

Coal Mining in Colombia: Is it Worth the Risk? **By Kate Seche, Pulitzer Center on Crisis Reporting**

Introduction

On April 5, 2010, an explosion in the Upper Big Branch Mine in Montcoal, West Virginia killed 29 of 31 miners working in the mine. As the investigation into the causes of the explosion continues, and legal action is taken against mine safety officials and Massey Energy, the company in charge of the Big Branch Mine, journalists, civic leaders, researchers, and members of the business community across the country continue to debate the role the coal industry should play in the United States' economic future.

The U.S. has long struggled with the regulation of mines across the country: working to balance the economic benefits of coal extraction and sale with the environmental, health, and safety concerns stemming from the mining process. Beginning in 1891 and continuing through today, the U.S. Congress has worked to govern mine safety by imposing ventilation requirements and worker-age restrictions, facilitating the creation of the Mine Safety and Health Administration, and eventually requiring mine safety inspections and mandating miner health and environmental standards. ("History of Mine Safety and Health Legislation" <http://www.msha.gov/mshainfo/mshainf2.htm#>)

As national concerns around American coal mining companies persist, developing countries across the globe have begun to expand their extractive industry infrastructure, and grapple with similar concerns. Over the next few years, the global community will have to address one fundamental question: Does the economic benefit presented by the sale of coal (and/or other natural resources) outweigh the environmental, health, and safety risks inherent in the mining process?

In his project: Colombia: Mining Fever in Paradise, (<http://pulitzercenter.org/projects/colombia-mining-industry-threatens-environment-security>), Pulitzer Center journalist, Lorenzo Morales, explores the safety, environmental, and political impact the extraction of coal, oil, and gold is having on the nation of Colombia. By examining this project, and relating the issues facing Colombian communities and the Colombian government to issues facing U.S. mining communities and federal regulators, students will begin to connect this pressing international issue with domestic concerns.



*A miner in Colombia.
Image by Anna-Katarina Gravgaard, 2010.*

Specific Subject-Area Connections

Science

- Ecosystems
- Effect of Human Activities on the Earth
- Environmental Public Policy
- Renewable and Non-renewable resources
- Watersheds
- Freshwater Resources

Social Studies

- The Impact of Global Trade on Regional Civilizations
 - The Impact of the Industrial Revolution
 - The Political and Social Conditions of Developing Nations
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Student Preparation/Background Information

This lesson can be linked to the one-year commemoration of the Upper Big Branch Mine explosion (April 5, 2010); accompany a unit on the American Industrial Revolution (urbanization, social and environmental changes, the evolution of regulatory commissions, etc.); or could complement the study of natural resources (renewable/non-renewable resources, the role of water in human and natural environments), or more broadly, the effect of human activities on the Earth's surface.

Student preparation will vary, depending on the current event and/or curricular connection drawn. Regardless of how this lesson is used, students will benefit from some background information on the mining industry in the United States and an understanding of the pros (economic benefit, job creation) and cons (safety concerns, health risks, ecosystem destruction).

This basic understanding can be achieved using resources provided by the Mine Safety and Health Administration (MSHA):

- History of Mine Safety and Health Legislation, (<http://www.msha.gov/mshainfo/mshainf2.htm#>), a one page history of mine health and safety legislation in the United States, published by the MSHA
- Mine Safety Info Sheet from Mine Safety and Health Administration (Data 2003-2009) (<http://www.msha.gov/MSHAINFO/FactSheets/MSHAFACT10.pdf>), actual safety data for the past seven years, or information on the Big Branch Mine Disaster

Or, students can gain a basic understanding through a brief exploration of the Big Branch Mine Disaster in April 2010. The resources below offer students background information on the events surrounding the Big Branch Mine disaster, proposed causes of the explosion, and subsequent legal and regulatory action.

1. Events surrounding Big Branch Mine explosion

"Deaths at West Virginia Mine Raise Issues About Safety," *The New York Times*

<http://www.nytimes.com/2010/04/07/us/07westvirginia.html>

By Ian Urbina and Michael Cooper, Published April 6, 2010

2. Likely Cause of Upper Big Branch Mine blast (includes informational safety videos produced by MSHA)

“Feds Illustrate Likely Cause of Upper Big Branch Mine Blast,” NPR *All Things Considered*
<http://www.npr.org/blogs/thetwo-way/2011/01/19/133055616/feds-illustrate-likely-cause-of-mine-blast>

By Howard Berkes, Aired January 19, 2011

3. NPR story about indictment of Massey safety chief

“Massey Security Chief Indicted In Mine Disaster Probe,” NPR *All Things Considered*
<http://www.npr.org/2011/02/28/134143338/massey-safety-chief-indicted-in-mine-disaster-probe>

By Howard Berkes, Aired February 28, 2011

Mining in Colombia: The Risks and Rewards

Have students enter the Education Gateways homepage, (<http://pulitzercenter.org/education/gateways>), and under the Downstream page (<http://pulitzercenter.org/downstream>) have them find and open Lorenzo Morales’ project, “Colombia: Mining Fever in Paradise” (<http://pulitzercenter.org/projects/colombia-mining-industry-threatens-environment-security>).

Have students open the January 19, 2011 article, Colombia’s Readiness for the Mining Industry, (<http://pulitzercenter.org/articles/colombia-mining-industry-ecosystem-risk>). This article introduces students to the different facets of Morales’s project: mining safety concerns, lack of environmental regulation and ecosystem damage, and the tension which exists between industry regulators and communities hoping to benefit economically from coal. As students read, help them highlight these issues.

Mine Safety

Have students return to the “Colombia: Mining Fever in Paradise” project page, (<http://pulitzercenter.org/projects/colombia-mining-industry-threatens-environment-security>) and ask them to open Morales’s February 7, 2011 article, Chasing Illegal Miners in Colombia, (<http://pulitzercenter.org/articles/colombia-illegal-mining-safety-la-escondida>).

Have students read the article as a large group, in small groups, or independently. As they read, encourage students to consider the following questions:

- According to Colombian officials, what caused the explosion at La Escondida Coalmine? (If your students have read about the Big Branch Coal Mine explosion, you can discuss similarities/differences in the two events)
- In Morales’s opinion, what risk-prevention measures could have been taken to better protect miners?
- In your opinion, what role should the government play in the regulation of coalmines?
- As Morales notes, the entire country of Colombia only has 16 mine inspectors, and over 6,000 active coalmines. Is it the government’s responsibility to hire more safety inspectors? Do you believe the regulatory system in place in the United States could

be duplicated in Colombia? Would it even be worth duplicating, or would it be better to create a new regulatory structure? (If students have reviewed the MSHA documents, ask them to compare US mine-inspection data –number of mines/miners; number of citations; annual fatalities – with that which the Colombian government is capable of conducting.)

- What responsibility do you think Colombian government officials should take for illegal mines? Should government regulators be held accountable for safety hazards at non-government sanctioned mines? Why or why not?
- Towards the end of the article, Morales explains the danger of having police forces serve as first-responders for mine accidents while also regulating illegal mining. In your own words, why do you think police or military troop regulation of mines doesn't work? What conflict does this create within a community? Discuss how the manner in which a community views the role of the police and/or army changes when the police/army begin interfering with the community's livelihood.
- Despite the safety concerns they present, why would a community want to keep an illegal or uninspected mine open?
- When Morales describes using a "softer approach" to foster change in the mining industry, what do you think he means?

The Environmental Impact of Mining

Have students return to the "Colombia: Mining Fever in Paradise" project page, (<http://pulitzercenter.org/projects/colombia-mining-industry-threatens-environment-security>) and ask them to open Morales's article, "Fragile Paramo Ecosystem in Colombia Threatened by Coal and Gold Rush," (<http://pulitzercenter.org/articles/colombia-paramos-ecosystem-coal-gold-rush>). After reading the article, look through the related slideshow as a class (on the right hand side of the page), Paramos: An Ecosystem Under Siege, by Anna-Katerina Gravaard (<http://pulitzercenter.org/slideshows/colombia-paramos-ecosystem-under-siege>) to give students a sense of how this region of Colombia looks.

After reading the article and looking through the photographs, have students consider the following questions:

- What are the paramos? Where, exactly, are they located?
- Describe the role of the paramos in providing water to communities in the Colombian Andes.
- How much of Colombia's land do the paramos make up? How much water do they provide?
- Describe the mining law passed by the Colombian Congress in 2009. Why is it so hard for government regulators to implement the environmental protection guaranteed by the law?



Picture from Gravaard's article,
"Los Paramos, an Eco System in Peril."
In Danish newspaper Jyllands-Posten, 2010

Conclusion

Once the students have worked through Morales's project, have them reflect on the following question independently (in journals or on loose leaf paper):

- Does the economic benefit presented by the sale of coal (and/or other natural resources) outweigh the environmental, health, and safety risks inherent in the mining process?

Encourage students to come up with strong arguments both for, and against, the mining industry. Once they have completed their independent reflection, have students share their ideas in small groups and ask the group to compose one, comprehensive argument in favor of, or in opposition to coal mining to share with the whole class.

Assessment Options

1. RAFT Assignment

Role	Audience	Form	Topic
A Colombian miner	The American mining community	Newspaper or Magazine Article	The global impact of coal mining
A resident of the paramos region of Colombia	Future generations	Blog (3-5 entries)	World-wide mining safety and health concerns
A Colombian mine regulator	The Colombian government	Creative writing story	Colombia's shrinking water supply
An environmentalist and/or conservationist working in Colombia	A mining company working in Colombia	Poem	Why communities need mining.

2. Colombian Mining and the American Industrial Revolution

Have students compare and contrast elements of the American Industrial Revolution and modern-day concerns facing the Colombian mining industry. Elements of the comparison could include:

- Compare the 19th century environmental concerns surrounding the Industrial Revolution to those currently facing the ecosystem of the paramos due to Colombian mining.
- The American Industrial Revolution increased urbanization in the United States – do you believe a similar pattern will emerge in Colombia?
- What social movements grew out of the American Industrial Revolution? Do you think similar movements will develop in Colombia?
- Describe the impact of industrialization on American families and labor unions; do you believe similar changes have/will take place in Colombia?

Or other topics including the rise of industrial economies, the impact of economic power on military power, how the competition for natural resources influences a country's national and international growth, etc.

Extension Activities

David Rochkind, a Pulitzer Center journalist has done extensive work on the global Tuberculosis epidemic, with some specific focus on the prevalence of TB in South Africa's gold mines. If students would like to learn more about the risks facing miners in South Africa, he has a very informative slideshow as well as resources for educators and student-friendly materials on his website: www.tbepidemic.org