

Mining And Its Impact On The Environment

Through an exploration of the links between geologic setting, mining and process technologies, economics, environment and stakeholder communities, this text addresses ways in which the mineral industry can be made safe, efficient and ecologically sustainable, focusing in particular upon the following key themes: · a review of the current status of the world mining industry, and the environmental challenges it faces. · links between the mode of occurrence of a mineral and the ways of mining it · the impact of mining on the environment in terms of industry and waste · health consequences arising from the various hazards of mining · the environmental impact of process technologies, and control technologies to make the mining industry ecologically sustainable · methods of rehabilitation of mined land, and reuse of mine wastes and mine water · socio-economic dimensions of the mining industry.

This book investigates the Upper Silesian Coal Basin (USCB), one of the oldest and largest mining areas not only in Poland but also in Europe. Using uniform research methods for the whole study area, it also provides a summary of the landscape transformations. Intensive extraction of hard coal, zinc and lead ores, stowing sands and rock resources have caused such extensive transformations of landscape that it can be considered a model anthropogenic relief. The book has three main focuses: 1) Identifying anthropogenic forms of relief related to mining activity and presenting them from a spatial, genetic and age perspective; 2) Determining the changes in the morphometric characteristics of relief and the conditions for matter circulation in open systems (drainage basins) and closed systems (land-locked basins)

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caused by the extraction of mineral resources; and 3) Estimating the extent of anthropogenic denudation using two different methods based on raw-material output and morphometric analysis. In Poland, no other mining area has undergone such intensive mining activity as the Upper Silesian Coal Basin during the last half century. Its share in the total extraction of mineral resources was as high as 32%. The total extraction of hard coal in the Upper Silesian Coal Basin from the mid-18th century until 2009 was the sixth largest in the world, and the permanent, regional effects of mining anthropopressure on the relief are among the most severe in the world. The anthropogenic denudation rate in the Upper Silesian Coal Basin, as well as the Ruhr Coal Basin (Ruhr District) and the Ostrava-Karvina Coal Basin, ranges from several dozen up to several hundred times higher than the rate of natural denudation, irrespective of the calculation method used. It would take the natural denudation processes tens of thousands of years to remove the same amount of material from the substratum as that removed through human mining activity.

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"This book explores Native American and Euro-American lead mining in the Midwest. As Europeans flooded North America and moved westward, their own mining practices were greatly informed by Native American mining methods already in place. And while many researchers have explored gold, silver, and copper mining and smelting, lead has not received much scholarly attention, despite a long history of Native American and European desire for the ore. Chambers reflects on how early mining techniques affected the culture clash between Native Americans and European colonists, all the while tracking the impact increased

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mining had on the environment of what would become the states of Illinois and Missouri"--

Winner of the 2007 E.B. Burwell, Jr. Award of the Geological Society of America Mining activity has left a legacy of hazards to the environment, such as waste, unstable ground and contamination, which can be problematic when redeveloping land. This book highlights the effects of past mining and provides information on the types of problems it may cause in both urban and rural areas. By way of example, the book also demonstrates how such problems may be anticipated, investigated, predicted, prevented and controlled. Furthermore, it shows how sites already affected by mining problems and hazards can be remediated and rehabilitated. Covering subsidence, surface mining, disposal of waste, problems resulting from mine closure and mineral processing, *Mining and its Impact on the Environment* is an excellent reference for practising mining and geotechnical engineers, as well as students in this field.

Modern Information Technology (IT) has radically magnified the capability and power of data mining. At a time when the threat environment has shifted in emphasis to COIN, terrorism, and cyber war, IT-enhanced data mining capabilities could provide some of the critical intelligence demanded by these types of threats. Yet depending on how this new capability is employed and what protections are in place, US citizen's privacy rights could be threatened. This paper establishes the intersection between the capability and need for data mining and the suitability of existing policy

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to enable its legitimate application. Policy recommendations are made to address the concerns discussed above and facilitate the fullest execution of the National Strategy for Information Sharing.

This study assesses the impact of artisanal gold mining in the Ngoyla-Mintom Forest Massif (NMFM) on local livelihoods and the environment. The methodology for the research consisted in a literature review, visits to eight mining camps in the periphery of Mintom, interviews with 95 miners, focus group discussions with actors involved in activities related to gold mining, and stakeholder consultations. The results show that miners earn a minimum of XAF 80,000 (US\$ 160) per month, which is about three times the average wage in Cameroon (XAF 28,216 or US\$56) and as much as XAF 800,000 (US\$ 1600) a month. Mining leads to the creation of many associated activities such as portering, catering and the intensification of hunting, collection of NTFPs, and fishing, among others. The most negative social impact of mining is associated with activities such as prostitution, which leads to the quick spread of sexually transmitted diseases (STDs) including HIV/AIDS. Mining and its associated activities also have negative impacts on the environment such as destruction of fragile forest ecosystems especially swamps, diversion, sedimentation and pollution of small water ways, and soil destruction, although at a relatively small scale. Identifying some of the most influential algorithms that are widely used in the data mining community, The Top Ten Algorithms in Data Mining provides a description of each algorithm, discusses its impact, and reviews current and future research. Thoroughly evaluated by independent reviewers, each chapter focuses on a particular algorithm and is written by either the original authors of the algorithm or world-class researchers who have extensively studied the

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respective algorithm. The book concentrates on the following important algorithms: C4.5, k-Means, SVM, Apriori, EM, PageRank, AdaBoost, kNN, Naive Bayes, and CART. Examples illustrate how each algorithm works and highlight its overall performance in a real-world application. The text covers key topics—including classification, clustering, statistical learning, association analysis, and link mining—in data mining research and development as well as in data mining, machine learning, and artificial intelligence courses. By naming the leading algorithms in this field, this book encourages the use of data mining techniques in a broader realm of real-world applications. It should inspire more data mining researchers to further explore the impact and novel research issues of these algorithms.

Committee Serial No. 90-25. Considers impact of mandatory oil import program on domestic energy fuel and mineral industries. Includes Interior Dept announcements of oil import allocations to Phillips Petroleum Co. and other oil companies, 1965-1968 (p. 87-137).

The issue of mining in Ghana has attracted an important and recent debate. On the beneficial side, there are those who point to state revenue, industrial development, employment opportunities and social amenities such as the building of roads, schools and clinics, and provision of electricity and granting scholarships to children. Adherents to such a stance see mining as the propeller of economic development and growth. However, there are those who see mining as leading to environmental degradation and exploitation. In particular, they point to large tracts of land and forests that are being

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destroyed by the stripping of the top soil, thereby leading to soil erosion and a destruction of the vegetation. Also mentioned are the significant dust, black smoke, bad odor and other forms of chemicals, which pollute both air and water. Dr. Ofosu-Mensah investigates the extent to which mining in Akyem Abuakwa raised such concerns from Ghanas Pre-Colonial Era up to 1943. Specifically, he meticulously assesses the impact of mining on the state from the pre-colonial era up to the first four decades of the twentieth century. Important questions that Dr. Ofosu-Mensah addresses include: How traditional miners acquired land for mining, the nature of the indigenous technology used in mining, and its impact on the environment. Ofosu-Mensah addresses, explicates and exemplifies the types of benefits and opportunities that scientific mining created for the people of Akyem Abuakwa and the impact of mining on food security in the state of Akyem Abuakwa. Finally, he tackles the problem of the extent to which mining contributed to the problem of land alienation in the state and social, legal, and moral issues raised by such alienation and loss of land rights.

Mining and Its Impact on the Environment CRC Press
This first Issue in the series contains nine articles written by experts from the mining industry, regulatory authorities, and academia, and incorporates the latest research.

Covers all aspects of environmental problems associated

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with mining. Topics covered include physical impacts; chemical impacts; impacts on biological systems; socioeconomic systems; general environmental impacts; rehabilitation and reclamation; and legislation and environmental audit.

The impact of mining is too big to ignore in a world of oversubscribed water. This is true of conventional mining as much as – or even more than – hydraulic fracturing (fracking). The legacy issues of such mining on water have not been fully appreciated, especially the irretrievable effects mining has had on communities and ecosystems around the world through its impact on water. Yet this is not an ‘us-or-them’ problem: the wealth, influence and technical knowledge of mining interests can and must be part of the solution. All of the contributions to this volume either consider the deficiencies of existing governance structures and the need for better ones, or explore the use of new techniques to identify and evaluate social and environmental impacts. The chapters in this book were originally published in the journal *Water International*.

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