

WORKSHOP REPORT

Improving Mined Land Rehabilitation in Indonesia through Capacity-Building for Practitioners

**Bogor, West Java, Indonesia
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A workshop sponsored by
Environmental Leadership & Training Initiative (ELTI)
Tropenbos International-Indonesia Programme (TBI Indonesia)
Bogor Agricultural University (IPB)
University of Bengkulu (UNIB)



Introduction: Indonesia has a large mining sector, producing coal, copper, gold, tin, nickel, manganese, and bauxite. Mining contributes about 4-5% of the total Indonesian GDP, as well as a much larger share of the regional economies of provinces like Bangka-Belitung, East Kalimantan, Papua, and West Nusa Tenggara. Mining is viewed positively by both the national and regional governments because of its potential to contribute to the development of remote areas, where mining companies establish basic infrastructure and may be the only source of formal employment. The Indonesian government plans to increase the contribution of mining to the national GDP over the coming years.



While the mining industry has multiple benefits for the Indonesian economy, the impact of mining on the biophysical environment is severe and worrisome. Mining areas are stripped of vegetation and soil, which impacts their ability to provide environmental services like the provision of forest products for local communities, soil stabilization, hydrological cycling, carbon sequestration, and habitat for biodiversity. Downstream communities, including riverine and marine areas, can also be significantly impacted through landslides, sedimentation, and the discharge of toxic materials.

Mining in Indonesia is regulated by three Ministries: the Ministry of Energy & Mineral Resources, the Ministry of Forestry, and the Ministry of Environment. Indonesian regulations require the progressive rehabilitation of mine sites, which, if properly implemented, would mitigate and reverse some of the damage caused by mining. However, in practice, many companies do not fulfill their regulatory obligations, especially the small-scale mines. Part of the problem stems from companies' lack of technical capacity to conduct rehabilitation on heavily degraded, and sometimes toxic, sites. Another factor is the limited technical capacity of government regulators, who are supposed to not only monitor and evaluate companies' rehabilitation efforts, but also provide technical guidance in conducting rehabilitation efforts. There is also often an unwillingness on the part of government regulators to uphold the law in the face of violations.

To address these challenges, ELTI, TBI Indonesia, IPB, and UNIB are working together to advance mined land rehabilitation through capacity building for practitioners, government regulators, and civil society organizations in Indonesia. This initiative builds upon pilot activities on mine site rehabilitation, including a symposium and two trainings that were undertaken in East Kalimantan. This workshop is intended to further develop appropriate teaching materials and establish an institutional infrastructure for conducting broad scale trainings through the Indonesian university system. This workshop also involves working with a professional certification agency in exploring how best to prepare quality workers for an increasingly global international labor market.



Workshop Objectives

1. To establish a core curriculum and develop plans for creating additional training materials on mined site rehabilitation;
2. To discuss the creation of a formal network of training/research centers for mined site rehabilitation; and
3. To explore options for establishing a credential system for mine site rehabilitation practitioners in Indonesia.

Workshop Format: The first day of the workshop was attended by a small group of 9 experts in mined land rehabilitation, and was focused on gaining a shared understanding of a draft on work competency standards that is being developed by the Indonesian Ministry of Forestry and the Ministry of Labor through the National Institute of Profession Certification (LSP-Rhino). The workshop was opened by Dr. David Neidel (ELTI), followed by brief remarks from Dr. Petrus Gunarso (TBI-Indonesia) and Dr. Yadi Setiadi (IPB). Mr. Wachjono (LSP-Rhino) provided an introduction to the competency standards and proposed certification scheme, which led to an extended discussion on how the certification scheme would be operationalized, how trainings could be designed to meet the standards, and how applicants would be assessed.

The second and third days of the workshop were attended by a larger audience of 20 people, representing mining companies, NGOs, institutions of higher learning, and the Ministry of Forestry. Following a brief official opening, Mr. Hendry Baiquini (University of Queensland Center for Mined Land Rehabilitation) discussed the work of the Center, compared governance structure related to mining in Australia and Indonesia, and introduced various resources and opportunities that could be taken advantage of by participants of the workshop. Mr. Wachjono then provided an overview of the standards and certification scheme based on the previous day's discussion. Mining company practitioners deliberated on the standards and certification schemes based on their field experiences, particularly the obstacles to rehabilitating mined lands. Concerns raised during the



discussion included the fact that the existing standards were primarily geared towards the forestry sector, whereas much mining occurs outside the forestry estate, and that the division of labor embedded in the standards sometimes did not reflect the existing division of labor in individual companies. Other issues, such as the lack of effective enforcement by regulators from the three Ministries, were also discussed.

The discussion about developing a formal curriculum was introduced by Dr. Yadi Setiadi, who discussed several mine rehabilitation practices that he had developed over the years as a consultant to many of the large mining companies. The other participants from Indonesian universities also introduced some of the techniques that they were developing in cooperation with mining companies located near their universities. In general, it was agreed that the universities could play a bigger role in conducting research on mined land rehabilitation and providing trainings for both private sector practitioners and government regulators. It was also agreed that the training materials should primarily focus on meeting government regulations, but should also take into consideration leading standards and new techniques developed by the research community.

The workshop closed with a discussion, led by Dr. Hery Suhartoyo (UNIB), of the potential advantages and disadvantages of establishing a more formal type of network to address the workshop objectives. It was agreed that the advantages of such an institutional arrangement would make the effort worthwhile, but additional funds need to be raised in order to make the network viable, and linkages with other networks, like the Forest Land Rehabilitation Forum, should be explored. The session ended with individual commitments as to how each would move this initiative forward, and the nomination of Dr. Suhartoyo as the head of the network.



Participants: The workshop was attended by a total of 20 participants consisting of representatives from universities affiliated with centers for mined land rehabilitation, NGOs, mining companies, and representatives from the government. Participation was by invitation only following a detailed selection process.

Outcome and Follow-Up: Network members agreed to continue working with Mr. Wachjono in refining the standards in order to make them applicable to all mining contexts in Indonesia. ELTI, TBI, and IPB will continue to work on developing training materials that meet government regulations and leading practices, as well as building linkages with and among the existing centers for mined land rehabilitation in Indonesia that will provide trainings in the future. We will also continue to strengthen linkages with the University of Queensland Center for Mined Land Rehabilitation, including exploring possible funding through the AusAID-funded International Mining for Development Centre.

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