

## Mining & Post Mining Sustainable Landscape is subject of FGV Europe's webinar

*Participants of the seminar included: Marília Melo, Secretary of Environment of the State of Minas Gerais (SEMAD); Marina Simião, Undersecretary of Tourism of the Secretary of Culture and Tourism of the State of Minas Gerais (SECULT); Antônio Grassi, President of INHOTIM Institute; Jörg Schlenstedt, Senior Expert - Lausitzer and Mitteldeutsche Bergbau-Verwaltungsgesellschaft GmbH (LMBV); Nadine Gerner, Senior Researcher, Strategic Department of River Basin Management of the EmscherGenossenschaft und Lippeverband; Renato Brandão, President of the State Foundation for the Environment (FEAM). The event was moderated by Marco Saverio Ristuccia, Senior Economist, Coordinator of the initiative "Toward a Just Transition: An Opportunity for Minas Gerais", FGV Europe*

The seminar is part of an agenda of activities planned until December included in the bilateral technical cooperation initiative Brazil - Germany "Towards a Just Transition: An Opportunity for Minas Gerais".

In the third edition of the "Just Transition" webinar series on September 30, 2020, FGV Europe discussed the topic of "Mining & Post Mining Sustainable Landscape". The objective of the event was to discuss the relevance of the "post-mining" landscape recovery for sustainable territorial development, presenting cases and tools that were successfully implemented in Germany and Brazil.

Marília Melo highlighted the relevance of having a new mining model for Minas Gerais (MG) and she made SEMAD available to work together with FGV to advance in the elaboration of a strategic vision for the future of mining in MG. The importance of mining for the state of Minas Gerais was reinforced, not only economically, but also culturally. "When we think about sustainable mining in the state of MG and in general, we should go through some steps and reflections," said Marília. It was placed as the first stage "The Extraction Model": "as today there is an advanced technology, we have achieved changes in technological models of extraction. However, it is necessary to advance in the model for the disposal of dams, mainly in the field of the use of tailings".

From the environmental point of view, there are two delicate issues. The first deals with the use and management of water. According to Marília, "it is not only the use that determines the model of resource management in mining activity. The second issue would be the "Post-mining territory reconversion". The post-mining discussion of municipalities is a very important point, because many times they are not prepared for an economic transition. "When we think about the tripod of economy, environment and society, this is also another challenge that exists today in the state of Minas Gerais. We need to prepare these municipalities for an economic transition after the mining activity.

The webinar followed with a presentation by Renato Brandão, president of the State Foundation for the Environment (FEAM), which mainly addressed aspects related to the closure of the mines. The Constitution on the obligation to recover the degraded environment due to mining resources was mentioned, in which the mining agency also has specific rules for the closure of mining areas. The situation of the closure of mines in the State of Minas Gerais was portrayed. Among 400 areas, 169 were classified as abandoned and 134 paralyzed without post-mining environmental control.

The technical challenge pertinent to the closure of mines covers a significant number of environmental variables, including the discussion on the future use of this area. The main challenges cited were: dams, storage of dangerous waste, degraded areas and abandonment of products in these areas. Examples of the use of post-mining areas were shown, such as the Ibirapuera park,

where in the past was a mining area and today is a common and recovered area. As a future perspective, the monitoring of the state is essential. However, the reuse of waste is also substantial. According to Renato, areas explored in the past are seen as potential areas for new exploration of other materials and used for other forms of economic exploitation.

Nadine Gerner, Senior Researcher, presented the experiences acquired with the Restoration of the Emscher River basin, which used to be a mining area, and is now in transformation to a more sustainable and habitable region. First, it was shown the location of the two cooperatives "Emschergenossenschaft and Lippeverband" in the state of North Rhine-Westphalia. Nadine described the "Integrated water management throughout its cycle; wastewater treatment; rainwater management; flood protection; and the polder management". The restoration process was described as: "From grey to blue. - From an ancient mining land to an almost natural state of the rivers". The first step was to transform the "Emscher technical system" - an open-air sanitation system into an underground sanitation system. In this way it is possible to restore the river courses back to an almost natural state.

Nadine mentioned that it took more than 10 years to restore the ecosystem and reestablish a complex aquatic community: "We are already seeing a large increase in species throughout the region. The global cost of the project is 5 billion euros, with a duration of almost 30 years. The river is once again becoming a "place for recreation and life". Moreover, Nadine explained that an engine of structural change in the area is the "International Architecture Exhibition (IBA). The 120 IBA projects have been implemented following an holistic approach, where a paradigm shift is intended "from a rust belt to a green, modern and prosperous metropolitan area. To conclude, Nadine stated that the river recovery is an engine of structural change that brings many benefits along with challenges. Nadine also characterized the members of the "Genossenschaft" (association/cooperative): 16 municipalities, the mining company and major industrial companies. They are the members, who also finance the activities of the self-administered cooperative.

Jörg Schlensted gave an overview of the state-owned LMBV (Lausitzer und Mitteldeutsche Bergbau-Verwaltungsgesellschaft mbH), whose responsibility is to recommission and rehabilitate the sites used by the GDR lignite mining industry. The work is financed by the Ministry of Finance and the Ministry of the Environment together with the affected states Brandenburg, Saxony, Saxony-Anhalt and Thuringia. When LMBV was founded in 1995, it was confronted with a large area of unrestored and devastated land of over 30,000 ha:

- 32 open-pit mining areas with 224 open wells;
- 1200 km of unsecured slopes;
- 13 bill. m3 underground water deficit with 2000 km2 cone depressurization;
- 97,000 ha owned areas used for mining activities;
- 5 active mines to be closed until 31.12.1999;
- 46 refineries and 42 thermal energy plants;
- App. 1,200 legacy areas.

Jörg explained that one of the geological tasks was to fix about 1,200 km wide slopes. However, the main task was the restoration of a self-regulating water balance according to water quantity and quality. It was also shown the importance of the modernization of the water treatment plants and the good result they obtained in cleaning the lakes.

About 15% of the post-mining areas are reserved for nature conservation tasks and after 25 years of mining rehabilitation by LMBV significant changes are visible. He concluded that most of the contaminated sites have been cleaned and are being reused by the owners, turning them into

attractive tourist destinations. The importance of starting the rehabilitation of these areas already during the excavation was emphasized, in order to achieve greater acceptance and reduce costs, since there are no standard solutions and science and technological innovation are crucial.

Marina Simão, undersecretary of Tourism of the Secretariat of Culture and Tourism of Minas Gerais, spoke about the relevance of environmental recovery considering the mining culture. Marina reaffirmed that Minas Gerais is a state known for mining. She presented the program "Minas for Minas", which works to reposition the State of Minas in the market. "The program proposes to consolidate Minas Gerais as the best alternative destination for tourism and seeks, consequently, to contribute to the territorial development and the promotion of diversification of the economic matrix of the state". The Program is outlined by three axes: territory, health safety and destination marketing. The topic of territorial revisitation was also raised, addressing two more programs they are working on. One that works with tourism promotion and a differentiated offer of products and itineraries; and the other aimed directly at the heritage of these regions, which was built with the mining history. For example, the Luz no Patrimônio (Light in the Heritage) Program is a project that intends to "requalify the urban landscape with underground light and internet cabling, revitalization of the river system and scenic illumination of monuments of historic mining cities. The project aims to generate an appreciation for the territory, making the city more welcoming, thus creating better integration of the community with its own space. These changes are planned for 41 cities. "Minas Gerais needs to diversify its economic matrix. Tourism, culture and creative economy are sectors that should be part of this planning", concludes Marina.

Antônio Grossi, president of Inhotim Institute, continued the webinar talking about the history of the Institute. Inhotim was founded by the mining entrepreneur, Bernardo Paz, who in the mid 80's left his companies to establish the Inhotim Institute. The Institute is located in Brumadinho, MG, where Inhotim brought ecological and cultural tourism to this mining region. It is an old mining area, but over time the landscape was changed into a contemporary art center and botanical garden, with a total area of 1,000 hectares. The art center has 19 permanent galleries with more than 700 works of art exhibited. In the Botanical Garden there are more than 5 thousand plants in the collection with rare species from all continents. The Inhotim Institute also has socio-educational projects such as the Inhotim Laboratory, "training young people for the development of a critical view of society". The "Environmental Agents" project aims at stimulating understanding about environmental issues. The String School offers free musical training in symphonic string instruments. Another example is a project in partnership with the Ministry of Environment, that includes the organization of actions for the recovery of degraded areas of mining through community development". Undoubtedly, with COVID-19 many challenges arose in the delivery of those projects. Nevertheless, the Institute decided to resume its activities on September 7, 2020, following all the rules of the health authorities. Antônio Grassi concluded by saying that "if the vaccine will alleviate the pain, it will be the art and culture that will be able to stop the suffering of the people".

During the brief Q&A session, Marco Ristuccia addressed some questions to Marilia and Renato related to the attitudes of the mining companies in order to partake in more sustainable mining, and in supporting and participating in the transformation process.

A question was also addressed to Nadine, related to the financial resources, specifically about the public contribution in the Emscher Basin. Nadine answered that financing is always a critical point. She explained that it's generally used the "polluter-payer principle" and mining companies had to pay a larger share to restore the landscapes. But more and more this responsibility is moving towards the cities because they are, together with the companies, the main responsible for the wastewater. Nadine also added that cultural and/or urban development funds could also be sources of financing.

One question addressed to Jörg was how local communities were involved in the process. Jörg explained that the basis for all rehabilitation projects is a regional planning with the involvement of the local communities. In addition, there is a regional board of directors with delegates from the communities with direct influence on the projects. They decide how to finance the projects and how to implement them, even without financing them with their own resources.

Marina answered a question about her vision on the possibility of creating a system to promote the cultural assets of Minas Gerais and how this system can become an integrated, cooperative system to prevent fragmented offers, and promote the consolidation of ecotourism. Marina, clarified that culture and tourism are in a process of integration, taking into account that each sector has its particularities. However, tourism opens a door to show the cultural sectors. "What is important in tourism is the possibility of meeting different environments and ways of living".

Antônio Grassi was asked about his perspectives related to the collaboration between the actors of Minas Gerais on the private side.

The webinar ended with a special thanks to the German Consulate General, the State Government of Minas Gerais and the speakers.

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Website FGV Europe:

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Website FGV Europe dedicated to Just Transition:

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Exclusive website for the Just Transition initiative/event, in Portuguese and English:

<https://eventos.fgv.br/transicao-justa>

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