



# Disaster Risk Maps for Gender Empowerment in Disaster Management

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## INTRODUCTION

The paradigm shift that catastrophic disaster is not only government responsibility but also the entire community to be one basis of National Action Plan for Disaster Risk Reduction

**Women and children are still considered only as victims** and get affected completely by hazards and disasters, and “powerless” in the term of mitigation and disaster handling

The same disaster could bring different impacts for different gender groups

The aims of this study is to analyze the vulnerability and capacity based on gender in disaster management and present it spatially in order to strengthen the role of gender in disaster risk reduction.

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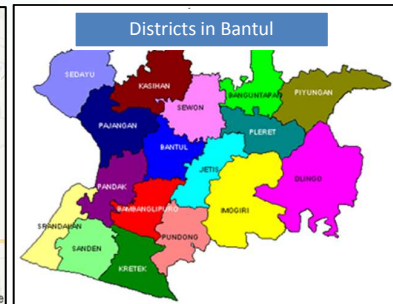
# RESEARCH AREA

Bantul Regency – located in Yogyakarta Special Province -- Total Area: 508,85 Km<sup>2</sup>

Divided into 17 Districts

Border:

- North : City of Yogyakarta
- West : Kulon Progo Regency and Sleman Regency
- East : Gunung Kidul Regency
- South : The Indian Ocean



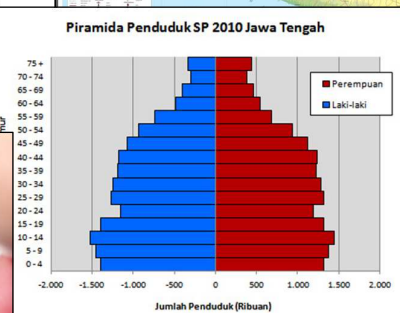
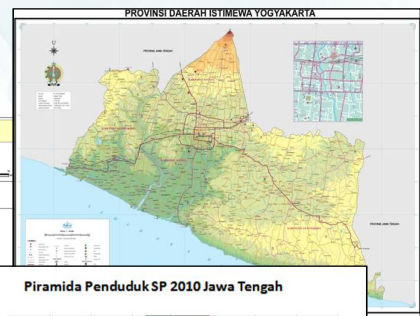
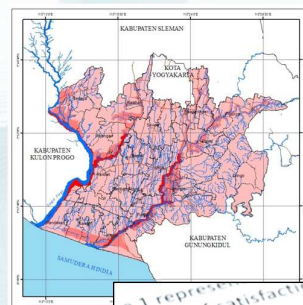
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# METHODOLOGY

## Data and materials

- Topographical maps (Scale of 1: 25,000)
- Demographic Statistics from The Central Bureau of Statistics
- Vulnerable hazard maps
- Questionnaire

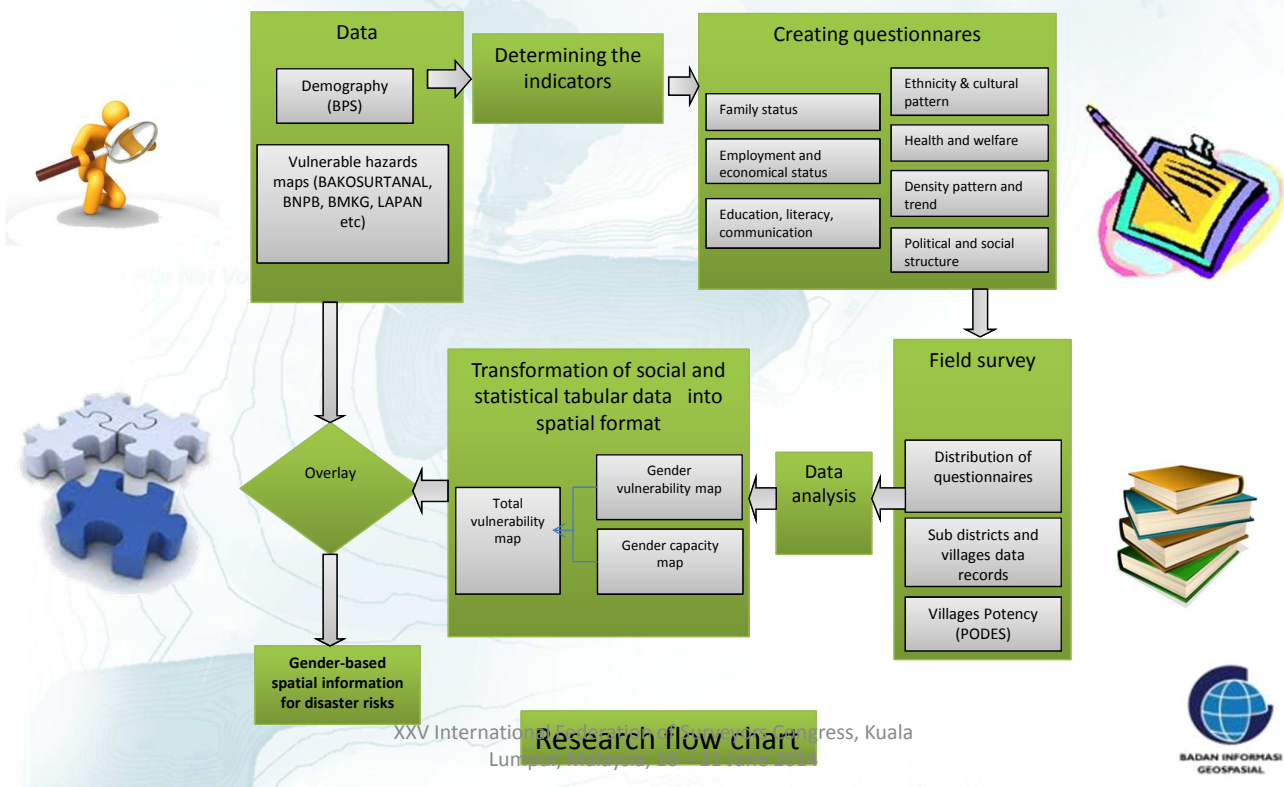


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# METHODOLOGY



# METHODOLOGY

## Disaster Risk Spatial Analysis

$$\text{Disaster Risk} = H * V/C$$

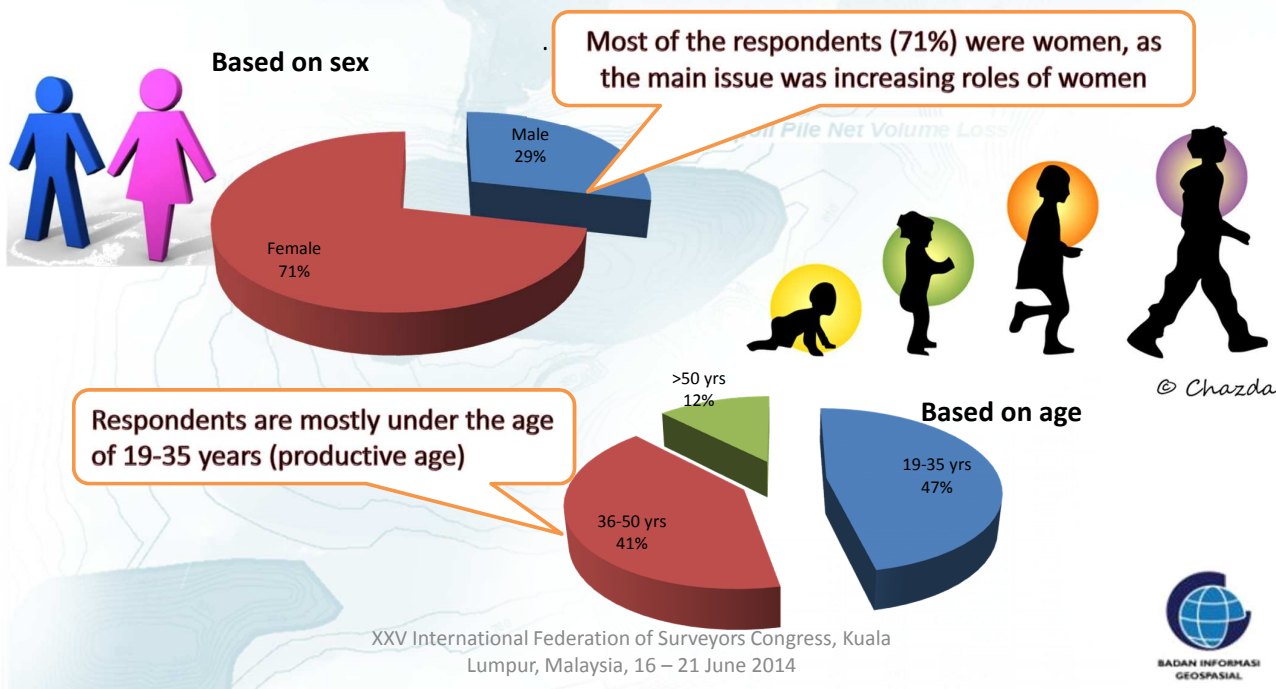
This analysis was done by overlaying the Total Vulnerability Map (V/C) with the Existing Hazard Maps (H) using a **risk matrix** to produce a gender-based disaster risk

V/C	High	Medium	High	High
	Medium	Low	Medium	High
	Low	Low	Medium	Medium
	Low	Medium	High	
	H			

# RESULT

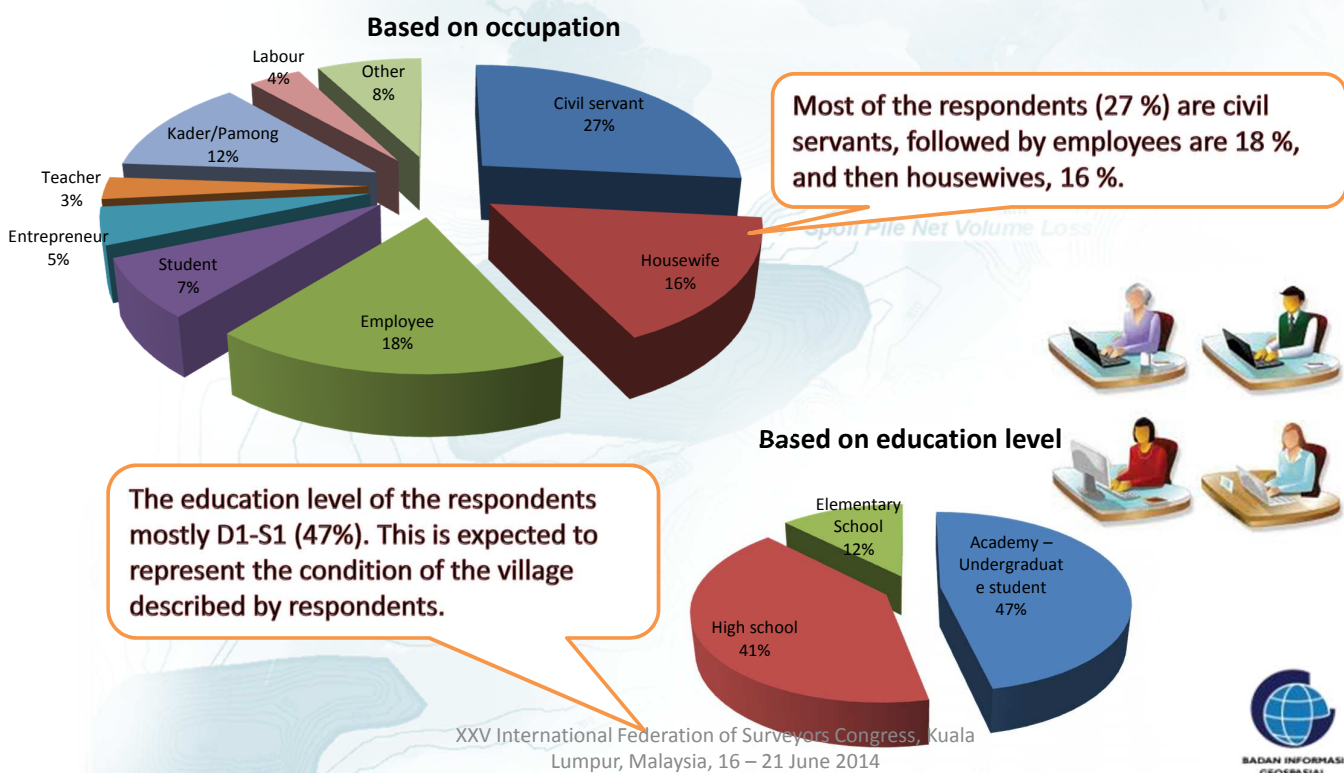
## RESPONDENTS CHARACTERISTICS

Total respondents = 105 people in di 17 Districts - 75 Villages



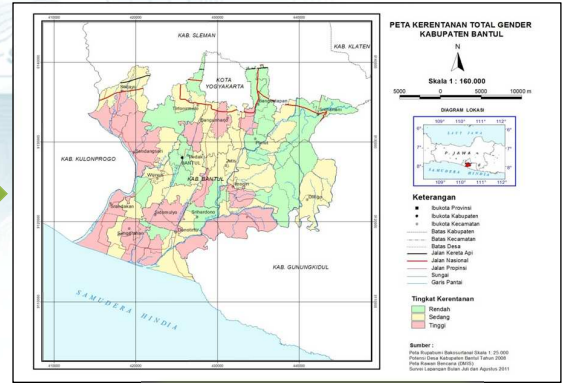
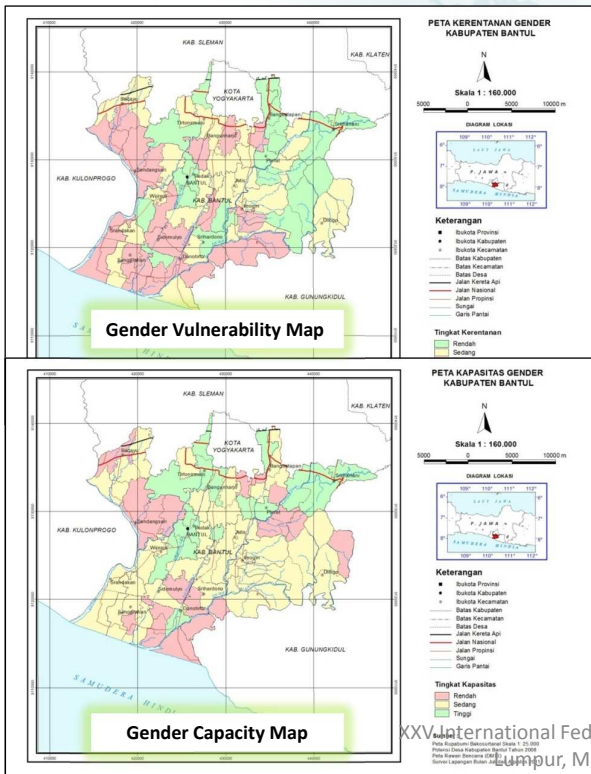
# RESULT

## RESPONDENTS CHARACTERISTICS



# RESULT

## Total Vulnerability Map (V/C)

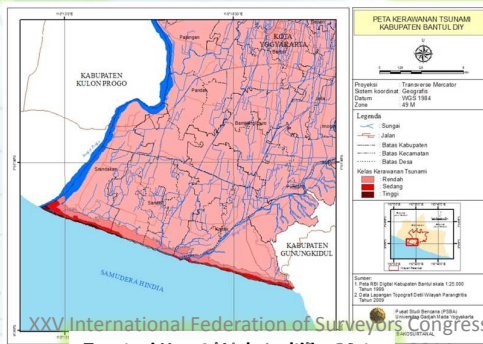
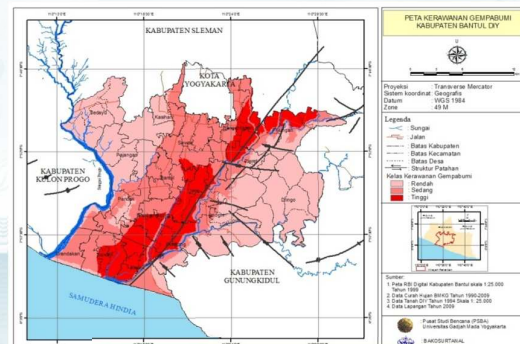
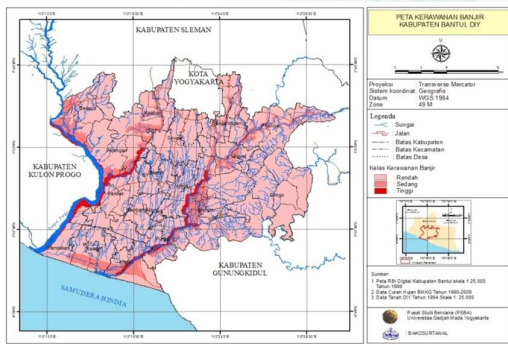


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# RESULT

## Hazard Vulnerability Map (H)



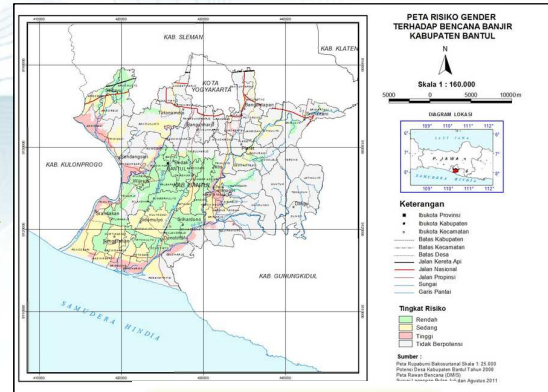
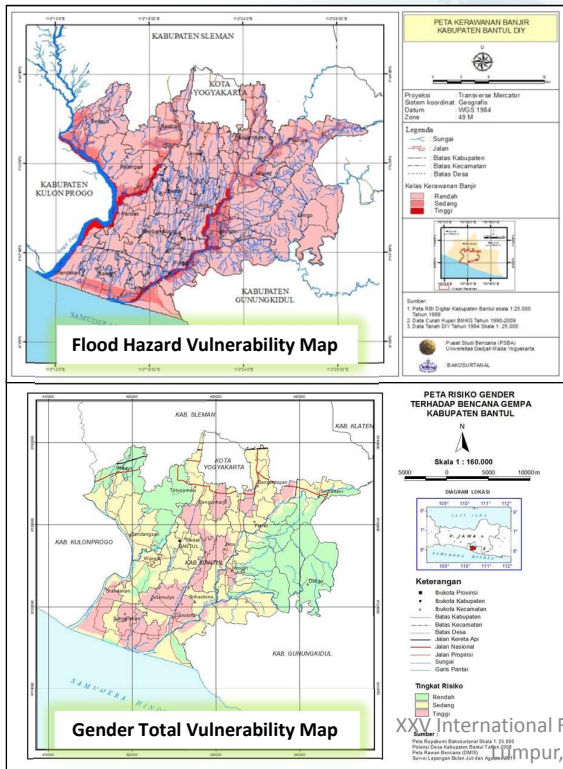
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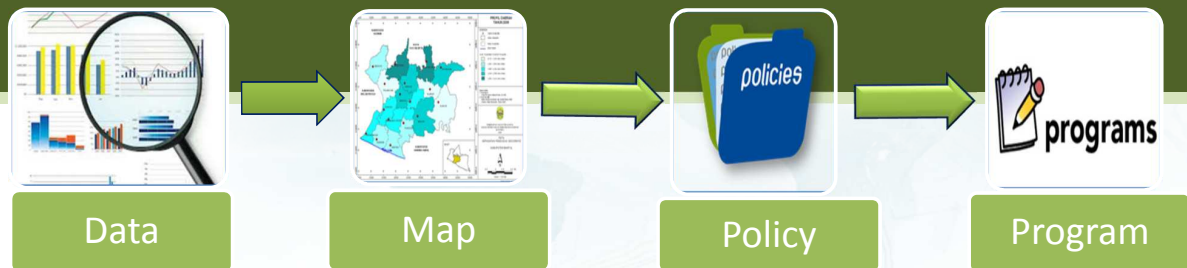


# RESULT

## Disaster Risk Spatial Analysis



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Risk	Vulnerabilities that need to be anticipated	Priority Capacity	Program	Action
High	<ul style="list-style-type: none"> <li>Access to information</li> <li>Unbalanced division of roles</li> <li>Population welfare</li> <li>Number of vulnerable people (toddlers, pregnant women, elderly)</li> <li>Settlements in disaster prone areas</li> </ul>	<ul style="list-style-type: none"> <li>Infrastructure (road, health facilities, education facilities, etc)</li> <li>Improved access to social and economic</li> <li>Early warning</li> </ul>	<ul style="list-style-type: none"> <li>Physical Infrastructure (sea wall, etc)</li> <li>Desa Siaga (the 'Alert Village')</li> <li>Gender-specific Aggregate Data</li> </ul>	<ul style="list-style-type: none"> <li>Infrastructure development</li> <li>Socialization to live in a safe area</li> <li>Disaster Workshop</li> <li>Rehearsals for disaster</li> </ul>

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# CONCLUSIONS

- Determining gender vulnerability quantitatively by means of questionnaires using scoring and weighting method allows us to present gender vulnerability spatially.
- Spatial information about gender strengths will be helpful as guidelines for decision makers and practitioners in disaster mitigation and emergency response.
- The disaster risk thematic maps also useful for strengthening the gender roles in disaster management.
- Decision makers who read the maps will be able to make comparisons and identify the regions as well as can evaluate the efforts to improve the capacity of the high-risk and vulnerable areas.
- Risk mapping process is a complex process and the result is communicative without losing the characteristics of each constituent indicator.

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