A CHALLENGE FOR LAND AND RISK MANAGERS: DIFFERENT STAKEHOLDERS, DIFFERENTS DEFINTIONS OF RISKS.

Auteurs: Manuela Fernandez & Jean Ruegg
IPTEH- institut Politiques territoriales et de l'environnement humain
www.unil.ch/ipteh manuela.fernandez@unil.ch; jean.ruegg@unil.ch

UNIL | Université de Lausanne
Faculté des géosciences et de l'environnement

INTRODUCTION

In developing countries, mountainous areas are subject to multiple risks and vulnerabilities, including economic, social and physical risks. In addition, they face even greater challenges than developed countries due to a lack of knowledge, resources and technology. Risk managers are compelled to choose between which risks to address because of insufficient resources and poor development, while acknowledging that risk cannot be totally reduced. The challenge is how to prioritize and determine what is important for each society.

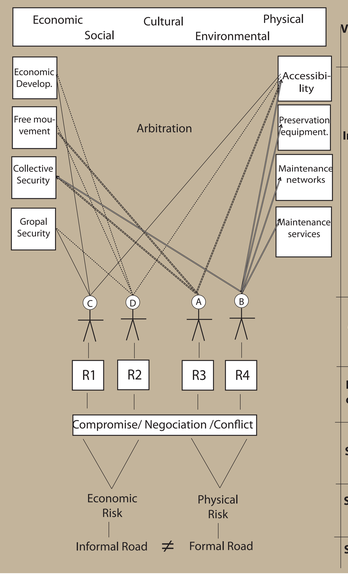
Certain attributes and characteristics defining risk will be emphasized by some stakeholders over others, therefore definition of risk may change over time. This work addresses social conflicts and competition for priorities and solutions that may arise between different groups of actors confronted with reducing landslide risk in San Cristobal, Guatemala after Los Chorros landslide in 2009. Our research is situated within political science, sociology and human geography and focuses on an analysis of stakeholders and their decision making process for reducing vulnerability as a major part of risk.

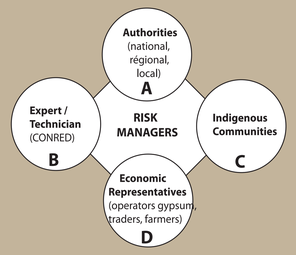
METHODOLOGY

This work is based on the analysis of practices (Practical Science) in order to understand how different stakeholders prioritize various types of vulnerabilities and risks, leading to a number of social conflicts in a given territory.

We based our data collection on semi-directed interviews of main actors concerned by Los Chorros Landslide in order to identify vulnerabilities, risks and priorities for the functioning of this society.

Multirisks and multivulnerabilities territory

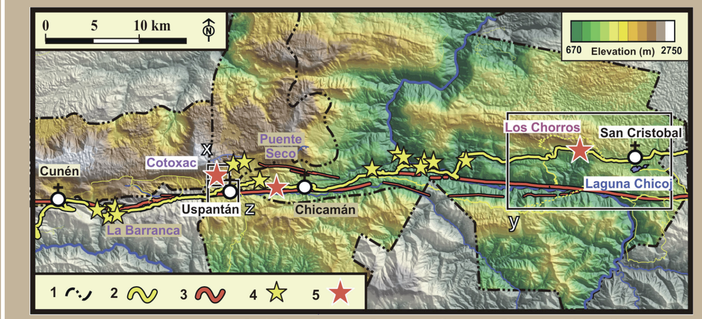




HYPOTHESIS

A) «The risk manager choice one vulnerability among a set of multiple vulnerabilities and with this choice they define their own risks and their actions. They have to determine what is vulnerable in their territory, which must be considered essential and to be preserved for functioning of a society».

B) «A desirable solution to be implemented for reducing risk depends on compromises made by the actors and their ability to legitimize their choice concerning vulnerabilities».



Study Zone. Frames : x – Cotoxac Landslide, y – Los Chorros Landslide, z – Uspantan city.

CASE STUDY

The Guatemala case is situated along a major active strike-slip fault named Polochic, that straddles the entire country. The fault crosscuts a very mountainous region, through which it has created a linear series of river valleys and formed a continuous east-west corridor where a series of small cities – including San Cristobal. The territories are ideally suited for our study because they contain both, rural and urban populations highly vulnerable to two major natural phenomena.
This work addresses a case study San Cristobal Altaverapaz where a large landslide "Los Chorros" (the catastrophic collapse of 6 million cubic meters of rock), is affecting several communities and one of the main west-east access highways.

Transport of passagers

Transport of gypsum and microbuses

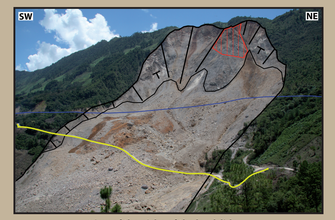
Builders of the new road

Responsible of the «toll»

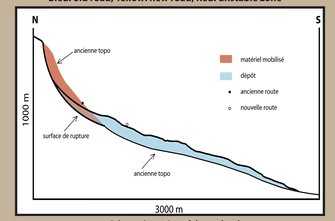
Informal sign

Formal sign

Destruction of the main road by the 4 th January 2009 Los Chorros rockslide and alternative roads realized or proposed.
1- Main road (7W), 2- destroyed segment, 3-alternative dirt road funded by the communities, 4- alternative dirt road funded by experts, 5-other proposed alternative, 6-secondary road, 7-road acces to communities, 8-private dirt roads (large farms), 9-road destroyed by mudflows, 10. Road flooded by damming of the main river, 11-rockslide scar, 12-rockslide deposit, 13-mudflows, 14-deposits of 2 older rockslide events of same magnitude.



View of the niche of the landslide.
Bleu: old road; Yellow: new road; Red: unstable zone



Schematic section of the avalanche

RESULTS AND CONCLUSIONS

Based on the case study, this work asserts that the risk is not unequivocal. On the contrary, in the case of Los Chorros, "first" risk (landslide) took a different course when it was apprehended and evaluated by stakeholders. Some considered mainly economic risk while others considered physical landslide risk to be the priority. Certains attributes and characteristics defining these risks will be emphasized by some actors over others. Therefore, the definition of risk may change over time.
This work shows that the notion of risk is not uniform, risk persists. It also becomes diffuse, changes or endures because it depends on the implications on the territory and on the risk definition made by the actors. Risk is variable, it is the result of a choice because its existence is attributed by the characteristics or criteria of vulnerability fostered by actors in their territories.

The challenge for managers of natural hazards is to move from risk management in the strict sense, which focuses mainly on hazards to a broader management, taking into consideration societal priorities and the functioning of systems.

In a context where risk and risk management are produced and managed by both formal and informal stakeholders, the main issue is how to engage the various stakeholders and evaluate different priorities of risk in order to determine which actions are best suited for a more balanced approach to risk management.

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