# Project Rationale

## Background of Ministry of land, housing, and urban development

The Ministry of Lands, Housing, and Urban Development is a government agency in Malawi. Its headquarters is located in the capital city of Lilongwe. This ministry manages and oversees land and housing issues throughout the country. The ministry currently uses a manual system to manage land records such as title deeds, surveys, land allocations, and property tax data. These records are stored in paper format, making retrieving or updating information slow and difficult and often prone to errors.

## Current system process

Ministry of Land, Housing, and Urban Development as of now uses a completely manual approach. This means that all land reports, including title deeds, surveys, and tax data, are recorded and kept up on paper. These records are put away in physical folders, which are easily lost or damaged.

When someone needs to find or update data, they must look through a large number of files, which takes a long time. Since everything is done by hand, there's a greater possibility of making mistakes. The manual approach makes it difficult to manage records, causes delays in services, and leaves space for issues such as corruption or unfair practices.

## Problems

Inefficiency:

* Processing duties like land distribution, registration, and verification takes a long time with the manual system. Employees need to sift through a large number of files, which delays citizens and results in backlogs of unanswered requests. Service delivery and confidence within the ministry's functioning are both adversely affected by this inefficiency.

Errors and Data Loss:

* Paper-based records are delicate and vulnerable to pest, fire, and water damage. Files are frequently lost, and it is very impossible to recover lost data. Due to human error, manual updates as often as possible contain mistakes that can lead to property tax assessments that are off the check and land ownership conflicts.

Accessing information can be difficult and time-consuming.

* For instance, in arrange to get comprehensive land information, clients, surveyors, and policymakers might need to visit various workplaces or organizations. Decision-making delays, improvement project frustration, and partner dissatisfaction can result from this need for timely access.

Corruption Risk:

* Lack of automation and responsibility can lead to false actions such as unlawful alterations to land records, duplicate plot allocations, and partiality in land distribution. This weakens the public's trust in the Ministry.

Inconsistent Records:

* Different departments inside the ministry hold different records, resulting in inconsistent or out-of-date information. For example, one division may authorize a land transfer that another department has no record of, resulting in confusion and litigation.

## Aim

This project aims to create a digitized Land Records Management System to replace the Ministry of Land, Housing, and Urban Development's current manual processes for land registration, allocation, and management. This unused system will store and manage all land records in a secure and efficient way of using web-based technologies and databases.

The system will:

* Make it easier and faster to register and assign land.
* Allow authorized clients to quickly look, recover, and alter land records.
* Ensure transparency by following and logging all system activities.
* Allow secure access to prevent unauthorized changes to records.
* Help improve decision-making by giving tools for making thorough reports and collecting land-related data.

## Objectives of the System

To achieve the goal of improving land records management, the system will prioritize the following important objectives:

1. Real-Time Updates:

* Authorized clients will have quick access to updated land records, decreasing the danger of outdated or inaccurate information. Here's how this feature will work

1. Instant Data Synchronization:

When a user (e.g., ministry staff or surveyor) modifies a land record, the system updates the database in real-time. This ensures that all users have access to the latest information.

1. Automated Notifications:

When significant changes occur, such as property ownership transfers or plot allocations, relevant stakeholders (for example, landowners, surveyors, and policymakers) can receive fast alerts via email or SMS.

1. Reducing operating costs.

By digitizing land records and automating processes, the new system will significantly lower the operational costs of the Ministry of Land, Housing, and Urban Development. The following outlines the overall impact and how this will be achieved:

1. Reduced Paper Usage:

The ministry currently depends largely on paper for record-keeping, arrival applications, and administrative processes, resulting in significant expenses for paper, printing, and stationery.

With the new system, all records will be digitized and stored online, minimizing or eliminating the need for physical documentation. This will save money on purchasing and maintaining paper, printers, and ink.

1. Reduced storage costs:

Current Situation:

Physical documents demand enormous storage areas, which include fees for filing cabinets, shelving, and safe, climate-controlled settings.

With the New System, physical capacity space will be stored up, and costs related to renting or maintaining document files will be decreased as digital documents are kept in a centralized database.

1. Improving Accessibility

Improving Accessibility For authorized users such as Ministry officials, surveyors and other stakeholders, creating a web-based platform for managing land records will significantly improve accessibility.

The advantages of this approach are:

Anytime, Anywhere Access:

Under the current system, land records are kept in physical offices and users have to visit these offices during office hours to get information.

This can cause delays, especially if they are in remote areas.

With this new system, authorized users will be able to access land records online 24 hours a day from anywhere with an internet connection, eliminating the need for physical visits to Ministry offices and expediting procedures like verification, registration and decision making.

1. Encourage Reporting

Strong reporting features included into the system will create comprehensive reports on a range of land management topics, including ownership, transactions, taxes, and land usage. For the Ministry of Land, Housing, and Urban creation, these considerations will be essential in helping with planning, policy creation, and decision-making. Usually how it will work and why it is profitable:

Automated Report Generation:

Physically making reports takes time and is inclined to botches because of conflicting or missing information from a few offices.

With the modern framework, there will be no requirement for manual information gathering and fewer errors since the reporting tool will consequently collect data from the centralized database. With some clicks, clients can make reports in seconds, expanding accuracy and saving time.

## Suggested Methodology

We will utilize Agile Methodology for this project because of its flexible and iterative approach to system development. This technique is suitable for this project because:

* Frequent feedback:

Agile provides frequent feedback from the Ministry of Land, Housing, and Urban Development. This ensures that the system can be changed as needed and satisfies the ministry's changing requirements.

* Incremental delivery:

The system will be created and provided in smaller, more manageable installments. This way, the ministry can start using sections of the system immediately, even before the entire system is built.

* Flexibility:

Include unused requirements or changes as needed during the project. This ensures the system remains consistent with the ministry's goals.

***Steps in the methodology:***

1. Planning and Requirement Analysis:

* Work closely with ministry officials to determine system needs and priorities. This step involves deciding what the ministry requires from the system and ensuring that everybody agrees on the goals.

1. Design:

* Develop prototypes and system designs. The government will analyze these to receive input and make any required modifications before moving forward with the real development. This ensures that the design is user-friendly and meets expectations.

1. Develop the system incrementally:

* The development will concentrate on building individual modules, such as land registration, allocation, and reporting, one at a time. Each module will be tried and refined before the other is created.

1. Testing:

* During development, the system will undergo extensive testing to ensure its functionality and usability. This will involve looking for faults, security vulnerabilities, and ease of use issues to ensure that the system works effectively.

1. Deployment:

* The system will be deployed in phases. At first, a trial program will be launched in a limited area to assess the system's effectiveness. Once everything is in working order, the system will be implemented throughout the country.

1. Maintenance:

* After system deployment, continuing assistance will be offered. This includes addressing issues, creating enhancements, and providing training to ministry personnel and other users so they can utilize the system proficiently.