PREDICTION OF LAND SLIDE POINTS IN CHIKKMAGALURU DISTRICT BY USING GEO-SPATIAL TECHNIQUE

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College *: Ballari Institute of Technology and Management, Ballari*
Branch *: Department of Civil Engineering*
Guide(s) *: Mr. Syed Sadath Ali*
Student(S) *: Ms. Anusha P. S.*
Ms. Bhoomika Vastrad
Ms. Shireen M.
Ms. T. Sumanth

Introduction

- A landslide is a **mass movement of material**, such as **rock**, **earth or debris**, **down a slope**.
- Landslides are one of the recurrent natural problems that are widespread throughout the world, especially in mountainous areas which caused a significant injury and loss of lives, damage in properties
- According to **world bank 3.7 Million Km^2** of land is susceptible to landslide which was **reported in the year 2005**.
- India has highest mountain chain on Earth. As per Geological Survey of India, about **0.42 Million Km^2** (covering nearly 12.6% of land area of our country) is prone to landslides.
- In the Chikkamagaluru district of Karnataka state, **77 villages in the limits of 47 grama panchayats** have been identified has **"danger zone"** (As per weather forecasting data on 26 May 2023).
- This district saw **seven landslides** in the year between 2009 **-2022**.
- A **GIS is defined as powerful set of tools** for collecting, storing, retrieving at well displaying and transforming special data. One of the significant tools for hazards mapping of landslides is Arc-GIS.
- Therefore, we are trying to carryout landslides susceptibility mapping by applying **FR** (Frequency Ratio) and **EBF** (Evidence Belief Function) models. This will help to reduce and mitigate any hazard associated with future landslide occurrence.

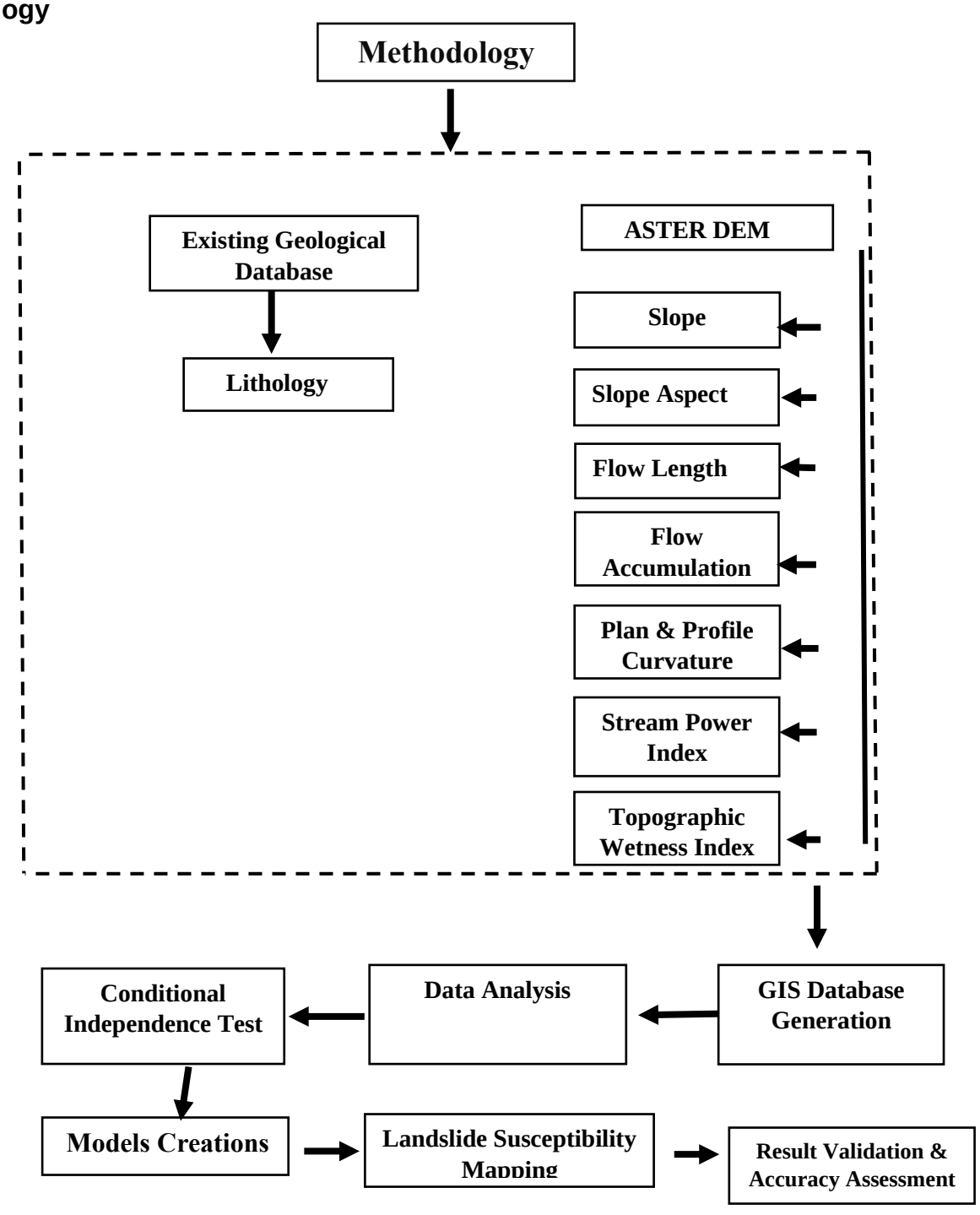
Objectives

1. To provide notice of potential landslides, allowing for remedial action to be taken to protect local ecosystems.
2. Identify which relatively landslide-susceptible areas are best suited for what types of development activities.
3. For restricting new development in hazard prone areas.

4. To create thematic maps, numerical rating, data integration & validation of results.

5. To provide important information to help people understand the risk of natural hazards and to help mitigate disasters.

Methodology



Expected Outcome

- To predict land slide points in Chikkamagaluru district.
- Created thematic maps, numerical rating scheme, data integration & validation of results.
- Provide an information about landslide to help people understand the risk of natural hazards and to help mitigate disasters.

Future work scope

- Created thematic maps, numerical rating scheme, data integration & validation of results.
- Provide an information about landslide to help people understand the risk of natural hazards and to help mitigate disasters.
- To provide **graphical data** that helps in **monitoring** the environment.