What are the existing state mechanisms – e.g. laws and plans.
    - State, NGOs, Development Agencies should monitor each other's levels of accountability.
    - There is a need to invest in governance.
    - Alliances should be formed within the company by involving the most junior staff and externally with government, industry and civil society.
    - The principle of subsidiarity should be applied, i.e. tackling these issues at the lowest possible level.

– Education

9. There needs to be some consideration of what can be offered on governance in the next workshop on governance issues.

Point raised in plenary discussion included:

1. The issue of governance is a problematic one, and not one exclusive to mining, e.g. how can companies prepare for successive national breakdowns in governance?
2. At a minimum companies are required to operate within the limits set by national legislation, but we should also instil the principle that the companies should themselves feel obliged to practice well, perhaps over and beyond the basic legal requirements.
3. There is still a lack of clarity over what is a mining company responsibility for building capacity for dealing with biodiversity issues in affected communities?
4. The majority of biodiversity impacts will result from secondary development impacts – these need to be managed as much as the primary impacts. If you can't manage the input of the people, you can't manage the outcomes. In many cases you will need the social capacity before you can evaluate whether you have a financially viable operation – i.e. there is a serious timing problem.
5. In many cases, there are serious transparency problems between involved stakeholder groups.
6. At any subsequent biodiversity meetings, the CBD secretariat should be represented.
7. There is a distinct need to separate generic issues relating to governance from those that are specific to biodiversity. This helps us have a better understanding of what is directly relevant to biodiversity, e.g. intellectual property issues, legislation etc. and what not. There are certain governance issues that are unique to biodiversity.

## **Land Use**

**Chair: Libby Wood**

**Participants: Jim Robertson, Jim Miller, Dave Richards, Robbie Robinson, Phil Tanner, Gordon Drake, Adrian Phillips, Natalie Bennett, Jane Robertson (minutes)**

1. There is some agreement that some areas should be no-go to mining. However, it seemed unlikely that the mining industry was yet ready to agree to treating all Category I-IV sites as 'no go' areas. This is because the management of many protected areas falls well short of what is required to protect biodiversity, and because other potentially damaging economic activities and land uses are often tolerated within them. Furthermore, in some cases more 'valuable' biodiversity is found outside Category I-IV in some areas, leading to questions around why the PA should be protected over the 'valuable' biodiversity found outside it. Thus, there needs to be a better understanding where mining can contribute to biodiversity objectives and where not. Policy also needs to demonstrate the quid pro quo. Land use issues need much deeper exploration and analysis on how to move forwards.
2. Governments are also inconsistent in terms of their approach to this issue. They are committed to PAs protection but also wish to develop their mineral resources. There

are also chances of clashes with other policies, such as those on indigenous and traditional peoples' rights (as has happened in Philippines and USA). There is therefore a real need for industry and NGOs to work with governments to develop new mechanisms for addressing these conflicts. This could include adopting a more strategic approach to land use planning at a region level. This might involve engaging in pilot schemes that establish and test different criteria for decision making. For instance on how to resolve conflicts and identify best bet trade-offs; and, on how to address these issues at different stages of the mine cycle, etc.

3. The CBD together with various other international (e.g. WHC, Ramsar) and regional policies (e.g. Habitats Directive, Natura 2000) could provide a useful framework for laying out biodiversity priorities that could be integrated within land use planning methodologies.
4. The roles and responsibilities of different actors in multiple land use planning need to be taken into consideration. PA issues need to be set within the context of a wide range of other land use interests.
5. The following was recommended in terms of further work on this issue:
  - To review the role of comprehensive planning in optimising biodiversity and mining needs. The ultimate aim here is to ensure that the relationship between biodiversity and mining is optimised through seeking out win-win scenarios at different administrative levels in a rational way. This review could encompass the preparation of a think piece on strategic regional land use planning and biodiversity, which would be supported with case studies. These case studies should include real cases, outside the mining sector to gather generic ideas on what works and what doesn't work. There is also a lot of case study information available from mineral planning in Northern Europe (e.g. from English Nature). There are also some good examples in Costa Rica.
  - To clarify the criteria for decision making on mining in relation to biodiversity, and deepen understanding of the issues among all involved. This could include pulling together a think piece on 'go' and 'no-go' areas and would incorporate views on the role of PAs in biodiversity conservation and sustainable development presented from both the WCPA/conservation and mining perspective. The issue of mining and biodiversity outside PAs would also have to be tackled here.
  - To analyse the role of mining industry in land management. This would involve developing five key questions on e.g. trade-offs, offsets, stewardship, the role of small vs. large companies in land use decisions, the whole mining cycle. These questions would then be presented as a mini-survey to MMSD companies, NGOs and selected governments and results presented at the proposed 2<sup>nd</sup> meeting on mining and biodiversity in October.
  - To develop a better understanding of stakeholder perspectives, using a range of case studies, but all with a biodiversity dimension to demonstrate what could and should not be done. That is, on compensation and how to compensate and involve local stakeholders, the different mechanisms, on conflicts with national policy, marginalised groups etc. Particular consideration being given to the 'special' stakeholders e.g. World Heritage Committee. Some useful contacts and examples include the work done by Richard Cowell? from University of Cardiff



on compensation in Northern Europe, also from Canada where elaborate consultation mechanisms were established around the Arcadia diamond mine in the NW Territories. Also Diveck mine?. This work needs to set analysis in context of other sector demands (e.g. oil and gas, forestry, agriculture) and their impacts on biodiversity.

- The use of offsets as a potential way forward on 'go' or 'no-go' need to be analysed further and in greater detail.

Points raised in discussion included:

1. Is there already a consensus on off-sets?
2. The work suggested above on land use issues should be seen as a key priority as it could help contribute towards a much more focused and informed discussion in the future. It is an essential resource if discussions on land use are to progress.
3. Individuals were identified as potentially providing input on a steering committee on this issue. Many people could be supportive in providing case study material. This should be coordinated by MMSD.

## **What Next for MMSD?**

1. There was general agreement that it is worth reconvening and maybe expanding the meeting on mining and biodiversity. When setting dates for the next meeting account should be taken of the next meeting of ICMM (24<sup>th</sup> October) so as to reduce travel.
2. There might be some interest in arranging a field trip to the Eden Project in Cornwall before/after the meeting. Otherwise the preferred venue is London.
3. Minutes from this meeting will be produced in early July. They will be non-attributive, in draft, and sent to all participants of this meeting first for review. They will then be more widely distributed.
4. The meeting participants supported the formation of a small advisory group of 6- 8 to provide regular and more detailed feedback on the process. The meeting also allowed MMSD to select this group.
5. MMSD secretariat also called for as much participation as possible from participants – in terms comments, input, case studies etc.
6. There as a call for mining companies here sign up to the code of conduct on bush meat as many species are rapidly becoming endangered.

## List of Participants

<b>Attendee</b>	<b>Organisation</b>
Adrian Phillips	IUCN
Caroline Mitchell	BP (in London)
Charles Secrett	Friends of the Earth UK
Clive Wicks	WWF-UK
Colin Bowater	International Aluminium Institute (in London)
Craig Wood	Noranda Inc. Technology Centre (in Canada)
Dave Richards	Rio Tinto plc (in London)
David Newton	BHP Minerals (in London)
Ed Matthew	Friends of the Earth UK
Ed O'Keefe	Independent/Flora and Fauna International
Eddie Routledge	Billiton plc (in London)
Elena Armand	GEF Biodiversity Conservation Project, Russia
Florisa Almodiel	Dept. of Environment and Natural Resources, Philippines
Gordon Drake	WMC (in Australia)
Hugo Le Breton	Shell
Ian Redmond	Ape Alliance, UK Rhino Group and African Ele-fund UK
Izabella Koziell	Biodiversity and Livelihoods Group, IIED
Jane Robertson	Man and Biosphere Program, UNESCO
Jim Miller	Freeport (in USA)
Jim Robertson	Placer Dome (in Canada)
John Cooke	School of Environmental and Life Sciences, University of Natal, RSA
Jose Miguel Farina	Marine-Coastal Ecosystem Monitoring Project, Ecuador
Libby Wood	MMSD
Lucy Brain-Gabbott	MMSD
Michael Totten	Conservation International
Miguel Ruiz-Larrea	Shell
Natalie Bennett	English Nature
Peter Whitbread-Abrutat	Eden Project Cornwall, UK
Phil Tanner	Anglo American plc (in London)
Richard Sandbrook	MMSD
Robbie Robinson	Uganda Wildlife Authority, Uganda
Roger Blench	Overseas Development Institute (London)
Ross Jeffree	Environment Division, ANSTO, Australia
Silvia Kyeyune	MMSD
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