

# HAUNTED LANDSCAPES OF THE EXTRACTION

how the ghost of an imminent dam rupture haunts the daily lives of thousands of people and their social and ecological environment

This cartography reveals the territories shaken for more than a year by an invisible mud wave of mining waste, which devastates entire communities even before moving, a disaster that generates affected without having yet occurred. A year and a half of fear for the displaced and other residents of the risk areas, due to the increase in the safety level of the Upper South dam of the Gongo Soco mine, inactive since 2016 and owned by mining company Vale. The mass movements recorded on the northern slope of the mine changed to level 2 the safety factor of the downstream dam. On February 8, 2019, the siren was activated for the first time.



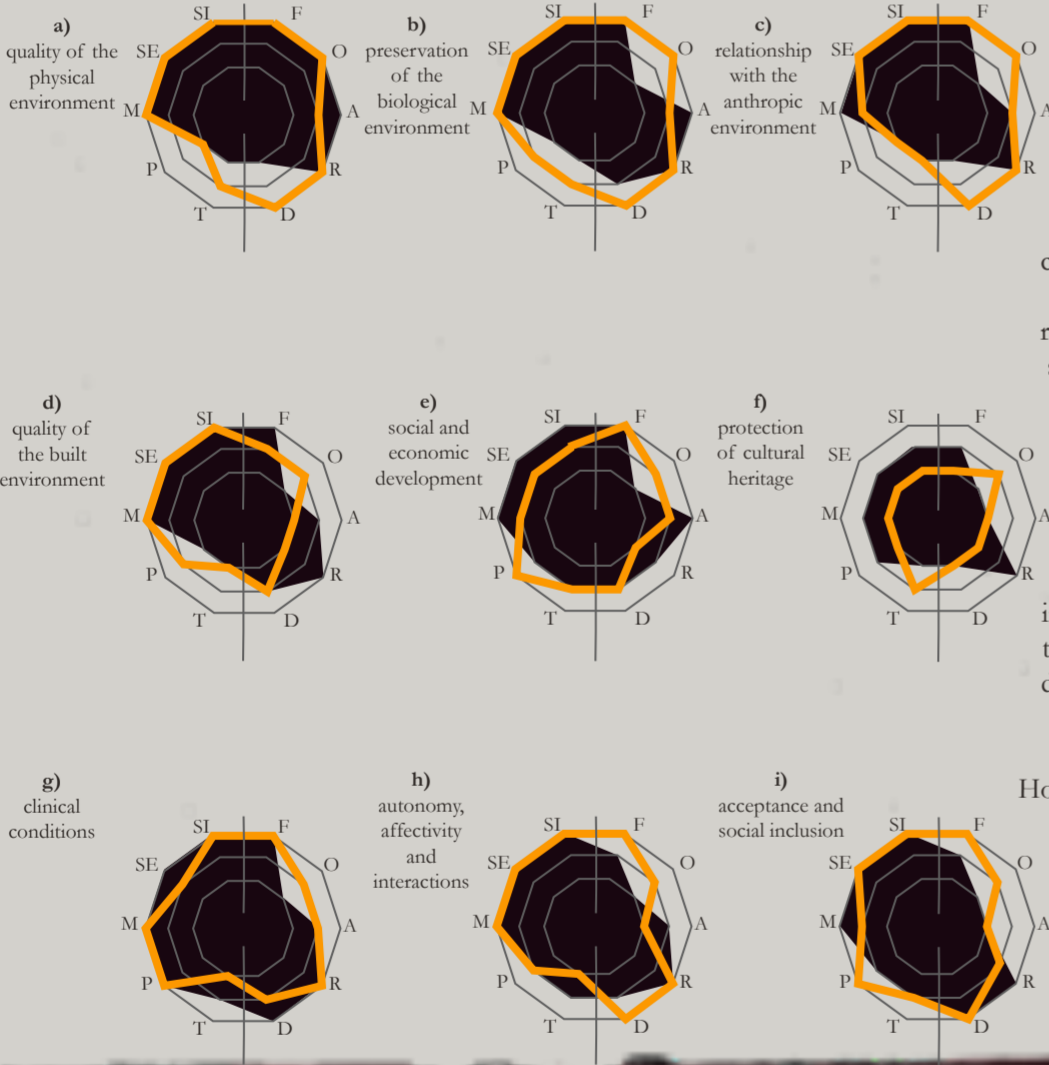
The municipalities affected by this risk are those situated downstream of the dam: Barão de Cocais, Santa Bárbara and São Gonçalo do Rio Abaixo. The evacuation of the ZAS involved the rural communities of Socorro, Tabuleiro, Piteiras and Vila Gongo Soco, in Barão de Cocais, which to this day remain ghost towns.

Even if in the Secondary Security Zone (ZSS) the evacuation is not necessary, the sirens activated over there are equally frightening: they indicate preparatory meetings and evacuation simulations in case of rupture. The perpetuated state of alert inflicted by the simulations and the demarcation of escape routes and meeting points in the city has impacts on the mental and physical health of more than six thousand residents.

Other factors affecting the community are the rupture of family and social ties; the loss of affective record with the landscape; the loss of the material assets and of the means of livelihood linked to family farming; the changes in the daily life and the disturbance of the calm routine due to the works in progress.

Indeed, the ghost of the mud wave has caused impacts on the territory before it even arrived: the construction of containment barriers, the excavation of a channel and a retention basin and the opening of roads for new escape routes implied the deforestation and the contamination of the courses up to 20 km from the dam.

Furthermore, the evacuation interdicted not only residences, but also health centers, shops, bank agencies and other services, increasing rent prices outside the ZAS and ZSS and overloading public services. The alert situation also caused the interdiction of the railway and sections of the federal highway and the removal of more than 200 cultural assets from the city in order to protect the material heritage.

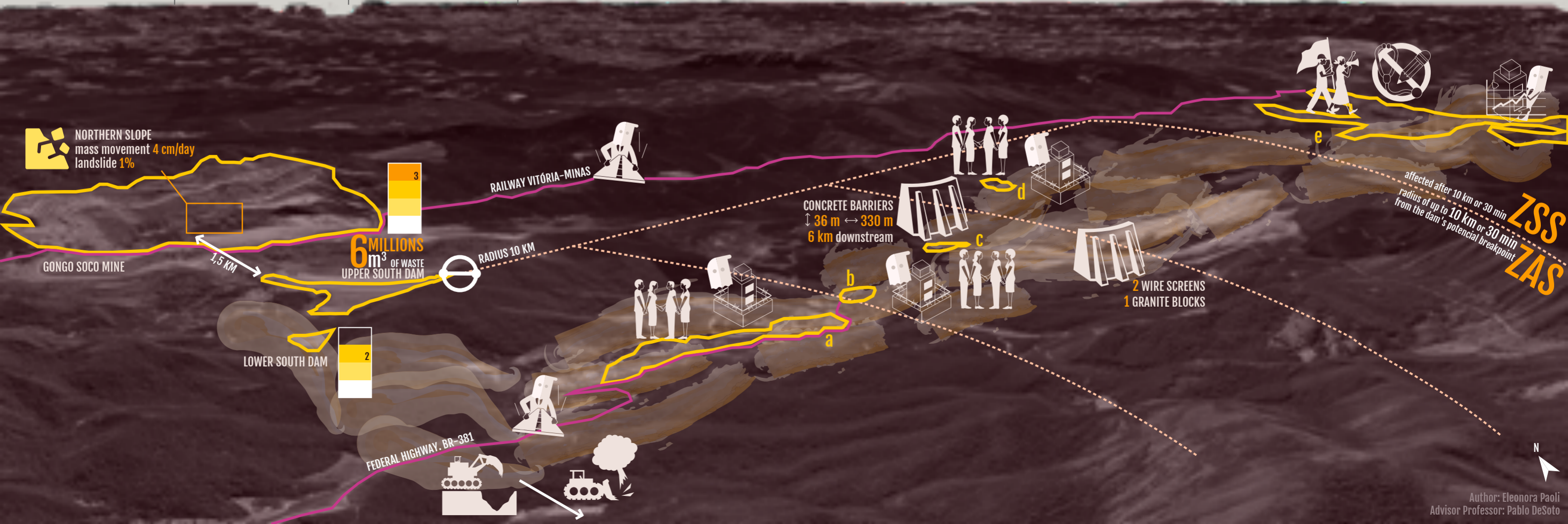
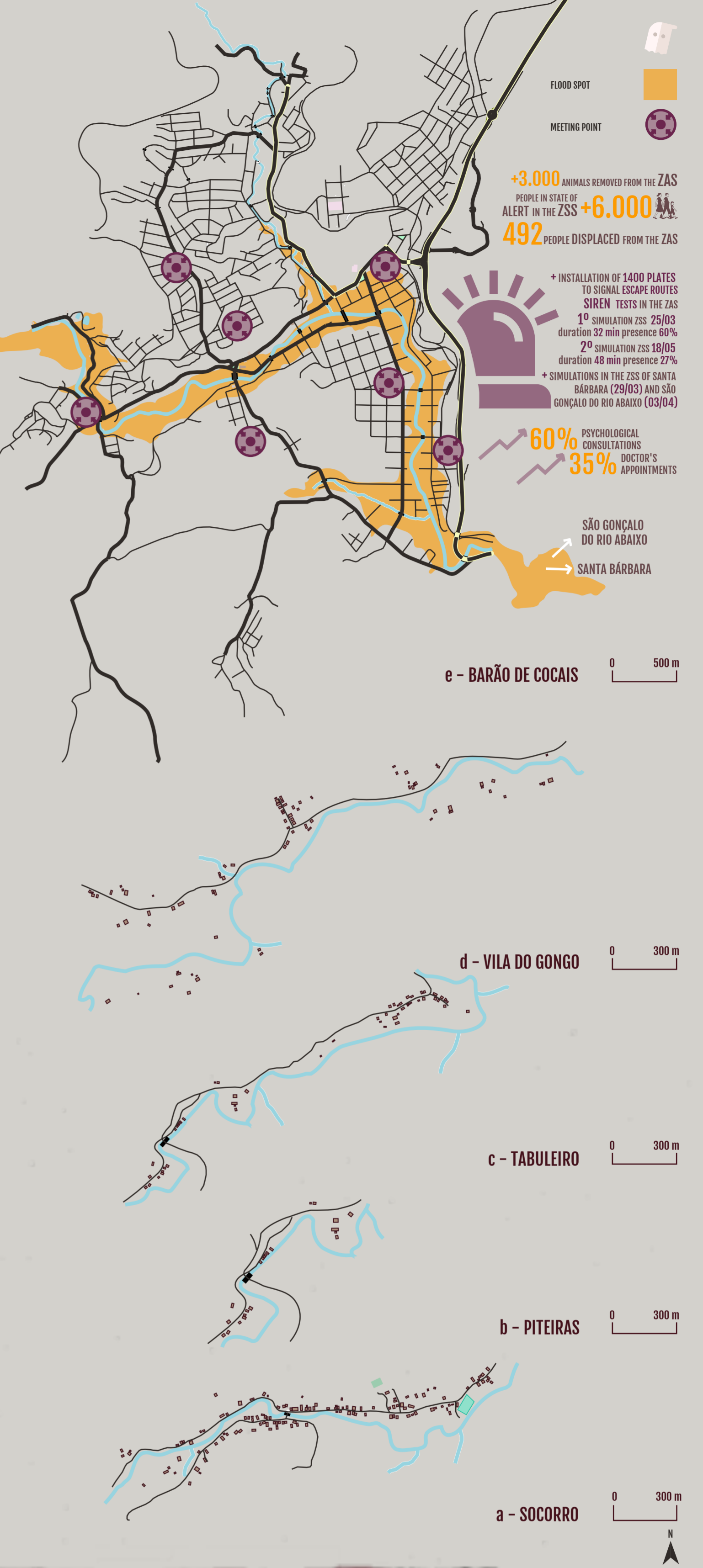


The analysis model proposed allows the comparison of the impacts caused by the risk (yellow line) and by the potential rupture (dark spot) in nine aspects of the social and ecological environment. Some of the variables used to analyze them are form, scope, duration, reversibility, probability, magnitude, etc.

The irreversibility of the impacts caused by the rupture is not always intrinsic to the risk. Also, the duration of the haunt of risk is permanent since they don't know when the alert will end, while is shortened in a sudden catastrophe.

However, the yellow line often matches the dark spot, legitimizing the similarity of impacts in the two contexts and the existence of a disaster caused by the ghost of the mud wave. The claim of social movements for the recognition of these people as affected by mineral extraction becomes more and more real.

Even considering the more or less serious scenarios of instability of the structure, the level 2 implies the need for evacuation from the Self-Rescue Zone (ZAS), that is, the removal of 492 people from their homes, according to the Emergency Action Plan for Mining Dam (PAEBM). On March 22, a new and more frightening siren is activated: it has the function of alerting about the rise to level 3 of the dam, that is, that the rupture is imminent or it is already occurring. On January 25, 2020, the safety factor of the Lower South dam also reached level 2.



NORTHERN SLOPE  
mass movement 4 cm/day  
landslide 1%

6m<sup>3</sup> OF WASTE  
UPPER SOUTH DAM

LOWER SOUTH DAM

RAILWAY VITÓRIA-MINAS

FEDERAL HIGHWAY BR-381

CONCRETE BARRIERS  
36 m ↔ 330 m  
6 km downstream

2 WIRE SCREENS  
1 GRANITE BLOCKS

affected after 10 km or 30 min  
radius of up to 10 km or 30 min  
from the dam's potential breakpoint