Policy Briefs

Philippine Mining Disaster: Counting the Cost of a Ruined River

by Ma. Eugenia Bennagen

In March 1996, the Philippines experienced one of its most serious industrial pollution accidents.

The incident involved the Marcopper Mining Corporation which has been carrying out open- pit copper mining since the 1970s.

When the company finished one of its operations in Marinduque, it plugged the old pit with concrete so that it could act as a disposal pond for mine waste. In August 1995, seepage was discovered in the pit's drainage tunnel. This subsequently ruptured. The accident discharged tailings into the Makulapnit-Boac (Boac) river system.

The incident resulted in the release of some 1.6 million cubic meters of tailings along 27 km of the river and the coastal areas near its mouth. The impact on the river and the people who depend on it for their livelihoods was massive. The onrush of tailings displaced river water which inundated low-lying areas, destroying crops and vegetable gardens and clogging irrigation channels to rice fields. The release left the Boac River virtually dead. The effects of the incident were so devastating that a UN assessment mission declared the accident to be a major environmental disaster.

Eugenia Bennagen and Ramyleo Pelayo, two researchers from the Resources, Environment and Economics Centre for Studies (REECS), set out to estimate the value of the environmental damage from the accident. One of their aims was to help formulate guidelines for damage assessment and the calculation of compensation.

Before the accident occurred, the waters of the Boac river provided many important services to the communities along its banks. These included fishing, irrigation, laundry, washing, bathing, transport and local medicines. Some of these services have market values, while others are not easily costed in this way.

To see how much damage the mining accident had caused, Ms. Bennagen and her team looked at the total value of the services the river provided, before and after the incident.

By interviewing households, they found that about two-thirds of the local population had been affected in various ways: rice farmers reported lower productivity, laundry women had to find new, less accessible sources of water, and so on.

The study's findings were dramatic: total damages from the disaster over a 10-year period were estimated at 170 million pesos (USD 7 million in 1996). The losses for 1996 alone (some 50 million pesos) were more than double the amount provided in compensation by the Marcopper Environmental Guarantee Fund (EGF). The EGF did not apply an economic valuation of damages and relied instead on a more ad hoc approach. Ms. Bennagen recommends that the EGF's guidelines for damage assessment be modified to provide a more objective base for determining compensation.

REECS' report just completed will be show-cased at a number of government and NGO seminars in coming months. It has also been shared with researchers investigating a similar mining disaster near the Donana National Park in Spain. The methods and findings from this study could therefore prove useful, not only for the Philippines, but world-wide.

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The full text of this study is available as an EEPSEA Research Report:
Estimation of Environmental Damages from Mining Pollution: The Marinduque Island Mining Accident - Ma. Eugenia Bennagan

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