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# Coastal Flood Risks and the Business Community: Stakeholders' Perception in Malta

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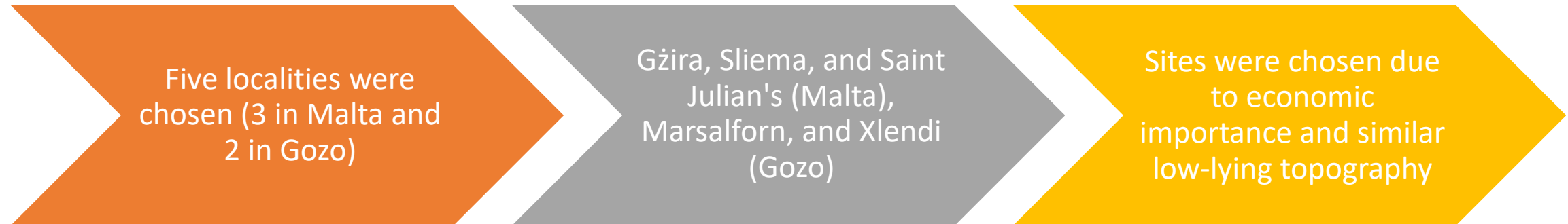
# Introduction & Scope

This paper addresses a current research gap within the Maltese Islands.

The study assesses socio-economic preparedness levels of Maltese low-lying urbanized towns for coastal flooding impacts through stakeholders' engagement.



# Site Justification





# Methodology

## Land use Mapping

- Elevation data for each business
- On site collection of each business' coordinates
- Inventory taken according to number of businesses within each locality followed by respective classification according to sector
- Collection of DSM and DTM models



# Methodology (cont.)

## Interviews/Questionnaires

- Mixed method interviews/questionnaires targeted towards the following audience:
  - Businesses
  - Local councils
  - Experts

# Businesses Interview

## Businesses

- Categorized all coastal businesses according to their sector
- Targeted 356 coastal businesses
- Sample size:
  - 50% of businesses in each locality

## Sample Size

- Gżira: 40
- Sliema: 50
- Saint Julian's: 78
- Xlendi: 7
- Marsalforn: 13
- Total :188

## Format

- Quantitative
  - Likert Scale
  - Boolean (Yes/No)
- Qualitative
  - Open ended

# Local Council Questionnaires



- Local council interviewed:

- Gżira
- Sliema
- Saint Julian's
- Xlendi
- Marsalforn

- Quantitative

- Likert Scale
- Boolean (Yes/No)

- Qualitative

- Open ended questions

# Expert Questionnaires



- Interviewed 12 private and governmental entity experts
- Specific questionnaire distributed to each expert according to their expertise

- Qualitative
  - Open ended questions





## Experts

1. The Malta Tourism Authority (hereinafter referred as MTA)
2. The Ministry for Transport, Infrastructure and Capital Projects (MTIP)
3. The Environmental Resource Authority (ERA)
4. The Ministry for the Economy, Investment and Small Businesses (MEISB)
5. The Malta Chamber of Commerce, Enterprise and Industry (MCCEI)
6. The Malta Resource Authority (MRA)
7. The Malta Chamber of Small and Medium Enterprises (MCSME)
8. The Civil Protection Department (CPD)
9. The Ministry for the Environment, Sustainable Development and Climate Change (MESDCC)
10. The Planning Authority (PA)
11. The Transport Malta (TM)
12. The Transport Malta Ports and Yachting Directorate (PYD)



# Data Analysis

Analyzed experts' answers via NVivo

Investigated local councils' results through a yes or no color matrix

Evaluated Businesses' inputs via Kruskal Wallis H-Test (SPSS) and graphs (Excel)

# Key Findings

## Experts

- All interviewed experts operate within a fragmented governance model, mainly adhering to the set of responsibilities aligned with their respective roles within such a governance model.

## Local Council

- All councils lack the physical and financial resources to effectively manage long-term coastal flooding within their locality, forcing them to completely rely on central government.

## Business

- None of the business have any plans to address current coastal flooding issues
- Businesses lack long term contingency plans or strategies to address future coastal flooding impacts
- Deep connection experienced by owners towards the coast as they refuse to relocate.



# Recommendations

Additional national study on hazards of coastal flooding is required, not only to identify and quantify the socioeconomic threats, but also to gather more perception data from stakeholders.

This study should be replicated on other coastal localities until the entire low-lying coast is covered to encompass the current coastal flooding situation amongst the Maltese and Gozitan business communities.

# Conclusion

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Another paper on the theme of place attachment in coastal areas impacted by flooding is planned, in order to assess the business community's deep connection to coastal areas.





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