# DATA & METHODS REPORT

### ZAMBÉZIA JURISDICTIONAL SUSTAINABILITY PROFILE

This form references data and methods used for the reporting of indicators of the jurisdictional sustainability profile of Zambézia, Mozambique, in *The State of Jurisdictional Sustainability* published by Earth Innovation Institute and the Center for International Forestry Research, in 2018. Find more at the report website <a href="https://earthinnovation.org/state-of-jurisdictional-sustainability">https://earthinnovation.org/state-of-jurisdictional-sustainability</a> and <a href="https://gcfimpact.org">https://gcfimpact.org</a>.

#### **Indicator:** Deforestation

The deforestation extent shown in the map and the annual deforestation series (2001-2017) correspond to areas and figures derived from the analysis of Hansen deforestation.

**Source:** Figures derived from the analysis of Hansen/UMD/Google/USGS/NASA data.

**Temporality:** The data shown in the plot includes annual deforestation 2001-2017. The map presents total deforestation from 2001 through 2016.

**Methods:** The authors calculated the extent of spatial explicit annual deforestation during the period 2001-2017 considering the forest loss reported by Hansen/UMD/Google/USGS/NASA data. The Hansen data results from the time-series analysis of Landsat images in characterizing global forest extent and change from 2000 through 2017.

**URL:** https://earthenginepartners.appspot.com/science-2013-global-forest/download v1.5.html

**Indicator:** Forest cover

**Source:** forest cover derived from the analysis of Hansen/UMD/Google/USGS/NASA data.

**Temporality: 2017** 

**Methods:** the forest extent shown on the map is derived from the Hansen forest cover of 2000 discounting areas that were loss after that year. A canopy cover threshold of 30% was used to identify forest pixels in the Hansen map.

**URL:** https://earthenginepartners.appspot.com/science-2013-global-forest/download v1.5.html

#### **Indicator:** Average deforestation during the FREL period

Forest Reference Levels are benchmarks for assessing a country's performance in implementing REDD+ activities. FRELs are voluntarily constructed and formally submitted to the UNFCCC (<a href="https://redd.unfccc.int">https://redd.unfccc.int</a>). The Mozambique FREL/FRL is based on historical average deforestation during the period 2003-2013. We show the average deforestation during 2003-2013 period as a benchmark of performance in the state.

**Source:** Annual deforestation calculated by the authors as indicated above. FREL period derived from reference level submitted by Ministry of Lands, Environment and Rural Development, Mozambique.

**Temporality:** 2003-2013.

**Methods:** The jurisdictional reference deforestation level shown in the plot is derived from the













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performance criteria defined by the Mozambique government in its submitted FREL. The state FREL is constructed from the average deforestation during 2003-2013 period.

**URL:** <a href="https://redd.unfccc.int/submissions.html?country=moz">https://redd.unfccc.int/submissions.html?country=moz</a>

#### **Indicator:** Average annual emissions from deforestation (Million tons CO₂e per year)

This indicator represents the average carbon dioxide ( $CO_2e$ ) emissions from deforestation activities considering the carbon pools defined by the Mozambique FREL submitted by the Ministry of Lands, Environment and Rural Development, namely: above-ground biomass and below-ground biomass. Average emissions are calculated using activities from the period 2010-2016.

**Source:** Deforestation area extent derived as documented above and carbon stocks derived from national FREL.

**Temporality:** Average of yearly emissions for the period 2010-2016.

**Methods**: Average emissions calculated by multiplying the spatially explicit deforestation (derived as documented above) with the average carbon density of 44.28 Tons ha<sup>-1</sup>. Reduction from carbon atomic weight to  $CO_2$  equivalent emissions using a factor of 44:12.

#### **Indicator**: Drivers of deforestation

Identifies proximate drivers of deforestation and forest degradation in the jurisdiction. Proximate drivers are direct human actions (i.e. agriculture, mining, cattle ranching, land and resource uses). Natural causes such as floods, droughts and pests are also considered.

**Source:** Jurisdictional LED-R survey undertaken by CIFOR and Earth Innovation Institute in Governors' Climate and Forest Task Force member jurisdictions.

**Temporality**: Survey conducted in 2018.

**Methods:** LED-R Survey implemented in the state based on a questionnaire administered by a designated enumerator to an expert or group of experts in the state.

#### **Indicator:** Main economic activities

Indicates the main economic activities in the state based on economic output.

**Source:** Jurisdictional LED-R survey undertaken by CIFOR and Earth Innovation Institute in Governors' Climate and Forest Task Force Member Jurisdictions.

**Temporality:** Survey conducted in 2018

**Methods:** LED-R Survey implemented in the state based on a questionnaire administered by a designated enumerator to an expert or group of experts in the state.

#### Indicator: GINI of income

The Gini coefficient is used as an indicator of equitable social systems. Values close to 0 indicate greater equality of income while values close to 1 greater inequality

**Source:** Ministry of Planning and Development

**Temporality: 2009** 

**Methods:** Data downloaded directly from the reporter of Ministry of Planning and Development 2010.

**URL:** http://www.unicef.org.mz













**Indicator:** Population

Indicates the population in the state in 2017.

**Source:** National Institute of Statistics, Mozambique

**Temporality: 2017**.

Methods: Data downloaded directly from the report of National Institute of Statistics, Mozambique

#### Indicator: Rural and urban population

Proportion of population living in rural and urban areas.

**Source:** Jurisdictional LED-R survey undertaken by CIFOR and Earth Innovation Institute in Governors'

Climate and Forest Task Force Member Jurisdictions.

**Temporality:** Survey conducted in 2018

Methods: LED-R Survey implemented in the state based on a questionnaire administered by a

designated enumerator to an expert or group of experts in the state.







