

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

→ MONITORING AND EVALUATION FOR ENVIRONMENTAL AND SOCIAL SAFEGUARDS

Most significant agriculture sector programs or projects financed by MDBs will have a requirement for environmental and social impact assessment (ESIA) to take place prior to MDB Board approval. ESIA has been a standard safeguard requirement for MDBs for decades, and is now consistently applied by partner countries. Both the immediate and long-term benefits from undertaking monitoring as part of EIA are widely recognised, although not always realised. Satellite Earth Observation (EO) is a powerful technique for assisting with the monitoring component of environmental management plans (EMPs).

ESIA studies associated with agricultural programs or projects require information on issues such as land cover, productivity, population distribution, water sources, areas of degraded lands, rivers, lakes, wetlands, groundwater vulnerability, protected areas, and many other environmental components that might be affected by a new development. The service can consist of maps that layer to present a “baseline scenario” in place before the initiation of an agricultural program or project. This would then be followed up with replicated maps that show the condition of specific environmental components post- approval, and during the operation of a project. The service could consist of the original maps in raster or vector format for easy integration within existing GIS systems and/or webportals. It is also possible to receive the service (maps and analytical tools) in a webportal.

DESCRIPTION

Quantitative mapping of the biophysical baseline in an area where agricultural development is to take place, complemented by follow-up during project operation

USE

- › Baseline mapping
- › Identify hotspots and evaluate impact of interventions
- › Check compliance with agreed conditions and standards
- › Facilitate impact management
- › Determine the accuracy of impact predictions and the effectiveness of mitigation measures

INPUT PRODUCTS

- › Baseline maps
- › Project overlays
- › Graphical presentation of predicted outcomes
- › Project performance monitoring

SPATIAL RESOLUTION AND COVERAGE

Local/national (10-30m) and regional (250m) scale

BENEFITS

Better design of projects:

- › Present environmental baseline in graphical format
- › Assist proponents to minimise risk in program and project design
- › Monitor activities more effectively and efficiently
- › Present post-approval monitoring of critical environmental components in compelling form

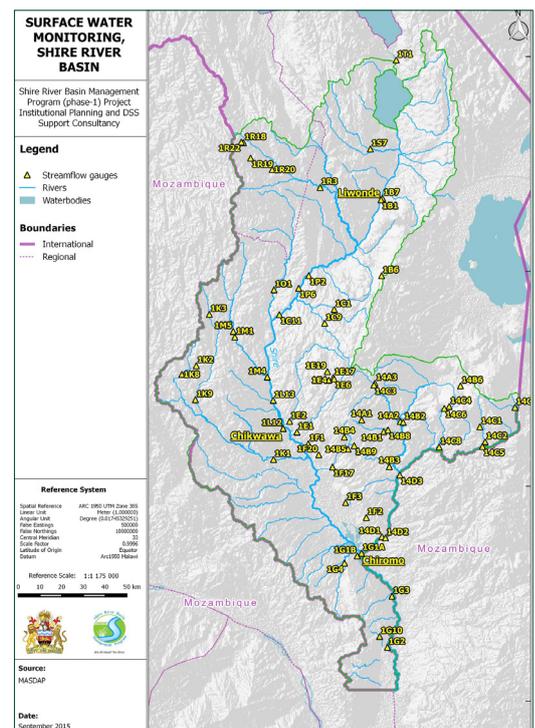
DELIVERY FORMAT

Depending on user needs, e.g.:

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

FREQUENCY

Depending on user needs, most products can be updated regularly (daily at regional level, every 10 days at local/national scale)



The map represents surface water monitoring sites in the Shire River Basin in southern Malawi. EO services can be used to pinpoint monitoring sites, and can enable real-time presentation of water quality data that would allow for evaluation of the impact of new agriculture projects.



For more information, please contact:

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