Example of Risk Register (Risk Identification)

NERAG RISK REGISTER

Date:

Objective:

Conduct an assessment of the risks to the community from an East Coast Low in order to direct and prioritise the community's emergency management through prevention, preparedness, response and recovery.

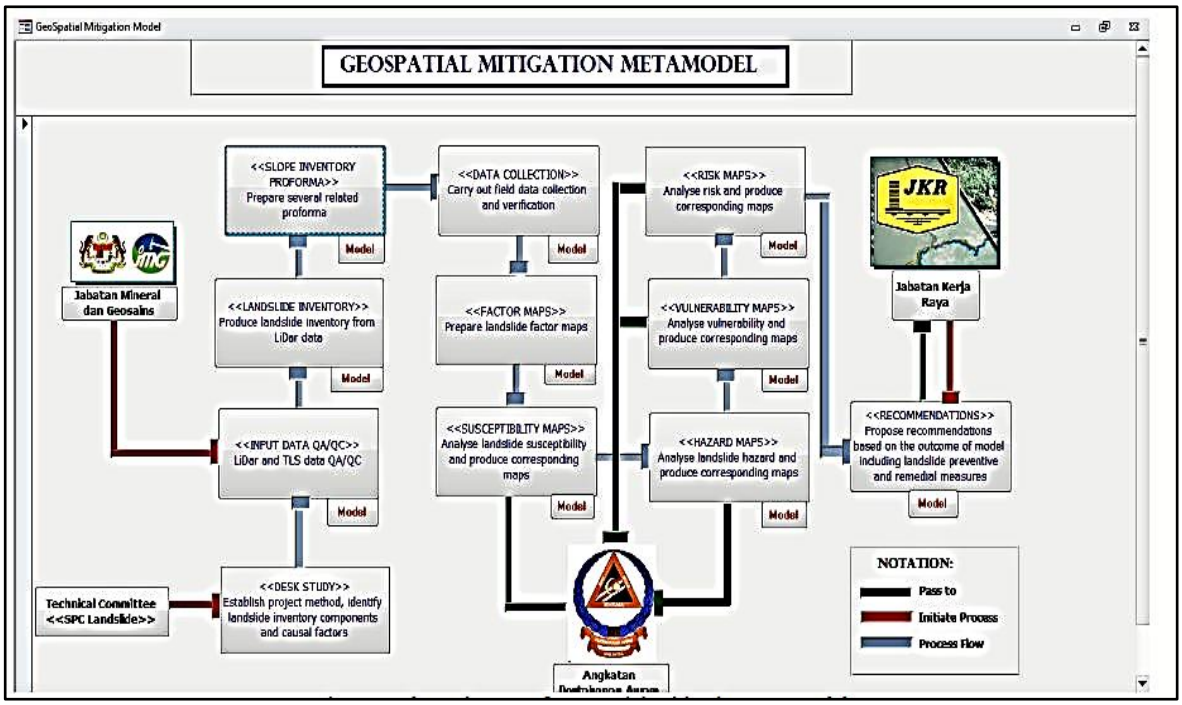
Scope:

The assessment will address the risks of a storm surge, associated with an East Coast Low, to the local community and consider possible impacts to people and infrastructure in the municipality. Storm surges to be considered are 1:100 year and 1:500 year events.

Risk Identification

Risk No.	Risk Statement	Source	Impact Category	Prevention/ Preparedness Controls	Recovery/Response Controls
1	There is the potential that a storm surge resulting from an East Coast Low will cause floods in the coastal areas of the community, which in turn will cause failure of significant infrastructure and service delivery.	Storm Surge	Infrastructure	Levee Banks Building Regulations Drainage Maintenance Urban Planning	SES Business Continuity Plans
2	There is the potential that a storm surge resulting from an East Coast Low will cause floods in the coastal areas of the community, which in turn will cause impact on the inhabitants.	Storm Surge	People	Levee Banks Building Regulations Public Education Drainage Maintenance Early Warning System Urban Planning	SES Emergency Shelters Volunteer Organisations Medical Services
3	There is the potential that a storm surge resulting from an East Coast Low will cause floods to low lying development including an aged care facility, which in turn will cause impact on the inhabitants.	Storm Surge	People	Building Regulations Public Education Drainage Maintenance Early Warning System	SES Emergency Shelters Volunteer Organisations Medical Services Evacuation Arrangements

(8a)



Figures 8a and 8b: Expected result of the Geospatial Metamodel for the Landslide Risk Register (Nasir et al. 2018; Australian Institute for Disaster Resilience, 2020)

The metamodel form displays a table and task activities for the landslide inventory map at three levels of the MOF framework (M0 level to M2 level) (Nasir et al., 2018). The landslide inventory map was imported into the geospatial metamodel and shows information about landslide locations, types, activities, and features (Nasir et al., 2018). The SOP for the landslides non-structural mitigation activities form displays the step-by-step procedure, from the desk study until the final hazard mapping was achieved (Nasir et al., 2018). Each SOP has a workflow model that describes the information about the procedures of each stage (Nasir et al., 2018). The records of previous landslides form display the list of major landslides in Malaysia from 1961 to 2021, along with the number of fatalities. The record is displayed in the form of a table in the geospatial metamodel.

2.6 Validation of the Geospatial Metamodel (Phase 6)

The geospatial metamodel that was created needs to undergo a validation process. NADMA will validate the metamodel based on real landslide disaster events at Bukit Antarabangsa, Ulu Klang, Selangor. Bukit Antarabangsa is one of the most landslide-prone areas in Malaysia, the most serious case being the "Highland Towers" incident in 1993, in which 48 people were killed (Rahman and Mapjabil, 2017). NADMA will assess the effectiveness of the geospatial metamodel based on certain criteria: i) storing and displaying accurate SOPs of the landslides non-structural mitigation activities workflow in the landslide risk register, ii) displaying records of previous major landslides in Malaysia, and iii) displaying a landslide inventory map of Bukit Antarabangsa, Selangor.

3.0 Conclusion

This paper presented the expected results of a landslide risk register via the geospatial metamodel approach at Bukit Antarabangsa, Ulu Klang, Selangor. The landslide risk register comprises information such as historical records of landslides in Malaysia and around Ulu Klang, Selangor, as well as SOPs and an action plan for landslides non-structural mitigation activities, including a landslide inventory map. The geospatial metamodel is preserved as a data model that visualizes all the information listed above within a comprehensive and centralized user interface (UI) application for landslide disaster events. The geospatial metamodel for the landslide risk register will be tested and validated based on real landslide scenarios at Bukit Antarabangsa, Ulu Klang, Selangor. Figure 8 shows the expected result of this study.

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