# **Project Idea:**

This project aims to develop a machine learning model for predicting landslides by analysing environmental and geological data. The model will consider factors such as slope gradient, rainfall, soil type, and historical landslide occurrences to identify patterns and provide early warnings. The tool will be valuable for disaster management agencies to mitigate risks and plan effective evacuation strategies, ultimately minimizing the impact of landslides on vulnerable communities.

# **Relevance to Sustainable Development Goals (SDGs):**

This project contributes to Sustainable Development Goals (SDGs) 9, 11, and 13:

* **SDG 9: Industry, Innovation, and Infrastructure:** Enhances disaster resilience in infrastructure and communities through advanced predictive modeling.
* **SDG 11: Sustainable Cities and Communities:** Supports safer urban planning and reduces the vulnerability of populations in landslide-prone areas.
* **SDG 13: Climate Action:** Addresses the growing frequency of natural disasters linked to climate change by providing proactive solutions.

# **Literature Examples:**

* Landslide Susceptibility Mapping Using Machine Learning Techniques in the Himalayas
* GIS-Based Landslide Susceptibility Mapping Using Logistic Regression and Random Forest

# **Data Description:**

The project will utilize CSV data sourced from Kaggle. This dataset includes relevant environmental and geological parameters necessary for training the model.

# **Approach:**

The project will employ machine learning techniques to develop the predictive model, leveraging various algorithms to identify patterns and improve accuracy.

***Group 11 Members:***

* Finhas Demissie
* Selam Habtewolde
* Bealu Girma