

A Double-Edged Sword? Implications of Mining for Environmental Security in the Philippines



Foundation for Environmental Security and Sustainability

Executive Summary

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USAID
FROM THE AMERICAN PEOPLE

The **Foundation for Environmental Security and Sustainability (FESS)** is a public policy organization established to advance knowledge and provide effective solutions to key environmental security concerns around the world. FESS conducts extensive field research in combination with data analysis to produce policy-oriented reports and recommendations that address environmental risks to stability.

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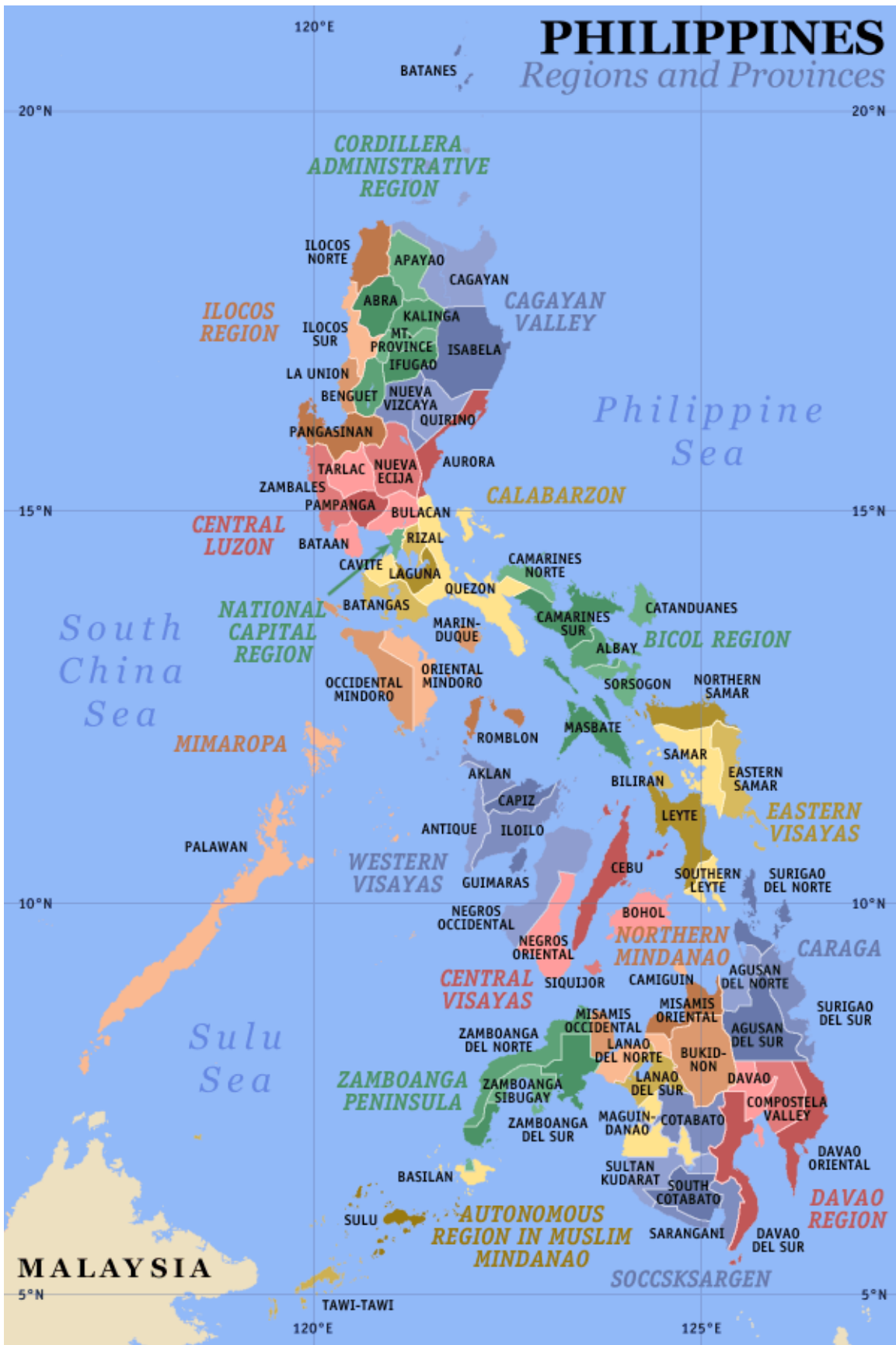
This report was produced in 2007 by the Foundation for Environmental Security and Sustainability. The principal writer was Jeffrey Stark. Additional contributions were made by research team members Jennifer Li, Katsuaki Terasawa, and Michael Metcalf.

Cover photo: Save the Abra River Movement

Mine tailings spill into the Abra river, with houses on both sides of the tailings flow.

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ACRONYMS

ARMM	Autonomous Region in Muslim Mindanao
BFAR	Bureau of Fisheries and Aquatic Resources
BPEMM	Best Practice Environmental Management in Mining
CAR	Cordillera Autonomous Region
CBCP	Catholic Bishops' Conference of the Philippines
CBNC	Coral Bay Nickel Corporation
DENR	Philippine Department of Environment and Natural Resources
EITI	Extractive Industries Transparency Initiative
EMB	Environmental Management Bureau
EPB	Environmental Performance Bond
EPICLI	Environmental Pollution, Impairment, and Clean-up Liability Insurance
ESAF	Environmental Security Assessment Framework
FESS	Foundation for Environmental Security and Sustainability
FMRDF	Final Mine Rehabilitation and/or Decommissioning Fund
FTAA	Financial or Technical Assistance Agreement
ICMC	International Cyanide Management Code
ISO	International Standards Organization
LGU	Local Government Units
LPI	Lafayette Philippines Inc.
MILF	Moro Islamic Liberation Front
MOU	Memorandum of Understanding
NPA	New People's Army
RTNMC	Rio Tube Nickel Mining Corporation
SCAA	Special Citizen Active Auxiliary
SSAI	Siocon Subanen Association Inc.
TVI	TVI Resource Development Inc.
USAID	United States Agency for International Development

I. INTRODUCTION

The Foundation for Environmental Security and Sustainability (FESS) is a public policy foundation established to advance knowledge and provide practical solutions for key environmental concerns that pose risks to national, regional, and global security. With Congressional support, and through a grant from the U.S. Agency for International Development (USAID), FESS developed the Environmental Security Assessment Framework (ESAF), a research methodology that combines a consistent, formalized analysis with extensive field research to construct policy-relevant recommendations that address potentially destabilizing environmental conditions.

In 2003, at USAID's request, FESS began a series of three country-level environmental security assessment pilot case studies. The first pilot study focuses on Nepal and was completed in the spring of 2004. The second case study, completed in the spring of 2005, analyzes environmental security in the Dominican Republic, while the third case study covers environmental security in Uganda and was published in June 2006. With the series of pilot case studies concluded, the Philippines is the subject of a fourth case study, the findings of which are reported herein. This latest case study was undertaken in collaboration with the Croft Institute for International Studies at the University of Mississippi.

Conceptual Approach

The concepts of "environmental security" and "environmental insecurity" are relatively new, and there are a number of competing definitions and varying interpretations of the terms. In its work, FESS employs the following working definitions of environmental security and environmental insecurity:

- *Environmental security* is a condition in which a nation or region, through sound governance, capable management, and sustainable utilization of its natural resources and environment, takes effective steps toward creating social, economic, and political stability and ensuring the welfare of its population.
- *Environmental insecurity* is a condition in which a nation or region fails to effectively govern, manage, and utilize its natural resources and environment, resulting in social, economic, or political instability that over time may lead to heightened tensions, social turmoil, or conflict.

The ESAF is a tool for informed policy decision-making that seeks: a) to identify risks that arise as a result of the confluence of environmental variables and political, economic, and societal factors; b) to evaluate the implications of these risks; and c) to formulate scenarios and policy recommendations. It facilitates the setting of clear priorities, promotes the development of effective and sustainable programs, and provides consistency for comparisons across countries and regions.

The Field Study

The ESAF assessment team was composed of researchers from both FESS (Jeffrey Stark, director of research and studies; Jennifer Li, research associate; Yossina Hurgobin, research assistant) and the Croft Institute for International Studies at the University of Mississippi (Michael Metcalf, executive director; Katsuaki Terasawa, senior fellow). In the Philippines, research assistance was also provided by Norberto Villar and Mary Ann Luz. In October 2005, the research team met with 83 elected officials, civil servants, military personnel, policy experts, academics, civil

society professionals, and private sector representatives in Baguio, Cagayan de Oro, Capiz, Davao, Manila, Negros, and Palawan. In this phase of the study, the researchers examined such issues as ethnic and political tensions; mining; land use, land rights, and agriculture; illegal logging; natural disasters; fisheries; tourism; water quality and sanitation; energy; and environmental health. Based on this first round of meetings, which brought to light a number of linkages between mining and potential conflict, the research team decided that the study would focus on mining as the most significant sector for the future of environmental security in the Philippines.

In February 2006, the FESS-Croft team returned to visit mine sites and conduct interviews in Albay, Benguet, Manila, Palawan, Sorsogon, Surigao del Norte, and Zamboanga del Norte. Over the course of this second portion of the field study, the FESS-Croft team met with 75 government officials, civil servants, academics, Catholic clergy, civil society professionals, and private sector representatives. At the conclusion of this field research trip, FESS staff presented preliminary findings to USAID mission staff. A complete list of those interviewed from both field research trips is attached in the Appendix.

II. SOURCES OF INSTABILITY

The Philippines is marked by notable economic, social, and religious differentiation that complicates efforts toward national unity and social cohesion. These cleavages, in combination with certain cultural practices that have a strong influence on Filipino political life and business transactions, have a variety of potentially destabilizing implications. The recent political problems of the administration of President Gloria Macapagal-Arroyo also have contributed to instability.

- The Philippines has marked income disparities. According to 2003 data from the National Statistics Office, families in the top decile have an income more than 20 times greater than those in the bottom decile, and the aggregate income of the bottom 30 percent of families is only about 8.5 percent of total national income.
- The highest levels of poverty also are concentrated geographically. According to data from 2000, of the eight poorest provinces in the country, five are in Mindanao (Sulu, Tawi-Tawi, Maguindanao, Lanao del Sur, Sultan Kudarat), two are in the Visayas (Masbate, Romblon), and one is in the Cordillera Autonomous Region or CAR (Ifugao). Four of the five poor provinces in Mindanao are in the part of the country with the strongest separatist sentiments, the Autonomous Region in Muslim Mindanao (ARMM).
- Within both the Muslim population in Mindanao and segments of the indigenous population throughout the islands—especially in the Cordillera Autonomous Region and Mindanao—there are longstanding grievances rooted in economic injustice and social marginalization. Many of the indigenous areas are rich in natural resources, especially mineral deposits.
- These grievances are aggravated further by widespread mistrust of the political system. Interviewees expressed the view that the central government is permeated by a culture of corruption that works to the benefit of the privileged, hampering any meaningful relationship between officials in “imperial Manila” and citizens around the country.

- There continue to be active insurgent movements in the Philippines. Rebel groups that threaten stability include the communist New People’s Army (NPA); the Moro Islamic Liberation Front (MILF), a Muslim separatist group; and Abu Sayyaf, a more radical Islamic splinter group with links to Al Qaeda.
- Upon taking office in January 2001, President Gloria Arroyo faced the twin challenges of restoring political and economic stability. For much of her first term, she was able to make steady incremental progress. However, allegations of vote rigging were made against her in the wake of her victory in the May 2004 elections. This scandal was compounded by other stories that alleged that members of her family had been involved in corruption.
- Pressure mounted for Arroyo to leave office as ten senior members of her government resigned in protest, and a street rally of some 100,000 people sought to create the conditions for “People Power III.” However, the Catholic bishops—always highly influential in politics in the Philippines—chose not to support her removal. Former president Fidel Ramos lent his support to Mrs. Arroyo as well.
- Two votes in the House of Representatives to move toward impeachment failed. As a consequence, President Arroyo was able to continue to govern, although her ratings remained strongly negative, leaving the political future of the country uncertain and on shaky terrain.

The Philippines currently is subject to both structural instabilities (e.g., poverty and inequality, concentration of political and economic power, ethnic grievances) and more immediate disequilibria (the political precariousness and uncertain future of the Arroyo administration). It was in this context that the FESS-Croft research team began its environmental security assessment of the Philippines.

III. FINDINGS

Why Mining?

Several compelling factors led the FESS-Croft research team to focus its environmental security assessment on the mining sector.

- First, it became clear that the administration of President Arroyo had made a decision to aggressively promote and “fast track” mining in a way that was likely to place unprecedented pressures on regulatory and oversight mechanisms of the mining sector. The government identified 23 priority mining areas that were projected to bring in US\$6 billion within the next six years.
- A second area of concern that emerged from interviews was that virtually all interviewees viewed the Department of Environment and Natural Resources (DENR) as a weak ministry that—notwithstanding the very comprehensive and up-to-date environmental laws on the books—had a very poor record of regulatory enforcement and implementation. Informants also regarded DENR as highly susceptible to corruption, with the issuing of licenses, concessions, and legal waivers often decided according to political criteria or economic gain rather than legal standards.

- A third factor that focused our attention on mining and conflict was the role of the Catholic bishops and their influence on both public perceptions and national politics. The Catholic bishops clearly were highly critical of the opening of the mining sector.
- Fourth, we encountered very entrenched and active anti-mining positions in discussions with civil society organizations working on indigenous people's issues in the Benguet area. There is a long history of conflict over the environmental and social effects of mining in that region and, if anything, the government's announced plans for a new wave of mining projects seemed to inflame already existing resentments. These viewpoints were entwined with activist political agendas, sometimes with a significant ideological content.
- Visits in Mindanao to areas in and around Cagayan de Oro and Davao found a mix of similar (but less passionate) anti-mining sentiments and skeptical perspectives about new mining projects.

A Highly Conflict-Prone Resource Sector

Overall, the first phase of research indicated that, for a variety of reasons, the mining sector in the Philippines has a high potential for conflict.

- Because of the very negative track records of both the mining industry and DENR, many Filipinos, especially indigenous people, were highly skeptical of government and industry claims of a new and improved model of "responsible mining" that would avoid accidents and benefit communities.
- In the context of the swapping of favors for political and economic advantage among officeholders and businesspersons, the sudden opening of a significant sector of the national patrimony to what might be a rapid-fire granting of concessions, licenses, and legal waivers raised the possibility of an increase (rather than the advertised decrease) in mining accidents and related problems.
- If mining accidents occurred, they might be followed by protests that could intersect with and amplify larger political grievances and debates.
- For all these reasons, the FESS-Croft team decided to make the mining sector the focus of its environmental security assessment. For the second phase of field research, the team returned to conduct a series of multistakeholder interviews, gain a better understanding of the recent past in the mining sector, and focus on mine site visits and conversations with company officials and affected communities.

Mining Accidents

There are several hundred abandoned mines of varying sizes in the Philippines. In addition to the problem of abandoned mines, there have been a number of highly publicized mining accidents. Together, these have painted a decidedly negative picture of large-scale mining in the minds of many Filipinos.

- Among these mining accidents are three cases involving Manila Mining Corporation. In July 1987, there was a dam failure resulting in a spill of an unknown quantity of cyanide tailings causing fish kill in Placer, Surigao del Norte. In September 1995, a dam foundation failure occurred due to heavier than normal rainfall. Some residents connected

the resulting 50,000 cubic meters of tailings that flowed into coastal waters to the death of 12 people. In April 1999, yet another tailings spill from a damaged concrete pipe occurred, again due to heavy rains. This resulted in the release of about 700,000 tons of cyanide tailings and the burial of 17 homes.

- Over the span of more than half a century, the Lepanto Consolidated Mining Corporation has polluted the Mankayan-Abra River system and deforested surrounding watershed areas. In the 1960s, the collapse of Lepanto tailings dam no. 1 caused a tailings spill onto the rice fields of Lipa-an, Paco. In 1986, there was a collapse of tailings pond no. 3 due to a break in the dam embankment, leading to siltation of the Abra River and affecting nine municipalities. In 1993, the same tailings dam collapsed again. In July 1999, heavy rains caused a massive land subsidence in Colalo that buried an entire elementary school building, resulting in the death of one employee and displacing a number of families.



Photo: Save the Abra River Movement
Massive ground subsidence from mining in Colalo, Mankayan. The white structures at the bottom are remains of the Colalo Elementary School, 1999.

- In Philex Mining Corporation's operation at Padcal, Benguet, a collapse of a dam wall occurred in 1992 due to a weakened foundation caused by an earthquake two years earlier. Some 80 million tons of tailings were released, causing heavy siltation in the irrigation system downstream.
- Although the operations of Atlas Consolidated Mining ceased in 1994, in 1999 an outlet in a drainage tunnel of an open pit became clogged, resulting in a pressure build-up that loosened the accumulated silt and caused the discharge of an estimated 5.7 million cubic meters of acidic water into the Sapangdaku River, which flows into the open sea. The company was assessed a fine equal to US\$210,000 for exceeding effluent standards.

- The mining disaster that has taken on mythic proportions in the Philippines is Marcopper mine on the island of Marinduque. Through the 1970s and 1980s, Marcopper mine tailings were dumped into Calancan Bay, damaging the local fishing industry. In 1982, a dam failure led to the inundation of agricultural land with tailings up to 1.5 meters in depth. In December 1993, the Maguila-guila siltation dam collapsed, causing the death of two children, the loss of livestock, and the flooding of downstream communities.
- However, the greatest disaster at Marcopper occurred in March 1996, when a cement plug in an open pit drainage tunnel burst and millions of tons of tailings filled the Makulaquit and Boac river systems. Five villages had to be evacuated, and an estimated 20,000 villagers were affected.
- The experience of Marcopper in Marinduque led to a moratorium on mining in several provinces, including a 25-year moratorium in Marinduque, a 25-year moratorium in Oriental Mindoro, and a 15-year moratorium in Capiz.

These mining accidents and the lingering environmental issues surrounding abandoned mines, in combination with a continuously growing public awareness of similar concerns in mining communities in other parts of the world, have led to a growing constituency against large-scale mining in the Philippines.

Mine Site Visits: Different Cases, Different Paths

There is a powerful tendency toward polarization in the debate over mining in the Philippines, with those engaged in the debate often adopting either uncompromising anti-mining positions or uncritical pro-mining rhetoric. Our field research has found, however, that there is a broad spectrum of mining practices that cannot be fully encompassed by such a dichotomy. Four cases that reflect various points along that spectrum are the Lafayette Philippines Inc. mine in Rapu-Rapu, Albay; the TVI Resource Development Philippines Inc. mine in Canatuan, Zamboanga del Norte; the Padcal mine of Philex Mining Corporation; and the Coral Bay Nickel Corporation processing operation in Bataraza, Palawan. FESS-Croft team members traveled to each area.

The Rapu-Rapu Controversy: Rumor-Rich and Information-Poor

The recent and highly publicized case of the mine operated by Lafayette Philippines Inc. (LPI) for the extraction of gold, copper, and zinc on the island of Rapu-Rapu in the province of Albay illustrates how mining incidents can arouse the passions of local communities and even reach the level of intense national controversy if they are handled improperly.

- Rapu-Rapu was touted as a “test case” and a demonstration of responsible mining by the Department of Environment and Natural Resources.
- On October 11, 2005 a tailings spill occurred at Rapu-Rapu when a pump failed and an emergency pond overflowed into nearby creeks leading to the ocean. Tests for cyanide were positive, but the chemical quickly dissipated. On October 31, 2005, a second tailings spill occurred when heavy rains caused LPI to release runoff from their settling ponds. The DENR regional office subsequently fined LPI for violating the conditions of its Environmental Compliance Certificate.
- On November 4, 2005, the Bureau of Fisheries and Aquatic Resources (BFAR) tested for *mercury*, which was not used by LPI in its mining operations. Adding to the confusion, a

week later, BFAR reported that water and fish samples were found to have mercury levels above the standard limit.

- This announcement became the headline of many news stories and was widely broadcast by both local and national media. Residents stopped buying marine products caught by local fisherman, who saw their sales plummet.
- As public anxieties increased, local officials, fisherfolk, NGOs, and church workers staged a “fluvial rally” at the water’s edge of the mine site to dramatize their opposition to LPI. LPI officials stressed the small scale of the tailings spills, made relatively few public comments, and denied public officials and citizens access to its mining site.



Photo: David Duran

Banner at the Rapu-Rapu pier protesting against Lafayette Philippines Inc. (LPI), Nov 4, 2005.

- On January 29, 2006, the Catholic Bishops’ Conference of the Philippines (CBCP) issued a pastoral letter calling for a nationwide ban on new foreign investments in mining.
- President Arroyo announced an independent study to be conducted by the University of the Philippines regarding environmental and health issues effects of the Rapu-Rapu spills. She also announced the formation of an independent commission headed by Bishop Arturo Bastes to assess the overall situation with respect to the resumption of LPI’s mining operations.
- The results of the University of the Philippines study dispelled fears concerning any remaining presence of mercury and cyanide in the fish and waters off Rapu-Rapu Island.
- However, the report of the Rapu-Rapu commission headed by Bishop Bastes was highly negative in regard to Lafayette’s entire mining operation. The commission found that the Rapu-Rapu mine should remain closed and stated that DENR had been negligent in failing to properly monitor Lafayette’s operations.

- On June 13, 2006, LPI was given permission by the government to reopen for a 30-day test run. In response to specific issues and concerns raised by DENR, Lafayette also made modifications to their operating systems to improve safety. Despite continued debate over Lafayette's operations, an order permanently lifting the suspension of activities at LPI was issued on February 8, 2007.

TVI: Is Responsible Mining Possible in a Conflictive Environment?

The operations of TVI Resource Development Inc. (TVI) at Canatuan in Zamboanga del Norte have been troubled since they began in the mid-1990s. TVI chose to mine a site in a region of the Philippines that was characterized by competition over the control of small-scale gold mining activities, infighting among the Subanen (the local indigenous people), and guerrilla operations of the New People's Army (NPA) and the Moro Islamic Liberation Front (MILF).

- In 1997, TVI received the Environmental Compliance Certificate for its mining project. As the prospect of large-scale mining operations threatened those local interests benefiting from small-scale mining, the Siocan Subanen Association Inc. (SSAI) and a number of NGOs mobilized demonstrations against TVI's entry.
- In 2001, a new election was held for the leadership of SSAI, but several key figures refused to participate. This led to a split among the Subanen. The company entered into a Memorandum of Understanding (MOU) with the new Subanen leadership. The MOU provided a royalty to the Subanen in the amount of 1 percent of mining revenues and committed the company to provide community support in the form of housing, education, and health care.
- Protests and conflict between the Subanen groups and between TVI and those in the Subanen community committed to small-scale mining continued. After an attack on the road leading to the mine killed 13 people in 2002, TVI made use of Philippine legal provisions allowing for the formation of Special Citizen Active Auxiliary units (SCAA).
- In recent years, tense, conflictive, but generally not violent situations have arisen at checkpoints between SCAA units and local residents, and TVI admits that some of these incidents have not been handled well. Other observers are far more critical and have accused the SCAA of serious abuses.
- TVI has spent over US\$1 million to construct a state-of-the-art tailings dam. TVI also has constructed many new housing units, and improved educational opportunities and health care services in Canatuan. In interviews, several Subanen elders stated that a clear majority of the Subanen are supportive of TVI's presence in Canatuan.
- Dissident Subanen leaders claim that TVI has polluted waterways, evicted families, and used violence and intimidation by the SCAA to block the free movement of indigenous people and their transportation of food and equipment. However, based on our interviews, we remain skeptical about the accuracy of a number of these claims, especially in relation to alleged environmental damages.

Nevertheless, the experience of TVI raises serious questions about where and when companies locate their operations. Conflicts over land rights continue to produce lingering resentments. Some observers see TVI as having followed a strategy of divide and conquer in its handling of

relations with the Subanen. The continued use of the SCAA units has the potential to lead to an explosive situation.

Padcal Mine: An Early Model for Responsible Mining?

In field visits and interviews, there were so many stories of mining accidents and irresponsible mining that it raised the question of counterexamples—were there mine sites that offered positive examples and practices that could be replicated? It was in that context that a visit was arranged to Philex Mining Corporation's mine site in Padcal, Benguet.

- Padcal is a community of some 14,000 people, approximately 2,300 of whom are employed at the mine. Originally a logged-out area, the Padcal environs have been largely reforested by the company. It is the first metal mining company in the Philippines to acquire ISO 14001 certification.
- The visit to Padcal showed there to be an impressive collection of community benefits provided by the company as well as a strong financial commitment to environmental protection. Employees receive free housing and health care, while elementary education is free, and secondary education is subsidized at around 70 percent of operating costs.
- Wages are considerably above mandated minimums; the lowest Padcal earner receives 69 percent above the government minimum for the Cordillera Autonomous Region and 6 percent more than the minimum for the National Capital Region.
- Padcal mine does not have a completely unblemished environmental record. However, in 2005, Padcal spent a very robust 6 percent of mining and milling costs on comprehensive environmental programs.
- FESS-Croft researchers met with the two unions at the company—the Philex Mines Supervisory Employees Union and the rank-and-file National Mines and Allied Workers Union. The main issue of concern was the anticipated closure of the mine in 2011. Workers are especially concerned about retraining, alternative livelihoods, and housing.

The impressive programs and systems of social support that one sees at Padcal are the cumulative result of a 40-year process of adjustments and improvements. Ironically, having reached a pattern of operation that approximates responsible mining, the mine is now getting ready for its anticipated closure.

Coral Bay: A Commitment to Community Development

The operations of Coral Bay Nickel Corporation (CBNC) are neither as troubled nor as complicated as those of Lafayette in Rapu-Rapu or TVI in Canatuan. It is also much newer than Padcal and different in nature. CBNC, which officially began operations in April 2005, is not engaged in active mining operations but is actually a hydrometallurgical processing plant. It is co-located with Rio Tuba Nickel Mining Corporation (RTNMC), and CBNC processes RTNMC's stockpiles of nickel and cobalt ore.

- CBNC, with Sumitomo Metal Mining Company as the majority owner, has allocated huge sums (US\$180 million) to environmental protection and pollution control facilities.
- Before CBNC went into operation, concerns were also raised about the possible displacement of indigenous families and the possibility of deleterious effects on

mangroves and the nearby coral reef. CBNC dealt with these fears directly by launching extensive environmental and social programs. Technologically sophisticated siltation dams and tailings dams were constructed, along with a waste-water treatment plant and air pollution control facilities. An abandonment plan was instituted to assure that during the ten years after the cessation of operations all affected lands will be rehabilitated and reforested.

- Even more impressive has been CBNC’s commitment to community development. Since 2004, CBNC funds have been used to build day-care centers and schools, provide school support and scholarships, construct new roads, deliver free medical services, distribute farm implements and fishing boats, initiate animal husbandry programs, and even open a marine sanctuary. All told, CBNC’s spending on social development programs is more than 10 times the amount required by law.

CBNC demonstrates that responsible mining that produces a win-win outcome for both the company and the surrounding communities is indeed possible when grounded in a real financial and corporate commitment. But like Padcal, CBNC is an exception in an otherwise troubled mining sector.

IV. CONCLUSION

The Republic of the Philippines is richly endowed with mineral deposits that—if responsibly mined and managed—have the potential to contribute significantly to national development and the social and economic well-being of the population. The Philippines also has notably comprehensive national legislation and regulatory provisions that address indigenous rights, environmental concerns, and social benefits related to mining.

However, our research and interviews show that, with only a few exceptions, responsible mining is yet to become a reality in the Philippines. Interviews with dozens of government officials, civil society activists, community leaders, and business representatives from across the country indicate that the implementation and enforcement of Philippine mining laws, amendments, and administrative orders are erratic and weak.

Mining is not an economic “silver bullet” but a potentially dynamic economic sector that should be viewed in the context of the broader development goals of local communities, provinces, and the nation. Responsible mining requires taking into account not only environmental, economic, and social effects on the host communities during the life of the mining operation but also the long-term impact of mining activities on those communities in the years after mine closure.

The widespread fears and skepticism of communities in relation to mining are based on well-known, real experiences of irresponsible mining. The mishandling of the situation at Rapu-Rapu, which was touted by the government as a “test case” of responsible mining, has deepened public mistrust. The mining industry is viewed as having a closed, defensive posture of “excuse-making” and “cover-up” rather than one of active self-policing and transparency.

In these circumstances, we conclude that the development potential of the Philippine mining sector is likely to be realized only through the creation of sufficient trust funds to ensure proper environmental safeguards and community benefits. These trust funds would come from monies paid up front by mining companies.

While calls for a total ban on mining reflect real environmental and social concerns, they are, in our opinion, unjustified. Examples of environmentally sound and socially beneficial mining operations *do* exist, but they generally involve operations where companies voluntarily go far beyond the provisions of the Philippines Mining Act of 1995. This is costly but essential to the practice of responsible mining.

The public debate over mining in the Philippines rests upon a weak knowledge base, and the statements of government and mining companies have little credibility with affected communities. Communities often know little about the actual mining process and are poorly prepared to judge the nature and seriousness of accidents, real or alleged. It is also true that anti-mining advocates often make exaggerated claims or inaccurate statements that detract from rather than enhance the quality of public debate. Worst of all, data is often incomplete or not authoritatively verified by credible, independent sources.

Yet, as necessary as credible information is, public attitudes about mining can only be changed by real examples of responsible mining practices that bring tangible benefits to communities. If communities do not receive tangible socioeconomic benefits from mining and are not protected from environmental threats, protests are likely to increase in number and mining operations will become untenable.

Mining firms with good reputations to keep and healthy financial resources to invest are more likely (although not certain) to engage in socially responsible mining. Calls for excluding foreign investment are short-sighted and run contrary to the actual performance of companies in environmental protection and community relations. In the short run, socially responsible mining costs more and requires considerable financial resources—but this is the *sine qua non* of long-term viability.

Some may view this requirement as a barrier to foreign investment. However, it is only a barrier to *irresponsible mining*, which is the real threat to the viability of the mining sector and to continued foreign investment.

Additional actions on the part of both government and the private sector are needed if the mining sector is to be productive and stable. There are important steps that civil society and the donor community can take as well. The recommendations that follow below outline some of the actions that we consider to be most important.

The problem of mining and conflict in the Philippines is not one that will be solved quickly or easily. Recent surveys show that even potential investors have serious concerns. In spite of these fears and the opposition of the Catholic Church, many NGOs, indigenous groups, and numerous communities, mining is likely to continue to increase in the Philippines. Investments are on the rise, especially from China, which has little or no experience in developing good community relations or meeting the social and economic expectations of affected mining communities.

There is good reason to believe that increasing investment will mean increasing conflict. As long as a large gap continues to exist between the rhetoric and reality of responsible mining, mineral extraction in the Philippines will remain a double-edged sword.

V. RECOMMENDATIONS

Based on our findings, we make the following recommendations:

To the Government of the United States (USG):

1. Integrate USG policies with regard to mining in the Philippines to ensure that considerations of environmental protection, community benefits, and the potential for instability and conflict are duly weighed in relation to benefits from increased foreign investment and contribution to economic growth.
2. Add a third component to USAID's programs on environmental governance (along with illegal logging and fisheries) to include a concentrated focus on "the reduction of conflict in mining." Examples of possible approaches could be found in the work of the Environmental Law Institute, among others.
3. Build the capacity of barangays, municipalities, and provinces to make informed decisions about all aspects of mining, from exploration and feasibility studies to actual operations and mine closure issues. These capacity-building efforts should focus especially on indigenous regions across the country and on Muslim Mindanao. The training of barangay captains by Tanggol Kalikasan could serve as one possible model that could be adopted or replicated.
4. Strengthen efforts to assist the Government of the Philippines in becoming a signatory to and active participant in the Extractive Industries Transparency Initiative (EITI) as well as other international codes of conduct.
5. Support, in coordination with other donors and the private sector, the establishment of an independent and credible Center for Responsible Mining that would serve as a clearinghouse for information, a venue for multistakeholder dialogue, and a crisis response research and advisory body.
6. Support training aimed at strengthening corporate social responsibility in the mining sector. The Center for Social Responsibility at the University of Asia and the Pacific has done work that could serve as an initial basis for such training.
7. Use the International Visitor Program to sponsor a multistakeholder group on a 30-day tour across the U.S. to meet with counterparts to explore the theme of "achieving responsible mining."
8. Bring a series of experts on extractive industries and conflict from the United States and elsewhere for lecture tours and meetings with a broad spectrum of stakeholders.
9. Help to reduce the polarization over mining issues and "strengthen the middle" by sponsoring multistakeholder dialogues that bring together participants holding diverse but moderate points of view.

To the Government of the Philippines:

1. Increase the Social Development and Management Program (SDMP) minimum contribution from the current 1 percent of mining and milling costs to the equivalent of 4 percent of mining and milling costs. Those firms attempting to practice socially responsible mining in the Philippines are currently spending in the range of 4 percent to 6 percent of mining and milling costs or above.
2. Require sufficient trust funds from mining companies to ensure environmental safeguards and community benefits and to compensate for improper mining operations or unforeseen mining accidents.
3. Strengthen the Environmental Management Bureau (EMB) monitoring process with respect to such issues as mining tailings, waste rocks, and acid rock drainage. This strengthened effort should be funded by a direct levy on mining companies.
4. Increase the premiums and contributions required of mining companies for environmental safeguards. For example, this could include the Environmental Performance Bond (EPB); Environmental Pollution, Impairment, and Clean-up Liability Insurance (EPICLI); and the Final Mine Rehabilitation and/or Decommissioning Fund (FMRDF). These premiums should be determined by past company performance as evaluated by an independent rating system.
5. Strengthen efforts to encourage mining companies that wish to operate in the Philippines to adopt international codes of conduct and join international organizations that promote environmentally and socially responsible mining. Examples include:
 - International Standards Organization 14001 (ISO 14001)
 - International Cyanide Management Code (ICMC)
 - Best Practice Environmental Management in Mining (BPEMM)
6. Require mining companies to provide an analysis of the projected social impact of their mining operations and contributions to community development. This analysis should include such areas as employment, income, health, and education.
7. Require mining companies to begin community development efforts in the exploration phase. Just as finding the ore body is a necessary technical prerequisite to ensuring commercial viability, creating trust and developing positive community relations is a necessary social investment in order to ensure successful mine operations.
8. Refrain from issuing mining licenses in conflict zones.
9. Make it the official policy of the Republic of the Philippines to join and become an active member of the Extractive Industries Transparency Initiative.
10. Take tangible steps to resolve all outstanding issues relating to abandoned or “legacy” mines throughout the Philippines. The remediation of abandoned mines is a prerequisite for establishing the credibility of claims of a new era of responsible mining.

11. Make renewed efforts to improve the environmental practices and living conditions of small-scale miners through support for more accessible permitting processes and the establishment of cooperatives wherever possible.
12. Restructure the Minerals Development Council to include participation from civil society, academia, the Catholic Bishops' Conference of the Philippines, and the Autonomous Region in Muslim Mindanao. In its current form, with the membership limited to 14 government officials and one private sector representative from the Philippine Chamber of Mines, the Minerals Development Council does not have public credibility.
13. Provide increased funding for the enforcement of all mining laws and provisions by the DENR, other relevant agencies, and LGUs. It should be recognized that effective enforcement and manageable levels of investment are related. When enforcement is weak, prudence requires that the vetting of prospective investors is more stringent. However, strong enforcement allows greater latitude in opening the mining sector to investors.

To Civil Society of the Philippines:

1. Improve public knowledge of mining by working with communities to assess the effects of current and future mining, ensuring that information is communicated or shared by the government and mining companies with the public-at-large, and enhancing the quality of public debate on mining by collecting and disseminating accurate and verifiable data.
2. Ensure the timely availability of reliable, independent information on the environmental effects of all aspects of mining through the establishment of cooperative agreements with distinguished universities and research centers, both domestic and foreign.

To the Private Sector of the Philippines:

1. Create positive demonstration effects to promote sustainable mining through tangible examples of successful, modestly sized operations that practice responsible mining.
2. Institute within the Chamber of Mines mechanisms for collective self-evaluation and self-policing with regard to member companies' environmental performance and contributions to community development. The costs of environmental irresponsibility and conflictive community relations on the part of one company are borne by all members. Peer pressure will reduce the likelihood of major accidents and improve the credibility of the industry.

APPENDIX: PERSONS CONSULTED FOR THIS STUDY

1. Central Government, Republic of Philippines

Department of Environment and Natural Resources

1. Mr. Michael Defensor, Secretary (now Chief of Staff, Malacañang)
2. Mr. Diego Mapandi, Assistant Secretary for Muslim Affairs
3. Mr. Manuel D. Gerochi, Undersecretary for Lands
4. Mr. Ramon J.P. Paje, Undersecretary for Environment and Forestry
5. Mr. Deinrado Simon D. Dimalibot, Undersecretary for Mining and Legal Affairs
6. Mr. Casimiro Ynares, Assistant Secretary for Environment
7. Horacio Ramos, now Director, Mines and Geosciences Bureau
8. Mr. Joey E. Austria, Chief, Indigenous Community Affairs Division
9. Mr. Jeremias Dolino, Assistant Secretary for Visayas and Mindanao/former Director, Mines and Geosciences Bureau
10. Mr. Rex Monson
11. Mr. Vincente Tuddao
12. Mr. Maximo Dichoso
13. Mr. Michael Cabalda, Chief Science Research Specialist, Mining, Environment & Safety Division
14. Mr. Filemonitos S. Monteros, Sociologist (Surigao City)

Department of Energy

15. Mr. Victor Emmanuel A. Dato

Department of Health

16. Dr. Carmencita Banatin, Director III, Health Emergency Management Staff
17. Dr. Yolanda Oliveros, Director IV, National Center for Disease Prevention and Control

18. Dr. Virginia Ala, Director IV, Bureau of Internal Health Cooperation
19. Ms. Mayleen M. Beltran, Director IV, Health Policy Development & Planning Bureau

Department of Interior & Local Government

20. Angelo Reyes, Secretary (now Secretary, Department of Environment and Natural Resources)

Department National Mapping and Resource Information Authority

21. Ms. Linda SD. Papa, Director, Information Management

Department of Tourism

22. Mr. Rolando Cañizal, Director

Energy Policy and Planning Bureau

23. Ms. Elizabeth G. Navalta, Director

National Commission on Indigenous Peoples (NCIP)

24. Ms. Rosalina Bistoyong, Executive Director

National Anti-Poverty Commission

25. Mr. Juan Blenn I. Huelgas, Director, Basic Sector Unit
26. Mr. Bernie Cruz, Undersecretary

Office of Senator Aquilino Q. Pimentel, Jr.

27. Mr. Eleuterio Dumogho, Head, Local Government and Political Affairs

Office of Senator Mar Roxas

28. Senator Mar Roxas

Office of Civil Defense

29. Gen. Glenn J. Rabonza, Administrator and Executive Officer, National Disaster Coordinating Council

Philippines Embassy in Washington, D.C.

30. Col. Rolando Tenefrancia, Military Attaché

2. Local Government, Republic of Philippines

Albay Province

31. Hon. Fernando Garcia, Governor
32. Mr. Ronnie Victoria, Former Police Chief

Capiz Province

33. Hon. Victor Bermejo, Governor
34. Mr. Blas James G. Viterbo, Legal Counsel

Laguna Lake Development Authority

35. Mr. Jose K. Cariño III, Division Chief III, Community Development Division

Legazpi City

36. Hon. Noel E. Rosal, City Mayor

Misamis Oriental Province

37. Gov. Oscar Moreno

Palawan Province

38. Ms. Vicky T. de Guzman, Board Member, 2nd District

Palawan Council on Sustainable Development

39. Mr. Alex Marcaida, Information Officer
40. Ms. Aida Torres, Legal director
41. Mr. Danilo De Sagun Project Development Officer IV
42. Mr. Briccio Abela, Engineer, PDO III
43. Mr. Apollo Recalo Forester

Placer, Surigao del Norte

44. Hon. Felimon “Monching” Napuli, Mayor

Puerto Princesa City

45. Mayor Edward Hagedorn

Sorsogon Province

46. Mayor Benito Doma, Prieto Diaz
47. Mr. David Duran, City Councilor

Tubod, Surigao del Norte

48. Dr. Guilermo A. Romarete Jr., Mayor
49. Mr. Edelfredo Nalitan, Barangay Captain, Tiamana, Surigao del Norte
50. Mr. Porferio Bing, Barangay Official
51. Ms. Rosario Saga, Barangay Councilor
52. Ms. Marilyn S. Imboy, Barangay Official Committee on Finance
53. Mr. Cihalyn S. Amar, Barangay Treasurer
54. Ms. Elizabeth B. Biong, Barangay Secretary

3. Catholic Church

Cardinal of Manila

55. Archbishop Gaudencio Borbon Rosales

Social Action Center, Diocese of Legazpi

56. Mr. John B. Abejuro, Executive Assistant for Operations

Social Action Center, Diocese of Romblon

57. Bishop Arturo M. Bastes

4. Mining Companies/Private Sector

Benguet Corp

58. Mr. Perfecto Floresca Jr., Senior Mining Engineer, Claims Management Division

Bronzeoak Philippines Inc.

59. Mr. Jose Maria “Sech” P. Zabaleta Jr., Regional Director, Asia Pacific

Cagayan de Oro Chamber of Commerce

60. Mr. Ruben Vegafria, President

Chamber of Mines of Philippines

61. Ms. Nelia Halcon, Executive Vice President
62. Fr. Emeterio J. Barcelon, Trustee

Coral Bay Mining Corporation (Palawan HPP Project, Nickel, Bataraza, Palawan)

63. Mr. Takanori Fujimura, President
64. Mr. Arturo R. Manto, Chief Environmental Officer

Lepanto Consolidated Mining Co

65. Mr. A. C. "Gus" Villaluna, Senior Vice President & Resident Manager
66. Mr. Luc Edcardo, Environment and Social Management Division
67. Members of the Supervisors Union
68. Members of the Rank and File Union

Marcopper Mining Corporation (San Antonio Copper Project, Santa Cruz Marinduque)

69. Mr. Alberto O. Cuarteron, Special Assistant for Legal Assistant Corporate Secretary

Philex Mining Corporation (Padcal Expansion Project)

70. Mr. J. Ernesto C. Villaluna, President & COO
71. Mr. Eulalio B. Austin Jr., VP & Resident Manager
72. Mr. Victor Ma. A. Francisco, Manager, Corporate Environment and Community Relations
73. Ms. Redempta P. Baluda, Division Manager, Environment and Community Relations
74. Supervisors Union and Rank-and-File Union members at Philex Mining Corporation

Philex Mining Corporation (Boyongan Copper Project)

75. Mr. John Eludo, Community Relations Officer

Silangan Mindanao Mining Co (Boyongan Copper Project, Tubod, Surigao del Norte)

76. Mr. Ed Realgar L. Oporto, Geologist

TVI Resource Development Phils., Inc. (Canatuan Gold Project, Gold, Siocon, Zamboanga del Norte)

77. Mr. E. Kennedy "Ed" Coronel, Director, Social Commitment
78. Mr. Dewayne Chambers, Manager Special Projects
79. Mr. Fidel J. Bontao, Environmental/Loss Control Manager
80. Mr. Virgilio Gonzales Luna, Proyectos, Knight Piesold Consulting
81. Mr. Jay Nelson, Manager, Environmental Protection
82. Mr. Victor F. Bagasao, Community Relations Manager
83. Ms. Lullie Micabalo, Community Development
84. Ms. Leila Compus, Human Resources and Development Manager
85. Mr. Erdulfo Comisas, Council of Elders Siocon Subanen Association Incorporated (SSAI)
86. Mr. Adolfo Dalman, Board Member, Siocon Subanen Association Incorporated (SSAI)

5. Academic/Research**Ateneo de Naga University**

87. Prof. Emelina G. Regis, Institute for Environmental Conservation and Research (INECAR)
88. Dr. Emilyn Espiritu, Chair, Environmental Science Department
89. Dr. Fabian M. Dayrit, Dean/Prof, School of Science and Engineering/Dept of Chemistry
90. Dr. Maria Cecilia Macabuac, Researcher

Center for Social Policy and Public Affairs

91. Mr. Jose Magadia, SJ, Director

Environmental Science for Social Change Institute

92. Ms. Sylvia Miclat, Manager, Programs Development & Research Unit
93. Mr. Liesel Lim

Manila Observatory

94. Dr. Daniel MacNamara, SJ, Director

Philippine Council for Aquatic and Marine Resources and Development

95. Dr. Rafael D. Guerrero III, Executive Director

University of Asia and Pacific

96. Dr. Bernardo M. Villegas, Senior Vice President
97. Mr. Dionisio C. Papelleras, Jr., Executive Director, Center for Social Responsibility
98. Mr. Colin Legarde Hubo, Chair, IPD-Center for Social Responsibility Studies

University of the Philippines at Los Banõs

99. Atty. Eleno O. Peralta, Director, Forestry Development Center
100. Dr. Antonio Alcantara, Dean and Professor School of Environmental Science and Management
101. Dr. Leni D. Camacho, Assistant Professor Dept of Social Forestry and Forest Governance College of Forestry and Natural Resources
102. Dr. Ramon Razal, Dean, College of Forestry and Natural Resources
103. Dr. Daylinda Banzaon-Cabanilla, Associate Professor, Anthropology

St. Scholastica College, Manila

104. Dr. Socorro E. Aguja, Faculty
105. Ms. Rhoda S. Tayag, Faculty

106. Ms. Evangeline B. Enriquez, Reseracher
107. Dr. Delia C. Navaza, Ed.D., Chair, Science Department
108. Ms. Teresita F. Religiosa, Consultant/Author & Coordinator of Science Books

Xavier University

109. Fr. Jose Ramon "Jett" Villarin, President
110. Dean Raul "Rocky" Villanueva, School of Law

6. Nongovernmental Organizations**ALAGAD NGO**

111. Mr. Alberto "Toto" Malvar, Former Congressman, President

Asia Foundation

112. Atty. Carolyn A Mercado, Senior Program Officer
113. Mr. Wilfredo Torres III, Program Officer

Biodiversity and Sustainable Development

114. Mr. Julio Galvez Tan, Independent Consultant

CO Multiversity

115. Ms. Bing Constantino, Program Coordinator
116. Ms. Mimi Pimentel, CO Trainer

Community Based Forestry Management/Enterpriseworks Worldwide

117. Mr. Jaime Dagot

Conservation International, Philippines

118. Mr. Romeo B. Trono, Country Executive Director
119. Dr. Rowena Reyes-Boquiren, Socio-Economic and Policy Unit Leader

Cordillera People's Alliance

- 120. Ms. Joan U. Carling, Chairperson
- 121. Mr. Santos Mero
- 122. Mr. Markus Bangit
- 123. Ms. Rhoda Dalang

Environmental Legal Assistance Center (ELAC)

- 124. Atty. Gerthie Mayo-Anda, Assistant Executive Director

Foundation for a Sustainable Society, Inc

- 125. Ms. Emma Lim-Sandrino, Executive Director
- 126. Mr. Toto Camba, Assistant Executive Director

Foundation for the Philippine Environment

- 127. Ms. Sylvia Mesina, Executive Director

Haribon Foundation

- 128. Ms. Anabelle E. Plantilla, Executive Director

InciteGov

- 129. Ms. Dinky Soliman, Former Social Welfare Secretary
- 130. Ms. Ging Deles, Former Presidential Adviser on the Peace Process

Legal Rights and Natural Resources Center (LRC) – Kasama sa Kalikasan

- 131. Ms. Jocelyn Villanueva, Executive Director
- 132. Mr. Lodel D. Magbanua, Team Leader, Policy Advocacy Team

Natripal

- 133. Mr. Artiso A. Mandawa
- 134. Ms. Mercedes L. Mediodia

Philippines Business for the Environment

- 135. Ms. Liza Antonio, Executive Director

Tanggol Kalikasan (Defense of Nature)

- 136. Atty. Asis G. Perez, Executive Director

- 137. Atty. Ipat Luna, Environmental Lawyer

Tebtebba Foundation

- 138. Ms. Victoria Tauli-Corpuz, Chairperson, UN Permanent Forum on Indigenous Issues (UNPFII)
- 139. Mr. Salvador Ramos

Tubod, Surigao del Norte

- 140. Mr. Dante Tado, TEACH (NGO)

World Resources Institute

- 141. Mr. Tony La Viña, Senior Fellow (now Dean, Ateneo School of Government, Ateneo de Manila)

World Wildlife Fund

- 142. Mr. Jose Ma. Lorenzo P. Tan, President

7. U.S. Government/International Organizations**Development Alternatives, Inc./USAID Eco-Governance Project**

- 143. Dr. Ernesto Guiang, Chief of Party

UNDP

- 144. Ms. Amelia Supetran, Portfolio Manager, Environment Program

USAID

- 145. Mr. Jon Lindborg, Mission Director
- 146. Mr. Daniel C. Moore, Chief, Office of Energy and Environment
- 147. Ms. Mary Joy A. Jochico, Urban Environment Specialist, Office of Energy and Environment
- 148. Mr. Jerry Bisson, Chief, OEM, LAC
- 149. Ms. Mary Melnyk, Senior Natural Resources Advisor
- 150. Mr. Oliver O. Agoncillo, Advisor, Natural Resources Policy
- 151. Mr. Gerarado A. Porta, Sr Civic Participation Specialist, Office of Economic Development and Governance

U.S. Embassy, Manila

- 152. Mr. Josefo B. Tuyor, Operations Officer
- 153. Col. Mathias R. Velasco, Colonel, U.S. Army Joint Military Assistance Group

World Bank

- 154. Mr. Josefo B. Tuyor, Operations Officer
- 155. Ms. Idah Pswarayi-Riddihough, Lead Natural Resources Management Specialist

8. Other Individuals

- 156. Mr. Ernie Pelaez, Son of Former Vice President of the Philippines, Owner of forested areas used as carbon sink north of Cagayan de Oro
- 157. Mr. Victor Ramos, Former Secretary of DENR
- 158. Mr. Howie Severino, Journalist at GMA 7 Channel



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