# Mongolia's forest land use, land-use change assessment result

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## Abstract

This study presents forest land use, land-use change assessment result for the last 30 years period of Mongolia. Totally, 123 thousand systematic-random sample points (dot-grids) with two different density strata, forest 2.25 km x 2.25 km and non-forest 9 km x 9 km were created for the national scale. A country-specific "survey form" was developed to gather LULUCF information which is consistent with IPCC guidelines. The assessment design follows certain hierarchical rules in order to reduce subjective effects on the result for the six land-use categories which are subdivided three to six sub land-use divisions further.

Totally 0.5 million ha area were changed from certain land-use category to another land out of 156.4 million ha. Grassland converted to Forest was 0.01 million ha, Cropland 0.04 million and Settlement 0.1 million ha. On the other hand, Forest land converted to Grassland was in 0.2 million ha and Cropland converted to Grassland was in 0.1 million ha in total.

All land use categories are subject to estimation of GHG emission and removal, though forest land cover assessments are focused in this study. The country supports two major forest biomes, boreal forests in the north accounting for 14.2 million ha (87%), dominated by larch and birch; and 2.0 million ha of saxaul forests (13%), a dryland woodland ecosystem in the southern arid regions of Mongolia that is considered under national definitions as 'forest'.

The four type of disturbance were assessed on the 16.2 million ha total forest area and out of which 3.3 million ha, 0.2 million ha, 0.4 million ha and 0.2 million ha were affected by fire/pest, logging, erosion and grazing disturbances, respectively.

A desktop and field quality control assessment results shown 89-95 percent consistency depends on aggregation level of land use category between result of operators and QC operators.

By using systematic sampling approach on Collect Earth to assess Mongolian land use/land cover area from high resolution imagery, it gives the possibility to reduce time consuming and costly field assessment. The results show a high degree of correlation with other national land statistics, and it is a useful complementary tool to provide necessary land information for the AFOLU/LULUCF sector of national GHG inventory as well as for the FRL.