



INCO-CT-2005-015171

ERMISA

Environmental Regulation of Mine Waters in South America

Instrument: Specific Support Action

Thematic Priority: Specific Measures in Support of International Cooperation,
Developing Countries, A.2 Rational Use of Natural resources,

Publishable Final Activity Report

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Project coordinator name: Dr Jaime M. Amezaga

Project coordinator organization name: University of Newcastle upon Tyne

Project web site: <http://www.labor.org.pe/webermisa/ermisa.htm> and
<http://www.ncl.ac.uk/environment/research/HEROermisa.htm>

1. PROJECT EXECUTION



Environmental Regulation of Mine Waters in South America

ERMISA

EC Contract: INCO-CT-2005-015171

Project websites:

<http://www.labor.org.pe/webermisa/ermisa.htm>

<http://www.ncl.ac.uk/environment/research/HEROermisa.htm>

Coordinator Contact Details

Responsible scientist: Dr Jaime M. Amezaga
Address: HERO, Institute for Research on Environment and Sustainability (IRES), Newcastle University, Newcastle upon Tyne, NE1 7RU, UK
Telephone: +44 191 246 4876
Email: J.M.Amezaga@ncl.ac.uk

Contractors

Participant Role*	Participant number	Participant name	Participant short name	Country
CO	1	Newcastle University	UNEW	UK
CR	2	Asociación Civil Labor	Labor	Peru

*CO = Coordinator; CR = Contractor

Context and objectives

The main human pressure on arid and humid ecosystems in developing countries where mining is or has been an important socio-economic activity is the degradation of water resources by pollution from active and abandoned mines. In many countries of the southern hemisphere poorly-managed active mines and unrestored abandoned mine sites are damaging the welfare of arid and humid ecosystems and their users. In South America, these impacts are most severe in the many arid and semi-arid areas where water resources are in any case scarce. The European research programmes have paid particular attention to the remediation of mine water pollution. The results and outcomes from these past projects could provide some valuable insights to be discussed

in the context of mining development in South America. The ERMISA project has the general aim of contributing to the establishment of policies, management systems and technologies aimed at the prevention and remediation of impacts on (aquatic) ecosystems by mining activities in South America, using Peru as a demonstration country.

Activities

This aim has been achieved through the following activities: 1. Produce a summary evaluation of existing mine water management measures in Peru (relating to active and abandoned mines) from the regulatory, technical and social perspectives. 2. Disseminate, as an element for regional dialogue, the results of three European projects: FP5 ERMITE: Environmental Regulation of Mine Waters in the EU, FP5 PIRAMID Passive In-situ Remediation of Acidic Mine/Industrial Drainage, FP6 Access to Research Infrastructure CoSTaR 3. Establish a multi-sector (industry, regulators, NGOs) forum for dialogue on ecosystems and mine water management, including representatives from other countries in the region. This forum will be based on the already existing Grupo de Diálogo Minería y Desarrollo Sostenible which has been active for several years and has produced an Agenda for Mining Sector. ERMISA will promote the dialogue on water management in the mining sector. 4. Support the development of future Community RTD activities on this topic in South America with the aim of promoting the local development of appropriate "whole-catchment" approaches to water management, including the use of relevant passive remediation technologies.

Expected results and outcomes

ERMISA raised the profile of water issues in the management of the mining sector in Peru. The main vehicle for this task was the involvement with the NGO-led Grupo de Diálogo Minería y Desarrollo Sostenible which gathers all the key actors of the mining sector to discuss sustainable development and mining in Peru. In the last 6 years these meetings have been attended by an average of 50 participants from the main mining companies, NGOs, consultants, communities, universities, municipalities and national government (eg Ministry of Energy and Mining).

As a first step to support this process, ERMISA produced an integrated analysis of water and mining in the country.



INCO-CT2005-015171

ERMISA

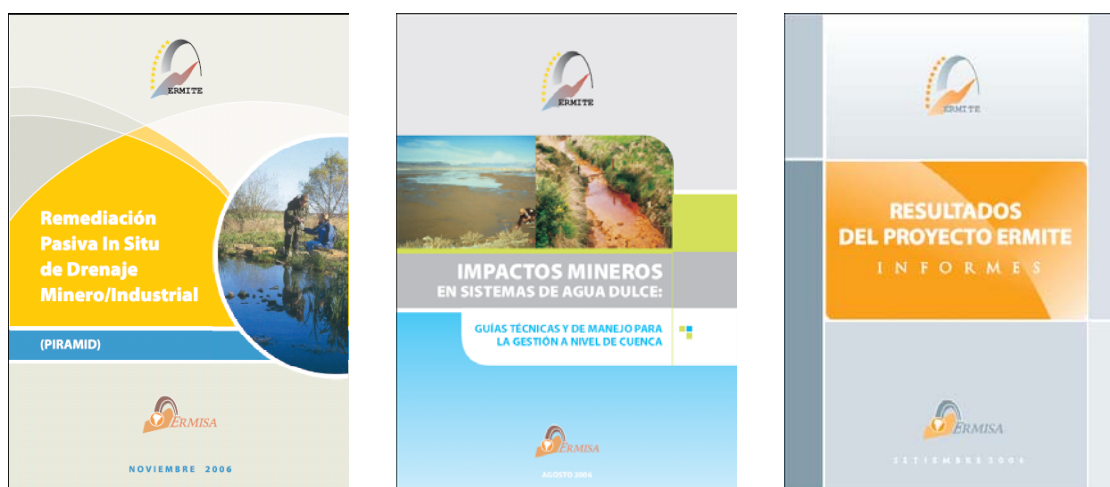
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Deliverable 1
Mining and Water in Peru

It also provided access to the outputs of former European research projects which have tackled similar issues, as one contribution to the establishment of high level standards for the Peruvian mining industry. These reports are publicly available at <http://www.labor.org.pe/webermisa/ermisa2.htm>.



ERMISA allowed the creation of a new Working Commission attached to the Dialogue Group discussing the identified priority “Water, Mining and Catchment”. This Commission met several times during the life-time of the project and produced a number of provisional recommendations that can be found in the document “Final Peru Report with Recommendations” available in the above mentioned webpage. It is expected that the Commission will keep meeting after the end of the project.

The main product of ERMISA has been the organisation of the 1st International Forum: “La Gestión del Agua, Minería y Cuenca para un Desarrollo Social” (Management of Water, Mining and Catchment for Social Development), 21-21 September, Lima (Peru). The event was co-organised with AMANCO, Gestión Social del Agua y el Ambiente en Cuencas (GSAAC), Instituto de Promoción para la Gestión del Agua (IPROGA), Noticias Aliadas and CARE with support of the Belgium agency 11.11.11.

1er FORO LA GESTIÓN DEL AGUA, MINERÍA Y CUENCA PARA UN DESARROLLO SOCIAL	
OBJETIVOS El Foro Internacional se convierte en un espacio en donde se exponen propuestas para una apropiada gestión de la cuenca y el recurso agua, con un enfoque principalmente minero e involucrando a los demandantes. El Foro tiene como objetivo sumarse a los esfuerzos nacionales en tema del agua, aportando a la construcción de nuevas formas de gestión en el ámbito minero, a través de la promoción de buenas prácticas innovadoras y de alto impacto social. Demostrar que la nueva gestión del agua en un enfoque de cuenca implica la contribución a un desarrollo social generando buenas prácticas para un territorio responsable.	
PROGRAMA	
JUEVES 21 DE SEPTIEMBRE	
Actividad	Responsable
16:30 pm a 21:30 pm	Segunda Vice Presidenta del Perú Dra. Lourdes Mendizábal del Solar (*)
16:30 pm a 21:30 pm	Carlos Alberto Komet Asociación Civil Labor
16:30 pm a 21:30 pm	Prof. Paul Nuygen Universidad Newcastle
16:30 pm a 21:30 pm	Dr. Carlos Amat y León Centro de Investigación de la Universidad del Pacífico
16:30 pm a 21:30 pm	Ministerio de Energía y Minas (*) Ing. Raúl Benavides, Buenaventura Compañía de Minas Buenaventura Sr. Karl Nagel, Comisión Europea Dr. Laureano del Castillo, IPROGA
16:30 pm a 21:30 pm	Exposiciones de Panelistas
16:30 pm a 21:30 pm	Preguntas de los participantes
Sistemización: Dr. Laureano del Castillo Cierre del primer día	
VIERNES 22 DE SEPTIEMBRE	
Actividad	Responsable
9:00 am a 11:00 am	EXPERIENCIAS DESDE LA ACTIVIDAD MINERA DE GESTIÓN DEL AGUA EN LA CUENCA Propuesta de un plan de Gestión Integral de la Subcuenca El Rayo - Cuenca Jirquepajue Tribuna: Reciclaje del agua Regulación de la cuenca del Río Chill Experiencia del Fondo Nacional del Ambiente en la Remediación de pasivos mineros en la provincia de Huálgayon, Cajamarca Preguntas de los participantes
9:00 am a 11:00 am	Ing. Godofredo Rojas Relaciones Comunitarias, Yanacocha Ing. Enrique Velarde Rivas Módulo-Tribuna Sr. Pablo Alcázar, Cerro verde Eco. Julia Justo Directora Fondo Nacional del Ambiente
9:00 am a 11:00 am	Sistemización: Ing. Dina Apaza Idme Pausa - Café 20 min
11:30 am a 13:15 pm	PRÁCTICAS DE GESTIÓN DEL AGUA DESDE LAS COMUNIDADES LOCALES Candaveen: Propuestas para un uso eficiente del agua Cajamarca: Propuestas para la gestión del agua Huancabamba: Las Amunas, recarga del acuífero de Los Andes Preguntas de los participantes
11:30 am a 13:15 pm	Dr. Félix Laura Vargas Comisión de RRNN y Medio Ambiente Gobierno Regional de Tacna GRUPOS Ing. Dina Apaza Idme
11:30 am a 13:15 pm	Sistemización: Eno. Andrés Alencastre
OTRAS INICIATIVAS PARA LA GESTIÓN DEL AGUA, MINERÍA Y CUENCAS	
10:30 am a 16:40 pm	Soluciones tecnológicas: control de contaminación Avances de la formulación de Políticas Públicas en la Gestión de Recursos Hídricos en la Región Cajamarca La gobernabilidad del agua El enfoque de la gestión social de la gestión del agua y el ambiente en cuencas Preguntas de los participantes
10:30 am a 16:40 pm	Ing. Danilo Caceres B. AMANCO Ing. Francisco Soto Hoyos Coordinador de PROPIAS Cajamarca Secretario Técnico de Grupo Regional de Gestión del Agua, Cajamarca Ing. Carlos Pérez IPROGA Eco. Andrés Alencastre Programa GSAAC
10:30 am a 16:40 pm	Sistemización: Ing. Jan Hendrix Pausa - Café 20 min
17:00 pm a 18:15 pm	Se elabora una propuesta de Agenda Nacional para la Gestión del agua, minería y cuencas, para el desarrollo social Lectura de las conclusiones y fecha del próximo foro. CLAUSURA - BRINDIS
17:00 pm a 18:15 pm	Comité de sistematización final. Con los comentarios de: Dr. Mariano Castro, CONAM Vice Ministerio de Hacienda (*) Ing. Enrique Salazar, INRENA Dra. Nicole Bernex, PUCP-GWP-Perú (*) Dra. Doris Balvin, Asociación Civil Labor

(*) Por confirmación

The forum had an average of 150 participants per day including representatives from mining companies, farmers, service companies, government, external donors, researchers and academics. It was divided in four blocks: key note speakers, experience from companies, experience from communities and other catchment oriented initiatives. In the last session a panel with different specialist in this sector produced a final synthesis of the main points raised during the discussions. This summary and all the presentations can be found at <http://www.labor.org.pe/webermisa/1foro.htm>.

The main conclusions were that:

1. The Peruvian government should prioritise within their international cooperation agreements on:

- The development of environmental institutions for water resources and conflict management.
- The establishment of a plan to remediate the mining legacy.

2. Companies should apply in the South the same international standards that they use in the North.

ERMISA also established a dialogue with the external cooperation agencies in Peru that have formed the Grupo de Donantes de Agua. This group is formed by the main donors with an interest in water provision and management. In particular, a number of meetings were organised with the EU Delegation in Peru.

The final findings of the project and the implications for EU policies were discussed in workshop for EC officials from DG Environment, DG AidCo and DG Relex in Brussels on the 15th January 2007 co-organised with DG Research. Two policy briefs (see <http://www.labor.org.pe/webermisa/ermisa2.htm>) were presented by the ERMISA team and discussed with the EC officials.



ERMISA Policy Brief No 1 January 2007

Social and Environmental Impact of Mining in Peru

KEY POLICY RECOMMENDATIONS

- To establish an independent Environmental Authority
- To strengthen the environmental institutions by improving the management tools (EIA, water management plans, standards, disaster mining plans, etc) for sustainable use of water with a river basin perspective.
- To prevent and to remediate the mining pollution legacy that has a high impact in the aquatic ecosystem, by allocating economic resources and technology.
- To promote Corporate Social Responsibility in mining companies by disseminating the best standards and policies of these companies in the vanguard of CSR implementation.

Importance of mining versus impacts

Mining is one of the most important economic activities in Peru, representing currently more than 50% of the Peruvian income. The high growth of the sector in the 1990s was promoted by an aggressive policy where environmental and social issues were less important. This has been one of the key sources of conflict in all the mining areas. As a result of this development policy, there are serious problems regarding the management of natural resources affected by mining, especially those related to water pollution, accessibility and availability.

Impacts of mining are limited to a legal framework that does not have effective and concrete management tools to enforce the law. On top of that, the environmental responsibilities (water quality and quantity monitoring, permits, control and penalties) are dispersed among a number of agencies. A key deficiency of the system is the dual role of the Ministry of Mines as the government authority which promotes mining investment while it is also in charge of the environmental control in the sector. Proper water management is impossible with the current institutional set up.

On other hand, there are many studies that show the strong water competition between mining and other economic activities, mainly agriculture and human consumption. This competition should be addressed at the basin level.

Old mining is responsible for the environmental legacy that is creating serious problems of contamination in aquatic ecosystems. According to the Peruvian Ministry of Mines there are 100 mining sites that need to be rehabilitated. The new mining is also creating water distribution. New technology permits the exploitation of low ore deposits so the area of influence (including contamination) extent of water use, and amount of waste produced is much higher. A World Bank report shows that mining is the most polluting industrial sector affecting surface and ground water in Peru.

So, new technology poses a new challenge: where is it possible and where is not possible mining?

Companies and communities

Addressing these and other trends, some corporations have moved to distinguish themselves from competitors by adopting their operations to independent scrutiny. Many have come to realize that compliance with the laws of a country is not enough to ensure that they operate in a way that is consistent with the environment or sustainable development. Some corporations acknowledge the need for compliance with international codes, protocols, covenants, declarations, instruments, and treaties that protect basic human rights, self-determination, cultural integrity, labor and social rights, and the natural environment.

From the community's point of view, its vision of water is completely different and not taken into account in mining plans or mining project sites. This different understanding of water and culture promotes contamination, and in some time behind the conflict in Andean communities like Peru.

Getting consensus for proposals

For more than 4 years there has been a multi-stakeholder dialogue process, Mining Dialogue Group, which tries to address the source of conflict in Peru. It is a voluntary attending group formed by 50 people from mining companies, communities, universities, NGOs, government agencies, congressmen, local governments, among others.

The main objective of the Group is to find common views amongst traditionally opposed institutions or with different interests. Up to now, the following issues constitute the principal agenda for the Group: water and waste, environmental authority, and price, informal and free contract, among others. The group has recommended the creation of an Independent Environmental Authority in the analysis of water management and mining.

For further information contact:
Dr. Jaime Rosendo, Hydrogeologist and Engineering Researcher at ERMISA Institute for Research in Environmental and Sustainability (IERES), Donostia Building, University of Basque Country, Leizor, Spain. Tel: +34 941 161 161 161. Fax: +34 941 161 161 161. E-mail: jaime.rosendo@ieres.org

The views expressed by the project do not represent an official position of the EC.



ERMISA Policy Brief No 2 January 2007

Water Management and Mineral Resources

KEY POLICY RECOMMENDATIONS

- To establish the European Union support within the framework of environment and resource management, focusing on water as a key resource.
- To create the National Water Authority (ANEA) that will be responsible for the management of water resources in Peru, with the aim of ensuring the sustainable use of water resources and the protection of the environment.
- To strengthen the institutional framework of the water management and the development of the water management in the country.
- To influence the Peruvian Government to develop and implement the National Plan for the Management of Water Resources in mining areas, including the participation of all the stakeholders: Government, companies, universities, civil society, etc.
- To establish a permanent forum on Water, Mining and Social Issues that allows the coordination of the Water Institute of the European Union in mining area basins (GABAs).

Water Management as a Transversal Issue

Currently, the management of water in Peru is fragmented. It is not a transversal issue, but a sectoral one. The management of water resources is fragmented among different sectors: agriculture, industry, urban supply, etc. This fragmentation leads to a lack of coordination and to a lack of a holistic approach to water management.

On the other hand, the management of the mining sector is also fragmented. It is not a transversal issue, but a sectoral one. The management of mining is fragmented among different sectors: mining companies, government, universities, etc. This fragmentation leads to a lack of coordination and to a lack of a holistic approach to mining management.

Mineral Resources

The lack of coordination of the management in mining is a key issue. The management of mineral resources is fragmented among different sectors: mining companies, government, universities, etc. This fragmentation leads to a lack of coordination and to a lack of a holistic approach to mineral resources management.

Integrated Management Systems

The water management and mining are a transversal issue. It is a key issue for the management of water resources and mineral resources. The management of water resources and mineral resources is fragmented among different sectors: mining companies, government, universities, etc. This fragmentation leads to a lack of coordination and to a lack of a holistic approach to water management and mining.

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Dr. Jaime Rosendo, Hydrogeologist and Engineering Researcher at ERMISA Institute for Research in Environmental and Sustainability (IERES), Donostia Building, University of Basque Country, Leizor, Spain. Tel: +34 941 161 161 161. Fax: +34 941 161 161 161. E-mail: jaime.rosendo@ieres.org

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2. Dissemination and use

The perspective of mining and water is new in Peru. A strategy for dissemination is thus very important to introduce the topic and generate attention and interest on it.

Objectives

1. Disseminate the information produced by ERMISA to specialist and decision-makers in the Government, business, universities, NGOs, aid organisations and media.
2. Participate in key spaces to bring the topic into the public agenda

Activities

- Develop links of communication with the government to promote the exchange of information.
- Organise events to discuss and develop the topic: fora, working breakfast, press conferences (if needed)
- Produce press releases and articles and send them to media and stakeholders with or without previous interest in the topic.
- Join discussion list and feed them with key documents and opinions.
- Develop contacts with EU offices, other international and national agencies to promote the project objectives.

Available promotional spaces

- Grupo de Diálogo Minería y Desarrollo Sostenible, and Commissions.
- Red Muqui.

Other avenues

- Web page at Asociación Civil Labor www.labor.org.pe
- Web page at Newcastle University
- Web page of the Red Muqui www.muqui.org

They were used to disseminate information about ERMISA and the antecedent projects ERMITE, PIRAMID and COSTAR.

The results of the project will also be presented in the International Mine Water Association Conference, Cagliari (Italy), 27-31 May 2007. Related articles will be sent to Environmental Research Letters and Mine Water and the Environment

Key actions to implement the strategy

Planned/ actual Dates	Type	Type of audience	Countries addressed	Size of audience	Partner responsible /involved
1 every month	Participation in the Grupo de Dialogo minero	Industries, Government, NGOs, researchers, communities.	Peru	50 people (average)	Labor
Apr. 2006	Web site <i>ERMISA</i> : http://www.labor.org.pe/webermisa/ermisa.htm	General Public			Labor
Apr 2006	Participation in the Commission “Agua, Minería y Cuenca” from the Grupo de Dialogo Minero	Industries, Government, NGOs, researchers, communities.	Peru	7 people	Labor
Aug 2006	Publication: “Impactos Mineros en sistemas de Agua Dulce”	Researchers, industry	Bolivia, Peru, Chile	400 people	Labor/UNEW
Sept. 2006	Publication: “Resultados del Proyecto ERMITE”	Researchers, industry	Bolivia, Peru, Chile	400 people	Labor/UNEW
Nov. 2006	Publication: “Remediación Pasiva in Situ de Drenaje Minero/Industrial”	Researchers, industry	Bolivia, Peru, Chile	400 people	Labor/UNEW
21-22 Sept 2006	Conference “Agua, Cuenca y Minería para un desarrollo Social”	General public with invitees from government, mining companies,, donors, World Bank	Peru	150 people	Labor/UNEW
11 Oct. 2006	Internacional Council on Mining and Metals (ICMM) Environmental Stewardship Task Force	Senior HSEC officials from corporate and associated ICMM members.	Global	20 people	UNEW
15 Jan. 2007	Presentation to Grupo de Donantes de Agua	Cooperation Agencies from several countries	Peru	12 agencies	Labor
15 Jan 2007	Workshop in the European Commission	DGs Research, Relex, AidCo and Environment	EU policies for SA	6 people	UNEW/Labor