

Grupo de Estudos Sobre Conflitos Ambientais

Conflitos Ambientais na Indústria Mineira e Metalúrgica: O Passado e o Presente



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ENVIRONMENTAL CONFLICTS IN MINING AND METALLURGICAL INDUSTRY: The Past and the Present

Abstracts

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Environmental Conflicts in Portugal (1974-2015): A brief retrospective

Francisco Rego Chaves Fernandes
Paulo Eduardo Guimarães

This paper is a survey of the research undertaken by social scientists and their reflections on environmental conflicts in Portugal. In these, a critical discourse has emerged concerning, on the one hand, the weak public environmental awareness, and, on the other, the progressive obliteration of environmental movements and their institutionalization throughout the creation of different environmental groups and the incorporation of the “environment” in legislation and in political discourse. In a brief retrospective, we review several conflicts taking into account different relevant factors: level of mobilization, media attention received, organization, impact, and ideological reference they have had in Portugal since the seventies. We have particularly highlighted the movement against nuclear energy and the construction of dams, the pollution caused by intensive breeding, the expansion of eucalyptus plantations, the conflicts against “wild” forms of mining, the business of toxic waste, the expansion of the economy of the concrete, the installation of landfills, and the defense of the natural heritage. This survey has considered three periods: the 1970s, marked by the emergence and performance of ecological movements of different ideological extraction; the second half of the 1980s, marked by the institutionalization of the environment and the imposition of a new legal framework with impact on environmental policies resulting from the integration into the European Economic Community; and finally, a third period, from the 1990s to present, marked by increasing environmental media coverage, with a particular emphasis on environmental conflicts in a context of an increasing liberalization of economic activities and the expansion of extraction and of the concrete economy. This is also the period where the environment emerges in disputes over the uses of the territory as economic and asset value. Most of these conflicts arise from the activities of local agents or national environmental groups that quickly gain strong

local roots and sometimes even have some success. However, their impact on the national and Community legislation seems to be less relevant.

Mining in Brazil: economic growth and environmental conflicts

Eliane Rocha Araujo

Francisco Rego Chaves Fernandes

Mineral extraction is an economic activity that pervades the history of Brazil. Since the colonial times, mining is one of the basic sectors of national economy and was partly responsible for the country's territorial occupation. Today, Brazil is one of the largest world minerals producers and exporters. However, the nearly 500 years of mining have left large environmental liabilities, involving thousands of mines and artisanal digging spaces, inactive and abandoned which are now the setting for different types of conflicts in the territory.

These conflicts involve: traditional people such as indigenous, quilombolas communities and riverside populations, populations affected by the installation of mining megaprojects and by the increase of contamination from mining activities, and conflicts arising from opposing interests and divergent views on what is development. To give an example, in areas with outstanding natural heritage and with touristic potential, people usually plead for nature's preservation and the exploration of more sustainable economic activities such as ecotourism instead of mining projects.

The purpose of this paper is to make a brief review of the evolution of Brazilian mining activities, from the colonial times to the present day, and then present some of the impacts arising from the activities' development and also the main environmental conflicts involving traditional populations and/or those living near the projects' location. For this purpose, there will be used more than one hundred case studies about mining's negative environmental and economic impacts, which are the result of over four years of research by a team of the Mineral Technology Center of the Ministry of Science, Technology and Innovation (CETEM/MCTI), and which have been compiled in a thematic

book (<http://www.cetem.gov.br>). In addition, an electronic database, “Mineral Resources and Territory: human, social, environmental and economic impacts” is also available for query (<http://verbetes.cetem.gov.br/verbetes/Inicio.aspx>).

Environmental conflicts result from the fact that the inherent risks of major economic development projects, such as exploration and mineral processing, relapse on the people who see these projects as threats to their historical livelihood practices and land use or perceive these expansions a threat to their quality of life.

In this context, in various parts of the world, populations have been denying to the mining companies the social license to operate, which has become a decisive factor for the continuity of many enterprises and a growing concern for companies. An evidence to this is the fact that Ernst & Young consulting choose the social license as the third biggest current risk for mining companies.

With the strategy of risks and resistances reduction, several companies have adopted social responsibility programs, through which they offer communities a compensation by promoting actions to encourage entrepreneurship, improvement projects for the existing educational and health structure, among others.

Environmental Conflicts by Large-Scale Mining in Argentina: Sociotechnical Debates, Citizenship Mobilization and Environmental Institutionalization.

Lucrecia S. Wagner

Argentina has over ten years of conflict produced by large-scale mining, different communities in the country have organized to resist the installation of mining projects, mainly in metal mining. This process has also been accompanied by similar events in different countries of Latin America, where the debate about development models sheltered by extractive activities spreads both in public opinion and in the political debates of the governments of the region.

The first metal mining project installed in Argentina, La Alumbra in the Catamarca Province, began its operation without generating significant conflicts. However, a few years later, the community of Esquel, in the province of Chubut, Patagonia Argentina, through a popular referendum rejected a gold mining project near the town.

This conflict was echoed by other communities in the country, where currently seven of the twenty-three provinces have legislation that greatly restricts the development of this activity. Two other provinces (La Rioja and Rio Negro) had restrictive legislation that was later canceled. Regarding restrictive legislation, two of them were sued by unconstitutional by the mining business sector (Mendoza and Cordoba) and one (Chubut) was modified, evidencing the disputes that occur at the institutional level, specifically in the judicial sector.

This paper seeks to investigate the role played in the Argentinian case, the conflicts caused by large-scale mining, and socio-environmental organizations that accordingly were generated. To do this, the main conflicts that occurred in the country, its provincial context, resulting networks, and the impacts of the installation of mega-mining projects in different regions of Argentina will be described. Furthermore, the effects in environmental legislation, in institutions at different scales, and the socio-technical controversies that environmental assessments of these projects have generated will be analyzed.

To do this, a tour will be made by the “post-Esquel effect” from the South Line, specifically, the conflict occurred in the town of Ingeniero Jacobacci, until the so-called “areas of resistance” by strong networks that are organized to resist to large-scale mining projects, such as Mendoza, La Rioja and Cordoba. The generation of conflicts in the province of Catamarca will also be discussed, with the arrival of new mining projects, and the articulation of social and environmental assemblies nationwide. This tour concludes with two important events for his implication in the map of the conflict around mining projects: conducting a referendum in the town of Loncopué province of Neuquen, and the recent accident in the Veladero project in the province of San Juan, which has enabled the social mobilization in a province with a strong mark in favor of large-scale mining.

From this tour, we conclude that conflicts resulted in the formation of a considerable number of self-convened neighbor assemblies and other organizations, who installed important debates about mining, which impacted within legislation and provincial institutionalization, and they caught the attention of the academic science sector, who began to raise their voices in relation to the social and environmental impacts to be taken into consideration when evaluating these projects.

Rare Earth: a Crossroads of Conflict

Pedro A. García Bilbao

Rare earths have been known more than 200 years, but in recent decades they have become an essential part of the advanced materials that are enabling revolutionary achievements in high-tech electronics with their many applications. This article offers a reflection on the need for interdisciplinary work in the study of mining conflicts, a proposal for a categorization of these and a reflection on the nature of the rare earths as well as the potential conflicts involved.

Business Strategies of Mineral and Metallurgical Multinational Corporatives

Francisco Rego Chaves Fernandes
Carla Guapo Costa

We have been witnessing, from the 2000s onwards, a growing interest in natural and mineral resources on the part of investors worldwide, focusing both on developed and developing countries. Transnational companies have been the main players in the process, developing a set of strategies that aims to consolidate a leaner and permanent access to those resources, in innumerable regions and countries around the world.

In this chapter, we start by examining the main internationalization strategies that have been implemented by transnational companies in their search for

assuring a reliable process of developing global value chains, without being hampered by strict legislation in host countries. Although these strategies rely mainly on economic and technical issues, our analysis focuses on the political and institutional dimension: what are the consequences of the implementation of those strategies by transnational companies on the host countries' economies and societies, namely in what concerns environmental issues, since the bargaining power of the players involved is considerable asymmetrical, in favor of the corporations.

Those companies, which in many cases have global assets that surpass, in value, the GDP of over a hundred countries, have been deploying all sort of processes in order to influence host countries governments' definition of some of the most important economic policies. If we analyze the content of those policies, especially in developing countries, we conclude that they are mostly prone to foreign direct investment, without taking into consideration the impact of those policies on local communities. Our research concludes that those consequences are particularly vivid in what concerns environmental issues, since corporations tend to reallocate the most pollutant activities into host countries, while trying to implement cleaner methods and procedures in home countries, responding to the growing pressure of public opinion and other stakeholders.

In this context, we also discuss the concept and practices of social corporate responsibility, that has been assuming a growing importance, especially in more developed societies, and it is being used by corporations as a means of building some sort of competitive advantage. On the contrary, in more fragile and unorganized institutional frameworks, that concept is often mismanaged and, in the end of the day, the corporation does not comply to its previous commitments. We find, nevertheless, that there is some progress going on, since the latest reports from international organizations show that there has been a strengthening of rules worldwide aiming sustainability practices in the mining sector.

We conclude that all these issues could be substantially improved if all the players would be persuaded in abiding by some kind of multilateral regulation of transnational corporations activities, namely in what concerns environmental issues. We argue that the nonexistence of that regulation, with a level playing

field for all, has left room for corporations to influence host governments in defining the most suitable policies for their activities. The emergence of the so called mega regional trade agreements, such as the Transpacific Partnership (TPP) or the Transatlantic Trade and Investment Partnership, are clear signs of the bargaining power and lobbying endorsed by transnational corporations, inducing governments to apply ‘good practices’ (Washington Consensus and World Bank style) in defining orientations of economic policy.

Since foreign direct investment is seen as a vehicle of economic growth and development in most cases, host countries governments engage in an almost predatory race to attract corporations, providing them the minimal requisites in terms of legislation, in social, environmental or even economic and financial issues. Empirical evidence and cases studied show that corporations tend to neglect environmental, social and even economic passives, and governments don’t have the means or the political bargaining capital to enforce them to abide by the agreements they have signed.

Environmental conflicts and technical progress in the mining and metallurgical industry in Portugal (1858-1938)

Paulo Eduardo Guimarães

This chapter explores the relationship between environmental conflicts and technical progress, trying to understand, in the case of large mines of the Iberian Pyrite Belt, in Alentejo, how emerging environmental problems conditioned the performance or led to the search for alternative technical solutions, taking as chronological limit for this observation the beginning of World War II. In the absence of the archives of the companies, the research was based on existing administrative documents in the state archives (mining engineers reports, the licensing of mining activities), on reports and documents published in specialized mining press, in particular, the Bulletin of the Ministry of Public Works, Trade and Industry, the Journal of Public Works, Trade and Industry (both in Portuguese), and finally in the local press. Despite that limitation, the information available shows that in global competition markets, the success

of the British enterprise in Santo Domingo had the active search for new technical solutions for the creation and adaptation of existing knowledge to local problems in order to maximize the mineral resources available. The early development of the hydrometallurgical processes for the treatment of poor ores, named 'natural cementation', can be explained as the way these companies tried to solve problems of competitiveness, boosting economies of scale. Thus, they transferred the environmental costs previously limited to agriculture to more fragile social groups, the poor fishermen of Guadiana River and of Vila Real de Santo António.

Therefore, the hydrometallurgy of pyrites was developed locally, pioneered in Santo Domingo that allowed the survival and expansion of the British company from the late 1870s, that is, at a time when most small mines shut since they were not able to compete globally. Through different consented and regulated processes (judicial), through conflict or parliamentary mediation, the State imposed exceptionally additional costs to companies, either for compensation, the imposing the application of remediation measures to reduce the environmental damage in some cases, thus contributing to derail some projects. These cases suggest that the interaction between local conflicts, corporate behavior and technological progress proves to be complex.

This article aims to contribute to the debate on economic and social history between the environment and technological progress, arguing that the fixed costs and economic imponderable social risks were factors that encouraged the companies to search for new solutions and to introduce innovations since that would allow the expansion of their activity. In this process the companies sometimes faced environmental dilemmas and unforeseen costs with consequences on the economy of firms. The nature of the knowledge needed to address the environmental problems they created, however, is of a very different nature from that knowledge needed to face the environmental burdens that were inherent to the development of its activity.

Avoiding the Unbelievable: The Boa Fé Gold Mine Project

José Rodrigues dos Santos

Gold prospection has been going on in Boa Fé (Alentejo, Portugal), for decades, with different outcomes, due to gold prices variation in stock exchanges. With the burst of commodity's value after 2008, the project for an "experimental gold mine" was launched by a Canadian company (Colt Resources), "operating through [its] 100% owned Portuguese subsidiaries". The project consisted in a twin open pit mine designed to have surfaces around 6 ha (60000 m²), with additional surface dedicated to waste rock (6.4 million tons on 37.5 ha) and mine tailings' storage (3 million tons, on 32ha). As a sulphite mine, the waste rock lixiviation would inevitably produce Acid Rock Drainage, carrying strong acid and heavy metals to the soils and watersheds. The tailings impounding (supported by two tall dams – 17 and 21 meters high) would contain highly toxic mud, with a mix of heavy metals from the ore and chemicals added to process it). The total area occupied by the mine and its dependencies (industrial buildings, access roads and parking lots) would be over 100ha. In the project's marketeering, the company draw heavily on job promises (135 jobs over five years), a rather compelling argument in an economically depressed region. This motivated significant fiscal advantages to be awarded to the company both by central government (business tax rate reduced from 25 to 10%) and local authorities (giving up their 2.5% local industrial taxes). It then appeared that the mine would overlap with a protected, "Natura 2000" area. Besides, the small region to be affected contains remarkable Palaeolithic decorated caves and is one of the richest Neolithic monuments sites of the country. Aware of the catastrophic consequences of such a project, an informal group of citizens gathered, studied the technical, financial, juridical documentation, mainly those released by the company, comparing data with those available in the scientific literature concerning metallic ore mining hazards and mining accidents (Acid Rock Drainage, tailing dams' failure, etc.). The ore-containing rock is shown by company's documents to have a high percentage of arsenic (up to 9kg /ton), which would amount to bring to the surface and liberate in the

environment more than 2,000 tons of arsenic per year. The overall picture of the project is that of a major, predictable, environmental catastrophe, even if no accident (although highly probable) would occur. Besides the technical issues, the group identified a whole set of financial issues. The Canadian company, as said, created Portuguese subsidiaries to operate locally. These “Portuguese companies” are individual limited responsibility societies, with extremely low capital assets (5,000 € each), a fact that would restrict eventual responsibilities claim for any unfavourable events to that tiny amount and prevent efficient legal action. The results of these analyses were communicated to the local authorities, who recognized that their former decision to support the mining project was ill-informed. In the mean time, the mainstream media followed the company’s high optimistic promises. “Tons of gold in Alentejo”, “Gold rush in Alentejo” were topics euphorically depicting nothing short of a local Eldorado. The local population did not access the heavy, complex, technical description of the project whose very nature discouraged access to the ordinary citizen. The general feeling among the residents was a mix of mild agreement (jobs, “development”), concern (“they will take the gold and leave the holes”), and resignation: powerlessness in front of huge economic interests backed by politicians in the government. Most important was the fact that the magnitude of the environmental destruction seemed to be unbelievable, perhaps unthinkable, because it would amount to the total destruction of their villages, their living spaces, houses, gardens, orchards. The contact with co-citizens showed to the activists’ group (around a dozen of people) that a) the technical data was not accessible to a laymen’s understanding, b) the practical consequences, in terms of change the project would provoke in their day-to-day lives were difficult to envision or imagine. Drawing on J.-P. Dupuy’s theory of “enlightened catastrophism”, we explored the possibility to prevent the catastrophe by assuming that it has happened already, as a way to allow the inhabitants of that beautiful area to envision what would be the total destruction of their home space.

Do the Mining Environmental Disasters Modify the Attitude of Local People about New Mining Projects? The Case of Aznalcollar-El Cobre Las Cruces in Andalusia (Spain).

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In 1998 the toxic mud pool in Aznalcollar's mine, property of the Multinational Boliden, broke down, affecting the Guadalquivir's basin in the proximity to its estuary, and also the Doñana National Park, a Biosphere Reserve. It has been considered one of the most serious mining disasters ever registered in Europe. By that time, the multinational Rio Tinto considered the possibility of opening another mine in order to extract the copper from a deposit a few kilometers away from the disaster zone, and just below an aquifer which is a strategic reserve of water for the metropolitan area of Seville. After the mud spill, the Company ordered an anthropological research in order to know the position and perspectives of local populations regarding to the new project. We bring to this text the conclusions of the ethnography realized then, which demonstrated that the large majority of the population, from all social sectors, considered more important the benefits of the project, in jobs and economic prosperity, than the eventual risk of accidents and pollution. Seventeen years after the spill, that project designed by the English Multinational has become one of the biggest open-pit mines in Europe, and recently the authorities have permitted the reopening of Aznalcollar's mine. And today, as before, the favorable consensus on both mines is largely superior to the rather scarce critical voices.

Labor, Health and Environment in Asbestos Mining in Brazil

Lays Helena Paes e Silva

Stefania Barca

The emergence of environmental justice - both as a scientific research paradigm and as a collective action program - highlights the unequal distribution of environmental risks and benefits in current capitalist societies. This approach involves a multiplicity of actors and actions, among which workers play a key role, especially in their interface with health and the environment. Existing links between work and environmental justice reveal a fertile field of collective action, but also a complex social process marked by discontinuities and contradictions. In this article, we revisit the close links between environmental justice and work, through the case of the Cana Brava asbestos mine in Minaçu, highlighting the conflicts and contradictions that this activity produces between work, health and environment. the Town of Minaçu originated due to the mining of asbestos, a mineral admittedly harmful to human health, which is the main source of income and occupation, receiving support from local people. In this context, the focus of our analysis centred on how the risks related to asbestos are produced, distributed and managed in the municipality through the participation of different social actors, namely the union of mining workers, the company responsible for the operation of asbestos and the City Hall. The agency and the justifications mobilized by these three institutions to defend the continuity of local extraction of asbestos and its use and marketing on a national and international level make clear the controversies emanating from the clash between the health and environmental reality of asbestos (the risks and damage that implies) and the economic and social reality of Minaçu (of dependence on this mineral). In this dialectic, the paradigm of environmental justice is presented as an interpretative tool with a high potential for orienting the search for possible solutions to cases like Minaçu, where occupational and health rights are in striking opposition.

The First Media Campaign on Pollution in Spain

P. Garrido Camacho

J.D. Pérez Cebada

The “golden age” of mining in Spain (1860,s-1910,s) coincides with the multiplication of atmospheric pollution problems. These conflicts, known as Smoke Wars, took place in the most important mining basins (Almería, Basque Country, Asturias, Murcia, etc). In the Pyritic Belt, they gave place to an intensive, long and original publicity campaign in newspapers, pamphlets, books to such an extent that, for some, “the Smokes of Huelva” was “The Great National Issue” at the end of 19th century. Moreover, the conflict had an international impact: in fact, Rio-Tinto Ltd Co (RTLTC) was the first mining multinational to deal with pollution problems in three countries at the same time (Spain, France and England). In other hand, the debate is related to contemporary “discourse of conservationism” of the American mining companies. Therefore, this paper studies “the Smokes of Huelva” as the first public debate on pollution in Spain and, in this way, examines the evolution of the confronted discourses of the stakeholders (Revista Minera and, especially, RTLTC and Anti-Pollution League). This controversy pursues a political objective: the implementation of precautionary measures concerning the smoke problem. For RTLTC is critical question and put in practice a deliberate communication strategy that would allow the company to stay in business, reduce litigation and, moreover, avoid strict regulations. And this strategy was successful. This paper suggests an explanation from the rhetorical point of view. The company’s discourse was successful because it appeals to policy makers: it is clear, direct, repetitive and, moreover, consistent, with an ethos and a logos based on rationality and progress. On other hand, the Anti-Pollution League’s discourse, without a clear communication strategy, is not consistent, changes over time, and relies on pathos, on emotion.

Mobilization and Popular Narratives against Mining in Portugal: the Case of Tin Dredging (1914-1974)

Pedro Gabriel Silva

Throughout the 20th century, the Portuguese countryside was prodigal in conflicts between industrial mining and agriculture. Whether sporadic short-term protests or enduring social mobilizations, these conflicts were participated by a wide range of actors, in spite of its social stand. In collective mobilization against mining, the local communities (comprising rural wage laborers, smallholder landowners and large proprietors) became active agents of contention, defying an industrial infiltration that menaced their use of environmental resources. Accordingly, these quarreling took the form of socio-environmental contention, where disputes for the control of resources were the driving factor of anti-mining protests. The present paper compares two sets of socio-environmental conflicts against tin dredging that occurred in the Portuguese municipality of Guarda. The first had reached its peak from 1923 to 1926 and the latter saw the light of day in 1974, lasting until 1980. Though 50 years apart, they held in common the motives as well as the vocabularies of contention. The argumentation used by the contenders was implicitly bound to the preservation of the ecological basis upon which depended agricultural activity and explicitly charged industrial mining of being an agent of environmental depredation and poverty. In this sense, the paper will focus on the circumstances and contexts that prompted such discourses, relating environmental arguments with regional and political struggle. This factor is a key-element in conflict analysis, since it ties grassroots mobilization to the upper structures of political action and allows grasping wider consequences of local collective action. The 1920s conflict invites the scrutinizing of the relations between popular malcontent, the fear of losing control over resources and the importance of local political initiative in a time of institutional and political turmoil, right before the instauration of dictatorship (1926). On the other hand, the 1970s conflict allows studying the very same relations between local anti-mining protests and the menaces over resource control set in motion

right after the overthrow of the dictatorial regime (1974). Common to both, the “fear of the brazing dredges” and the “love for our gardens” – tracing such communalities and the devices behind the (re)production of contentious rhetoric through time will be this paper’s central object.

One Conflicting Relationship: Industry and Environment in the River Ave Basin (Portugal)

J. M. Lopes Cordeiro
F. S. Costa

One of the most significant consequences of the Rio Ave Valley industrialization process, which had started in 1845 with the establishment of the first textile mill, consists in the degradation of their environmental conditions, mainly through the pollution of its waters. From the late nineteenth century, with the legal definition of the Hydraulic Services competences (Decree No. 8 of December 1, 1892) and then with the 1919 Waters Act, the administrative procedures to be followed in cases of environmental transgressions had been established. Despite that, only since the 1930s did the public authorities begin to register an appropriate response. In this text we intend to present and understand the problem of water pollution of the Rio Ave Valley, based on the consultation and analysis of the Hydride Public Domain processes existing in the Northern Hydrographic Region Archive, emphasizing a historical-geographical perspective.

While the major contributors to the water pollution in the Rio Ave Valley had been the textile industries through their bleaching and dyeing operations, we show the complaints and transgressions related to the activities of metallurgical and mining industries, in particular cases related to the exploration and cleaning of metallic minerals such as tin and tungsten during World War II. In the forties and fifties the washing of metal filings in metallurgy workshops, to recover small amounts of copper through primitive processes, constitutes another example of environmental pollution, particularly in this stretch of the Este River that runs through the city of Braga. As we attempt to show, most environmental transgressions are found mainly in the Middle Ave courses of

water and in those of the transition to the Low Ave, either along the main river, or along the Este river, in a historically lengthy and continued process that only deserved special attention by competent authorities after the second half of the twentieth century.

The Sierra de Cartagena-La Unión (Murcia): an Open Case of Environmental Aggression and Conflict

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Pedro Baños Páez

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This text analyzes one of the most important ecological disasters occurred in the Mediterranean as a consequence of mining. Until 1990, and for more than 40 years, the Sociedad Minero Metalúrgica de Peñarroya discharged directly into the Mediterranean sea tailings resulting from the concentration process (flotation system) of the ores in the Sierra Cartagena-La Unión in the Southwest of Spain. More than 60 millions of tons of very hazardous waste were dumped. They were very toxic, not only because of the high concentration of heavy metals such as lead or cadmium, but because of the presence of acids used to wash mineral (copper sulphate, sodium cyanide, zinc sulphate and sulphuric acid). It was believed that these materials would end up dispersed in the bottom of the sea, however, sea currents ended up depositing an important part of that waste in the Portmán Bay and, as a result, it was completely blocked. The Sociedad Minero Metalúrgica Peñarroya, the company responsible for the spills, exerted all of its influence on the Franco dictatorship in order to be able to use the sea as its dump field. As a consequence of the palpable pollution of the coast, several lawsuits were instructed that ended up in a sentence of the Supreme Court granting the continuity of the activity, prevailing impact on the labour market in detriment of environmental impact. With the arrival of Democracy in Spain, the situation did not change, in spite of the raise of social pressure and the intervention of Greenpeace in 1986. Finally, in March 1990, spills ceased. This communication analyzes the development of mineral

concentration systems by flotation and their consequences on the environment. The process of implementation of these systems in the Sierra de Cartagena-La Unión is described. Finally, we studied the different attempts at regeneration of the Portmán Bay.

The revival of mining in the Southern and Eastern Europe, the threats to environmental sustainability in the new border regions in northern Scandinavia and the resurgence of mining of lignite in Central Europe again put the issue of the environmental consequences of mining on the political agenda of the continent. The concern of the public to the challenges created by the current situation, particularly as regards the environmental and geopolitical risks resulting from controversial regulatory frameworks, make the vision of the experts to be necessarily broader in time and space. Deepen the roots of the current environmental problems and to identify patterns in time and space to better understand the relationship between mining and environment in modern societies is the main objective of the group of social scientists who collaborated in this book, offering different themes and perspectives for reflection and for analytical deepening in the future.

The **STUDY GROUP ON ENVIRONMENTAL CONFLICTS** is a multidisciplinary team of scholars, academics and researchers from five European countries (Spain, Portugal, France, England, Italy, Sweden) and four American (Brazil, Argentina, Chile, Canada) interested in addressing the consequences in space and time of the gradual revival of mining in Europe which, once again, has the environmental sustainability on the political agenda in Europe. In this sense, the objective of this group is to provide information to promote a better and more active participation of the agents involved and help policymakers to make better decisions based on consistent knowledge.

