



Satellitor Land Analysis Report

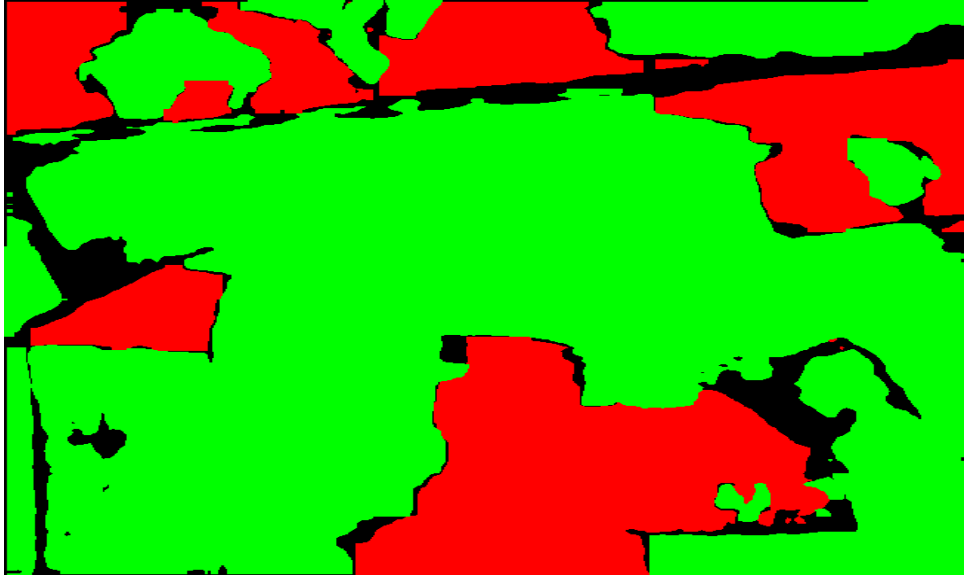
Comprehensive Agricultural Potential Analysis

Land Boundaries



Land Boundaries visualization

Land Classification



Land Classification visualization

Introduction

Satellitor is an agricultural analysis platform that provides detailed insights into the suitability of land for various crop cultivation. This report presents an in-depth assessment of the land characteristics and identifies the most promising crops for the given location.

The land has an average temperature of 21.56°C and receives an annual rainfall of 114 mm. The soil pH is not provided, but the land is suitable for a wide range of crops, including legumes, cereals, vegetables, fruits, and medicinal/aromatic plants. The land has a diverse agricultural potential, with opportunities for both subsistence and commercial farming.

The land's climate and soil conditions make it suitable for the cultivation of a variety of crops. With proper irrigation management and attention to specific crop requirements, the land can be utilized for high-value agricultural production, potentially contributing to the region's food security and economic development.

Environmental Conditions

Factor	Value	Impact
Temperature	21.56°C	The average temperature of 21.56°C is within the optimal range for many crops, particularly winter crops and those adapted to mild climates. However, the maximum temperature of 35°C may pose challenges for some heat-sensitive crops during the summer months.



Rainfall	114 mm/year	The average annual rainfall of 114 mm is relatively low, which may limit the suitability of crops with high water requirements. Attention to irrigation management will be crucial for successful crop production.
Humidity	68.42%	The high humidity of 68.42% can create favorable conditions for certain crops, but may also increase the risk of fungal diseases and require additional management practices.

Key Challenges:

- The key environmental challenges for this land include the low rainfall, which may necessitate extensive irrigation, and the potential for high temperatures during the summer months, which could limit the range of suitable crops.

Key Advantages:

- The mild average temperatures and high humidity provide advantages for growing a variety of crops, particularly those adapted to temperate or subtropical climates
- The land also has the potential for successful cultivation of drought-tolerant and salt-tolerant crops.

Crop Analysis

The land conditions are suitable for a variety of crops, including legumes, vegetables, and some fruit and oil crops. However, the low rainfall and lack of pH data will require careful attention to irrigation and soil management.

1. fava_bean (*Vicia faba*)

Attribute	Details
Category	Legumes
Temperature	Temperature range of 5°C to 30°C, with optimal values between 18°C and 27°C.
Rainfall	Rainfall requirements of 350 mm/year to 1500 mm/year, with optimal values between 700 mm/year and 1000 mm/year.
pH Range	pH not provided in this land. Needs attention.
Suitability	Fava bean is a good match for the land conditions, but the lack of pH data and low rainfall will require careful management.
Notes	Needs attention to irrigation. Optimal rainfall: 700 mm/year to 1000 mm/year.



2. chickpea (*Cicer arietinum*)

Attribute	Details
Category	Legumes
Temperature	Temperature range of 10°C to 35°C, with optimal values between 18°C and 26°C.
Rainfall	Rainfall requirements of 300 mm/year to 900 mm/year, with optimal values between 400 mm/year and 600 mm/year.
pH Range	pH not provided in this land. Needs attention.
Suitability	Chickpea is a good match for the land conditions, but the lack of pH data and low rainfall will require careful management.
Notes	Needs attention to irrigation. Optimal rainfall: 400 mm/year to 600 mm/year.

3. lentil (*Lens culinaris*)

Attribute	Details
Category	Legumes
Temperature	Temperature range of 6°C to 30°C, with optimal values between 15°C and 24°C.
Rainfall	Rainfall requirements of 300 mm/year to 900 mm/year, with optimal values between 400 mm/year and 600 mm/year.
pH Range	pH not provided in this land. Needs attention.
Suitability	Lentil is a good match for the land conditions, but the lack of pH data and low rainfall will require careful management.
Notes	Needs attention to irrigation. Optimal rainfall: 400 mm/year to 600 mm/year.

4. flax (*Linum usitatissimum*)

Attribute	Details
Category	Fiber Crops
Temperature	Temperature range of 5°C to 30°C, with optimal values between 15°C and 22°C.
Rainfall	Rainfall requirements of 400 mm/year to 1200 mm/year, with optimal values between 600 mm/year and 800 mm/year.
pH Range	pH not provided in this land. Needs attention.
Suitability	Flax is a suitable crop for the land conditions, but the lack of pH data and low rainfall will require careful management.
Notes	Needs attention to irrigation. Optimal rainfall: 600 mm/year to 800 mm/year.

5. tomato (*Solanum lycopersicum*)



Attribute	Details
Category	Vegetable Crops
Temperature	Temperature range of 10°C to 35°C, with optimal values between 21°C and 27°C.
Rainfall	Rainfall requirements of 400 mm/year to 1800 mm/year, with optimal values between 600 mm/year and 1300 mm/year.
pH Range	pH not provided in this land. Needs attention.
Suitability	Tomato is a suitable crop for the land conditions, but the lack of pH data and low rainfall will require careful management.
Notes	Needs attention to irrigation. Optimal rainfall: 600 mm/year to 1300 mm/year.

Summary:

The land conditions are suitable for a variety of crops, including legumes, vegetables, and some fruit and oil crops. However, the low rainfall and lack of pH data will require careful attention to irrigation and soil management. Crops like fava bean, chickpea, lentil, flax, and tomato are good options, but their suitability will depend on addressing the irrigation and pH needs.

Recommendations for Optimal Land Use

1. Implement Irrigation Management

The land has low rainfall (114 mm/year) which is below the optimal range for most crops. Implement an efficient irrigation system to supplement the rainfall and ensure adequate water supply for the crops. Monitor soil moisture levels and adjust irrigation schedules accordingly.

2. Conduct Soil pH Testing

The soil pH is not provided in the data. Conduct soil testing to determine the exact pH level, as many crops have specific pH requirements. Based on the test results, consider amending the soil to adjust the pH to the optimal range for the selected crops.

3. Diversify Crop Selection

The land is currently dominated by cereal and vegetable crops. Consider diversifying the crop selection to include a wider range of crops, such as legumes, fiber crops, and medicinal/aromatic plants. This will help improve soil health, increase resilience to pests and diseases, and provide a more diverse income stream.



4. Implement Sustainable Farming Practices

Adopt sustainable farming practices, such as crop rotation, cover cropping, and integrated pest management, to maintain soil fertility, reduce the reliance on synthetic inputs, and minimize the environmental impact of the farming operations.

5. Explore Protected Cultivation

Consider implementing protected cultivation techniques, such as greenhouses or shade houses, for selected crops that require more controlled environmental conditions. This can help extend the growing season, improve crop yields, and reduce the impact of extreme weather events.

Conclusion

The analysis of the land data indicates that the area has a suitable climate and soil conditions for growing a variety of crops, including legumes, vegetables, fruits, and medicinal/aromatic plants. However, the land would benefit from attention to irrigation management to optimize crop yields.

Future Potential:

If the irrigation needs are addressed, this land has great potential for productive and diverse agricultural activities. The recommended crops can thrive in the given temperature, rainfall, and soil pH range, providing opportunities for both subsistence and commercial farming.

With proper management and implementation of the recommended crops, this land can become a valuable agricultural asset, contributing to the region's food security and economic development.