

# Gem Mining Landslide Rapid Rural Research

By: Rainforest Rescue International &  
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## INTRODUCTION



## Who are we

- Rainforest Rescue International based in Galle is the only Rainforest Conservation NGO in the South with a mandate to stand up for the rain forests and their communities ([www.rain4est.org](http://www.rain4est.org))
- Ruhunu University is the only University in The South-West of Sri Lanka ([www.ruh.ac.lk](http://www.ruh.ac.lk))

## Why research

- May 2003 over 250 people died from landslides and floods
- Over 100,000 people had to be relocated for the time being
- Landslides were not only at the expected areas like monocultures, road building/other blasting areas or deforested areas!
- Landslides were within rain forest areas affecting many local communities and watersheds

## Landslides May 2003

- Monoculture areas
- Deforested area
- Blasting areas
- Roadwork areas
- Rain forests!!!



## Objective of Research

- What is the communities perception regarding the influence of mining on the environment
  - What do the gem miners themselves think about their influence on the environment
- particularly its effect on landslides -

## Possible reasons landslides within rain forests!

- Forest degradation
- **Soil disturbance by mining**
- Extreme heavy natural influences
- Geological structure (Slope, soil structure, etc)

Often it is a combination of all three



## Rapid Rural Research

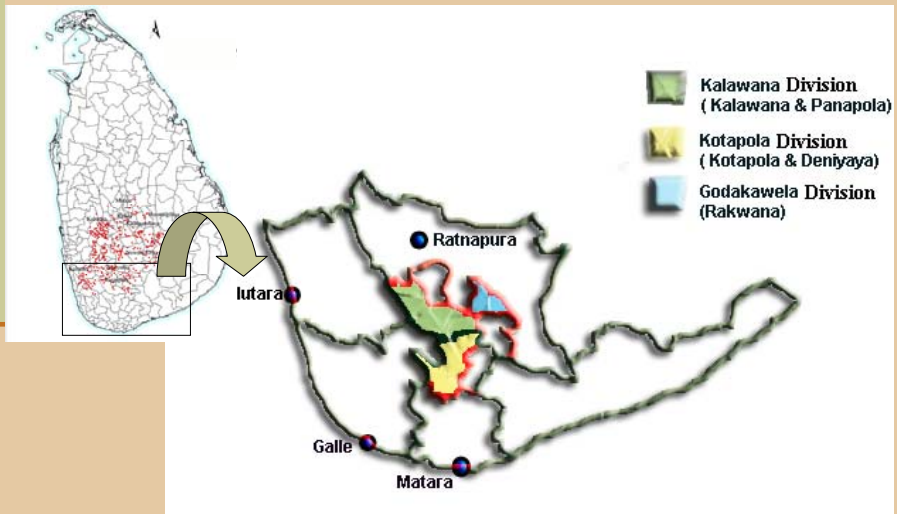
- Two weeks, 10 students, one Ruhuna University Prof and a RRI coordinator
- 3 days preparation of team, ideas, background info and questionnaires
- 7 days of questionnaire answers and field work
- 4 days info collation

*Thus short sweet and not too comprehensive*

# Research Area and Approach



# Landslides Gem Mining Rapid Rural Research



## Research Methodology

- Five days for Planning
  - Preparing Questionnaire
  - Collecting Supportive Information
  - Simple Random Sampling Method
- Two days for Observation in the study area
- Five days for Interviewing
  - Key informants
  - General Public
  - Gem Miners
- Five days for data Analysis

## Major Environmental Hazards in Sri Lanka

- Floods
- Landslides
- Drought
- Storms

## Major Environmental Hazards in the study Area

Floods	69%
Landslides	28%
Others	3%

## Definition to the Landslides

- The term “ Landslides ” refers to a rapid downward or outward movement of a rock mass, residual soil, colluvial and alluvial materials or sediments along a slope.

## Type of Gem Mining in the Study Area

### ■ Kotapola & Deniyaya – Surface mining

- ♣ Paddy field
- ♣ In the River (Ging, Nilwala)
- ♣ River Bank
- ♣ Forest

## Type of Gem Mining in the Study Area

### ■ Rakwana – Surface Mining & Deep Mining

- ♣ Paddy field
- ♣ In the River
- ♣ River Bank
- ♣ Forest



## Type of Gem Mining in the Study Area

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### ■ Kalawana –Shallow mining

- ♣ In the River Basin
- ♣ Paddy field
- ♣ Slope

## Type of Gem Mining in the Study Area

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### ■ Panapola – Surface mining

- ♣ Forest

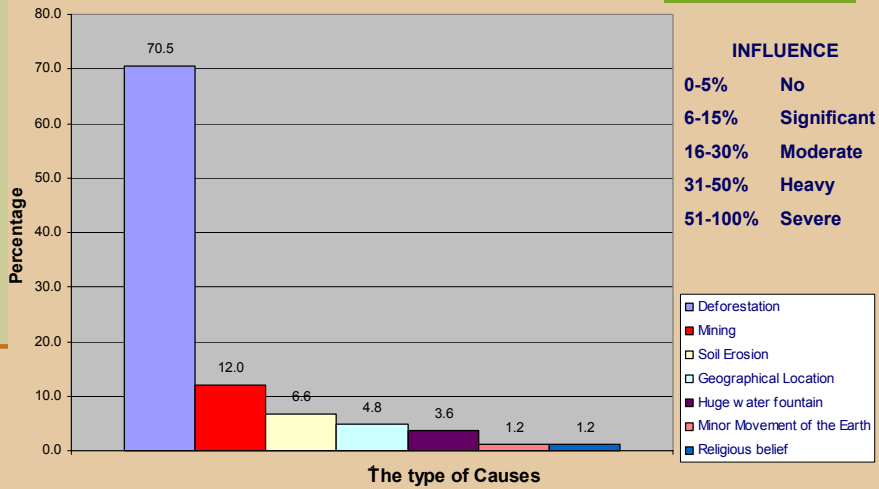
## Impact of Gem Mining on Environment

- Land Degradation
  - ♣ Soil Erosion
  - ♣ Land subduction
- Deforestation
- Resources destruction of the River Basin
- Influence to the Scenic Beauty

## Analyses



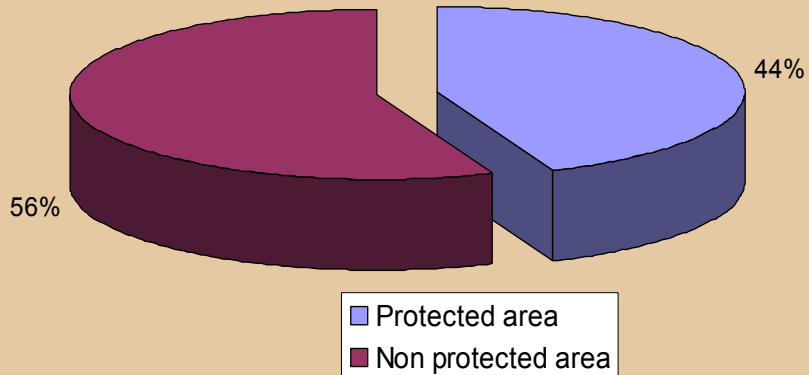
## Human Feeling of Recent Landslides



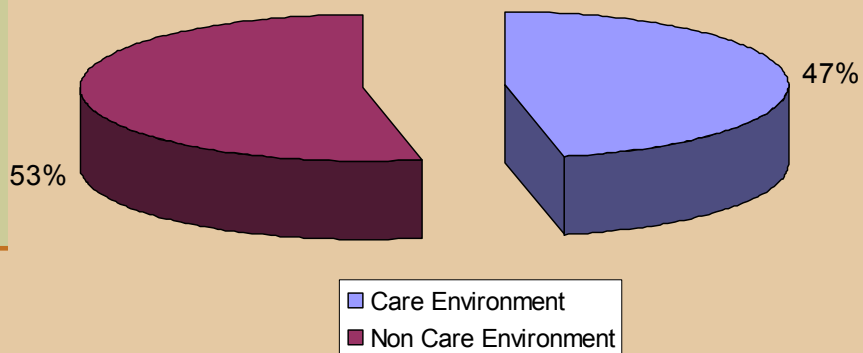
## Relationship between the Landslides and Gem Mining

- 12% of the interviewed General Public are on the view of mining is a one of the causes related to the recent landslides.

## Gem mining in or out of protected areas! (by observation)



## Gem miners feeling about their influence on the environment



## Observations, Conclusions and Recommendations



## Observations

There have been some field observations and out of questionnaire remarks of importance which could be summarised as follows:

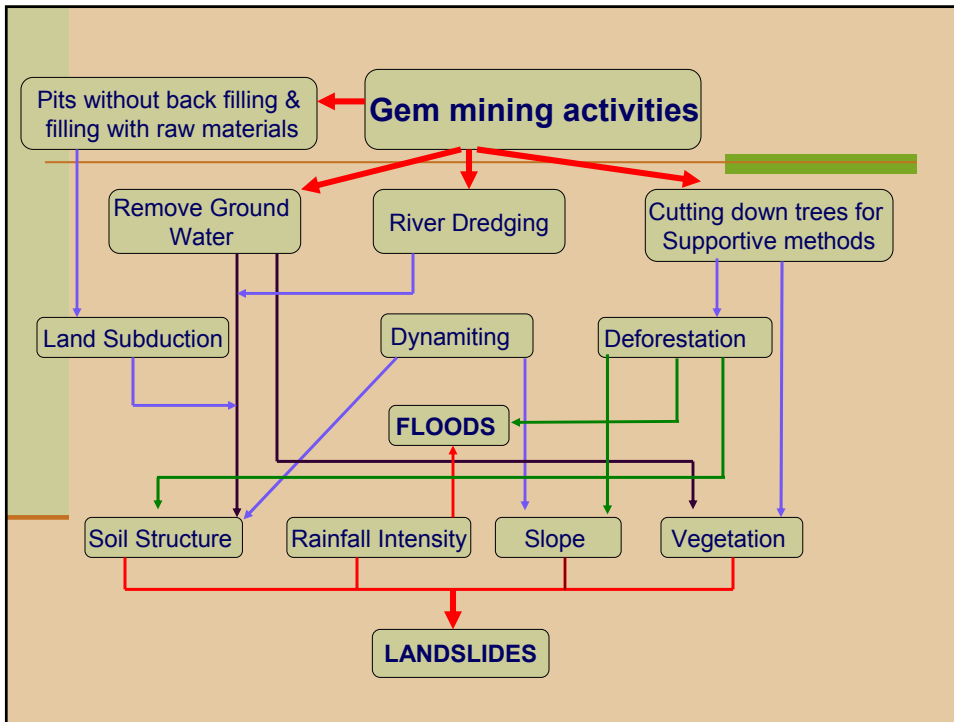
- Political interference
- No database about accidents & Destroyed places
- Less attention of youths
- Lack of willingness to give right information

## Limitation of Research

- Rainfall during questioning people
- Time frame (both starting date and intensity of information required)
- Difficult Road Network
- Inability to observe some Gem mining places
- Not trialed questioned (some questions irrelevant)

## Conclusion

- There is a significant influence from Gem mining on landslides according to the public
- Threatening issues
  - Gem mining methods
  - Selection of sites
  - Human attitudes
- Surface mining has no severe effects
- Some miners have no Awareness on environment
- Informal structure creates more harmful issues
- Forest land usage emerge a possibility of deforestation
- Suitability of traditional techniques
- Long term engagement



## Suggestions

- Need effective monitoring system
- Activate the forest-land policy
- Implementing good Soil-Watershed policy
- Raising environmental awareness programs
- Need of follow-up research
  - Geological
  - Sociological
- Organize the industry in sustainable manner
  - Training
  - Techniques
  - Work force
  - Legal system

## Summary

Human feelings of the study area revealed that there is a potential impact of gem mining practices to the recent landslides.





