SUPPORT TO MDBs ENVIRONMENTAL AND SOCIAL SAFEGUARDS FRAMEWORKS

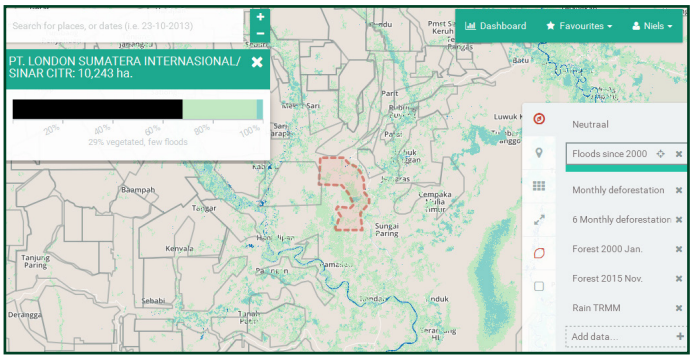
Service summary and potential applications

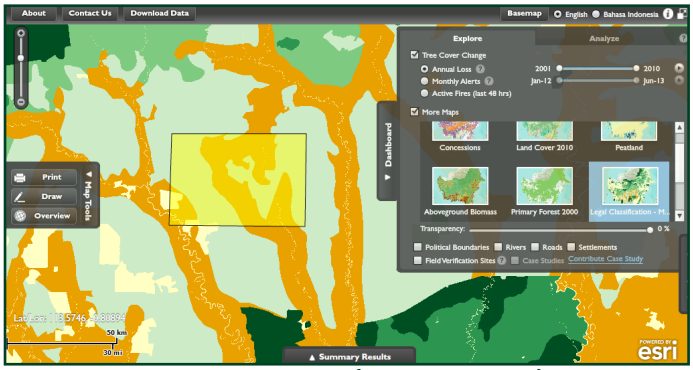
Multilateral Development Banks (MDBs), governments and public sector agencies have over time developed policies and frameworks ("safeguards") to identify, avoid and minimize harmful and adverse effects on people and the environment, with a particular focus on preserving and strengthening the long-term sustainability of ecosystems. Development demands and challenges have however changed significantly over time, with many developing countries undergoing rapid urbanization, population growth, and increased pressures on natural resources. The data, information and Monitoring and Evaluation (M&E) tools available from Earth Observation (EO) satellite services will enhance safeguard protections through (i) application of modernized standards and analytical methods, (ii) more inclusive participation of communities utilizing the open interfaces of EO products and services, and (iii) the capacity to identify and assess better solutions to complex and multi-dimensional problems through more informed decision-making.

The more commonly employed baseline data types used in safeguards assessments such as elevation, land cover, land use, meteorology, hydrology and geology, can either be derived directly from EO satellite data or extrapolated efficiently. The relatively low cost, accuracy/ precision and availability of frequent time-series of a wide range of remotely sensed data makes EO satellites the best source for project- and regional-scale applications of environmental study and monitoring. Relevant datasets for environmental and social safeguards in agricultural and rural development include: land cover and its change, crop and natural vegetation health, air and water quality, yield, and energy and water fluxes.

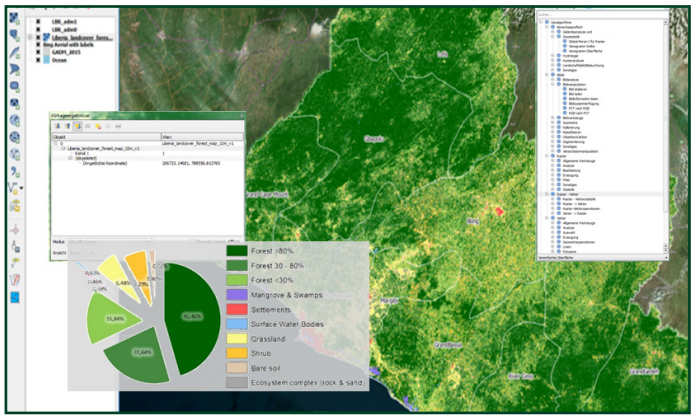
Principally important applications for safeguards frameworks combine static (e.g., area extent) and dynamic attributes (e.g., groundwater depletion) to identify or infer the source(s) of change. Agriculture has continuously changing spatial and temporal characteristics in response to availability of irrigation, farm management decisions, local and national policies and governance, prices, and environmental factors such as land degradation; the use of EO M&E tools thus becomes necessary for providing an objective measure of potential impacts. With the growing availability of high resolution spatial and temporal resolution EO data and GIS tools to process, analyze and model ecosystems, the application of accurate mapping (area extent) of wetlands, floodplains, coastal shores, river banks, drainage basins, human settlements and cultivated area becomes feasible for rapid assessments within the timescale of project preparation and design.

Considering the above, there is a need to demonstrate EO products and services that can be mainstreamed throughout the planning, implementation and M&E phases of MDB-funded initiatives, programs and projects, such as baseline, strategic, specific and cumulative environmental and social impact assessments. Two pilot locations will be selected in collaboration with the relevant MDBs, featuring low-cost input data (satellite imagery), low-cost methods (leveraging existing software developed by MBDs), high accuracy and replicability.





Assess risks regarding RSPO Criterion 4.4 (Protection of wetland), and Criterion 7.3 (new plantations have not replaced primary forest). Copyright: Nelen&Schuurmans, Satelligence, World Resources Institute.



Satellite- and GIS-based forest monitoring system providing up-to-date land cover/ land use status maps. This allows to monitor and evaluate land cover/use changes, estimate biomass as well as detect carbon sequestrations. Copyright: GeoVille.

EO information services

Information service	Content / Products
Baseline, strategic and specific impact assessments of environmental and social impacts	» Assessment of potential environmental and social impacts during planning and implementation by using land use/cover (change), meteorological, energy and water flux information from EO
Monitoring and Evaluation (M&E)	» Monitoring and evaluation of environmental and social impacts of the project based on land use/cover (change), energy and water flux observations from EO

eo4sd earth observation for sustainable development

agriculture and rural development eo4sd

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