

## LARGE-SCALE EXPLOITATION OF SATELLITE DATA IN SUPPORT OF INTERNATIONAL DEVELOPMENT

### → LAND SUITABILITY MAPPING

Development of rural areas often requires identification of potentially suitable investment sites and information on their environmental characteristics. Satellite Earth Observation (EO) is a powerful technique to answer various land management questions to estimate future land use demand and manage potential land use conflicts. For example, estimating where suitable land for agricultural activities, livestock grazing, forest resources and new infrastructure is available provides the baseline for an efficient and sustainable resource use and can mitigate adverse impacts of rural development on the environment.

The land suitability service provides a land use inventory of a project site based on user identified suitability criteria that helps significantly in investment strategy definition. The service is based on EO and ancillary products such as road network, settlements, land cover and use, soil and terrain information, and climate data. When these information products are jointly analysed based on criteria identified by the user, the best suited areas for the respective activity e.g. the expansion of crop land or the building of new roads can be identified and mapped. Planning of irrigation infrastructure requires a good understanding of the need (water shortage), feasibility (availability of water, slope, drainage etc.), and potential (distance to requirements, terrain, soil properties, climate, etc.), which can also be provided by this service.

The service consists of the original maps in raster or vector format for easy integration within existing GIS systems and/or web portals. It is also possible to receive the service (maps and analytical tools) in a web portal. Furthermore summaries of information, such as statistics per administrative unit, can be provided in tables or graphs and included in email reports.

#### DESCRIPTION

Mapping of suitable areas for rural development supports the correct allocation and administration of resources through data-driven planning and monitoring

#### USE

- › Assessment of suitable sites for rural infrastructure and agricultural production
- › Planning

#### INPUT PRODUCT

- › Land suitability mapping (based on user criteria the relevant input information will be selected)

#### SPATIAL RESOLUTION AND COVERAGE

Local/national (10-30m) scale

#### BENEFITS

Improved strategy and decision making:

- › Prioritise investments
- › Upscale successful rural investments

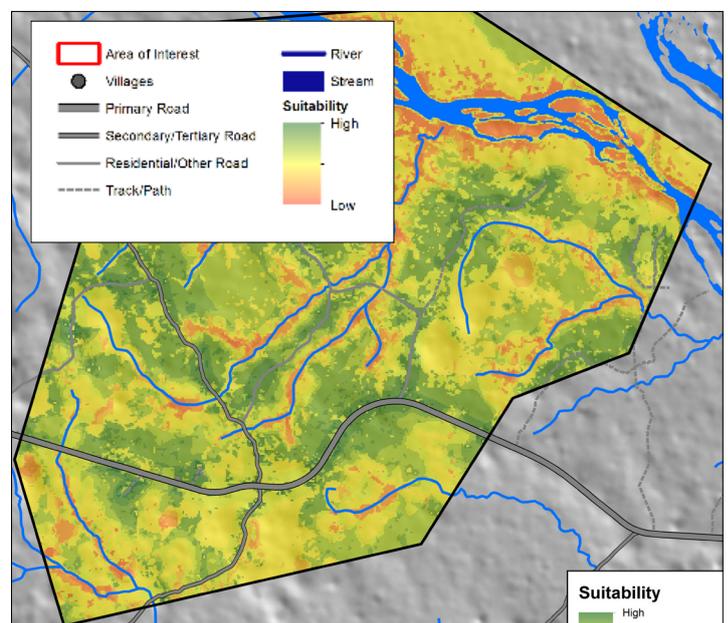
#### DELIVERY FORMAT

Depending on user needs, e.g.:

- › Vector and raster formats
- › Printable maps
- › Through a web portal
- › Statistics in tables and/or graphs

#### FREQUENCY

Depending on user needs and the update frequency of the input data



The suitability (low to high) of a site for agricultural or rural development can be mapped in detail for large areas. Relevant criteria such as flood risk, distance to roads, land cover and slope can be defined by the user and weighted according to their importance for the agricultural or rural infrastructure development project. Credits: GeoVille