TOWARDS A RESEARCH FRAMEWORK FOR MAINSTREAMING SOCIAL ACCOUNTABILITY IN THE OIL, GAS AND MINING INDUSTRIES OF SELECTED EAST ASIA PACIFIC (EAP) COUNTRIES

Affiliated Network for Social Accountability in East Asia and the Pacific
...connecting citizens to improve governance
TOWARDS A RESEARCH FRAMEWORK FOR MAINSTREAMING SOCIAL ACCOUNTABILITY IN THE OIL, GAS AND MINING INDUSTRIES OF SELECTED EAST ASIA PACIFIC (EAP) COUNTRIES

PREPARED BY:
ARUN ABRAHAM AND RODOLFO B. SANTOS JR

FOR:
AFFILIATED NETWORK FOR SOCIAL ACCOUNTABILITY IN EAST ASIA AND THE PACIFIC (ANSA-EAP)
SCHOOL OF GOVERNMENT,
ATENEO DE MANILA UNIVERSITY,
MANILA, PHILIPPINES
Table of Contents

FIGURES
TABLES
INTRODUCTION
SOCIAL ACCOUNTABILITY: A FRAMEWORK FOR CSO PARTICIPATION
  Definitions
  Types of accountability mechanisms
  History
  Spectrum of responses to social accountability initiatives
  Social accountability in government, business and civil society sectors
    Social accountability in government
    Social accountability in the business sector
    Social accountability in the civil society sector
  Accountability mechanisms: Backdrop for ANSA-EAP
  Social accountability in the extractive industries sector
TOWARDS A RESEARCH STRATEGY: SOCIAL ACCOUNTABILITY, CSOS AND EXTRACTIVE INDUSTRIES IN FIVE COUNTRIES OF THE EAP
  Oil and Gas Sector in Selected EAP Countries
  Mining Sector in Selected EAP Countries
RESEARCH THEME 1
  Strengthening regulatory frameworks, policies and governance systems
    Subtheme: International Laws and National Policies
  Access to Information
    Subtheme: Industry Supported Codes of Conduct
    Subtheme: Role of civil service in accountability
    Subtheme: Understanding and Applying the Global Integrity Index
RESEARCH THEME 2
  Building capacity for environmental monitoring and compliance assessment
    Subtheme: Integrated Coastal Management (ICM)
    Subtheme: Forest Resource Management (FRM)
    Subtheme: Protected Area Management
    Subtheme: Integrated monitoring networks and platforms for ecosystem observations
RESEARCH THEME 3
  Encouraging community health risk assessment tools and approaches
    Subtheme: Water quality and aquatic system dynamics
    Subtheme: Toxicity and chemistry
    Subtheme: Health and the workplace
    Subtheme: Health and Food Security/Safety
Towards a Research Framework for Mainstreaming Social Accountability in the Oil, Gas and Mining Industries of Selected East Asia Pacific (EAP) Countries

RESEARCH THEME 4
Enabling Corporate Social Responsibility (CSR) and Environmental, Social and Governance (ESG)

RESEARCH THEME 5
Cultivating communications and partnership development initiatives

RESEARCH THEME 6
Addressing climate change mitigation and adaptation
  Carbon finance and carbon trading
  Primary carbon markets
  Secondary carbon markets
  Some carbon fund facilities
  Some issues concerning carbon markets
  Climate Change Mitigation and Adaptation

CONCLUSIONS: THE WAY FORWARD
Understanding the CSO Fabric
Elements of a Research Strategy
Recommended Areas of Concentration for ANSA-EAP

REFERENCES
FIGURES
Figure 1: Social accountability conceptual framework
Figure 2: Typology of accountability mechanisms in a two-dimensional matrix
Figure 3: Spectrum of responses to social accountability initiatives
Figure 4: Oil Reserves in Selected EAP Countries
Figure 5: Natural gas reserves in selected EAP countries.
Figure 6: Estimates of Forest Fragmentation Due to Anthropogenic Causes

TABLES
Table 1: Assessment of Accountability Mechanisms and Transparency Measures in Selected EAP Countries 2008
Table 2: Differences of aspects of accountability between a service delivery and regulation systems
Table 3: Main oil and gas companies in selected EAP countries
Table 4: Production of minerals in selected countries, 2006
Table 5: Percentage contribution of mineral industry to GDP of selected EAP countries
Table 6: International Conventions and Treaties Relevant to Extractive Industries
Table 7: Relevant Laws Governing the Oil Industry in Selected EAP Countries
Table 8: Number of Years Relevant Energy-Related Laws in Selected EAP Countries have been in effect, 2009
Table 9: Regulatory Bodies in the Oil and Gas Industry in Selected EAP Countries, 2009
Table 10: Relevant Major Laws Governing the Mining Industry in Selected EAP Countries
Table 11: Regulatory Bodies Governing Mining Industry in Selected EAP Countries
Table 12: Average Number of Years Energy and Mining-Related Laws have been in Effect in Selected EAP Countries
Table 13: Summary of Factors Associated with Offshore Oil Exploration and Effect on Marine Mammals.
Table 14: UNESCO World Heritage Sites in EAP countries
Table 15: Some areas for research in biodiversity conservation infrastructure
Table 16: Some areas for research in clean and efficient energy infrastructure
Table 17: Some areas for research in climate change adaptation
Introduction

This study is a first attempt at examining the concept of social accountability as it applies to environmental management in extractive industries, specifically oil, gas and mining, in five countries of the East Asia Pacific (EAP) region. These countries include Cambodia, Mongolia, the Philippines, Indonesia and Papua New Guinea. What is under consideration here is the “mainstreaming” of social accountability, set within an action research agenda that targets civil society organizations (CSOs) as the main client beneficiaries.

The study was conducted primarily through literature review. This included documentation and reference materials that cut across several disciplines, including political science and public administration, economics, engineering, natural resource management, and various specialized sciences (eg toxico-kinetics). This was supplemented by some unstructured interviews with representatives from government, industry and the civil society sector. A draft of the study was presented at a “Feedback Workshop” organized by the Ateneo de Manila University School of Government, through the ANSA-EAP, on 02 April 2009. The workshop featured participation of stakeholders from government, industry and civil society organizations, and offered additional perspectives and comments on the work. Most of the comments were considered in preparing this final draft.

The first section provides some discussion on accountability, separates some ideas related to social accountability, and suggests a draft framework with respect to flow and processes related to “social accountability” and the civil society sector. The second section identifies some key research themes and subthemes that emerge from the project work. Within the presentation of these themes, there are insights on various environmental management issues and concerns related to the operations of extractive industries in the EAP.
Broadly, the key research themes include the following:
• Strengthening regulatory frameworks, policies and governance systems
• Building capacity for environmental monitoring and compliance assessment
• Encouraging community health risk assessment tools and approaches
• Enabling Corporate Social Responsibility (CSR) and environment, social, governance (ESG) approaches
• Addressing climate change mitigation and adaptation

Finally, there is a short discussion that summarizes some considerations for the ANSA-EAP and the development of a research strategy going forward. The focus of this discussion is on advancing a research strategy that will empower civil society organizations to advance social accountability concerns with respect to environmental governance.
SOCIAL ACCOUNTABILITY: A FRAMEWORK FOR CSO PARTICIPATION

DEFINITIONS

The World Bank defines social accountability as an approach towards building accountability that relies on civic engagement, i.e. in which it is ordinary citizens and/or civil society organizations [that] participate directly or indirectly in exacting accountability.\(^1\)

Peruzzotin and Smulovits (2006) claims that the phrase “social accountability” originated from the term “accountability” which means “the ability to ensure that public officials are answerable for their behavior -forced to justify and inform the citizenry about their decisions and possibly, eventually, be sanctioned for them.” For Peruzzotin and Smulovits [2006], the “social” in “social accountability” refers to the workings of civic associations, NGOs, social movements and media organizations, which serve as watchdogs over the state agencies.

The World Bank definition of social accountability [building accountability that relies on civic engagement] seems to be the one that have gained international currency. The Affiliated Network for Social Accountability in East Asia and Pacific (ANSA-EAP) defines social accountability as referring to actions initiated by citizens groups to hold public officials, politicians, and service providers to account for their conduct and performance in terms of delivering services, improving people’s welfare and protecting people’s rights\(^3\).

The ANSA-EAP definition of social accountability is anchored on the four

---


pillars of 1) organized and capable citizens groups, 2] an enabling environment, with government champions who are willing to engage, 3] cultural appropriateness, and 4] access to information (ANSA-EAP 2008).

The World Bank definition of social accountability has parallels in how Peruzzoti and Smulovits (2006) see “accountability” as essentially an element of democratic representation, where democratic rule is not guaranteed solely by free elections but also on an ongoing constitutional and public monitoring.

Seen as an element of democratic representation, Peruzzoti and Smulovits (2006) posits that the concept of accountability addresses the issue of how to regulate and reduce the gaps between representatives and the represented while simultaneously preserving the differentiation between political authorities and the citizenry that characterize the relations of representation.

So far, accountability, as has been defined by the World Bank and Peruzzoti and Smulovits, is understood as essentially a study in state-society relationship, with a strong implicit assumption that the state is the potential culprit. Accountability is expected from public officials but rarely from business groups and civil society organizations (CSOs).

Although Peruzzoti and Smulovits (2006) accept that society (and we could add business groups to this) is not necessarily a homogenous or benign concept itself. Social interventions of CSOs [and business groups] might be implicitly or explicitly non-egalitarian, hierarchical and could have negative impacts on people’s lives and the health of the environment.

Recently, social accountability seems to have taken a broader meaning not confined to the relationship between civil society organizations and the state alone. Aside from expecting accountability exclusively from the state, there is now also the inclusion of encouraging voluntary compliance to a set of performance and operational standards from any group that is in a position of power and whose actions can affect citizens and the environment.

For instance, the Business Dictionary defines social accountability as:

“Measure of an organization’s state of being mindful of the emerging social concerns and priorities of internal and external stakeholders (community, employees, governmental and nongovernmental organizations, management and owners). It is reflected in the organization’s verifiable commitment to certain factors (which may or may not be tied directly to its processes) such as (1) willing compliance with employment, health and hygiene, safety, and environment laws, (2) respect for basic civil and human rights and (3) betterment of community and surrounding. A social compliance program is usually...

---

4 Ibid.

5 See: http://www.businessdictionary.com/definition/socialaccountability.html
Accountability assumes that the Weberian elements of laws, regulations, performance and operations standards, based on adherence to rules of social accountability, established by certified conformance to standards such as SA 8000⁶. “

6 SA 8000 is an International workplace quality standard based on the concept of social accountability, its major objective is to ensure application of ethical practices in hiring and treatment of employees and in production of goods and services. Released in 1997 by the New York (USA) based nonprofit body Social Accountability International (SAI), it relies on the codesofconduct affirmed by International Labour Organisation (ILO), the Universal Declaration Of Human Rights, and UN Convention On The Rights Of AChild. Founded on the principles of transparecy, credibility, and verification, it is said to be the first global ethical standard and appropriate for any type of organization regardless of the country, industry, or size. Although not an ISO standard, SA8000 is modeled on similar accreditation and certification schemes, and provides the requirements and audit methodology to evaluate and improve workplace conditions. See: http://www.businessdictionary.com/definition/SA8000.html

When any or some of these elements are dysfunctional or at worst are absent, it is said that there exists an “accountability deficit.” An accountability deficit exists in two cases: a] the mere absence of laws, regulations and institutions providing for accountability in governance, and b] the weaknesses in the actual application or practice of accountability⁷.

Figure 1 shows a conceptual framework for social accountability based on the definitions provided above.


Figure 1: Social accountability conceptual framework
TYPES OF ACCOUNTABILITY MECHANISMS

Accountability mechanisms manifest in time and space. In terms of time, it follows the project cycle or the time elements in a specific supply chain (upstream to downstream) from production of a specific good or delivery of a specific service to its consumption or use. The temporal dimension of accountability can be categorized into three types (Ackerman 2005):

- **Ex-ante** – accountability mechanisms that evaluate plans of action
- “Simultaneous” – the evaluation of ongoing initiatives
- **Ex-post** – the evaluation of completed projects.

The spatial dimension of accountability, on the other hand, can be classified as either horizontal or vertical and internal or external (Ackerman 2005).

- **Vertical accountability** requires government officials to report “downward” (or upwards) to the public. Examples: elections, referendums and a variety of social accountability mechanisms involving pressure from citizens.
- **Horizontal accountability** requires government officials to report “sideways” to other officials and agencies within the state. Examples: independent sectoral institutes, corruption control agencies, legislative investigative commissions.
- **External** – the account is given to some other person or body other than or outside the person or body being held accountable. Example: citizens demanding accountability from a local government.
- **Internal** – accountability relationships within a group. Example: a government agency conducting regular performance reviews amongst its workers.

8 The supply chain obviously has both temporal and spatial dimensions.


Figure 2 shows a two-dimension matrix that integrates the temporal and spatial dimensions of accountability mechanisms.
By definition, social accountability initiatives (i.e. citizens at the forefront of exacting accountability) fall under quadrants 2 and 3, where the social group exacting accountability is external to the organization from which accountability is demanded and who are expected to enforce or implement whatever agreements are reached between civil society groups and the state or business groups from which accountability is expected. Social accountability assumes that constructive government–citizen engagement is always possible, as confirmed by ANSA-EAP.

However, there are accountability mechanisms that are internal to the organizations (state or business groups) from which accountability is expected (Quadrants 1 and 4). Regular performance reviews and process audits within an organization and internal monitoring and evaluation systems are examples.

It can be argued that the whole point of social accountability is to strengthen internal social accountability mechanisms. For there is no point in keeping on exacting accountability from state and business groups if these groups do not improve their internal accountability mechanisms.

HISTORY

Some scholars trace the concept of accountability from the emergence of democratic representation (Perruzottin and Smulovits 2006). It seems obvious that the concept of accountability cannot be expected from a monarchy or an autocracy, although these social systems might have its own systems of exacting accountability.

According to these scholars “democracy” is now the universal ideology, which is conducted mainly through the slogan of free elections. For these scholars, the concept of accountability, therefore, directs the magnifying lens on the precarious seam between the representatives and the represented. To them, the concept of accountability rests on the assumption that an ongoing constitutional and public monitoring is required to guarantee that elected representatives and administrators do not turn their backs on the represented. Many precolonial societies, however, were not democracies, as we understand the term at present. Dahl (as cited in Linder, Bachtiger and Lutz, 2008) defines a democratic society based on the presence in it of the following procedural elements: secret balloting, universal adult suffrage, regular elections, partisan competition, associational freedom, and executive accountability.

PreSpanish Philippine society, for instance, was a primitive oligarchy (Almonte, 2006). Chieftains (datu) and their freemen ruled communities, with the rest of the people being their debtserfs and household slaves. Strong kinship ties bound these communities. The word of the datu becomes the law and is usually enforced through the use of force.

datu were basically warlords. They were the captains of bands of raidertraders. Communities (barangays) were loosely grouped into primitive principalities. Rulers were chosen not by elections but through bravery and wealth. The ruler did not have to account for his actions, but faced constant challenge from other warlords or braver members of his own community.

Colonialism, ironically, imposed democracies to colonial societies. In the case of the Philippines, the rulers (warlords) were appointed to become village heads (cabeza de barangay) and they acted pretty much in the same way as they did when they were warlords. When elections were introduced, the former warlords had a head start. The ancestry of some of the prominent politicians in the Philippines at present can be traced to precolonial rulers.

The tension between the precolonial datu system and imposed democracy could still be felt in the Philippines today. Some noted political scientists on and scholars of development studies in the Philippines (such as Hutchcroft 1998; Almonte 2005, McCoy 1994 and Rivera 1994) have discussed this issue in several studies. Rivera (1994) traced the origin of the dominant present-day Philippine capitalist class to the landlord class during colonial times. Almonte (2006) hinted that the dominant classes at present who were able to wield control over the Philippine state could be traced to the pre-colonial rulers. McCoy (1994) described the Philippine state in the 1990s as having unpredictable rules that were enforced based on what Filipino kinship ties demand. Hutchcroft (1998), on the other hand, categorized the Philippine state as a “patrimonial oligarchic state” where a powerful business class was able to extract privilege from a largely incoherent bureaucracy. In short, Philippine society is still struggling with developing a “culture of accountability,” as the culture of patronage seems to still be dominant.

The contemporary theorizing on accountability seems to have come from the discipline of public administration (Arugay 2005: 2). In this discipline, “accountability is interpreted as the construction of a code of conduct and performance and a set of standards to assess government performance.” As a political principle, accountability is seen as the monopoly of the state and its various institutions. Accountability has become an essential component of the “good governance” advocacy of multilateral institution such as the World Bank and the United Nations Development Program.

Ackerman (2005) summarized the situation described by the scholars on Philippine politics above in two words: state failure. Where public office is used for private gain (corruption), public resources are unfairly channeled to specific client groups (clientelism), and economic rents are provided to specific business actors (capture). Ackerman (2005) sees corruption, clientelism and capture as the fundamental threats to good governance and the rule of law in developing countries.

Like states, markets could also fail. Market failure occurs when freely functioning
markets, operating without government intervention, fail to deliver an efficient or optimal allocation of resources and therefore economic and social welfare may not be maximized\(^\text{11}\). Where the benefits that a market confers to individuals or firms carrying out a particular activity diverge from the benefits to society as a whole. Market failure in private goods comes in the form of monopolies; while market failure in public goods refer to the free-rider problem where people do not pay for consuming a public good or service (e.g., not paying user fees for a protected area). Proactive consumers could help correct market failure in private goods by searching out alternative sources for this private goods, while altruistic social organizations could help overcome the free-rider problem (Ackerman 2005). In economic circles, and obviously only in cases where there is no state failure, government intervention is considered as the best solution to market failures\(^\text{12}\).

A growing number of authors and practitioners have offered civic engagement as the solution to the double crisis of the failure of states and markets in the developing world (Ackerman 2005).

As early as the 1960s, civil society groups have been demanding greater accountability from government. In the Philippines, for instance, hundreds of issue-based (mainly related to human rights) groups mushroomed during the 1960s up to the 1980s. The National Citizen’s Movement for Free Elections (NAMFREL) in the Philippines, a group of volunteers who pioneered in election monitoring, traces it roots as far back to the year 1957.

The business sector’s involvement in “social accountability”\(^\text{13}\) seems to have started only in 1997 with the establishment of Social Accountability International (SAI). The business sector’s understanding of social accountability, based on available literature, is different from the definition of social accountability put forward by the World Bank described in the early part of this section that emphasizes civic engagement (i.e., principally externally-driven or falling under quadrants 1 and 3 in Figure 1). The business sector’s definition sees social accountability as a “the measure of an organization’s state of being mindful of the emerging social concerns and priorities of internal and external stakeholders” (i.e., mainly internally-driven or falling under quadrants 2 and 4 in Figure 1).

SAI convened an expert, international advisory board composed of representatives from trade unions, human rights organizations, academia, retailers, manufacturers, consulting, accounting and certification firms to develop a set of standards to address workers rights. Later in the year, the Social Accountability 8000 (SA 8000), a voluntary standard for workplaces, based on ILO and UN conventions was launched\(^\text{14}\). SA 8000

\(11\) See: [http://tutor2u.net/economics/presentations/aseconomics/marketfailure/IntroductionMarketFailure/default.html](http://tutor2u.net/economics/presentations/aseconomics/marketfailure/IntroductionMarketFailure/default.html)

\(12\) Ibid.

\(13\) The business sector, based on available literature, also uses the term “social accountability” but maintains a different definition.

seems to be the first international standards on social accountability.

In 2001, the Energy and Biodiversity Initiative (EBI) was established through the initiative of Conservation International’s Center for Environmental Leadership in Business (CELB)\(^\text{15}\). The EBI was created to develop and promote practices for integrating biodiversity conservation into upstream oil and gas development\(^\text{16}\). EBI is composed of four (4) oil companies (BP, ChevronTexaco, Shell and Statoil) and five (5) conservation organizations (Conservation International, Fauna and Flora International, IUCN – the World Conservation Union, The Nature Conservancy, and Smithsonian Institute).

In September 2002, Tony Blair, then Prime Minister of the United Kingdom, launched the Extractive Industries Transparency Initiative (EITI).\(^\text{17}\) The EITI is a voluntary initiative that seeks to begin a process whereby citizens can hold their governments into account for the use of revenues from oil, gas and mining sectors (EITI 2005). EITI supports improved governance in resource-rich countries\(^\text{18}\) through the verification and full publication of company payments and government revenues from oil, gas and mining. The Philippines, however, does not qualify as a resource-rich country as its revenue from oil, gas and mining accounts for about 1% of its GDP in the fourth quarter of 2008 (NSCB 2008)\(^\text{19}\).

In 2006, the International Finance Corporation (IFC) advanced the Performance Standards on Social and Environmental Sustainability\(^\text{20}\). The IFC applies the performance standards to manage social and environmental risks and impacts and to enhance development opportunities in its private sector financing in its member countries eligible for financing. These and other initiatives are discussed in greater detail in the sections related to the research themes.

**SPECTRUM OF RESPONSES TO SOCIAL ACCOUNTABILITY INITIATIVES**

State structures and even civil society organizations that are being asked for social accountability and business groups that are expected to conform to best practice standards can respond in various ways as shown in the spectrum in Figure 3.

Blair (2007) posits that at the most positive extreme, “a city mayor might respond with such enthusiasm to a citizen delegation demanding better sewage and garbage removal that he [she] sets up an elected board to superintend

\[\text{16}\] EBI. 2003. Integrating Biodiversity into Oil and Gas Development: Energy and Biodiversity Initiative. 
\[\text{18}\] The International Monetary Fund draft Guide on Resource Revenue Transparency (December 2004) defines countries that are rich in hydrocarbons and or minerals on the basis of the following criteria: (i) an average share of hydrocarbon and/or mineral fiscal revenues in total fiscal revenue of at least 25% during the previous three years; or (ii) an average share of hydrocarbon and or mineral proceeds in total export proceeds of at least 25% during the previous three years.
city sanitation services with powers to sanction inadequate performance.” On the other hand, at the most negative extreme, a state executive might respond to public demonstrations seeking greater government accountability by bringing in military troops to open fire on the demonstrators. Blair believes that between these two opposites of embracing and suppressing lies a neutral zone of indifference, in which the state neither encourages nor discourages mechanisms through which citizens exercise accountability. For example, a government might allow newspapers to publish whatever they wished, while neither supporting them (e.g., by subsidizing their delivery by mail) or opposing them (e.g., through censorship). Another way to look at these three responses would be to consider them as state postures that are active, passive and repressive, as shown in the Figure below.

---

21 While the positive extreme is admittedly rare, examples of the latter occur more frequently, as with the response of Myanmar’s military junta to public demonstrations in late September 2007 or the many instances where the Philippine government used force to stop a demonstration against perceived corruption in government.


---

**Figure 3: Spectrum of responses to social accountability initiatives**

<table>
<thead>
<tr>
<th>RESPONSE</th>
<th>POSTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodation</td>
<td>Active</td>
</tr>
<tr>
<td>Indifference</td>
<td>Passive</td>
</tr>
<tr>
<td>Dismissal/Opposition</td>
<td>Dismissive/Repressive</td>
</tr>
</tbody>
</table>

Source: Adapted from Blair 2007
SOCIAL ACCOUNTABILITY IN GOVERNMENT, BUSINESS AND CIVIL SOCIETY SECTORS

Social accountability in government

For international agencies supporting international development such as the World Bank, there are three main arguments underlying the importance of Social Accountability. These are governance, increased development effectiveness, and empowerment. At the core of Social Accountability is the analyzing how government services and the work for the poor.

Many developing countries do not just lack resources. Sometimes more seriously, the meager resources are allocated in a way that expenditures incurred do not yield the desired outcomes at the ground level. The World Development Report 2004, cites four possible causes for this limited effectiveness of public expenditure in the social sector:

- The government is misallocating resources – that is, it is spending on the wrong goods or the wrong people. This effectively is a budgeting or resource allocation problem
- The resources never reach frontline service providers – thus even if the resource allocations are correct, it makes no difference since expenditure ‘leakages’ mean that no money actually reaches its ultimate destination and service delivery is not improved. This then is an expenditure-tracking problem
- Even when the money reaches the service provider, the incentives to provide the service may be weak. This lack of incentives can be attributed to the problem of performance monitoring and evaluation
- Finally, there may be a demand side failure – that is, people may not avail of the services provided to them. This is to a large extent a problem of awareness and participation.

These four problems hit at different parts of the service delivery chain, which can be unbundled into three kinds of accountability relationships:

- Contracts between the policy maker and the service provider
- Power between the citizen-client and service provider
- Voice relationships between the citizen-client and the policy maker

Social accountability in the business sector

There has been an explosion of voluntary initiatives intended to improve the social and environmental performance of business, including corporate social responsibility (CSR), socially-responsible investment (SRI), product certification and labeling, corporate sustainability reporting, etc. The International Union of Conservation of Nature (IUCN) members have spearheaded some of these initiatives, although other IUCN members remain skeptical of the potential of the


private sector to achieve social and environmental goals voluntarily\textsuperscript{25}.

These skeptical IUCN members see transnational corporations especially in the extractive industries as having succeeded in marginalizing and neutralizing international conservation organizations by providing relatively small sums of money for conservation work. They label funding from the extractive industry to environmental organizations as “greenwashing”.

Well-known interactions at the international level between the extractive industry and conservation organizations are the high-level dialogues and partnerships such as the IUCN-ICMM (International Council on Mining and Metals) dialogue and the Energy for Biodiversity Initiative (EBI). These interactions aim to develop voluntary codes of good environmental and social conduct and to integrate considerations of biodiversity in the development of extractive industry projects. The organizations involved generally recognize that the extractive industries cause environmental degradation, but are convinced that the industry, as being a part of the problem, could also become a part of the solution.

Some IUCN members, affected people, indigenous people groups and advocacy organizations are deeply concerned about these high-level partnerships. Many are having second thoughts about the effective and fair engagement of all stakeholders, especially indigenous and affected peoples groups, in such partnerships/dialogues. Others believe that these dialogues do not generate tangible results in the field, because discussions are too theoretic and the terminology that is used, such as “biodiversity” or “sustainable development” is too broad and too vague. Private sector and the environment movement often differ fundamentally in their actual idea of what these terms actually mean in practice. Others label high-level dialogues as deep greenwashing. They believe that these efforts are part of a political strategy of the industry to convince civil society and national governments of the “self-regulating” capabilities of companies with the ultimate aim to weaken and prevent the development of binding legislation and regulation.

Social accountability in the civil society sector

Civil society organizations (CSOs) are usually seen as the organizations demanding accountability from power holders (in the government and business sectors). This report includes them in the category of power holders. As has been shown above, they can enter into partnerships with business groups or even government in the implementation of projects that can potentially negatively or positively affect people’s lives.

The Social and Environmental Accountability of the Private Sector (SEAPRISE) Project of the IUCN, for example, have been active over the past years to enhance the capacity of civil society groups and governments to enter

\textsuperscript{25} See: \url{http://www.iucn.org/about/union/commissions/ceesp/wg/seaprise/index.cfm}
in a more equitable dialogue with the extractive industry. It is possible that through these dialogues, civil society groups assumes the role of a project implementer rather than that of a project monitor, although other CSOs could take the latter role.

SEAPRISE members assist civil society groups and government institutions with decision making procedures regarding oil, gas and mining exploitation. They give advice about Strategic Environmental Assessments (SEA), the identification of “no go zones” and on how to fit extractive industry projects within National Sustainable Development plans, Poverty Reduction Plans, Energy and Transport Strategies.

SEAPRISE also provides advice on a project level. SEAPRISE members work with stakeholders during especially the critical early planning phases of extractive industry projects, when awareness of stakeholders about best practices and undesirable side effects is low. During the early planning phases, stakeholders need to have a thorough understanding of the best practices and potential impacts because crucial decisions about social and environmental safeguards are taken in this period. Stakeholders mostly become aware about negative impacts only when undesirable side effects start to appear and when it is too late to put necessary safeguards in place. In this common scenario, violent conflicts between companies and their stakeholders may arise.

Civil society groups can also participate in formalized mechanisms to engage local communities and citizens in the oversight of extractive industries. In addition to transparency, the critical importance of informed public oversight is key to the improvement of the safety, environmental practice, revenue equity, social responsibility, and ethical behaviour of extractive industries around the world. The Regional Citizens’ Advisory Council (RCAC) established in Alaska to oversee the Alyeska oil terminal is one of the more effective models in this regard.

One caveat should be noted here. By legal definition in some countries, business organizations such as an industry association, or a chamber of commerce, have the same status / designation as religious organizations, institutions of higher learning, or community-based advocacy organizations. By a very broad definition, all of these types of organizations could be considered CSOs – despite the ideological, political or economic differences. However, for purposes of this report, business or industry associations are considered to be distinct, particularly because of the primary client base that they intend to serve.

ACCOUNTABILITY MECHANISMS: BACKDROP FOR ANSA-EAP

In order to understand the context in which various notions of “accountability” are being cast, it is perhaps insightful to look at the Global Integrity Index, which forms part of the Global Integrity Report prepared annually. The report assesses the existence, effectiveness, and citizen access to key national level anti-corruption mechanisms used to hold governments accountable. The Index does not attempt
to measure corruption, but instead examines the various mechanisms being used to address associated problems in the form of government accountability, transparency, and citizen oversight.

The Global Integrity Index is created by aggregating over 300 Integrity Indicators which are collected systematically each country covered. For the Global Integrity Index: 2008, those indicators consisted of over 15,000 peer-reviewed questions and answers scored by in-country experts. Several rounds of review are conducted at the international level to validate cross-country comparisons. In addition, all assessments are reviewed by a country-specific, “double-blind” peer review panel including additional local and international subject matter experts.

The Global Integrity Index is distinct from many other governance and corruption indices in few ways. First, no other organization publishes quantitative data on key national-level anti-corruption mechanisms. It serves as a solution-oriented tool that provides an actionable roadmap for change and reform. This approach avoids the typical frustration often experienced by local stakeholders - both in and outside of government - who feel that the country scores are out of their control. The index does not use perception surveys or polling. Each country assessment that feeds into the overall Index is supported by references and unique scoring criteria. Many Integrity Indicators for a country include narrative explanations of the actual scoring, increasing reliability and encouraging follow-up research and debate. The Index also does not utilize third party data. Research is conducted by in-country experts using uniform methodologies.

The Index also does not use any closed source material. All activities - from scoring guidelines to disputes that arise out of it peer review process — is open to public scrutiny. Moreover, data is truly “current”. Many other such international indices that produce a “yearly” report normally use only the latest information available for a country, despite the age of that data. The Global Integrity Report never directly assigns scores to countries. Instead over 300 specific questions and answers are aggregated for each country (the Integrity Indicators) into various sub-category-, category-, and country-level scores. The Integrity Indicator scores are researched and peer reviewed.

Presented below is information on assessments of various “accountability mechanisms” in four of the five countries under study in this report (no information is available for Mongolia). In addition to the various types of accountability mechanisms that are possible within a governance framework, the table provides a composite view of the “state of accountability” in each of the countries.

26 [http://report.globalintegrity.org/globalIndex.cfm](http://report.globalintegrity.org/globalIndex.cfm)
Table 1: Assessment of Accountability Mechanisms and Transparency Measures in Selected EAP Countries 2008

<table>
<thead>
<tr>
<th>Assessment Category/Country</th>
<th>Indonesia</th>
<th>Cambodia</th>
<th>Philippines</th>
<th>PNG*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Rating</td>
<td>Weak (69/100)</td>
<td>Very Weak (46/100)</td>
<td>Moderate (71/100)</td>
<td>Weak (69/100)</td>
</tr>
<tr>
<td>Legal Framework</td>
<td>83/100</td>
<td>58/100</td>
<td>90/100</td>
<td>n/a</td>
</tr>
<tr>
<td>Actual Implementation</td>
<td>55/100</td>
<td>30/100</td>
<td>53/100</td>
<td>n/a</td>
</tr>
<tr>
<td>Implementation Gap</td>
<td>Very large (28)</td>
<td>Large (28)</td>
<td>Very Large (38)</td>
<td>n/a</td>
</tr>
<tr>
<td>Civil Society Organizations</td>
<td>Weak</td>
<td>Weak</td>
<td>Moderate</td>
<td>Strong</td>
</tr>
<tr>
<td>Media</td>
<td>Moderate</td>
<td>Very Weak</td>
<td>Moderate</td>
<td>Strong</td>
</tr>
<tr>
<td>Access to Information</td>
<td>Very Weak</td>
<td>Very Weak</td>
<td>Very Weak</td>
<td>Very Weak</td>
</tr>
<tr>
<td>Voting and Citizen Participation</td>
<td>Strong</td>
<td>Strong</td>
<td>Strong</td>
<td>Strong</td>
</tr>
<tr>
<td>Election Integrity</td>
<td>Strong</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Very Weak</td>
</tr>
<tr>
<td>Political Financing</td>
<td>Very Weak</td>
<td>Very Weak</td>
<td>Very Weak</td>
<td>Very Weak</td>
</tr>
<tr>
<td>Executive Accountability</td>
<td>Strong</td>
<td>Very Weak</td>
<td>Moderate</td>
<td>Weak</td>
</tr>
<tr>
<td>Legislative Accountability</td>
<td>Weak</td>
<td>Very Weak</td>
<td>Very Weak</td>
<td>Very Weak</td>
</tr>
<tr>
<td>Judicial Accountability</td>
<td>Weak</td>
<td>Very Weak</td>
<td>Very Weak</td>
<td>Weak</td>
</tr>
<tr>
<td>Budget Processes</td>
<td>Weak</td>
<td>Very Weak</td>
<td>Weak</td>
<td></td>
</tr>
<tr>
<td>Civil Service Regulations</td>
<td>Very Weak</td>
<td>Very Weak</td>
<td>Moderate</td>
<td>Very Weak</td>
</tr>
<tr>
<td>Whistle Blowing Measures</td>
<td>Very Weak</td>
<td>Very Weak</td>
<td>Moderate</td>
<td>Very Weak</td>
</tr>
<tr>
<td>Procurement</td>
<td>Strong</td>
<td>Very Weak</td>
<td>Strong</td>
<td>Very Weak</td>
</tr>
<tr>
<td>Privatization</td>
<td>Very Strong</td>
<td>Very Weak</td>
<td>Strong</td>
<td>Strong</td>
</tr>
<tr>
<td>National Ombudsman</td>
<td>Strong</td>
<td>Very Weak</td>
<td>Strong</td>
<td>Strong</td>
</tr>
<tr>
<td>Supreme Audit Institution</td>
<td>Weak</td>
<td>Weak</td>
<td>Very Strong</td>
<td>Strong</td>
</tr>
<tr>
<td>Taxes and Customs</td>
<td>Strong</td>
<td>Moderate</td>
<td>Very Weak</td>
<td>Very Strong</td>
</tr>
</tbody>
</table>

* Data for 2007

SOCIAL ACCOUNTABILITY IN THE EXTRACTIVE INDUSTRIES SECTOR

The common forms of action that fall under a social accountability approach include the following: a] participatory public policy-making, b] participatory budgeting, c] public expenditure tracking, d] citizen monitoring and evaluation of public service delivery [preparing ‘report cards’], e] public education about legal rights and available services, and f] citizen’s involvement in public commissions and hearings, citizen advisory boards and oversight committees.

The above forms of social accountability actions are usually a response to a government service delivery system rather than a reaction of citizens to the regulatory functions of government. In the oil and gas and mining industries, however, the functions of government usually relate to regulation rather than a service delivery system.
Figure 4 below shows the differences of aspects of accountability between service delivery and regulation systems.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Service delivery</th>
<th>Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control mechanisms</td>
<td>• Contracts</td>
<td>• Licenses</td>
</tr>
<tr>
<td></td>
<td>• Bidding</td>
<td>• Permits, quotas</td>
</tr>
<tr>
<td>Players</td>
<td>• Government agencies</td>
<td>• Business companies</td>
</tr>
<tr>
<td></td>
<td>• Private contractors</td>
<td>• Government corporations</td>
</tr>
<tr>
<td>Compliance standards</td>
<td>• Agreed plans and budgets</td>
<td>• Process standards</td>
</tr>
<tr>
<td></td>
<td>• Quality of product or service</td>
<td>• Economic and social performance standards (voluntary and</td>
</tr>
<tr>
<td></td>
<td>• Agreed processes</td>
<td>enforced)</td>
</tr>
<tr>
<td>Report requirements</td>
<td>• Environmental Impact Assessment [EIA] reports</td>
<td>• EIA reports</td>
</tr>
<tr>
<td></td>
<td>• Project completion reports</td>
<td>• Financial statements</td>
</tr>
<tr>
<td>Social benefits of action being examined</td>
<td>• Infrastructure</td>
<td>• Revenue</td>
</tr>
<tr>
<td></td>
<td>• Service</td>
<td>• Employment</td>
</tr>
<tr>
<td></td>
<td>• Employment</td>
<td></td>
</tr>
<tr>
<td>Possible harm to society of action being</td>
<td>• Poor service</td>
<td>• Lack of revenue</td>
</tr>
<tr>
<td>examined</td>
<td>• Substandard quality</td>
<td>• Expensive product or service</td>
</tr>
<tr>
<td></td>
<td>• Negative environmental impact</td>
<td>• Negative environmental impact</td>
</tr>
<tr>
<td></td>
<td>• Violation of human rights</td>
<td>• Violation of human rights</td>
</tr>
</tbody>
</table>
Towards a Research Framework for Mainstreaming Social Accountability in the Oil, Gas and Mining Industries of Selected East Asia Pacific (EAP) Countries

TOWARDS A RESEARCH STRATEGY: SOCIAL ACCOUNTABILITY, CSOS AND EXTRACTIVE INDUSTRIES IN FIVE COUNTRIES OF THE EAP

The literature and sources of data on oil and gas activity is abundant, readily available and relatively easy to access. As such extensive data will not be provided in this report. However the illustrations below help to show the relative importance of these industries in the five EAP countries.

Figure 4 below provides information on the oil reserves in the selected EAP countries, representing 4.5 billion barrels, or 0.42% of global reserves. Figure 5 provides similar information on natural gas reserves (3.07 trillion cubic meters), noting that these represent a small fraction of total global reserves.

Figure 4: Oil Reserves in Selected EAP Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Oil Reserves (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Papua New Guinea</td>
<td>4%</td>
</tr>
<tr>
<td>Philippines</td>
<td>3%</td>
</tr>
<tr>
<td>Mongolia</td>
<td>0%</td>
</tr>
<tr>
<td>Cambodia</td>
<td>0%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>93%</td>
</tr>
</tbody>
</table>

28 The World Fact Book 2008 (based on 2005 data)
Figure 4: Oil Reserves in Selected EAP Countries

Table 3: Main oil and gas companies in selected EAP countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Major oil and gas industry players</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>• Dominated by international oil companies (IOC)</td>
</tr>
<tr>
<td></td>
<td>• Oil - Chevron, British Petroleum (BP), ConocoPhillips, ExxonMobil, Total, PetroChina and China Offshore Oil Corporation (CNOOC)</td>
</tr>
<tr>
<td></td>
<td>• Natural gas – dominated by PT Pertamina. Other players are Total, ExxonMobil, Vico, ConocoPhillips, BP and Chevron.</td>
</tr>
<tr>
<td>Philippines</td>
<td>• Oil - Philippine National Oil Company (Oil), Kairiki Energy Limited</td>
</tr>
<tr>
<td></td>
<td>• Oil refinery – Petron, Chevron</td>
</tr>
<tr>
<td></td>
<td>• Natural gas – Shell and Chevron</td>
</tr>
<tr>
<td></td>
<td>• Pipelines - PTT Public Company Ltd (Thailand)</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>• Natural gas - ExxonMobil</td>
</tr>
<tr>
<td></td>
<td>• Oil refinery - Interoil (USA)</td>
</tr>
<tr>
<td>Cambodia</td>
<td>• Oil - Chevron</td>
</tr>
<tr>
<td>Mongolia</td>
<td>• Oil - PetroChina, Daqing Tamstag Mongolia LLC and Dongsheng Jinggong Petroleum Mongolia</td>
</tr>
</tbody>
</table>

The main oil and gas companies operating in the five EAP countries are listed in the figure above.
The oil and natural gas supply chain consists of four (4) broad categories of activity:

• Exploration and Extraction
• Refining and Production
• Transportation and Storage
• Marketing and Distribution

There are many actors in the oil and gas supply chain, including operators (oil companies), main contractors, subcontractors and different types of suppliers. There are different forces at play in the supply chain dynamics. These could be internal business processes or external political and economic factors. Some key factors include the following:

• cost of exploration and field development needs to be reduced in order to maintain marginal profits and forestall full scale development of alternative energy
• oil companies are increasing in size due to mergers and acquisitions
• the price of oil is subject to significant fluctuations
• most oil and gas initiatives are established as “mega-projects” in order to take advantage of scale economies – within this context, companies employ strategies that will reduce the project execution time (eg, using electronic procurement methods)
• oil companies are subject to numerous political pressures
• as operators (oil companies) become more involved in any particular aspect of the supply chain, then the risk increases in a commensurate manner\(^{29}\).

The oil and gas supply chain is exceptionally long, astonishingly complex and requires the investment of huge sums of capital. The core product, crude oil is politically and economically strategic and is transported in huge volumes. Oil production in the selected EAP countries, with possible exception of Indonesia, is insignificant compared to global oil production. However, exploration and development are still likely to figure prominently in the energy policies and initiatives of these countries. Among other things, a strong domestic oil and gas industry helps reduce reliance on imports, and eases balance of payments at the national level.

MINING SECTOR IN SELECTED EAP COUNTRIES

Except for Cambodia, all the EAP countries included in this paper are mineral resource rich countries. Table 4 shows the amount of production of different minerals in selected EAP countries in 2006 as compiled by the British Geological Survey in their 2008 Report. STRENGTHENING REGULATORY FRAMEWORKS, POLICIES

---

\(^{29}\) Eric Anderson. “Supply Chain Strategy in the Oil and Gas Sector” in Supply Chain Management and Outsourcing Strategies. n.d.
## Table 4: Production of minerals in selected countries, 2006

<table>
<thead>
<tr>
<th>Mineral</th>
<th>Philippines</th>
<th>Indonesia</th>
<th>Papua New Guinea</th>
<th>Cambodia</th>
<th>Mongolia</th>
<th>World total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bauxite (tons)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>192,000,000</td>
</tr>
<tr>
<td>Bentonite (tons)</td>
<td>3,600</td>
<td>5,000</td>
<td></td>
<td></td>
<td></td>
<td>14,600,000</td>
</tr>
<tr>
<td>Chromium ore (tons)</td>
<td>50,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>19,200,000</td>
</tr>
<tr>
<td>Coal (tons)</td>
<td>3,164,432</td>
<td>177,000,000</td>
<td>8,074,100</td>
<td>6,189,000,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cobalt (tons metal content)</td>
<td></td>
<td>650</td>
<td></td>
<td></td>
<td></td>
<td>59,000</td>
</tr>
<tr>
<td>Copper (tons metal content) mine production</td>
<td>17,700</td>
<td>817,796</td>
<td>194,355</td>
<td>129,675</td>
<td>15,100,000</td>
<td></td>
</tr>
<tr>
<td>Copper - tons smelter production</td>
<td>239,600</td>
<td>201,200</td>
<td></td>
<td></td>
<td></td>
<td>11,800,000</td>
</tr>
<tr>
<td>Copper - tons refined</td>
<td>181,000</td>
<td>217,600</td>
<td>2,600</td>
<td></td>
<td>17,200,000</td>
<td></td>
</tr>
<tr>
<td>Diamond (carats)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>176,800,000</td>
</tr>
<tr>
<td>Feldspar (tons)</td>
<td>12,000</td>
<td>24,000</td>
<td></td>
<td></td>
<td></td>
<td>15,700,000</td>
</tr>
<tr>
<td>Flourspar (tons)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>138,000</td>
</tr>
<tr>
<td>Gold (kilograms metal content)</td>
<td>36,096</td>
<td>85,411</td>
<td>58,349</td>
<td>22,561</td>
<td>2,310,000</td>
<td></td>
</tr>
<tr>
<td>Gypsum (tons)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>142,500,000</td>
</tr>
<tr>
<td>Iodine (kilograms)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>26,700</td>
</tr>
<tr>
<td>Iron ore (tons)</td>
<td></td>
<td>10,936</td>
<td></td>
<td></td>
<td></td>
<td>1,810,000,000</td>
</tr>
<tr>
<td>Pig iron (tons)</td>
<td></td>
<td>1,300,000</td>
<td></td>
<td></td>
<td></td>
<td>925,800,000</td>
</tr>
<tr>
<td>Crude steel (tons)</td>
<td>558,000</td>
<td>3,754,347</td>
<td></td>
<td></td>
<td></td>
<td>1,228,000,000</td>
</tr>
<tr>
<td>Ferro-alloys (tons)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ferro-manganese</td>
<td>12,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ferro-silico-manganese</td>
<td>4,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ferro-nickel</td>
<td>20,036</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mineral</td>
<td>Philippines</td>
<td>Indonesia</td>
<td>Papua New Guinea</td>
<td>Cambodia</td>
<td>Mongolia</td>
<td>World total</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-------------</td>
<td>-----------</td>
<td>------------------</td>
<td>----------</td>
<td>----------</td>
<td>-------------</td>
</tr>
<tr>
<td>Kaolin (tons)</td>
<td>6,927</td>
<td>15,000</td>
<td></td>
<td></td>
<td></td>
<td>25,100,000</td>
</tr>
<tr>
<td>Refined lead (tons)</td>
<td>30,000</td>
<td>18,000</td>
<td></td>
<td></td>
<td></td>
<td>8,000,000</td>
</tr>
<tr>
<td>Magnesite (tons)</td>
<td>2,413</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>23,800,000</td>
</tr>
<tr>
<td>Molybdenum (tons metal content)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,404</td>
<td>186,000</td>
</tr>
<tr>
<td>Nickel - mine production (tons metal content)</td>
<td>58,900</td>
<td>150,000</td>
<td></td>
<td></td>
<td></td>
<td>1,526,000</td>
</tr>
<tr>
<td>Smelter/refinery production of nickel (tons)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14,474</td>
<td>1,337,000</td>
</tr>
<tr>
<td>Perlite (tons)</td>
<td>8,800</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crude petroleum (tons)</td>
<td>721,000</td>
<td>209,800,000</td>
<td>2,263,000</td>
<td></td>
<td>50,000</td>
<td>3,889,000,000</td>
</tr>
<tr>
<td>Natural gas (million m3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,960,000</td>
</tr>
<tr>
<td>Salt (tons)</td>
<td>420,000</td>
<td>680,000</td>
<td>59,000</td>
<td>100,000</td>
<td></td>
<td>255,600,000</td>
</tr>
<tr>
<td>Selenium metal (tons)</td>
<td>65</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silver (kilograms metal content)</td>
<td>25,500</td>
<td>261,396</td>
<td>51,098</td>
<td>20,378</td>
<td>20,116,000</td>
<td></td>
</tr>
<tr>
<td>Suphur and pyrites (tons sulphur content)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recovered [c]</td>
<td>180,000</td>
<td>168,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recovered (d)</td>
<td>45,000</td>
<td>105,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mine production of Tin (tons metal content)</td>
<td></td>
<td></td>
<td>117,500</td>
<td></td>
<td>321,000</td>
<td></td>
</tr>
<tr>
<td>Smelter production of tin (tons)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>80,933</td>
<td>340,000</td>
</tr>
<tr>
<td>Zinc (tons metal content)</td>
<td>3,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10,500,000</td>
</tr>
<tr>
<td>Zirconium minerals (tons)</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,201,000</td>
</tr>
</tbody>
</table>

Source: British Geological Survey, 2008
Table 5, on the other hand, presents the percentage contribution of the mineral industry to the GDP of selected EAP countries.

**Table 5: Percentage contribution of mineral industry to GDP of selected EAP countries**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>10%</td>
<td>863.1 billion</td>
<td>3,700</td>
<td>240 M</td>
</tr>
<tr>
<td>Philippines</td>
<td>nd</td>
<td>306.5 billion</td>
<td>3,300</td>
<td>98 M</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>11.2%*</td>
<td>12.5 billion</td>
<td>2,200</td>
<td>6 M</td>
</tr>
<tr>
<td>Mongolia</td>
<td>30%</td>
<td>8.7 billion</td>
<td>2,900</td>
<td>3 M</td>
</tr>
<tr>
<td>Cambodia</td>
<td>0.41%</td>
<td>26.62 billion</td>
<td>1,900</td>
<td>14 M</td>
</tr>
</tbody>
</table>

* Includes mining and petroleum sector

Sources: The World Factbook 2008; USGS Mineral Yearbook 2006
**RESEARCH THEME 1**

**STRENGTHENING REGULATORY FRAMEWORKS, POLICIES AND GOVERNANCE SYSTEMS**

**Subtheme: International Laws and National Policies**

Given the battery of laws and regulations affecting extractive industries in the EAP, it will be insightful to conduct a comparative review on the state of affairs with respect to ratification and compliance with international treaties and conventions. Table 6 below outlines most of those that would be applicable.

**Table 6: Some International Conventions and Treaties Relevant to Extractive Industries**

<table>
<thead>
<tr>
<th>Mineral</th>
<th>Philippines</th>
</tr>
</thead>
</table>
| Sustainable Development Instruments | • Rio Declaration and Agenda 21 1992  
                                      • UN Millenium Development Goals 2000  
                                      • Johannesburg Declaration and Plan of Implementation 2002 |
| Environmental Protection Instruments | • UN Framework Convention on Climate Change 1992  
                                      • Convention on Biological Biodiversity 1992  
                                      • Ramsar Convention on Wetlands of International Significance 1971  
                                      • International Tropical Timber Agreement 2006  
                                      • UN Convention on the Law of the Non-Navigational Uses of International Watercourses 1997 |
| Control of Harmful Substances | • Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal 1989  
• Stockholm Convention on Persistent Organic Pollutants 2001 |
| Prevention and Management of Marine Pollution | • International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)  
• Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities 1995 |
| Response to Pollution Incidents | • International Convention on Pollution Preparedness, Response and Cooperation (OPRC) 1990  
• International Convention Related to Intervention on the High Seas in Cases of Oil Pollution Casualties 1969, 1973  
• International Convention on Salvage 1989 |
| Compensation and Liability for Pollution | • International Convention on Civil Liability for Oil Pollution Damage 1969, 1992  
• International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1971, 1992 (Amendment)  
• International Convention on Liability and Compensation for Damage in connection with Carriage of Hazardous and Noxious Substances by Sea 1996  
• International Convention on Civil Liability for Bunker Oil Pollution Damage 2001 |
Basic Occupational Health and Safety Instruments

- International Convention on Load Lines 1966
- Convention on the International Regulations for Preventing Collisions at Sea [COLREG] 1972
- International Convention for Safe Containers 1972
- ILO Convention on Indigenous and Tribal Populations 1957
- ILO Convention on Safety and Health in Mines 1995
- ILO Convention on Worst Forms of Child Labor 1999
- ILO Convention on Asbestos 1986
- ILO Convention on Chemicals 1990

A few research questions would include:

1. What is the status of each of these conventions and treaties in selected EAP countries? Have they been ratified, accepted, approved or acceded?
2. What are some of the key constraints to adoption of these instruments by countries which have not done so?
3. What are some of the key issues with respect to implementation / enforcement of these conventions and treaties in selected EAP countries?
4. Are there other international instruments that need to be considered in this context, for example the proposed International Forest Convention?

This work could be supplemented by a comparative review of national policies (eg. energy, environment) and local initiatives (eg. waste management, licensing and permitting, integrated water management) and identify gaps, problems, issues and root cause analysis, and promote best practices to ensure coordination and harmonization of provisions across countries. Tables 7 to 12 provide information on the relevant national laws governing the oil, gas and mining industries in the selected EAP countries, the number of years the laws...
have been in effect, and the key regulatory bodies that serve as focal points for implementation of most of the laws. It should be noted that in most of the EAP countries being reviewed, there is some devolution of authority to local (provincial and municipal governments).

**Table 7: Relevant Laws Governing the Oil Industry in Selected EAP Countries**

<table>
<thead>
<tr>
<th>Country</th>
<th>Relevant laws governing oil and gas industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>• Oil and Gas Law of 2001</td>
</tr>
<tr>
<td>Philippines</td>
<td>• Department of Energy Act of 1992 (RA 7638)</td>
</tr>
<tr>
<td></td>
<td>• Electric Power Industry Reform Act of 2001 (RA 9136)</td>
</tr>
<tr>
<td></td>
<td>• Act Granting Incentives to Mini-Hydro-Electric Power Developers and for Other Purposes of 1991 (RA 7156)</td>
</tr>
<tr>
<td></td>
<td>• Downstream Oil Industry Deregulation Act of 1998 (RA 8479)</td>
</tr>
<tr>
<td></td>
<td>• Clean Air Act of 1999 (RA 8749)</td>
</tr>
<tr>
<td></td>
<td>• Biofuels Act of 2006</td>
</tr>
<tr>
<td></td>
<td>• Oil and Gas Act (1998)</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>• Oil and Gas Act (1998)</td>
</tr>
<tr>
<td>Cambodia</td>
<td>• Petroleum Regulations of 1991</td>
</tr>
<tr>
<td>Mongolia</td>
<td>• Law of Mongolia on Energy 2001</td>
</tr>
</tbody>
</table>

**Table 8: Number of Years Relevant Energy-Related Laws in Selected EAP Countries have been in effect, 2009**

<table>
<thead>
<tr>
<th>Country</th>
<th>Cambodia</th>
<th>Indonesia</th>
<th>Mongolia</th>
<th>Papua New Guinea</th>
<th>Philippines</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year when first energy related law was passed</td>
<td>1992</td>
<td>196030</td>
<td>2001</td>
<td>1998</td>
<td>1992</td>
<td></td>
</tr>
<tr>
<td>Number of years in effect</td>
<td>17</td>
<td>49</td>
<td>8</td>
<td>11</td>
<td>17</td>
<td>20</td>
</tr>
</tbody>
</table>

Source: The World Law Guide31 and other sources cited in this research

Table 9: Regulatory Bodies in the Oil and Gas Industry in Selected EAP Countries, 2009

<table>
<thead>
<tr>
<th>Country</th>
<th>Regulatory authorities in the oil and gas industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>• Badan Perlaksanan Minyak Gas, or BP Migas</td>
</tr>
<tr>
<td>Philippines</td>
<td>• Department of Energy (DoE)</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>• Energy Division of the Department of Petroleum and Energy (DPE)</td>
</tr>
<tr>
<td>Cambodia</td>
<td>• Cambodia National Petroleum Authority (CNPA)</td>
</tr>
<tr>
<td>Mongolia</td>
<td>• Energy Regulatory Authority (ERA)</td>
</tr>
<tr>
<td></td>
<td>• Mineral Resources and Petroleum Authority of Mongolia (MRPAM)</td>
</tr>
</tbody>
</table>

Table 10: Relevant Major Laws Governing the Mining Industry in Selected EAP Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Relevant laws governing mining industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>• Law 11/67 Concerning Basic Principles of Mining</td>
</tr>
<tr>
<td></td>
<td>• Law No. 41/1999 on forestry that prohibits open cast mining</td>
</tr>
<tr>
<td>Philippines</td>
<td>• Mining Act of 1995</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>• Mining Act of 1992</td>
</tr>
<tr>
<td></td>
<td>• Mineral Resources Act of 2005</td>
</tr>
<tr>
<td>Cambodia</td>
<td>• Law on the Management and Exploitation of Mineral Resources 2001</td>
</tr>
</tbody>
</table>
Table 11: Regulatory Bodies Governing Mining Industry in Selected EAP Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Regulatory Body</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>• Department of Geology and Mineral Resources – Ministry of Energy and Mineral Resources (MEMR)</td>
</tr>
<tr>
<td>Philippines</td>
<td>• Mines and Geosciences Bureau – Department of Environment and Natural Resources (DENR)</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>• Mineral Resources Authority</td>
</tr>
<tr>
<td>Cambodia</td>
<td>• Ministry of Mines and Energy</td>
</tr>
<tr>
<td></td>
<td>• Cambodian Development Council</td>
</tr>
<tr>
<td>Mongolia</td>
<td>• Mineral Resources Authority of Mongolia</td>
</tr>
</tbody>
</table>

Table 12: Average Number of Years Energy and Mining-Related Laws have been in Effect in Selected EAP Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Cambodia</th>
<th>Indonesia</th>
<th>Mongolia</th>
<th>Papua New Guinea</th>
<th>Philippines</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year when first energy related law was passed</td>
<td>1991</td>
<td>2001</td>
<td>2001</td>
<td>1998</td>
<td>1992</td>
<td></td>
</tr>
<tr>
<td>Number of years in effect</td>
<td>18</td>
<td>8</td>
<td>8</td>
<td>11</td>
<td>17</td>
<td>12</td>
</tr>
<tr>
<td>Year when first mining related law was passed</td>
<td>2001</td>
<td>1967</td>
<td>1997</td>
<td>1992</td>
<td>1995</td>
<td></td>
</tr>
<tr>
<td>No. of years in effect</td>
<td>8</td>
<td>42</td>
<td>12</td>
<td>17</td>
<td>14</td>
<td>19</td>
</tr>
</tbody>
</table>

Sources: mainly The World Law Guide\(^{32}\) and other sources cited in this research.

Some research questions could be as follows:

1. Given that most of these countries have national regulatory/legal frameworks in place for a reasonable time, what are the key issues/gaps with respect to implementation?
2. To what extent has there been regulatory capture? Is there a community of interests between the government regulatory agencies, other government departments and the industries for which they are supposed to provide oversight?
3. Are there any issues with respect to inter-agency coordination?
4. What input does civil society have to raise key issues/questions with respect to the implementation of policies and laws? Are there ways in which civil society participation can improve the effectiveness of these policies and laws?

**ACCESS TO INFORMATION**

Government regulations concerning access to information serve as a key potential instrument for social accountability. In the Philippines, there is a provision in Section 7 (1), Article 3 (Bill or Rights) of the 1987 Constitution. Senate Bill Number 776, the “Freedom of Access to Information Act” was filed in June 2004, and is pending at the committee level. In Indonesia, the “Openness of Public Information Act was passed by the Parliament on 03 April 2008. Constitutional rights exist in Papua New Guinea, although there is no enabling legislation. The United Nations has encouraged legislation of a “Freedom of Information Law”. In Cambodia USAID is providing technical assistance in the drafting of an access to information policy paper (as of July 2007), and Mongolia in 2006 prepared a Law on Freedom of Information, which is in draft form.

**Subtheme: Industry Supported Codes of Conduct**

In the same vein as above, it will be instructive to review various industry and voluntary Codes of Conduct that are in play across the EAP. These would include, but not be limited to, the following:

**Extractive Industries Transparency Initiative (EITI) and Publish What You Pay (PWYP)**

The EITI is a coalition of governments, companies, civil society organizations (CSOs), investors and international organizations that support improved governance in resource endowed countries through the verification and full publication of company payments and government revenues from oil, gas and mining industries. The initial concept of the EITI was formulated following pressure on the British Government to disclose payments being made to the Government of Angola in 2001. The EITI has been through a period of preparation and is now transitioning into an implementation period.

The EITI platform hold promise for governments in that it strengthens natural resource management capability, improves credibility at the international level, and enhances revenue transparency through multi-
stakeholder and governance processes. The corporate sector would be induced to invest and conduct business in a business environment that is characterized by good practices in governance. Transparency in revenue management processes fosters a more level playing field, and could lead to energy stability between supplier and importing countries.33

Countries wishing to become EITI Candidates are required to sign up for four indicators and engage various stakeholders to develop a work plan to achieve EITI compliance. Following this, an EITI validation process conducted by an independent validator assesses progress of the country with respect to standards set out in a validation grid following which the EITI International Board would determine if a country has achieved EITI Compliant status. Essentially, companies are required to disclose what they pay, governments are required to disclose what they receive, and verification of payments is conducted with oversight from a multi-stakeholder group.

Twenty-six countries are well into implementation of the EITI; forty of the largest oil, gas and mining companies are actively committed to the EITI and a large coalition of governments, civil society and international organizations are supportive of the initiative. The EITI annual conference, the EITI Board and the EITI International Secretariat comprise the main EITI governance structure, with technical assistance provided from various international donors. Mongolia has achieved Candidate Status while discussions are ongoing in the Philippines and Indonesia with respect to recognition of the EITI and the benefits of implementation. Civil society organizations (CSOs) participate in the EITI through the Publish What You Pay (PWYP) campaign, which is supported by over 300 CSOs. While the EITI is a multi-stakeholder governance framework, the PWYP is a global civil society coalition that assists citizens in resource endowed developing countries hold their governments accountable for the management of revenues from the oil, gas and mining industries. The PWYP organization campaigns for the mandatory disclosure of company payments, government revenues and terms of licensing arrangements in extractive industries. Individual member organizations are present in PNG and the Philippines, while Mongolia and Indonesia host affiliated national coalitions. The three forms of transparency – revenue, expenditure and contract - are important to understanding where and how research, and research capacity-building initiatives can be designed and implemented.

Revenue Transparency

Mining, the production of oil and, to a lesser extent, natural gas, raise significant developmental concerns for the countries where these activities take place. It is important to establish contracts or agreements for extraction which benefit the host governments and support future exploration and production. It is also important to ensure that revenue received

33 www.eitransparency.org

34 Refer to www.publishwhatyoupay.org
from taxation of upstream rents is used for the maximum benefit of the country. This requires transparency in transferring funds to the government and the ways in which extractive industry revenues are handled and spent.

Most of the world’s poorest people live in countries rich in natural resources. In most countries, sub-soil minerals belong to the State. But in many countries, there is an inverse relationship between public resources and the welfare of the people. The relationship between resource wealth, poverty, conflict and corruption—often referred to as the “resource curse”—are reasonably well documented in the literature. The Cambodian experience is illustrative:

“Recent donor-sponsored discussions gave rise to a recommendation to create an independent, transparent oil fund. This however, was largely based on the experience of Norway, which has an effective system of checks and balances. Cambodia to date does not have a coherent plan for managing the oil revenues. According to Global Witness, the government decided at a meeting with donors in October not to join the Extractive Industries Transparency Initiative (EITI), an international coalition that would require full disclosure of oil, gas and mining revenues. Rather, it agreed to endorse only the principles underpinning the EITI, making its rules non-binding.” 35

Oil, gas and mining companies often make direct payments to governments in the form of royalties, bonuses and various types of taxes, which provide the State with a revenue stream that is independent of its citizenry. These revenues reduce the need for taxation and may have the effect of reducing the need for a key motivator for citizens’ scrutiny of public finances. Income from oil and gas extraction gives governments sufficient resources to leverage political support through patronage, and legislatures often have little or no budget oversight. Thus the connection between citizens and the government revenue from oil and gas is weakest in resource-rich countries where the need for well-informed, vocal and active public oversight of government funds is greatest.

Citizens often have little or no access to information about payments, because resource contracts often are protected by confidentiality clauses in contracts, which prevent either party from disclosing information without authorization of the other. The absence of public awareness or participation in government processes related to revenue collection and distribution, gives rise to an environment where corruption and mismanagement of public finances can, and often do, occur.

As mentioned above, there is an increasing trend to promote transparency and accountability in the oil, gas and mining industries. Public awareness is heightened with respect to the impact that these industries may have on governance, human development, the economy

35 “Cambodia’s Oil Resources: Blessing or Curse?” The Economist. 26 February 2009
and the environment, and leaders and communities now have a better understand of how progress is possible if the extractive sector has a greater level of public scrutiny.

Perhaps most remarkably, petroleum and mining companies, civil society groups, and governments are beginning to work together toward the goals of improved governance and responsible resource revenue management. The results of the PWYP “First Conciliation Report” in Mongolia, provides some useful insight for the process going forward. The report uncovered discrepancies, minor and significant, for all types of payments, tax and state services fees and donations.

Expenditure Transparency

It is very difficult to ensure sound management of natural resource wealth by examining revenues only. Transparent and accountable management and expenditure of public funds is essential to addressing such problems as poverty alleviation, corruption and unequal distribution of wealth that many developing countries rich in mineral resources experience.

Citizens require the information, data and the tools to assess the revenues flowing into the government treasury. However, the revenue information produced from programs such as the EITI is only useful insofar as citizens and policymakers are able to use it to analyze the management, prioritization and spending of these funds for economic growth and human development.

While initial efforts of CSOs have concerned the revenue side - the EITI and PWYP have shed light on extractive industry payments and government receipts – the focus is widening to include government budget processes and spending. The adoption of revenue transparency standards in many countries has resulted in more data being generated and disclosed, and more demand for attention to government spending and development outcomes.

The International Budget Project is a primary partner in this aspect of work with selected CSOs such as Revenue Watch International (RWI), Transparency International and others to build the capacity of monitors in resource-rich countries to “follow the money all the way through the public spending chain”.

Locally-based CSOs can undertake research on expenditures, conduct monitoring and advocacy. In this connection several new RWI initiatives aim to expand the knowledge and practical tools to assist countries and citizens translate resource wealth into prosperity. The best approach for a research initiative is to engage globally reputable experts, create a bank of case studies, applied policy manuals on management, expenditures and the maximization of commodities windfalls for development impact. Training programs should target sub-national government capacity at the regional and local levels to effectively manage extractive revenues.

36 http://www.revenuewatch.org/our-work/issues/revenue-transparency.php
37 http://www.eiti.mn/eng/content/view/6/12/
38 http://www.internationalbudget.org/
for growth and development, and furthermore equip local CSOs to monitor public finances and participate in public spending decisions.

**Contract Transparency**

Central to any efforts to track revenues and expenditures in extractive industries are the contracts between governments and oil, gas and mining companies. These agreements determine the benefits, obligations and disclosure requirements between countries and industry.

When there is an upswing in oil, gas and mineral resource commodities such as copper, tin and iron—driven in part by demand growth in countries such as China and India—the result can be unprecedented profits for many extractive companies. But in many countries where these resources are found, government budgets continue to fall short of development requirements.

Contracting processes need to be transparent in order for citizens to know whether payments and receipts from extractive companies reflect a fair deal for their communities. The widespread use of confidentiality clauses often protects oil, gas, and mineral contracts from such disclosure. Companies typically assert that payment information is proprietary and would either lead to commercial detriment if made public or would give rise to unequally terms skewed in favour of communities due to a lack of understanding of industry dynamics and investment risks. In a similar vein, policymakers who commit their communities to less than optimal deals based on poor information, advice or outright corruption may be subject to political retribution should contracts be made public.  

Although “model” contracts may be publicly disclosed with the general terms and provisions, it is important to bear in mind that certain project-specific contracts can modify or over ride any clause during negotiations between the government and the investor. Hence, it is important that the investment contracts for specific extractive industry projects are disclosed. In contrast to what has been encouraged by the industry for developing countries, the US does not enter into to project-specific contract activities and does not typically negotiate royalty rates on individual oil and gas projects. Extractive industry contracts in developing and emerging market countries often include the following project-specific provisions that can supersede statutory law:

- **Obligations:** including expenditures, infrastructure, employment, training, health and safety, reporting and accounting requirements, environmental responsibilities, compensation to local communities and for relocation, and community development obligations
- **Fiscal Provisions:** license and area fees, taxes/royalties, signing bonuses, commodity based payments, pipeline tariff structures, guidelines for the operation of special funds and any exemptions of or liabilities to taxes and levies (e.g., exemptions are often given for VAT tax and import duties on related products and services). It should also be noted that precise definitions of the nature and calculation methods of taxes, payments,

or royalties can sometimes be problematic and confusing. These definitions can be complex, although agreements normally reflect definitions used in the home country of the company, which may be at variance with those used in the host country. Furthermore, different types of royalty schemes are less transparent than others. For example, the industry preferred and World Bank supported profit-based royalties are more difficult to assess and monitor than unit-based or value-based royalties.

- **Fiscal Considerations**: foreign exchange arrangements, provisions for debt repayment, dividend and capital repatriation, escrow accounts, minimum debt equity ratios, revenue distribution requirements, and criteria to regulate inter-company transfers such as charges for management services, etc.

- **State Participation**: structure and level, financing terms of participation, resource allocation, power/resource purchase requirements, and operational control.

- **Legal Safeguards**: arrangements for settlement of disputes, force-majeure provisions, guarantees against “improper” termination or confiscation by the government, including the requirement of international arbitration through agencies such as the International Center for the Settlement of Investment Disputes (ICSID).

- **Stabilization Agreements/Clauses**: a guarantee, normally for ten to twenty years, of the application of current statutes or contract-specified terms on taxes/royalties, labor concerns, environmental obligations, and requisite social investments. It is essential that stabilization agreements be subject to vetting at the public level. Many developing and emerging market countries have weak government capacity and inadequate or inappropriate regulatory frameworks. If government programs are in place to strengthen capacity and regulations, these stabilization clauses would suggest that the eventually improved measures may not actually apply. The clauses also make it difficult for a government to suspend operations they may consider environmentally or socially damaging if the type of damage was not specified in the original contract or in the existing laws.

Contracts for extractive industries can be instruments of public policy (e.g., supercede statutory laws) and involve public natural resources, therefore, citizens are entitled to know the nature and extent of the deals in which their governments have entered. Moreover, if companies and governments understand from the beginning that such investment contracts will be publicly disclosed, this may very well serve to ensure that the quality of government decisions on key important public issues will be taken in the public interest, and moreover, that appropriate revenue will accrue to the government.

While the EITI has been useful in providing a framework in this regard, some countries are relying on the companies themselves to be more forthcoming in their dealing with local governments. Recently, as part of the company’s commitment to transparency, representatives of TVI Resource Development Philippines, Inc.

(TVIRD) participated a mining forum held in the provincial capital of Zamboanga del Norte, host of TVIRD’s Canatuan Project. The officials fielded questions from both pro- and anti-mining advocates during the “no-holds-barred” sessions, designed to help clarify issues and concerns regarding mining as an engine of economic development for Mindanao, as well as the company’s operations in Siocon municipality. Among the contentious topics during the deliberations related to the Provincial Government share of excise and corporate income taxes, among others, which Zamboanga del Norte officials contend should be paid directly to the Provincial Government and not to the National Government as required by law.

The Philippine Mining Act of 1995 requires mining companies to remit payments for local business tax, real property tax, registration fees, occupation fees, and other local taxes to the host local government units. These are the smaller amounts of tax payments paid by industrial operations such as mining. However, tax remittances for the big ticket items – for corporate income tax, customs duties and fees, value added tax, documentary stamp tax, capital gains tax, interest payment tax, dividends tax, and excise tax – are paid to the National Government. In a context where greater responsibility for local infrastructure development is being conferred on local government units (LGUs), there remain issues to be resolved⁴¹.

Despite a shaky reputation due to its ranking of 143rd on Transparency International Corruption Perception Index, Indonesia is also taking small strides towards support for the EITI. In mid-2007, Transparency International Indonesia board members were able to solicit verbal support for the transparency initiative from the Ministers of Finance and Energy and Mining. Advocacy for EITI endorsement in Indonesia continues to grow. A national PWYP coalition, launched in November 2007 with over 40 local NGO members, cites EITI endorsement as one of its primary advocacy objectives.

The conversations regarding EITI takes place in the midst of wider fiscal reform efforts in Indonesia. The 2006 Report on the Observance of Standards and Codes (ROSC) for Indonesia recognized that recent national reforms are attempting to improve transparency. These reforms have been introduced to the State Finance Law, the Treasury Law, and the State Audit Law. EITI is viewed as an important mechanism by which reform can be implemented.

Indonesia’s decentralization process has also had a significant impact on fiscal regimes and the availability of information. Oil and gas revenues are collected by the national government, through the Ministry of Finance, the Ministry of Energy and
Mineral Resources, the regulatory body BP Migas, and the national oil company Pertamina. After the collection, these funds are shared with producing regions. Thirty percent (30%) of gas revenues passing to the sub-national level: 12% to the producing district, 12% split between all other districts in the province, and 6% to the producing provincial government. 15% of oil revenues pass to the sub-national level: 6% to the producing district, 6% to all other districts in the producing province, and 3% to the producing province.

Mining royalties are collected by the Ministry of Energy and Mining, and taxes are collected by the Ministry of Finance before 80% of those revenues are also distributed sub-nationally. While projections of revenues sharing disaggregated by province and district are available on the Ministry of Finance’s website, the data is not available until after the budget cycle and does not necessarily correspond to actual revenue transfers.

Indonesian law does currently not promote contract transparency, although there increasing demand from civil society. Contracts are, however, reviewed by Parliament. There is also a push from nationalistic politicians to renegotiate some existing contracts. Many of these are inspired by recent examples from Bolivia and Venezuela, and focus on the perceived inequalities in revenue sharing agreements; environmental and social costs to local communities; corruption and the presumption that military aid, especially from the U.S. is closely tied to the protection of extractive operations in remote regions.

The Supreme Audit Agency (BPK) has uncovered potential violations in the calculations of profit sharing and the debiting of cost recovery claims proposed by Production Sharing Contract (KPS) contractors. The resulting loss to the state could reach US $3.53 billion or around Rp23 trillion. This figure was reported by the BPK after it examined financial reports for early 2004 and 2005 from five KPS contractor companies: PT Chevron Pacific Indonesia, PT ConocoPhilips Grissik, PetroChina International Jabung Ltd., PT Medco E&P Rimau and BOB Upstream Pertamina-PT Bumi Siak Pusako. The BPK is encouraging the government to issue clear, detailed and firm regulations regarding cost recovery.

Rapid decentralization has also exposed some legal ambiguities. For example, in the mining sector, it remains unclear whether the local or national government has the mandate to provide licenses for some mining and smelting activities. Investors thus face an untenable environment as they cannot be certain which legal regime will eventually apply.

**Free and Prior Informed Consent**

Human rights, occupational health and safety concerns, the right to housing, participation in the culture of the community, education, and to establish a family are interrelated and interdependent. In the oil, gas and mining sectors there are threats to livelihood and life due to monopolization of land and other natural resources. The extractive sector is often a catalyst for conflict and violence, and the legitimacy of the state is continually undermined. Furthermore, free and prior informed consent (FPIC) as a human right is not protected by international or national law. The right is being actively used in some regions but the regulatory framework is still unclear.

resources previously used for subsistence by local (often rural) population. Associated with this is relocation / dislocation of communities away from traditional way of life. Standards of living are affected negatively by various environmental impacts of oil and gas activities, including dust, vapors, emissions, vibration, noise, vehicle movement and impact. Health and safety impacts include disposal of waste, use of dangerous chemicals and transport movements. Economic dependency can be a problem following closure of sites. Strain on infrastructure and public services e.g. transport networks and local infrastructure including basic services (health, education, water) leading to local population being excluded from these services.

Indigenous rights cover issues associated with the sector’s activities that impact on ancestral land. This includes the foundation of cultural and spiritual identity plus the use of natural local resources for medicine, housing, food, clothing etc. Among the key issues is the lack of free, prior and informed consultation with local and indigenous populations and/or lack of process to explore this can lead to destruction of identity and livelihood.

Free, prior, informed consent (FPIC) consists of providing local people a formal role and some form of veto power in the consultations and ultimate decisions about local development projects. It is intended to secure the rights of indigenous peoples and local communities: their rights to self-determination, to control access to their land and natural resources, and to share in the benefits when these are used by others. Many experts believe that without such informed consent on large development projects, the land and resource rights of a community are compromised.

In the absence of substantive participation that FPIC processes require, the security of tenure for rural communities is always influenced by decisions made by others. This insecurity perpetuates poverty. FPIC confers some bargaining power for local communities, which can demand direct compensation for damages or a continuing share of the profits of resource extraction. They can even require the supporters of development to invest part of the profits from these ventures to meet community needs. FPIC is in this way, a tool to foster intergenerational equity and a pathway to a co-management role for local communities in large development projects.

FPIC is relevant when governments make regulatory decisions, for example, allowing exploration or logging in forests traditionally occupied by indigenous peoples, or displacing riverside communities in order to construct a large hydropower dam. It can also be incorporated into infrastructure planning from the building of transport links that cross ancestral domains, to tourism development decisions such as providing access to sites considered sacred by tribal peoples. It is also crucial in making decisions about “bioprospecting” for genetic resources as it is for making choices about locating major energy projects, from power plants to pipelines.
The potential impact of FPIC in decisions on extractive industries such as oil, gas, and mining in relatively poor areas is particularly relevant and contentious. In order for communities to garner benefits from such development, their rights to sustainable livelihoods need to be protected. Rules and related enforcement will not only promote cleaner extraction, but also empower local communities to have confidence to take the risks and share the benefits of future development. Without FPIC, such projects may further the economic marginalization of peoples and communities that are already poor and vulnerable.

The Philippines is among many countries that has enacted legislation to this effect. The Indigenous People’s Rights Act (IPRA) 1997 and the Mining Code (Republic Act 7942) of 1995, guarantee indigenous people the right to free prior informed consent (FPIC) over decisions affecting them and their lands. The right to FPIC extends to natural resource extraction projects and is linked to Article 21 of the UN Declaration of Indigenous People’s and ILO Convention 169 on Indigenous and Tribal Peoples. In 2006, a Fact Finding Team (FFT) lead by a British Member of Parliament and consisting of a team of European experts in human rights and environmental issues, reported a series of findings with respect to mining in the Philippines. The concerns that relate to indigenous and local communities, briefly stated, included the following:

- Large scale mining tend to create divisions among local and indigenous communities, and there is a lack of transparency and participation in preparation, validation and availability of environmental impact assessments
- Use of intimidation and force by mining security personnel, military and police against indigenous people’s and small scale miners at mining sites is common
- While laws in the country appear to provide a framework to protect local communities’ rights, it is practically impossible to get timely and effective resolution of cases in municipal and regional trial courts
- Under public pressure from CSOs the country has made progress with respect to public participation in environmental decision making, particularly in the area of indigenous people’s rights
- Communities are not provided with sufficient independent information with which to adequately monitor compliance to environmental standards
- The process for Strategic Environmental Appraisals (SEAs) does not appear to be as comprehensive and in-depth as required by best practice (in fact in some areas the oil and gas industry is exempt from engaging in public consultations)
- Indigenous peoples feel that they are receiving what amounts to propaganda of mining companies, as opposed to independent information on particular projects
- In the same vein indigenous communities receive information on initial operational plans, without any

43 http://www.wri.org/publication/content/8082

subsequent information on inevitable expansion
• Mining companies are accused of using meeting attendance sheets as proof of consent and using inducements to community members for consent
• A pattern appears to exist of mining companies trying to benefit from, or create divisions amongst indigenous community members. In some instances non-representative indigenous leaders have been created and recognized by the National Commission on Indigenous Peoples (NCIP) and mining companies, and in effect circumvent or manipulate customary laws in FPIC processes
• The NCIP does not have sufficient expertise or monitoring capacity, and in the view of many indigenous communities has an inherent bias for the mining corporations
• There are a couple of weaknesses in the LPRA Implementing Rules and Regulations as they relate to FPIC. This includes the short time frame for consensus building and a new Section in the Act which seeks to deny indigenous peoples the right to FPIC for mining operations that preceded the enactment of the law.

For CSOs there is a need to consider the following:
• Ensure that FPIC processes become standard and obligatory
• Build capacity to monitor and validate FPIC processes within communities
• Advocate for inclusion of FPIC processes in EIA activities required in extractive industries
• Encourage formation of research and information coalitions to gather data to support challenges to activities that do not comply with the FPIC and EIA process

Principles for Responsible Investing (PRIs)

The PRIs were developed through a multi-stakeholder process in 2005, coordinated by the UNEP Finance Initiative and the UN Global Compact. This was in response to a view among investment professionals that environmental, social and corporate governance (ESG) issues can affect the performance of investment portfolios. Investors fulfilling their fiduciary (or equivalent) duties would need to give suitable consideration to these issues, but in the past have lacked a framework for doing so. The Principles for Responsible Investment were created to provide such a framework. The Principles are voluntary. They are not prescriptive, but instead provide a range of possible actions for institutional investors to incorporate ESG issues into mainstream investment decision-making and ownership practices.

Each general action summarized below, is also accompanied by a series of specific practices:
• To incorporate ESG issues into investment analysis and decision-making processes
• To be active owners and incorporate ESG issues into ownership policies and practices
• To seek appropriate disclosure on

ESG issues by the entities in which institutions have invested

- To promote acceptance and implementation of the Principles within the investment industry
- To work together to enhance effectiveness in implementing the Principles
- To report on activities and progress towards implementing the Principles

The PRI is supported by a number of "work streams" and collaborative initiatives to advance its mandate. Signatories to the PRI include asset owners (168), investment managers (236) and professional service partners (96). 46

Equator Principles

The Equator Principles serve as a benchmark for the financial industry in determining, assessing and managing social and environmental risk in project financing. Project financing, a method of funding in which the lender looks mainly at the revenues generated by a single project both as the source of repayment and as security for the exposure, plays a key role in financing of social and economic development throughout the world. Project financiers encounter social and environmental issues that are extremely complex and challenging, especially in emerging market countries.

The Equator Principles Financial Institutions (EPFIs) adopted a set of Principles in order to increase the likelihood that the projects that they finance are developed in a manner that is socially responsible and reflect sound environmental management practices. In so doing, negative impacts on project-affected ecosystems and communities should be reduced or avoided where possible, and if these impacts are unavoidable, they should be reduced, mitigated and/or compensated for appropriately.

Financial institutions that adopt the Equator Principles will provide loans directly to projects only under certain sets of circumstances. These include:

- The project risk is categorized according to internal guidelines based upon social and environmental screening criteria of the International Finance Corporation (IFC)
- For medium and high risk projects, sponsors must complete an Environmental Assessment, which must be prepared according to predetermined requirements that address environmental and social issues
- The Environmental Assessment must address baseline environmental and social conditions, requirements under host country laws and regulations, applicable international treaties and agreements, sustainable development and use of renewable resources, protection of human health, cultural property and biodiversity, including endangered species, major hazards, occupational health and safety, fire prevention and life safety, socio-economic impacts, land acquisition and use, involuntary

46 www.unpri.org
resettlement, impacts on indigenous communities, cumulative impacts of existing projects, the proposed project, future projects, participation of affected parties in the design, review and implementation of the project, consideration of feasible social and environmentally preferable alternatives, efficient production, delivery and use of energy, pollution prevention and waste minimization, pollution controls and solid and chemical waste management.

- Based on the EA, Equator banks make agreements with clients with respect to mitigation, monitoring and management of risks through an Environmental Management Plan. Compliance with the plan is required in the contract. If the borrower does not comply with agreed terms, the bank will take corrective action, which could ultimately result in cancellation of the loan and request for immediate repayment.

- For risky projects, the borrower must consult with stakeholders (non-government organizations, affected groups etc.) and provide them with information on the risks of the project.

- If necessary, experts are consulted for advice.

There are about 40 signatories to the Equator principles. These represent banks that together, represent over 80% of global project financing.47

A recent decision by the Norwegian Government Pension Fund is illustrative of these principles being put into action. The Fund recently blacklisted from investment, Barrick Gold of Canada, one of the world’s largest gold mining companies. The blacklisting of Barrick Gold followed the completion of an investigation which started in 2005 over severe environmental damage caused by its mining operations at the Porgera Mine in Papua New Guinea (PNG). According to Norway’s Council on Ethics, Barrick Gold’s disposal of waste from the mine was “causing severe environmental damages as a direct result of its operations and that this unacceptable practice will continue in the future”.

The blacklisting ensures that those corporations identified as being unethical will be denied the chance of seeking investment from Norway’s US$300-billion Government Pension Fund - the county’s sovereign wealth fund and one of the largest global pension funds. As a result of the blacklisting, in October, Norway quietly sold off its US$200 million stock investment in Barrick Gold and its US$67 million of Textron (US cluster bomb making company) stock.

Since the establishment of the Council on Ethics in 2004, Norway has banned 29 companies so far, including miners like Vedanta Resources, Freeport McMorRan of the US, South Africa’s DRD Gold, and more recently, Rio Tinto for environmental reasons while Wal-Mart Stores, the world’s largest retailer, was blacklisted.

47 www.equator-principles.com
for labour rights abuses at its suppliers in Africa, Asia and Central America as well as discrimination against women and employees for not allowing them to form unions in the US.

Framework for Responsible Mining

The Framework for Responsible Mining is a multi stakeholder effort involving NGOs, retailers, investors, insurers, and technical experts working in the minerals sector. It outlines environmental, human rights, and social issues associated with mining and mined products.

The Framework explores state-of-the-art social and environmental improvements, providing recommendations for a wide range of stakeholders including: government agencies, civil society organizations, the mining industry, financial institutions, including public and private banks as well as insurers, retailers and other companies seeking to source or invest responsibly.

The Framework addresses issues related primarily to hard-rock mining (base and precious metals and gemstones). Although coal mining presents some of the same environmental and social challenges as hard-rock mining, it is also associated with additional problems (e.g., climate change) which fell beyond the scope of this research effort. However, some issues outlined in the discussions on no-go zones, social issues, and governance are broadly relevant to all extractive industries and even to many major development projects (e.g., dam construction).

Materials Stewardship in the Mining Sector: Eco-Efficiency and Product Policy

Mining is the first stage in the life cycle of metals. As such an “overarching model [is] required to ensure optimal and appropriate production and use of minerals and metals” throughout the cycles, as well as for society at large.

With the European Union Sustainable Development Policy as a driving force, the notion of materials stewardship has been advanced by the International Council on Mining and Metals (ICMM). The emphasis has been on activities that focus on upstream natural resource base, but also the life cycle of materials and products that are created by these resources. “Materials stewardship” has four main themes:

• Adopt a “systems” perspective
• Build new and strengthening existing relationships
• Optimize production and application of minerals and metals
• Contribute to robust and accessible information base to support decision-making.

The concept of “eco-efficiency” has emerged from dialogue in the context of the World Business Council for Sustainable Development (WBCSD) and as a number of definitions. The WBCSD sees “eco-efficiency as:

49 http://www.frameworkforresponsiblemining.org/
“...the delivery of competitively priced goods and services that satisfy human needs, and bring quality to life while progressively reducing ecological impacts and resource intensity throughout the life cycle, to a level at least in line with the estimated Earth’s carrying capacity.”

Eco-efficiency is about creating value and linking value to performance improvements and subsequently to competitiveness. It is achieved through a variety of strategies – improving material and energy efficiency of products, reducing environmental and human health related risk through exposure to industrial processes, designing products which fit in to ecological cycles, with relative ease in disassembly, recyclability, extended durability, service life and functionality of products.

The notion of eco-efficiency has stimulated governments to focus programs and policies around “product systems” A product policy would encourage resource efficiency and reduce negative environmental impact of goods and services throughout a life cycle. A variety of mechanisms are used, including market instruments, “mandatory extended producer responsibility initiatives”, voluntary programs for green design or waste management. The general approach is to look at the entire system – from raw material extraction to end of life – and find ways improve the system by working with all the actors. (The EU has a similar Integrated Product Policy Framework). There is a need to look at the environmental performance of all the actors in the value chain, including: materials suppliers, designers, manufacturers, marketing personnel, wholesalers, retailers, consumers and waste management industry. Interventions need to be stimulated at each phase. Given the complexity and inter relationships in the mining industry there is a need for “hybrid” tools – combining both voluntary and mandatory elements – to promote performance improvements. These tools include economic instruments, substance restrictions, voluntary agreements, environmental labelling and product design guidelines.

The key rationale for materials stewardship, eco-efficiency and product policy, comprises the need to:

- Promote resource conservation. Not only the materials, but the energy inputs in materials production
- Ensure identification, management, reduction or elimination of risks. Public sector needs to be concerned about evaluation of hazards and removal / reduction of risks
- Foster sustainable production and consumption patterns, therefore use and recycling of material is important
- Develop the knowledge base to promote continual innovation in use and application of materials.

51 Ibid p. 5.
52 Ibid p. 6.
Some specific activities that contribute to material stewardship and eco-efficiency include:

- Eco-efficiency performance measures to guide continual improvement in mining operations, for example total emissions produced per unit of production
- Development of relationships with uses of minerals and metals to support improved product performance (e.g. extended durability)
- Working with stakeholders on product design and end of life resource recovery and recycling
- Cooperation with policy makers in design of appropriate policy measures for materials recovery etc.

The ICMM has also identified specific action areas with respect to materials stewardship. It recognizes materials stewardship as a very complex initiative that requires extensive data and information resources and medium to long term approaches. In order to “maximizing value” six core policy elements are advanced:

- Guidance for implementation of materials stewardship for corporate members
- Education, awareness creation and training
- Develop reporting guidelines including indicators for product stewardship to ensure accountability, improved reputation and enhanced value. These can be integrated with existing Environmental Management Systems (EMS) under the ISO 14000 series of standards
- Outreach activities which target metals use sectors and “cross commodity alliances”. Facilitate exchange of information and joint establishment of waste management processes and facilities
- Develop commodities-specific materials stewardship plans in consultation with key stakeholders and partners
- Develop engagement programs with downstream manufacturers, users and recyclers. Facilitate a Materials Stewardship Roundtable Initiative along the value chain. Promote discussion on key concerns such as metrics, eco-efficiency, best practice and communications.

Social Accountability 8000

Social Accountability 8000 is an international standard for amelioration of working conditions. It is based on principles contained in thirteen international human rights conventions, and is an instrument used to apply norms to real work-life situations. The standards are specific enough to be used to audit both companies and contractors in multiple industries and countries. The SA8000 represents an advance as the first auditable social standard and creates a process that is independent in that there is no direct government involvement nor is there dominance by interest groups.

To certify compliance with SA8000, a facility seeking certification must be audited. Thus auditors will visit production locations, assess corporate practice on a wide range of issues and evaluate the effectiveness of a company’s management systems,
required to ensure ongoing acceptable practices. Once an organization has introduced improvements, it can earn a certificate which confirms its compliance with SA8000. “This certification provides a public report of good practice to consumers, buyers, and other companies and is intended to be a significant milestone in improving workplace conditions.”

Maintenance and continuous improvement of the systems put in place to achieve SA8000 certification is important. Participation of workers in the process can serve as the best way to promote systemic change. The benefits of adopting SA8000 are considered to be significant, and may improve staff morale, foster reliable business partnerships, enhance competitiveness, reduce staff turnover and promote worker-manager communication.53

Some key research questions going forward may include:

1. The SA8000 system appears to be focused on labor issues in the manufacturing of consumer-based products that have markets in advanced industrialized economies. What is the scope to extend the notion of SA standards and certification to be based on a global supply chain in resource extraction and processing industries?
2. How can the standards and related capacity building initiatives be designed to apply to conditions in EAP developing countries?

There should be analysis as to the barriers and constraints to adoption and follow up with design and development of projects which will apply of market-based instruments for environmental management. These could be combined with other policies and practices to promote a “hybrid” approach to addressing issues.

**Subtheme: Role of civil service in accountability**

With respect to internal mechanisms, it would a useful research endeavor to examine the role of a professional civil service in social accountability at the government level. This work should be comparative, to review and understand models from other countries, and to identify gaps in existing governments. Associated with this would be activities to strengthen or create a “public service commission”54, which would have exclusive authority to make appointments in government departments and agencies that do not have separate staffing authority under specific legislation. A strong and independent public or civil service reasonably free from political influence can serve as one of the most effective internal monitors of government activities and decision-making processes. Twinning arrangements could be developed between ANSA-EAP countries and other advanced nations, and training programs designed and delivered in such areas as the conduct of audits, evaluations and special studies.

53 [www.sa-intl.org](http://www.sa-intl.org)

54 By broad definition a public or civil service commission could in effect be a “CSO”. See the Canadian model at [www.psc-cfp.gc.ca](http://www.psc-cfp.gc.ca).
Subtheme: Understanding and Applying the Global Integrity Index

A review of accountability mechanisms in each relevant EAP country according to the Global Integrity Index, would be in order particularly to understand the root causes of why these mechanisms remain weak, and consider strategies to strengthen these as appropriate. This will require considerable input and expertise in public interest law. One key set of activities for CSOs should be to stimulate data gathering to support transparency initiatives (revenue, expenditure, contract), create pool of experts and bank of case studies, and establishment of model contracts between governments and corporations with encouragement of participatory and transparent processes.
RESEARCH THEME 2

BUILDING CAPACITY FOR ENVIRONMENTAL MONITORING AND COMPLIANCE ASSESSMENT

Subtheme: Integrated Coastal Management (ICM)

Oil and Gas

An ongoing concern in the oil and gas industry has been the potential environmental impacts associated with the exposure of marine organisms to low-level operational waste discharges that result from offshore drilling operations. Drilling wastes (spent drilling mud and well cuttings) are the primary concern during exploration and development operations, while water recovered from the hydrocarbon bearing strata is the highest volume waste generated during production. Produced water may contain high concentrations of metals, nutrients, radionuclides, hydrocarbons, and trace amounts of chemical agents.

Flocculation (which is the adhesion of smaller particles to form large particles) and surface adsorption (the adhesion of small particles to larger particles and/or droplets) are important processes in the transport of material in the ocean. Laboratory studies on the movement of fine drilling waste particles in seawater support the notion that flocculation could result in the rapid settlement of this material to the seafloor. It was previously believed that these particles settle too slowly to accumulate to levels that can impact benthic (occurring at the bottom) organisms. Dissolved contaminants are normally expected to dilute quickly with seawater to levels that are harmless, potential toxic metals in produced water are likely to transform from dissolved to particulate forms that settle rapidly. Studies also demonstrate that buoyant oil droplets in produced water could sequester particles on their surface. It is important to note, in this connection, that aggregation processes mediate the rapid transport of contaminants to both the ocean surface micro-layers and the seabed. New sampling techniques have been developed at various research centres to study waste dispersion around drilling platforms. Application of these technologies demonstrates that elevated concentrations of drilling
wastes occasionally exist on and above the seafloor around drilling platforms. However, elevated concentrations appear to be transient (days to months) as the wastes are eventually dispersed by currents and waves.

Given this research into the movement of waste discharges, laboratory studies are being conducted to assess the potential impact on targeted marine organisms. For example, scallops feed on particles in the benthic boundary layer, where wastes can accumulate, and exposures to different drilling wastes demonstrate that important biological effects can result at waste levels that are lower than previously reported for other species tested. Observed impacts on growth and reproduction were not caused by waste toxicity, but resulted from fine waste particles interfering with the marine animals’ ability to feed.

The development of offshore oil and gas reserves present a range of threat to marine life, particularly marine mammals. Seismic survey methods use explosive devices that can be lethal at close range. A North American CSO reports:

“During seismic surveys, high intensity and low frequency sounds are emitted into the marine environment. An array of air guns, which typically include between 15 and 45 air guns, fires shots approximately every ten to 25 seconds, twenty four hours a day. Surveys can last several months and an area of the ocean may have more than one seismic survey performed on it. Seismic testing occurs throughout the entire lifetime the offshore oil and gas industry operates in a particular area.

This deafening noise causes fish swim bladders to explode, it kills marine larvae and disrupts the traditional migratory paths of some fish species and marine mammals, such as whales and dolphins. In some places, these disturbances have resulted in reductions in commercial fish catches up to 50 percent, and have caused whales to leave waters where they are habitually found.”

All stages of exploration and production generate different levels of noise. There are physical, psychological, physiological and behavioural effects of noise disturbance on marine animals that are not well understood. Table 13 summarizes some of the effects in relation to different phases of activity in the offshore exploration and production cycle.

55 Peter Cranford et al. “Interactions between Offshore Oil and Gas Operations and the Marine Environment”. Environmental Sciences Division, Fisheries and Oceans Canada, nd.

56 Oil Free Coast (www.oilfreecoast.org/threats/seismic.html)
Table 13: Summary of Factors Associated with Offshore Oil Exploration and Effect on Marine Mammals

<table>
<thead>
<tr>
<th>Phase</th>
<th>Activity</th>
<th>Potential Hazard</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploration</td>
<td>seismic survey</td>
<td>shock waves</td>
<td>Kill</td>
</tr>
<tr>
<td></td>
<td>drilling</td>
<td>shock waves, noise</td>
<td>Injure</td>
</tr>
<tr>
<td></td>
<td>air support</td>
<td>noise</td>
<td>Affect hearing / sonar</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No effect</td>
</tr>
<tr>
<td>Production</td>
<td>vessel support</td>
<td>blowout, spills, noise</td>
<td>Surface contact</td>
</tr>
<tr>
<td></td>
<td>construction</td>
<td>noise, marine debris</td>
<td>Death</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ingestion</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Inhalation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Baleen fouling</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Food chain disruption</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bioaccumulation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Subtle organ damage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No effect</td>
</tr>
<tr>
<td>Transportation</td>
<td>transport vessels</td>
<td>spills, noise,</td>
<td>Perturbation</td>
</tr>
<tr>
<td></td>
<td>onshore support</td>
<td>noise, onshore activity</td>
<td>Habitat disruption</td>
</tr>
<tr>
<td></td>
<td>pipeline placement</td>
<td>noise</td>
<td>No effect</td>
</tr>
<tr>
<td>All Phases</td>
<td></td>
<td>intersect migratory routes</td>
<td>Disrupt reproductive cycles</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Boat collision</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Oil leakages</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No effect</td>
</tr>
</tbody>
</table>

Source: Adapted and revised from J. R. Gerachi and D.J. St Aubin, 1980
There has been considerable discussion on the environmental impact of drilling rigs and platforms. Most environmentalists say that the highest risk is from the wastewater that is discharged on a routine basis. This usually contains, among other things, drilling fluids and heavy metals including mercury. The Committee Against Oil Exploration estimated that one rig in the Gulf of Mexico spewed out over 90,000 tons of drilling fluid and metal cuttings over its lifetime. Contaminants accumulate in the marine food chain and also pollute the shorelines. Drilling platforms, as mentioned above, also have an impact on marine mammals, not only from the toxic substances, but the noise.

Even more contentious is how drilling platforms are handled after their lifetime has been spent. In the US and other countries, legislation has been introduced that will permit platforms to remain, albeit cut below the waterline to allow boat passage, because they cultivate fish agglomerations. Environmentalists argue that this does not constitute a habitat for fish, whereas the industry is seen to be avoiding their obligations to invest in removal of the rigs and restoration of the habitat.

Mining

Abandoned mines

There are a number of environmental concerns associated with abandoned mines. Commonly, these will include altered landscapes, unused pits, shafts, soil erosion, soil loss, soil contamination, unusable land, abandoned tailings disposals, contaminated aquatic areas and waterways, subsidence, derelict work sites with compacted soil, vegetation loss and burning coal waste dumps. Water pollution is among the serious consequences of the presence of abandoned mines. There can be high levels of metal concentrate, suspended sediments, acidity, hydrocarbons, brine leaching, and acid drainage from sulphur mineralization, which can effect water quality and aquatic habitats. Abandoned mines may also include disturbed land and unprotected slopes that are susceptible to erosion. Surface drainage can continuously remove soil and render the slopes unstable. The presence of mercury, used in placer gold deposits, also poses serious risks.

Rehabilitation of abandoned mines can be an expensive proposition. There needs to be clarity in national legislation on who is responsible, and assumes associated liabilities for abandoned mines. Governments usually end up assuming these responsibilities in the absence of

www.msnbc.msn.com/id/11808271/from/ET/
60 Ibid C-12.
clear ownership of abandoned mines, or if owners do not have funds. In addition to the “polluter pays principle” which requires the owners of abandoned mines to pay for rehabilitation, there should be a number of other incentives developed to ensure that mining companies participation in rehabilitation. This would include preventive measures in which mine rehabilitation and closure are an integral part of an overall mining project. The Post Mining Alliance (www.postmining.org) aims to promote good practice in post-mining regeneration by becoming a centre of excellence and repository of knowledge on post-mining regeneration projects. Increasingly, international conferences and training programs are addressing the complex issues associated with abandoned mines 61.

Waste management

Mining contributes to a high percentage of national waste outputs. The amount of waste depends on the type of mineral being extracted as well as the size of the mine(s). Almost 99% of ore extracted in gold and silver mining is waste, while about 60% of iron ore is generated as waste. Disposal of these wastes pose a serious challenge for the industry, and have potential negative impacts on the environment. Open pit mines tend to produce more waste than underground mines. Among the critical impacts of metal extraction is the reduction of water quality and degradation of aquatic ecosystems. Water pollution is the result of three factors: sedimentation, acid drainage and deposition of metals.

In this connection, submarine/subaqueous mine tailings disposal remains a controversial issue in most countries of the EAP. There are several aspects to this debate. First, the issue of untreated mine waste disposal in the sea poses a series of environmental, health and social threats. Second, appropriate forms of disposal need to be considered and applied. Third, some treatment/disposal methods are followed in industrialized countries but not followed in developing countries, by the same company. Years after a massive spill at Placer Dome’s Marcopper mine put some 4 million tons of tailings into the 26-kilometre long Boac river on the island of Marinduque in the Philippines, Placer Dome remained uncertain about completion of the cleanup and the final costs. There was local opposition to placing the spilled tailings into the sea via a submerged pipe: a technology known as Submarine Tailings Disposal (STD) or, euphemistically, Managed Submarine Placement. This technology, while a relatively cheap solution for the disposal of tailings, contravenes Section 36 of Canada’s Fisheries Act and exceeds limits on suspended solids that may be placed in the sea as set out in Canada’s 1977 Metal Mining Liquid Effluent Regulations. It is for these reasons that STD has not been practiced in Canada since a short-lived exception was made to the regulations in 1981 62.

Sedimentation

Mining gives rise to “disturbed organic materials” that wind up in streams, rivers,
lakes, seas and waterways. Sediment loads are created by erosion of waste rock piles or runoff after heavy rainfalls. This can also result in a modification of the “stream morphology” through disruption of the channel, changing the flow of a stream or disruption on bank or slope stability. Stream sedimentation alters the quality of the water.

Higher concentrations of sediment result in increased turbidity, which reduces the light available for aquatic plants for photosynthesis. Increased sediment loads smother benthic organisms in streams and oceans, and thereby affect food sources for predators and reduces the habitat in which fish will migrate and spawn. Sediment loads also reduce the depths of streams, and therefore increase the possibility of flooding when stream flows are high.

**Acid drainage**

Acid drainage has serious impacts on the environment. Sulfuric acid is created through the interaction between sulfur-bearing materials such as pyrite or phyrrotite come in contact with oxygen or water. Acid-ingesting bacteria also contribute to this process. Acidic water also leaches other metals from waste rock and further contaminates surface or groundwater. At a typical mine site, there are piles of waste rock, other exposed wastes, mine openings and pit walls that contribute to acidic effluents. This is a continuous process and can occur over long periods until sulfides have been exhausted. Acid drainage can be reduced if there are neutralizing chemicals present such as carbonates, or mitigating measures are taken.

Discharges of acid have an impact on aquatic life. Many fish species are very sensitive to low levels of acidity, which may affect breeding patterns, or if levels are higher, then death can occur. It is difficult to accurately determine levels of acidity because of a range of factors.

**Metals deposition**

Metals, reagents and other compounds are commonly used in mining operations. Reagents (heavy metals) such as mercury or cyanide, have conductive properties that are useful in processing. These chemicals can be released into the environment through acid drainage or through mine tailings. Exposure to large quantities of these chemicals is toxic to most terrestrial and aquatic species. Some species such as salmon are sensitive to concentrations of copper, while others, especially juveniles, experience problems with reproductive and growth patterns.

**Biodiversity and habitat**

Among the most visible impacts of mining on habitat is reduction in vegetation, which in turn alters the availability of shelter and food for wildlife. In the longer term, species composition and structure is affected. For example, some species may thrive in rivers that have high levels of acidic drainage and concentrations of heavy metals, while others may not.
**Wetlands and Mangroves**

Estuaries, mangroves and floodplains act as ‘natural filters’ against pollution and provide aquatic habitats for many species. Mangroves are also an interface between terrestrial and marine ecosystems (source of food and refuge). Wetlands can be destroyed by basic clearing and removal, or can be affected by acid drainage, heavy metals deposits and oil spills. Mining and oil development can also impact wetlands by affecting upstream areas and through increased sedimentation.

**Coral reefs**

Coral reefs are host to the highest number of marine organisms. Reefs are highly sensitive to human intervention and disturbances. Sedimentation from upstream land use and pollution through heavy metals as well as other wastes are among the significant threats.

The IUCN and UNESCO maintain lists of World Heritage Sites (see Table 14), and identify various forms of threat to these protected areas. Mining, oil and gas development are among some of the serious threats to these areas.

### Table 14: UNESCO World Heritage Sites in EAP countries

<table>
<thead>
<tr>
<th>Cambodia</th>
<th>Angkor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Preah Vihear Temple</td>
</tr>
<tr>
<td>Mongolia</td>
<td>Urs Nuur Basin</td>
</tr>
<tr>
<td></td>
<td>Orkhon Valley</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Borobudur Temple Compound</td>
</tr>
<tr>
<td></td>
<td>Sangiran Early Man Site</td>
</tr>
<tr>
<td></td>
<td>Ujung Kulan National Park</td>
</tr>
<tr>
<td></td>
<td>Komodo National Park</td>
</tr>
<tr>
<td></td>
<td>Prambanan</td>
</tr>
<tr>
<td></td>
<td>Lorentz National Park</td>
</tr>
<tr>
<td></td>
<td>Tropical Rainforest Sumatra</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>Kuk</td>
</tr>
<tr>
<td>Philippines</td>
<td>Tubbataha Reef Marine Park</td>
</tr>
<tr>
<td></td>
<td>Baroque Churches</td>
</tr>
<tr>
<td></td>
<td>Rice Terraces of Philippines Cordilleras*</td>
</tr>
<tr>
<td></td>
<td>Vigan</td>
</tr>
<tr>
<td></td>
<td>Puerto Princesa Subterranean River</td>
</tr>
</tbody>
</table>

*listed as “in danger”

**Source:** [www.worldheritagesites.org](http://www.worldheritagesites.org)
### Biodiversity

Historically, countries have taken measures to protect areas and resources they consider valuable. Conservation efforts generally take two forms: *in situ* and *ex situ*. *In situ* measures include the setting aside of land, or designating watershed, marine or freshwater ecosystems which are subject to use restrictions. This is usually to protect rare ecology or exceptionally high species diversity, or critical environmental function (e.g., watershed), or continued use by indigenous people on the basis of traditional lifestyle. As commercial pressures grow in these areas, and funding resources are limited, governments find it increasingly difficult to support these initiatives.

*Ex situ* conservation activities intend to preserve species outside their habitat, for example, zoos, botanical gardens, etc. Some of these facilities have also been established to ensure continued access to genetic resources that are used various food, agricultural, pharmaceutical and cosmetic industries.

The IUCN has identified some “critical elements” of partnerships to promote biodiversity conservation efforts between the oil, gas and mining industry, governments and local communities (many of which are resource poor and marginalized) in developing countries. These include:
- Improve coherence of, and access to information on biodiversity
- Review and improve categorization and classification of protected areas
- Engage in joint conservation and sustainable development projects
- Make land and coastal use planning systems more effective
- Document and share best practices on experience
- Institute rigour and independence in environmental impact assessments
- Ensure that financing agencies apply consistent best practice criteria

The experience of indigenous people with the mining industry has been characterized by “poor action and poor accountability”. Indigenous communities are values-based. Standards for best practice need to be adopted by industry with local participation of indigenous communities. One practice is to respect “no-go” zones (as opposed to protected areas). These zones have deep cultural significance. The key to responsible management is sustained industry commitment and engagement with civil society and governments.

### Integrated Coastal Management

The need for integrated coastal management (ICM) has been well articulated in many fora as it is generally recognized how vulnerable coastal ecosystems and processes are to human interventions. ICM has been practiced in various forms for over forty years. It serves as an operational tool for sustainable development and is based on fundamental approaches to foster social and political change. Effective ICM is contingent of handling the tensions of social and political dynamics. As a

---

“science” it generates information and knowledge that will support informed decision making and implementation. Broadly speaking, ICM can, and should be seen, as an holistic framework that can integrate actions on multiple fronts. It is based on three fundamental principles – adaptive management, integration and interrelationships and eco-system based management.

There are a number of proven and effective ICM tools which governments, civil service organizations, business and industry can learn about and implement within their particular circumstances. These include the following:

- **Coastal profiling**: quantitative and qualitative information on biogeophysical characteristics, resource use patterns, socio-economic circumstances, status of the coastal and marine environment, legal and institutional arrangements. In addition to problem and issue identification, it proposes a framework for planning and development of specific actions. Research would be issue-driven and address identified gaps in information, refine and enhance a program, and provide recommendations for multi-sector coordination of strategies and actions, leading to an integrated program. It would further, provide a baseline input for any environmental risk assessment.

- **Environmental risk assessment (ERA)/ management**: consists of the systematic and scientific assessment of information to identify, understand and prioritize the impact of any human activity on ecosystem (an human) health. The objective is to provide timely, accurate scientific and technical information that will permit cost effective management decisions. An ERA is multidisciplinary in nature and can involve a range of actors including scientific experts, academics, government technical specialists etc. It helps to make the connection between science and management, and facilitates agreements on priority environmental concerns and strategies for addressing risks. There are several different types of risk assessment that can be applied in a coastal zone situation. Retrospective risk assessments for example would gather evidence of a decline in natural resources and identify systematically, the causes of these declines. Prospective risk assessments try to anticipate problems, and using a risk quotient (RQ) approach which estimates risks from potential “stressors” for targets under consideration. Results of risk assessment studies are meaningful only if they are used to manage the risks that have been identified.64

Among the more timely demonstrations of application of the ICM approach by a CSO coalition, is the 18 December 2008 Philippines Supreme Court decision which ordered at least 12 government agencies to coordinate, clean-up, restore and preserve the water quality of Manila Bay. The case stemmed from a complaint filed by “Concerned Residents of Manila Bay” before a Regional Trial Court in 64 Chua Thia Eng. The Dynamics of Integrated Coastal Management: Practical Applications in Sustainable Coastal Development in East Asia. GEF/UNDP/IMO: Quezon City: 2006
Imus, Cavite – which had been ongoing for many years. What is important to note is that the “concerned citizens” gathered science-based evidence which was supported through data from a multi-stakeholder technical working group that conducted long term monitoring studies on Manila Bay.

Subtheme: Forest Resource Management (FRM)

Forest fragmentation is among one of the most significant “externalities” related to oil, gas and mining exploration and development. Most forest ecosystems support diverse vegetation and wildlife. Exploration and development of energy deposits requires access to the surface areas above these reserves. As such considerable tracts of forest land need to be cleared to make way for equipment and infrastructure development. There are social and ecological consequences of these activities, which lead to clearing and fragmentation of forests.

Many forests are also being cleared for logging, biofuel development, soy and palm oil expansion, mining etc.. If land is owned by governments, then access to timber resources is normally provided through lease agreements. This results in multiple uses of the same forest and land resources usually at uncoordinated rates, which results in significant “forest fragmentation”. There are a number of serious consequences, which include:

- Habitat destruction and loss of vegetation (mangrove forests, peat swamp forests, heath forests, etc)
- Biodiversity reduction / species loss
- Pollution and siltation in waterways, lakes etc
- Soil erosion
- Displacement of indigenous people
- Health and sanitation concerns

Part of the solution lies in integrated planning using sustainable forest resource management approaches and low impact techniques for exploration [from the oil and gas perspective in particular].

Figure 6 shows the nature and extent of forest fragmentation in Asia and the North West Pacific. It is noteworthy that most countries in the East Asia Pacific region have forests that are highly fragmented due to human land uses. Unprecedented deforestation, not all of which is the result of oil and gas activity, is occurring at alarming rates. The East Asia Pacific region in particular is characterized by high bird densities, with species numbering around 1200, seventy per cent of which are exclusively dependent on a primary forest habitat. Due to the high rate of deforestation, ”heavy aviary extinctions” has occurred. Many species of birds, particularly frugivores and insectivores, are highly vulnerable after forest loss because of the reduction in food supply.

Species loss is not restricted to birds


however, as other types of wildlife ranging from trees, plants, insects, butterflies and even elephants etc - general biodiversity is severely affected.

In the East Asia Pacific region, forest genetic resources (FGR) are threatened by deforestation, forest fragmentation and habitat degradation as a result of unsustainable harvesting of forest products and the conversion of forests to other land uses, including oil, gas and mining exploration and production. This also reduces the potential of forest genetic diversity to mitigate the harmful effects of climate change. Several countries in the region have initiated steps to practice sustainable forest management and there is a need to promote management of forest genetic resources within this process. This will help the countries to fulfill their commitments to the Convention on Biological Diversity and strengthen national programs on forest genetic resources.
Figure 6: Estimates of Forest Fragmentation Due to Anthropogenic Causes

Asia and Northwest Pacific

Forest resource management (FRM) has foundations similar to ICM, in that it provides for a framework and a set of management tools which will support the design and implementation of strategic actions. Forests include mangroves, wetland areas, arid and semi arid tropical areas etc. There are a number of research fronts that can and should be pursued.

a. The promotion of sustainable use of primary and secondary forests and forest plantations, accompanied by the adoption of appropriate management practices. This is more oriented towards the supply of raw materials for forest-based industries, as well as production of goods and services. Research should be oriented towards development of best practices, regulations and criteria that will help to encourage the use of sustainable forest management (SFM) practices that are not currently widely adopted. As a corollary to this there is a need for analysis on the long term sustainability of forest product supply, implications for current harvest rates for communities that are dependant on forests and how natural resources are affected.

b. Continued research is needed on the conservation and sustainable use of forest biological diversity through generation and diffusion of improved knowledge about biodiversity in forested landscapes. There is a need to promote integration of biodiversity conservation into improved land use guidelines and management practices for managed natural forests and forest plantations in multifunctional landscapes. Moreover, related work should contribute to the conservation and sustainable use of forest biological diversity through the collection and use of information on biodiversity in landscape mosaics that will lead into knowledge applications for problem diagnosis, priority setting and decision making. One useful tool is the Multidisciplinary Landscape Assessment (MLA) which is a method for assessing ‘what really matters’ to communities that live in tropical forest areas in order to make more informed decisions on design and implementation of strategies and actions.

c. Collaboration, conflict and social learning are key areas in forest resource management. Work will need to be undertaken to provide technical support and tools for shared learning and institutional capacity building to improve cooperation and management of forest-related conflict among stakeholders at different levels of governance. Related to this is community forestry, locally-driven social movements and knowledge systems. There will need to be approaches to multi-stakeholder governance of forests that accommodate a plurality of interests in an equitable manner, promote sustainable forest use and enable forest-based communities, especially women, tribal and ethnic minorities and other marginalized groups, to better influence, participate and equitably share in the benefits.

---

68 www.cifor.org
Subtheme: Protected Area Management

The IUCN defines a “protected area” as:

“An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.”

It also defines six categories of protected areas: strict nature reserves, wilderness areas, national parks, national monuments, habitat/species management areas, protected landscapes and seascapes, and unmanaged resource protected areas. Protected area management is a discipline in itself, and combines various elements of ICM, FRM among others.

Mining in protected areas can spark conflict between host communities and mining companies, as witnessed in 2004 when 13 mining companies were permitted by the Indonesian Parliament to engage in open cut mining in protected forests in that country.

Two management approaches have been used to improve management of natural resources and control or mitigate environmental impacts from human activities. Environmental Management Systems (EMS) has been adopted by business and industry as one way to improve the environmental performance of their operations. Ecosystem-Based Management (EBM) has been used primarily by international donor institutions, government agencies and non-government organizations to improve management of natural resources. Although they have different sources, both approaches converge with respect to protected area management. The guiding tool is often a “management plan”, which, ideally, should be developed through collaborative efforts of concerned communities, relevant government agencies, industry and local research institutions. There is a need to assess the strengths and weaknesses of each approach, understand the approaches and perceived management outcomes and reconcile these to formulate a consolidated or comprehensive management system that embeds the best practice from both streams.

Subtheme: Integrated monitoring networks and platforms for ecosystem observations

In order to support any research and related initiatives above, there is a need for access to, or development of, integrated monitoring networks and platforms for ecosystem observations. These systems will be valuable in order to coordinate and improve terrestrial (forests, forest conversion, forest concession management, urban agriculture, woodlands, grasslands, and deserts), freshwater, and oceans ecosystem observation, characterization and monitoring especially in terms of acquisition and use of satellite, aerial and in situ observation. Table 15 outlines a wide range of research areas in biodiversity conservation.

---

69 http://www.unep-wcmc.org/protected_areas/categories/index.html
70 www.mpi.org.au/default_118.html
Linked to this is the development of integrated sampling and characterization, mapping and monitoring of ecosystems at local, national, regional levels. This requires systematic and formal methods for measuring land surface and vegetation attributes, collecting plot (in-situ) data, and for translating between different systems, with relevant manual of field methods for terrestrial data, and capture existing plot data into an operational information system. It will also be useful in promoting the use of observation data to detect the effects of insects, pathogens, water temperature and elevation and chemical stresses on ecosystems. In the context of the ANSA-EAP this implies the development of partnerships with national observatories (e.g. Manila Observatory), national programs (e.g. National Oceanographic and Atmospheric Administration) and international efforts (e.g Global Earth Observation System of Systems).

Species and habitat mapping - habitats offers living areas and protection to plant or animal species. Although there is an increasing amount of information about natural habitats, still not enough is known about the current state of important wildlife sites.

Mapping is a valuable tool to capture part of habitat and species data – both locations and spatial extents are usually recorded along with other information such as type, condition and times of observation. There is a growing interest in the use of mapping and spatial analysis to investigate and mitigate the effects of habitat loss leading to fragmentation and isolation. Geographic information systems (GIS) can be used to identify the most likely habitat patches for species conservation and restoration and to predict species movement through different types of landscapes based on variations in land cover and the availability of favourable habitat patches that can serve as “corridors”. Work needs to be done on a species-specific and location basis and this data should serve as the basis for conservation planning and strategic action.
Table 15: Some areas for research in biodiversity conservation infrastructure

<table>
<thead>
<tr>
<th>Some Areas for Research in Biodiversity Conservation Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware and software applications for mapping, modelling, forecasting, planning and information clearinghouse</td>
</tr>
<tr>
<td>Environmental resource monitoring research networks</td>
</tr>
<tr>
<td>Mangrove restoration</td>
</tr>
<tr>
<td>Afforestation / habitat reclamation</td>
</tr>
<tr>
<td>Wetland preservation</td>
</tr>
<tr>
<td>Nurseries and species propagation centres</td>
</tr>
<tr>
<td>Coral reef rehabilitation</td>
</tr>
<tr>
<td>Product biosafety</td>
</tr>
<tr>
<td>Natural resource-based products</td>
</tr>
<tr>
<td>Handling, transport and packaging of living modified organisms (LMOs)</td>
</tr>
<tr>
<td>Networks of marine protected areas (MPAS) and biodiversity corridors</td>
</tr>
<tr>
<td>National parks</td>
</tr>
<tr>
<td>Law enforcement</td>
</tr>
<tr>
<td>Debt for nature swaps</td>
</tr>
<tr>
<td>Certification systems for resource-based products and processes (eg fisheries, wildlife, timber)</td>
</tr>
<tr>
<td>Ecosystem services and bio-businesses</td>
</tr>
<tr>
<td>Nature-based tourism</td>
</tr>
<tr>
<td>Knowledge-based products and conservation awareness programs</td>
</tr>
<tr>
<td>Oil spill response and recovery systems</td>
</tr>
<tr>
<td>De-commissioning of offshore and land-based oil drilling rigs and platforms</td>
</tr>
<tr>
<td>Rehabilitation of mine sites</td>
</tr>
<tr>
<td>Noise reduction in undersea oil drilling</td>
</tr>
</tbody>
</table>
Environmental Impact Assessments (EIAs)

The Convention on Biological Diversity provides support for EIAs however requires more depth with respect to “levels of biodiversity, structural and functional relationships within biological, socio-economic and biophysical systems, indirect cumulative impacts and mitigation measures” and integration of concerns of other resource users. In the context of operations (downstream and upstream) in the oil, gas and mining industries, there is a continuing need for more substantive baseline and scientific studies and explicit criteria for post project monitoring.

Based on the experience in both public and private sectors, EIA processes should be improved to consider the following:

- A deeper understanding of the levels of “biodiversity” to include bioregional, landscape, ecosystem, habitat, communities, species, populations, individuals and genes
- The connectivity between structural and functional relationships, such as fragmentation, hydrology, demography and how they relate to the levels of biodiversity under study
- Focus on “key biodiversity receptors” and collect more “detailed data on abundance and distribution” on some elements of biodiversity
- Consider a wider range of impacts – include those that are indirect, cumulative and induced
- Give more attention to social dimensions, particularly indigenous knowledge, traditional systems, stakeholder participation
- Ensure that criteria on which a project is judged are clearly articulated in terms of magnitude, scale, extent and relative importance.

In the mining industry for example, it is important to conduct the EIA as early as the exploration stage. There would be a possible trade off given that only 0.1% of targets have potential mineral deposits of value, and survey money is limited. However it is essential to have undertaken the EIA in order to have a solid understanding of possible impacts to avoid having to pull out at later stages if the project does not meet criteria for sustainable development. It is essential to understand when, in the exploration process, an EIA is important. Certainly there needs to be a solid understanding of biodiversity issues prior to commencement of bidding for, or issuance of licenses. A biodiversity field survey, which forms part of an EIA requires time - seasons, migration patterns, breeding patterns etc. Outlined below are some good practices that should be considered for any capacity-building for research, particularly in the stakeholder dialogue surrounding extractive industry projects:

- Seek high-level commitment to integrating biodiversity considerations into corporate decision making and to understanding the importance of maintaining biodiversity habitats and species. Commit to integrating biodiversity at the ecosystem, species

and genetic levels and to associated social considerations
• Adopt an ecosystems management approach. Consider all the interrelationships between biological, ecological and human systems
• At the outset, understand the state of biodiversity in an area - the richness and depth of the biodiversity as well as the nature and extent of cultural and social issues and sensitivities
• View impact assessment as a process not a product. It is ongoing, phased set of activities that needs to assess direct, indirect / secondary and cumulative impacts on biodiversity. Look at the life cycle of the asset (whether drilling platform or mine), collect and share data, and be aware of key concerns with respect to social, economic and health impacts. Allow time for stakeholder input and create opportunity for monitoring
• During development phases of a project there should be rigorous assessment of impacts. Avoid, minimize and mitigate residual impacts where necessary. Encourage in situ offsets if in line with local, regional, national and international conservation strategies
• Foster participatory processes between CSOs, government and industry to maximize positive contributions
• Encourage preparation of a register of all legal and regulatory frameworks, codes of conduct, preferred practices etc and include a listing of protected areas and vulnerable species at risk. – a Biodiversity Action Plan can be developed, and include a detailed risk analysis for any potentially serious negative impacts (ie identify vulnerability and emergency and contingency plans). Consider including biodiversity concerns in performance-based contracts.
• Biodiversity impacts, whether positive or negative can be included in an “Assets and Impacts Register”. These could be discussed between and amongst all stakeholders, and management plans put in place to address those actions that have potential for negative impact. These management actions should actually be part of a company’s standard processes, as opposed to a new suite of procedures. ISO 14001 is most commonly used.
• Encourage investments by government and industry in: detailing survey information on flora and fauna, community-based education and training, establishment of research programs and related funding, sponsorship of community environmental groups or projects, other related infrastructure and economic development activities that have biodiversity spin-offs, proper rehabilitation practices.

Post Project Monitoring for Rehabilitation

Activities of extractive industries cause serious direct impact on land surfaces – through removal or natural soils, plants and animals. Given that there are relatively temporary activities, the goal of sustainable rehabilitation is to ensure that land use options can be maintained for the future.

72 Ibid p. 15
73 Ibid p. 16
Acid mine drainage (AMD) has serious long term effects, so some mines after closure need to have rehabilitation done with this in mind, especially if there is a need to modify or minimize the entrance of air and water. Rehabilitation plans also need to consider proximity to surrounding communities.

Planning and operation permits provided by governments should require a land rehabilitation plan – but in practice poor practices have been the order of the day, and rarely has biodiversity been given adequate consideration.

There is a need to distinguish among the following terms:

- **Reclamation** – land surface is returned to some type of beneficial use
- **Restoration** – reclamation that is guided by ecological principles, that will promote recovery of ecosystem integrity or attempt to preserve pre-mining structural and functional ecosystem conditions. Capture and retain fundamental resources, including energy, water, nutrients and species
- **Rehabilitation** – progression towards reinstatement of original ecosystem
- **Replacement** – creation of an alternative ecosystem

Restoration must be unique to the structural and functional characteristics of each ecosystem. Need have detailed knowledge base and be concerned with speed of attainment, cost benefits, and management for long term stability.

### Topsoil

Given its importance to a sustainable ecosystem, efforts have been made to collect, store and preserve topsoil for future use. This requires considerable study, especially if the goal is to restore natural indigenous ecosystems and biodiversity values. Still need interaction between plant species and substrate – in order to foster re-vegetation. Success is rare as mining substrates vary in physical and chemical attributes. Metal toxicity, infertiltiy or acidity may inhibit further growth – natural restoration processes are too slow and not a politically acceptable option, especially when closure options are part of normal planning and management processes and indeed an expectation.

Some options for restoration include a basic improvement of the nature of the soil or an adaptive approach with requires careful selection of species, cultivars or ecotypes.

There is a need to develop performance indicators to judge the success of restoration efforts. Standards will depend on the characteristics of the particular community and ecosystem. Some guidelines exist for restoration of systems, which include

- Self regulation for a defined period
- Achievement of design criteria
- Absence of observable adverse effects

---

74 Ibid p. 20
Restoration objectives must be unambiguous and technical feasible that are sound from scientific, ecological and social perspectives. In many studies soil biotic community and animal species are not usually numbered even though these are important long term indicators.

**Monitoring of Wealth Distribution**

Mineral resources could make up a large percentage of a country’s GNP—particularly through export earnings. Some studies indicate that mining actually exacerbates poverty. This is due to a number of factors—low levels of employment in the sector, use of imported technology, market volatility of minerals markets, competition with agricultural sector (and possible displacement), institutional corruption and mismanagement. Moreover, the lack of full cost accounting can overestimate benefits if subsidies are not accounted for. In Canada one study demonstrated that the taxpayers subsidized mining CAD 13,095 per job created in 2000-2001.

Even if benefits are generated, sometimes local communities suffer the most. Mining sometimes creates jobs in economically marginalized areas, but these jobs can be limited in duration. Sometimes residents become dependent on mining and there is a gap created when the mine closes. There are also raised expectations if wages are slightly higher than normal in a particular community. Negative social impacts such as substance abuse, gambling, prostitution and sexually transmitted diseases also occur.

In worst case scenarios, armed conflict between factions takes place—e.g. Angola diamond mining contributed to civil war financing for rebel groups, community grievances over unresolved issues in Bougainville copper mines led to civil war in PNG. - and similar cases of military crackdown in West Papua, Indonesia. In some cases the military has resorted to violence to extract payments from mining companies in Indonesia.

**Monitoring and Environmental Liability**

It will be important to find ways for communities and governments to hold companies accountable. Sometimes this is done via posting of reclamation bonds, which are held until closure and remediation work is satisfactory.

Some key questions include: Are there set international standards for amount retained in bond? Who determines estimates of damages? Companies would tend to underestimate. Seventeen mines closed in the Philippines before 2000, many of which did not have resources for remediation.

Legislation should also include fines and punishment. Sometimes there is insufficient clarity on who pays for clean up, and often fines are relatively low in comparison with the long term value of damage. In Philippines since 1977 the MGB collects 0.001 per ton mine and tailings fee. The rate has remained the same for a long period and has been capped at low level. This could actually provides incentive for companies to discretely discharge tailings rather than pay for remediation.

75 Ibid p. 21
Although legislation on environmental and social impacts of mining, oil and gas development exists in many countries, the capacity to monitor is variable. With lack of personnel and resources, many mines are not inspected to the extent required. In the Philippines regional offices have equal numbers of MGB staff, which means that there is uneven monitoring capacity. Some regions have much larger areas for inspection per person than others, and the ratio of inspectors to mines, is very low. In PNG the government relies of company reports rather than conducting periodic mine visits for compliance.

Impact and Special Studies

In the context of social accountability, environmental management and extractive industries in the East Asia Pacific region, there is scope for a number of key impact studies, some of which are elaborated below:

a. Impact of offshore exploration, drilling, production and transport in oil and gas industry on marine and freshwater species and habitats as well as related waste minimization and management processes. This will require a multidisciplinary approach to investigating such issues as environmental pathways, transport rates, fate and effects of drilling and production wastes
b. Ecological impact of oil exploration, drilling, production / refining and transport in specific types of terrestrial ecosystems (nearshore, tropical forests, wetlands, peat swamps, tar sands etc)
c. Conduct inventory of offshore oil and gas drilling platforms in the EAP and assess the effects of drilling and production activity on specific marine species and near shore environments. There will be related policy implications.
d. Conduct inventory of inventory of abandoned mines in EAP and related assessment of risks and hazards posed (eg social, economic, health and environmental). Linked to this should be review and/or establishment of policies that promote inspection, remediation / rehabilitation, enforcement and financing as part of regulated mine closure processes
e. Impact of submarine tailings disposals in coastal communities, including analysis of chemistry and toxicity
f. Studies on the carrying capacity of various ecosystems and sub-ecosystems (coastal, uplands etc) that will provide support to ensure sustainable approaches to specific oil, gas and mining developments, or serve as part of an environmental impact assessment
g. Survey of participatory processes related to indigenous communities / people’s organizations - to determine the nature and extent to which they have been included in stakeholder consultations to review development projects in oil, gas and mining prior to Free Prior Informed Consent (FPIC), and continued involvement in downstream monitoring and evaluation.
h. Design of training programs in environmental sampling for CSOs and other community organizations. This would include techniques for soil, air emissions, water, wipe sampling for polycyclic aromatic hydrocarbons etc.
i. Design and develop rehabilitation and reclamation programs (e.g. flora and fauna surveys, etc)
j. Training in conduct of Environmental Impact Assessments (EIA) and ecological / environmental valuation studies
RESEARCH THEME 3

ENCOURAGING COMMUNITY HEALTH RISK ASSESSMENT TOOLS AND APPROACHES

Subtheme: Water quality and aquatic system dynamics

Research is needed to develop hardware and software tools to support the management of water quality in aquatic ecosystems. Major water quality concerns include Harmful Algal Blooms (HAB’s), pathogen contamination, and contamination by chemical contaminants (eg. heavy metals, organic chemicals). It will be important, in this connection to improve the understanding of ecological processes in waterways, rivers, lakes, estuaries, coastal areas and seas. Advanced measurement techniques (eg microbial ecology) and ecosystem modelling are key areas. Sub-themes related to this include:

a. Contaminant detection techniques and measurement, especially heavy metals pathogens and organic contaminants  
b. Transport / movement of pathogens including bacteria, viruses etc, and how they threaten water supplies, and enter animal and human systems (bioaccumulation)  
c. Engineering designs for improved water quality

Subtheme: Toxicity and chemistry

There is a need for quantitative and qualitative health hazard studies for specific metals (eg lead, cyanide, mercury, cadmium) as they move through the value chain, using effects assessment, exposure assessment and risk characterization. Linked to this should be capacity-building for communities in partnership with local scientific institutions, to understand research methods concerning the collection of baseline information, technical data, conduct of focus group meetings and interviews, scientific tests related to biomonitoring (eg the importance of particle size), modelling of various health risk scenarios etc as health effects from toxicity may not appear for 10-20 years after exposure, therefore documentation is critical.

Environmental toxicology is linked to risk assessment for specific compounds to determine and understand biomarkers or indicators. Linked to toxicoproteomics – which is the use of global protein expression technologies to better understand environmental and genetic factors, both in episodes of acute exposure to toxicants and in the long-term development of disease. Understanding of the indicators of chronic toxicity will be a critical step
in understanding causes, as well as prescribing health treatments and solutions.

Air quality and emissions studies are required of smelters, steel mills, oil refineries etc to determine levels of “metallic soot”. For example, manganese and lead are neurotoxins, and long-term exposure to high levels can cause a variety of health problems, including nervous system disorders, developmental disabilities, blood diseases and other ailments. In this connection the feasibility of installing pollution control monitoring devices at various plants should be explored

Subtheme: Health and the workplace

Baseline studies on workplace health standards should be conducted on a case by case basis. These studies should identify sources of risk for workers at all levels, use sampling methods for consistency, and cover a range of specific petrochemical and metallic compounds in a variety of locations.

Subtheme: Health and Food Security/Safety

A report recently commissioned by the UK-based Working Group on Mining in the Philippines, with support from various religious organizations, has recommended a moratorium on new mining in the Philippines until new procedures are in place to protect human rights and the environment. Evidence was provided that mining of gold, nickel and other minerals gives rise to extensive degradation of land that would normally be used for rice production (as well as water supply). A number of mining firms, particularly those with a British base, will need to reconsider their plans for mining in the Philippines. There are implications for investors and financiers in the mining industry as well.

By extension, oil and gas projects that are located on arable land tracts would potentially face a similar issue. As such there is scope for continued work in the impact of oil, gas and mining activities on food security in selected countries of the EAP.

In connection with the above, there continue to be concerns with respect to food safety. An estimated 1,000 tons of mercury are released annually into the environment from informal or small scale gold mining, which accounts for between 30-40% of anthropogenic mercury pollution. (Mercury is naturally released into the environment from the weathering of rocks). Due to inefficient processing techniques as much as 2g of mercury can be released into the environment for every gram of gold recovered. This is of serious ecological significance as most artisanal mining takes place within river basins which cross international boundaries. It is estimated that the Amazon basin receives 40 tons of mercury a year in this way while mining in Indonesia adds 150 tons to the Java Sea. Mercury contamination is persistent, rapidly absorbed by aquatic organisms and is biomagnified as it passes up the food chain - miners and

76 http://www.gcmmonitor.org/article.php?id=861

77 http://omiusajpic.org/2009/02/23/philippines-mining-or-food-rpt
their families are advised not to eat local fish, particularly carnivorous fish\footnote{78 Sources: “Global Mercury Project” http://www.unep.org/GEF/05/portfolio/writeups/iw/globalmercury.html and Tetsuro Agusa et al. “Mercury Contamination in Human Hair and Fish from Cambodia: Levels, Specific Accumulation and Risk Assessment” in Environmental Pollution. Vol 134: Issue 1, March 2004 pp 79–86.}. This type of evidence suggests the need to conduct exposure assessment and effects assessment studies in areas where relevant. The nature of the studies would focus on:

- Biomonitoring data (e.g. urine, blood)
- Inhalation or dermal exposure data with information on particle size of materials
- Baseline data for comparative purposes gathered from similar substances /circumstances
- Modelled data

Work to date on particle size has been confined to situations where there are agglomerations of large particles, but has not considered “nanoparticles”, which may be important to consider in the industries under examination.
RESEARCH THEME 4

ENABLING CORPORATE SOCIAL RESPONSIBILITY (CSR) AND ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG)

Corporate social responsibility (CSR), previously seen as a construct of the advanced industrialized economies has been gaining considerable currency in ground in developing countries. A study conducted on the ESG practices of 40 large emerging market companies showed some progress on several fronts, although there is much more work to be done. For example, disclosure related to climate change was strongest amongst companies in the resource sector, but even so, 50% of the 12 resource companies had no evidence of climate change disclosure. In human rights almost all (93%) of companies assessed received only a ‘limited’ grade for their human rights policies. No companies achieved a grade higher than ‘limited’ for their human rights systems or reporting.79

To illustrate, the Philippines’ leading oil refining and marketing company Petron Corporation recently signed a strategic agreement with the World Wildlife Fund for Nature (WWF) to further expand conservation efforts in the greater Sulu Sea, particularly in Tubbataha Reef—Southeast Asia’s only UNESCO World Heritage Site in the marine environment.

The Petron-WWF partnership has two major components. One component establishes and expands marine-based livelihood opportunities for Cagayancillo residents. A second component provides the opportunity to build the skills of island residents and deserving college graduates from different academic institutions, to manage marine resources through an annual summer hands-on learning program. Additionally, this serves as a means to promote stronger ties among academic institutions, scientific and technical experts, industry partners, NGOs, and local government units.80

There is much scope for the development and application of ESG audits and compliance systems. This would apply to institutions, enterprises and organizations alike. They key will be twofold. First, find ways in which CSOs can act as CSR “enablers” since ESG can serve as a way to identify risks and qualify opportunities. Second, it will be important to develop a case study bank based on best practice by oil, gas and mining companies operating in the region. Leaders in this field can leverage other players.


80 www.petron.com
ULTIVATING COMMUNICATIONS AND PARTNERSHIP DEVELOPMENT INITIATIVES

It has been demonstrated that international and regional “coalitions” of CSOs using multidisciplinary approaches are reasonably effective in addressing social and environmental issues. When strong partnerships among like-minded organizations are formed, the synergies can be very powerful. It is essential that any research or research-supporting strategy have a communications component. There are a number of reasons for this, principal among which is the need to convey messages, reach out and foster networking. A few initiatives to support this should be considered:

a. Cultivate responsible investigative journalism that is based on empirical facts. There is a need to shift away from “envelope journalism” that is common in many EAP countries, but at the same time, taking steps to ensure that the profession is free from threats

b. Use multimedia tools and methods. This would include print, broadcast and internet technologies. In this connection it would be important to encourage the development of popular tools such as comics, videos, radio programs, drama, music, performing arts, etc

c. Develop skills for creative design of campaigns and advocacy initiatives. Effective campaigns will have a wide range of success factors with strategies that range from the subtle to the absurd. Engaging the right audience is critical as it helps to position the CSO. The nature of campaigns can reflect the persona of the CSO, whether an enabler, a promoter, an advocate or a resistor (indeed all of combinations of these as well)

d. English is one of the main languages in the mainstream media, it will be important for CSOs to have the ability to communicate to a wider, international audience. This will be especially useful for effective outreach and networking

e. CSO representatives will invariably find themselves in situations that will require skills in mediation, negotiation, conflict resolution and management

f. CSOs are dynamic organizations, which in order to be successful require leadership. In this regard, the traditional command and control model is giving way to new models that emphasize human capital growth. Collaborative leadership and active followership development focusses on communications amongst and between all the actors in an organization, where “even the smallest voice is heard”. Leaders should come to understand what followers expect from them, and followers need to communicate their expectations to leaders. Organizations are more innovative and effective when there is a high degree of engagement. Training programs need to be developed to disseminate this model.
RESEARCH THEME 6

ADDRESSING CLIMATE CHANGE MITIGATION AND ADAPTATION

Climate change is a complex phenomenon. When a multiplicity of actors get involved in climate change mitigation and adaptation, it becomes more complex.

Carbon finance and carbon trading

“Carbon finance” is a term that includes those resources provided to projects generating (or expected to generate) greenhouse gas (GHG) emission reductions in the form of the purchase of such emission reductions. While there are many different GHGs, natural and man made, excessive emissions of CO2 particularly from the oil and gas industry, contribute significantly to the climate change phenomenon – hence the concentration of effort in this area.

“Carbon trading” is a market based mechanism for helping mitigate the increase of CO2 in the atmosphere. Carbon trading markets are developing that bring buyers and sellers of carbon credits together with standardized rules of trade. Buyers of carbon credits can be entities, typically businesses, which emit CO2 into the atmosphere that may have an interest or may be required by law to balance their emissions through mechanism of “carbon sequestration”. These entities may include power generating facilities or many kinds of manufacturers. Sellers of carbon credits are entities that manage forest or agricultural land might sell carbon credits based on the accumulation of carbon in their forest trees or agricultural soils. Similarly, business entities that reduce their carbon emission may be able to sell their reductions to other emitters.

Primary carbon markets

Carbon credits generated through development of projects that reduce greenhouse gas emissions compared to a baseline. Clean Development Mechanism (CDM) is a project development framework governed by the Kyoto Protocol. Developed countries can purchase carbon credits – “Certified Emission Reductions” (CER). Foreign buyers of credits may take equity in a CDM project if permitted under national regulations. Under the Joint Implementation (JI) initiative developed countries make investments in other developed countries to buy “Emission Reduction Units” (ERU). Voluntary Emission Reductions (VERs) emerging outside Kyoto Protocol Framework and more flexible and streamlined, but

81 Note that water vapour (H2O), carbon dioxide (CO2), nitrous oxide (N2O), methane (CH4) and ozone (O3) are the primary GHGs in the earth’s atmosphere.
difficult to verify and less regulated. The CDM approval process is very complex with many applications pending. CDM and JI schemes expire in 2012, and discussions are ongoing with respect to the future.

**Secondary carbon markets**

CERs, ERUs or VERs are bought and sold after the initial sale transaction at the primary level. The European Union Emissions Trading Scheme is the largest market in the world. The Chicago Climate Exchange in USA is voluntary exchange among corporations. Other exchanges are being considered in Asia, for example in Singapore, Hong Kong, Beijing, Shanghai, Tianjin and Changsha.

**Some carbon fund facilities**

There are many existing and emerging funds and intermediaries in the carbon markets. There are also innovative financing schemes which support the development of clean energy, energy efficiency and GHG reduction under the CDM. Private funds work with projects funded through the Clean Development Mechanism (CDM) and Joint Implementation (JI) windows and purchases credits generated, while others invest directly in GHG reduction projects. In fact the UNFCCC hosts a web-enabled marketplace (www.cdmbazaar.net) for buyers, sellers and service providers to pursue transactions in the CDM markets.

**Some issues concerning carbon markets**

There is an enhanced understanding in most EAP countries of the serious risks associated with climate change. Some questions have been raised with respect to carbon markets in Asia. Are conditions sufficiently mature for a carbon market? To what extent are EAP countries bound by emissions target reductions by domestic law or the Kyoto Protocol? Is there enough demand and capacity in the EAS region for carbon credits to be traded?

Exchanges can be done internationally and operate similar to a stock exchange. These initiatives require approval by a designated national authority (DNA). Carbon trading systems may be complex and the risks need to be properly understood.

Transaction costs for primary and secondary markets are high. There is also the “carbon leakage” problem – how to validate claims of emission reduction?

A debate is ongoing in the context of the United Nations Framework Convention on Climate Change (UNFCCC) referred to as the “Kyoto Protocol” concerning which countries are, and should be responsible for making key investments in climate change mitigation. In PR China authorities maintain that many of the factories that have high CO2 emissions are in fact producing goods for clients in Western nations. As such there is a shared responsibility. In addition to this some analysts contend that it is useful to look beyond absolute emissions. Countries that have large economies with large populations tend to be among the highest emitters of GHGs, however this only presents a partial picture. It is useful to examine emissions on a “per capita” basis. The largest absolute emitters (based on data up to 2005) were the USA,
China, the EU-25 and Russia. However among the largest absolute emitters, per capita emissions vary widely. Australia, the USA and Canada rank 4th, 6th and 7th respectively, with the EU-25 37th, China 99th and India 140th. There are profound implications for international cooperation, which among other things, would require a supply chain approach to understanding how carbon is embedded at various stages in a cycle, and necessitate a re-thinking of how the capping of emissions would be administered.

There is a need to weigh cost and benefit of market-based mechanism versus other mechanisms such as a straight carbon tax. A carbon tax offers a targeted approach, in contrast to a “cap and trade” system, and can offer relief to industries that compete internationally, although carbon tax credits do not offer incentives to actually reduce emissions.

Creating appropriate emissions caps, carbon prices and offset markets may not be sufficient to reverse the trajectory of climate change. Investments in solutions and improvement measures are likely to cost more than the “likely near term price of carbon”. Strategies are constrained by “misaligned incentives, market failures, yawning information gaps and transaction costs” of reaching so many customers. A robust carbon policy needs to be supported by sector-based initiatives that directly address incentives, knowledge gaps and non-price barriers to implementing cost-effective energy improvements.

What model will emerge in 2012? Discussions are still ongoing in many international venues, and will continue in the lead up to the next UNFCCC Conference of the Parties in late 2009. Carbon markets, do however, present many options and opportunities for local governments and CSOs to take action.

Climate Change Mitigation and Adaptation

**Adaptation** to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects which moderate harm or exploits beneficial opportunities. Mitigation is an anthropogenic intervention to reduce sources or enhance the sinks of greenhouse gases (GHGs). Development efforts have focussed primarily on climate change mitigation, and less so on climate change adaptation. In the context of more recent deliberations, there is increasing recognition that approaches need to integrate elements of mitigation and adaptation as appropriate.

---

### Table 16: Some areas for research in clean and efficient energy infrastructure

<table>
<thead>
<tr>
<th>Some Areas for Research in Clean and Efficient Energy Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Renewable energy</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Supply side</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Energy efficiency</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Table 16 provides information on some key areas for research with respect to clean and efficient energy infrastructure. Extractive industries have taken some steps to promote research and related initiatives in this area. The oil and gas industry in particular is the largest contributor to the global “carbon footprint”. Their efforts focus on several key areas:

- Cogeneration (simultaneous production of electricity and process heat)
- Carbon capture and geological storage
- Flare reduction
- Fuel switching
- Energy efficiency through improved equipment management processes
Climate change has moved beyond an issue that represents and environmental challenge, to a deep concern that threatens poverty alleviation and development efforts in the EAS region. Countries must now find ways to respond to the circumstances by supporting initiatives to reduce concentrations of greenhouse gases in the atmosphere, as well as adjust to the events, occurrences and impacts that are the result of global warming. Such events may include severe high temperatures leading to drought, excessive precipitation leading to flooding, sea level rise which alters weather patterns, creates storm surges and contributes to increasing intensity (or frequency) of hurricanes or cyclones.

Development efforts focused on poverty alleviation and sustainable livelihood management have provided important ways to reduce vulnerability, but have not given sufficient attention to the impact of climate extremes and unpredictability. In these situations, where coping capacities have been exceeded, humanitarian aid has been the main response. Because the scale of current variability and additional climate risks on development is so large and pervasive, addressing current and future climate vulnerabilities into development is a task that requires a sense of complete urgency.

At a world conference in Kobe, Japan in January 2005 supported by the UN International Strategy for Disaster Response (ISDR), the Hyogo Programme of Action was adopted. The five main actions are presented below:

- Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation
- Identify, assess and monitor disaster risks and enhance early warning
- Use knowledge, innovation and education to build a culture of safety and resilience at all levels
- Reduce the underlying risk factors
- Strengthen disaster preparedness for effective response at all levels⁸⁷

Multilateral and bilateral donors, private foundations, non-government organizations and various types of consortia and networks are developing programmes around this framework. Moreover, climate change adaptation is giving rise to some interesting investment opportunities. In disaster risk reduction and management, for example, there are new products and processes emerging, such as early warning systems to mobilize response teams, storm-tracking software or back up systems for patient medical records in hospitals.

There is an inextricable link between reducing vulnerability to climate change and reducing poverty in East Asia “as poverty is both a condition and a determinant” for vulnerability. Many of East Asia’s poor are already vulnerable by virtue of having their domiciles on marginal lands, a dependence on livelihoods that are climate-sensitive, and have limited access to resources that can help them respond to such shocks. There may be new types of threats that are unforeseen or unpredictable. Hence building capacity

⁸⁷ http://www.unisdr.org/eng/hfa/hfa.htm
for adaptation requires the implementation of development tools and methods. In this connection microfinance has the potential to help vulnerable populations, many of which live in coastal areas, to develop necessary skills and accumulate and manage assets to reduce susceptibility or cope with the negative impacts of climate change. Table 17 identifies some areas for research in this field.

**Table 17: Some areas for research in climate change adaptation**

<table>
<thead>
<tr>
<th>Some Areas for Research in Climate Change Adaptation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agriculture and food systems</strong></td>
</tr>
<tr>
<td>Innovative agricultural techniques (eg floating systems, seawater agriculture)</td>
</tr>
<tr>
<td>Drought and wind resistant crop varieties</td>
</tr>
<tr>
<td>Rainwater catchment systems</td>
</tr>
<tr>
<td>Irrigation systems</td>
</tr>
<tr>
<td>Food storage systems</td>
</tr>
<tr>
<td><strong>Coastal areas, river basins and waterways</strong></td>
</tr>
<tr>
<td>Rehabilitation of channels to allow basin flooding</td>
</tr>
<tr>
<td>River and harbor area restoration and dredging</td>
</tr>
<tr>
<td>Flood control drainage systems (eg levees, dams, dikes, upland buffers)</td>
</tr>
<tr>
<td>Tidal barriers, sea walls and detached breakwaters</td>
</tr>
<tr>
<td><strong>Land</strong></td>
</tr>
<tr>
<td>Land reclamation, beach nourishment and wetland restoration</td>
</tr>
<tr>
<td>Wetland restoration</td>
</tr>
<tr>
<td>Beach nourishment</td>
</tr>
<tr>
<td><strong>Buildings</strong></td>
</tr>
<tr>
<td>Specialized architectural designs</td>
</tr>
<tr>
<td>Modified building codes</td>
</tr>
<tr>
<td>Use of resilient building materials (eg bamboo versus steel)</td>
</tr>
<tr>
<td>Storm shelters</td>
</tr>
<tr>
<td>Science, technology and research</td>
</tr>
<tr>
<td>--------------------------------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Capacity building and training</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Health</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Sustainable livelihoods</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

CSOs that are not well equipped to deal with climate change mitigation and adaptation would benefit from:

a. Training in the UNFCCC and CDM with a view to establishing project monitoring and evaluation networks for GHG reduction
b. Understanding of how carbon offsets work particularly with respect to biodiversity conservation projects, afforestation and reforestation
c. Strategic alliances and coalitions between local, national and international CSOs such as Carbon Watch, Sinks Watch, Greenpeace etc to customize campaigns and advocacy for the EAP context.
CONCLUSIONS: THE WAY FORWARD

UNDERSTANDING THE CSO FABRIC

As part of the preparatory work for this study, a “Matrix of CSOs” was prepared. This matrix identified and profiled a wide range of CSOs that would have relevance for this field. Some features of the emerging CSO fabric include:

- From a social accountability perspective, there is an apparent changing role for CSOs, from monitor and sometimes corrector of State actions, to becoming an active participant in governance.
- According to the Global Integrity Index, CSOs represent one type of accountability mechanism, however there is a paradigm shift (related to the above) where CSOs are becoming the “drivers” of accountability.
- CSOs face a variety of challenges (eg. financial, legal, organizational) as they step up their efforts to be full participants in governance activities.
- CSOs have difficulty operating in regulatory environment that tend to constrain their operations (refer to page 14 and Figure 3).
- CSOs are generally visible but dependent on external funding, particularly those in the EAP developing nations.
- CSOs may be inclined to adopt a “space” that works between global actors and local governments to create opportunities for poor or disadvantaged groups to empower themselves.
- CSOs vary in their mandates, core competencies and modus operandi, and can display different traits at different times. Their actions can be enabling, opposing (resisting), monitoring, engaging and/or advocating or varying combinations thereof.
- CSOs are likely to be distinguished from BSOs – or “business support organizations”, although their juridical personality and missions and may be similar, their client beneficiaries may differ.
- There are likely to be questions raised about the accountability of CSOs themselves.
- In terms of research, CSOs can fall into three categories:
  - those that conduct research – those that are users of research – those that disseminate, or facilitate access to, research (or the results of research).
ELEMENTS OF A RESEARCH STRATEGY

The discussion in the preceding section has centered on various research themes that would presumably form part of an overall, institution-level research strategy. As ANSA-EAP deliberates on this, it would also be useful to consider what would be the elements of such a strategy. These would include, but not be limited to, actions that would:

- Position ANSA-EAP as a technical service provider for CSOs
- Encourage demand or market-driven research
- Focus on building capacity of CSOs to undertake, user or diffuse research or research-supporting initiatives
- Promote a case study approach to research, which would flow into curriculum development processes
- Foster the development of centres of excellence that promote SA tools and methods
- Encourage the use of “blended learning techniques”, and multidisciplinary approaches
- Adapt and utilize various research instruments such as value chain analysis, environmental and ecosystem valuation, risk assessment /management, outcome mapping, etc
- Consider experiential learning opportunities, such as cooperative education
- Support University-Industry Government research collaborations.

RECOMMENDED AREAS OF CONCENTRATION FOR ANSA-EAP

The five Research Themes identified and discussed represent the universe of opportunities that have some relevance to social accountability and environmental management issues in the extractive industries sectors of five EAP countries. These themes are complex and interrelated. Moreover, the role of CSOs within this paradigm needs to be thoroughly considered. ANSA-EAP cannot be all things to all people, nor does ANSA-EAP have the resources to support comprehensive efforts in this area. In this light it would be prudent to prioritize and consider a few areas where meaningful and realistic action can be taken in the short to medium term.

First, there should be a focus on governance. As outlined in Research Theme 1, it will be essential to look at legal and regulatory frameworks and identify gaps. This has been the common thread throughout the discussion on social accountability and environmental management in extractive industries. Ultimately, the goal of social accountability initiatives is to improve governance. While vigilant citizens are an essential element of a democratic society, a society that relies on civic engagement to exact accountability from a government that does not have the political will or the capacity to enforce policies becomes inefficient. Citizens might get continuously trapped in actions that could have been devoted to directly improve their livelihoods. Are existing laws adequate to govern the operations of extractive industries? To what extent are
laws and regulations being applied? What are the barriers and constraints to effective implementation? What is the role of CSOs in holding governments accountable for enforcement? How can CSOs strengthen the enforcement capacity of government? CSOs as external parties cannot directly engage in enforcement, however, they can make a contribution to the creation of an enabling environment for enforcement. In this connection there are opportunities for a “collaborative governance” model, where CSOs provide additionality to government’s rules-making, planning, monitoring, and regulatory and enforcement mechanisms.

Second, efforts should be made to transform information into streams of knowledge. Knowledge is essentially the application of information. There is a plethora of information (and misinformation) available, but the key will be to collect, process, analyze and internalize information that is relevant and significant to the task at hand. Knowledge that is applied needs to be scientifically credible, economically defensible and promote equitable distribution of benefits. In this connection, ANSA-EAP as a technical service provider, could consolidate best practices and guide CSOs to appropriate use of the various platforms of engagement outlined in the study. These platforms would include, but not be limited to, such initiatives as the Publish What You Pay (PWYP), the Extractive Industries Transparency Initiative (EITI), Access to Information, grievance mechanisms (corporate and government), participatory Environmental Impact Assessments, Joint Biodiversity Action Plans, various industry-supported codes of conduct, standards and certification schemes etc.

What is important is that CSOs are able to package the technical, social, economic and legal information that relates to threads presented in Research Themes 2 through 5, and apply these in actual case situations. There will be a number of areas for focused capacity building in this regard. For example, filing class action suits by CSO coalitions for environmental liability, requires considerable and long term support from paralegal experts and sector-based technical specialists. Knowledge has to be packaged and presented in a manner that will increase the likelihood of success in a legal forum. While this example really addresses issues “after the fact” or ex post, other actions of CSOs could likely be preventive (ie, within the ambit of collaborative governance) and undertaken in order to avoid extensive environmental and social damage that may be the result of extractive industry initiatives.

Third, ANSA-EAP will need to establish or re-affirm the criteria to identify, vet and select CSOs with which it intends to engage. This should be a process that also includes finding and working with a small number of “champions” – those that subscribe to the social accountability model. By working with a few, key CSOs that have community-based support, relevant track record, basic competencies, some sectoral comparative advantage, strong leadership, relationships with ‘power holders’, and well established, strategic local and international networks and alliances, ANSA-EAP would be able to create models for research partnerships / coalitions, and seek to scale up its efforts based on demonstrated successes.
REFERENCES


Almonte, Jose T. 2007. To put our house in order we must level the playing field. Metro Manila: Foundation for Economic Freedom.


Cranford, Peter, et al. n.d. “Interactions between Offshore Oil and Gas Operations and the Marine Environment”. Canada: Environmental Sciences Division, Fisheries and Oceans

Towards a Research Framework for Mainstreaming Social Accountability in the Oil, Gas and Mining Industries of Selected East Asia Pacific (EAP) Countries


The Affiliated Network for Social Accountability in East Asia and the Pacific (ANSA-EAP) is a networking facility for networks promoting the "social accountability" approach to good governance. It provides capacity building through a learning-in-action approach and serves as an information gateway on social accountability tales, tools and techniques.

Social accountability is the process of constructive engagement between citizens and government in monitoring how government agencies and their officials, politicians, and service providers use public resources to deliver services, improve community welfare, and protect people's rights.

The social accountability approach needs four basic conditions to work: a) organized, capable citizen groups; b) responsive government; c) context and cultural appropriateness; and d) access to information.

ANSA-EAP operates in a large and diverse region. It pursues a geographic strategy that currently puts priority on support and technical assistance to social accountability activities in Cambodia, Indonesia, Mongolia, and the Philippines. It also follows a thematic and sector strategy by supporting mainly local social accountability efforts that deal with service delivery (education, health, local infrastructure), procurement monitoring, the youth, extractive industries, and climate change.