



MINISTRY FOR FOREIGN
AFFAIRS OF FINLAND

Data Provision for Decision Making

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1st March 2016

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Unioninkatu 33

Helsinki

Integrated Land-Use Assessment
Forestry Department



Introduction to ILUA II



- ILUA I (2005 – 2008)
 - Global Forest Assessment
 - Sparse sampling network
 - Regional forest initiatives / limited applicability
- ILUA II (2010 – 2016)
 - Redesigned Sampling Methodology
 - Improved sampling density
 - UN REDD+ / Sustainable Forest Management / GHGi



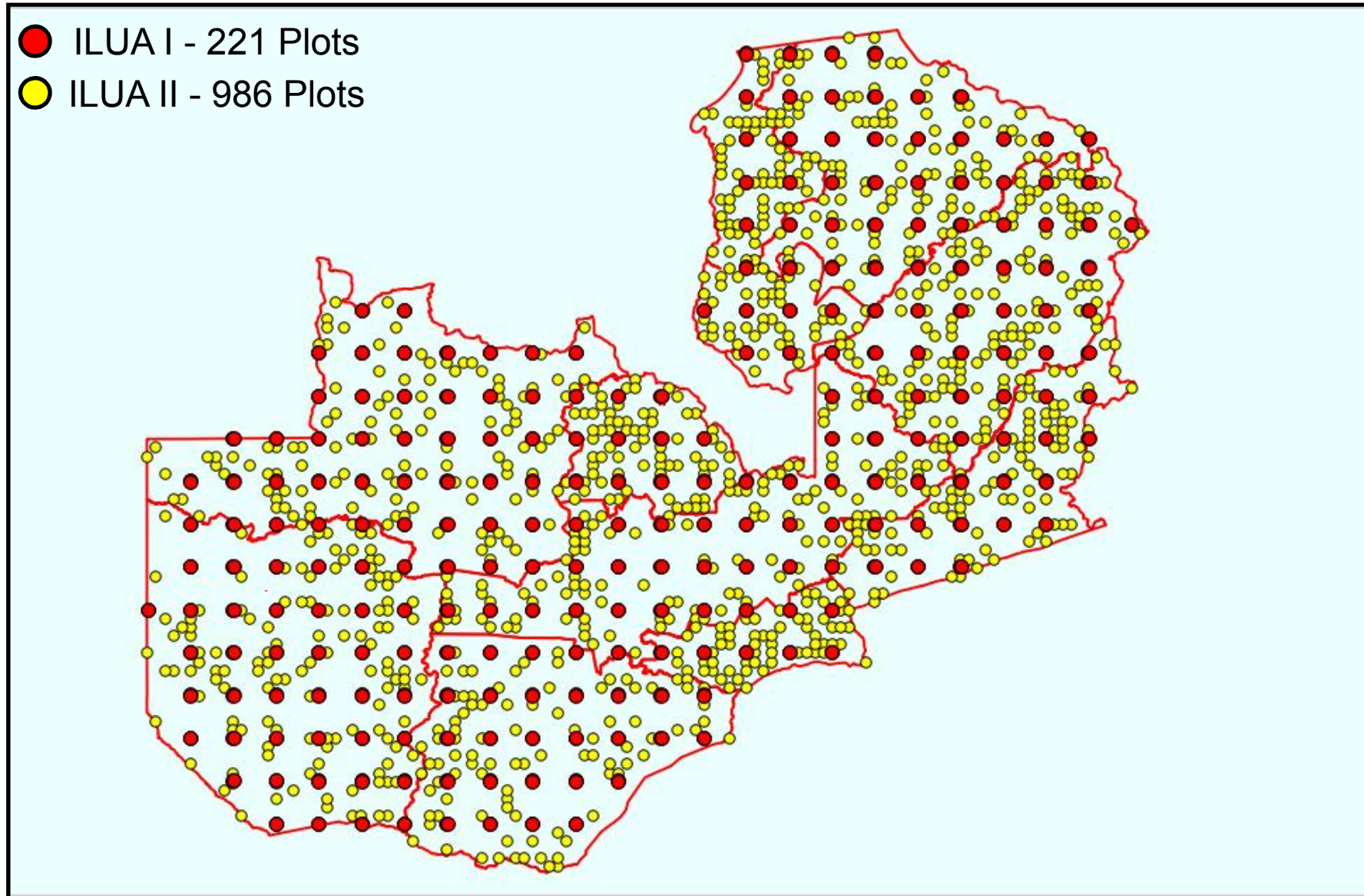
Zambia-Geographical Location



Sampling Methodology

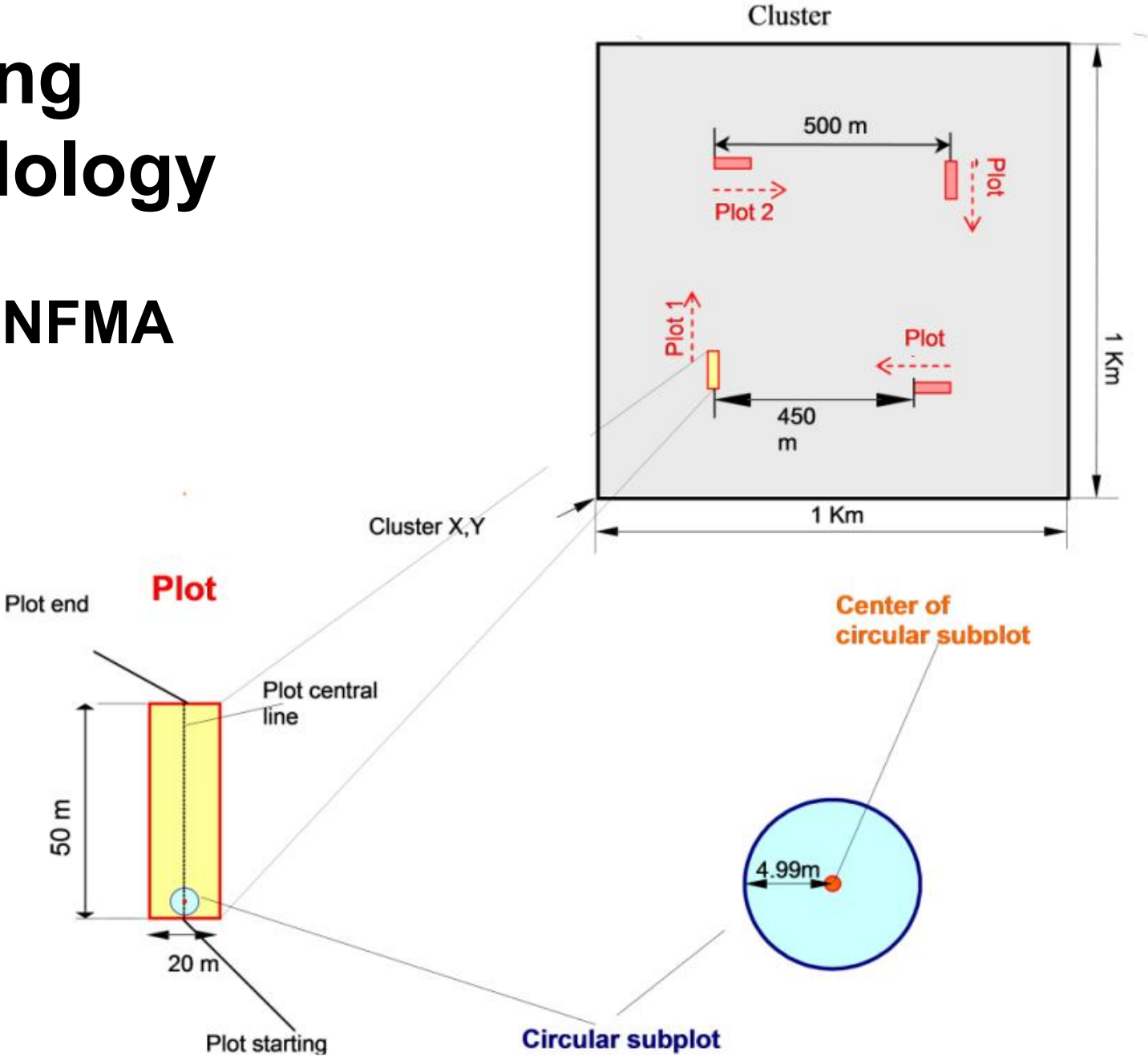


- ILUA I - 221 Plots
- ILUA II - 986 Plots



Sampling Methodology

Modified NFMA





Preliminary Studies



- ILUA II – Informed Data Collection
 1. Classification of Zambian Forests
 2. Biodiversity Report for ILUA II
 3. Assessment of Existing Models for Biomass Volume Calculations
 4. **Biophysical Information Needs (BIN) Assessment Report**
 5. Zambia Forest Action Plan Preparatory Review
 6. Measuring the Informal Forest-based Economy as Part of the National Forest Monitoring and Assessment
 7. Data Sharing Guidelines
 8. Biophysical Field Manual
- Stakeholder inputs to planning





Biophysical Information Needs (BIN) Assessment Report



- Stakeholder feedback
 - *Where* are resources located?
 - *What* resources are available?
 - Estimated *quantity* of available resources?
 - *How* and *Who* are managing these resources?
- Priority Information Needs ID
 - Biomass and Carbon Stocks
 - Processes driving change (fire, degradation, invasive species)
 - Update management tools (vegetation types, allometric equations)
 - Day to Day management requirements (GIS data, boundary narratives)
 - Land cover change maps





Data Collection -Training



- Biophysical Field Teams
 - Provincial teams
 - 7 day intensive training
 - Biophysical and Soil variables (BIN Assessment)
 - Quality Assurance / Quality Control
- Data collection tools
 - GPS navigation
 - Paper based data capture (Digital ?)





Data Collection



2013 - 2014

Province	Clusters	Plots	Plot sections
Central	122	478	513
Copperbelt	51	197	223
Eastern	91	363	398
Luapula	98	387	422
Lusaka	41	162	169
Muchinga	122	483	533
Northern	104	408	436
NorthWestern	138	547	562
Southern	75	292	316
Western	144	575	584
Total	986	3892	4156



Data Entry & Management



- OpenForis – Data Management System

- Zambian Forestry Department
- Collect
- Calc
- Saiku



- Data Entry





Data Provision for Decision Making



strengthened capacity in planning and implementation of SFM and REDD+ through better information, capacity building, dissemination of information, and improved multi-sectoral dialogue.

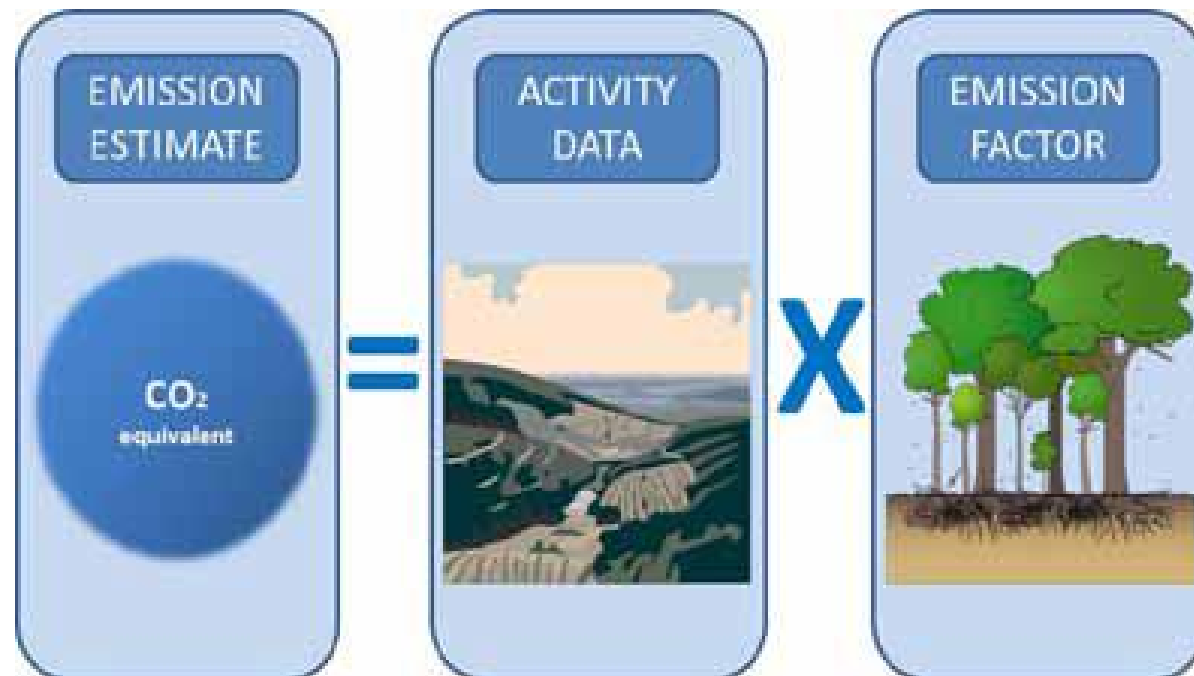
- Sustainable Forest Management
- Forest Reference Emissions Level



Zambia: Forest Reference Emissions Level



- Component of REDD+ Readiness
- Benchmark to measure progress towards emissions reductions

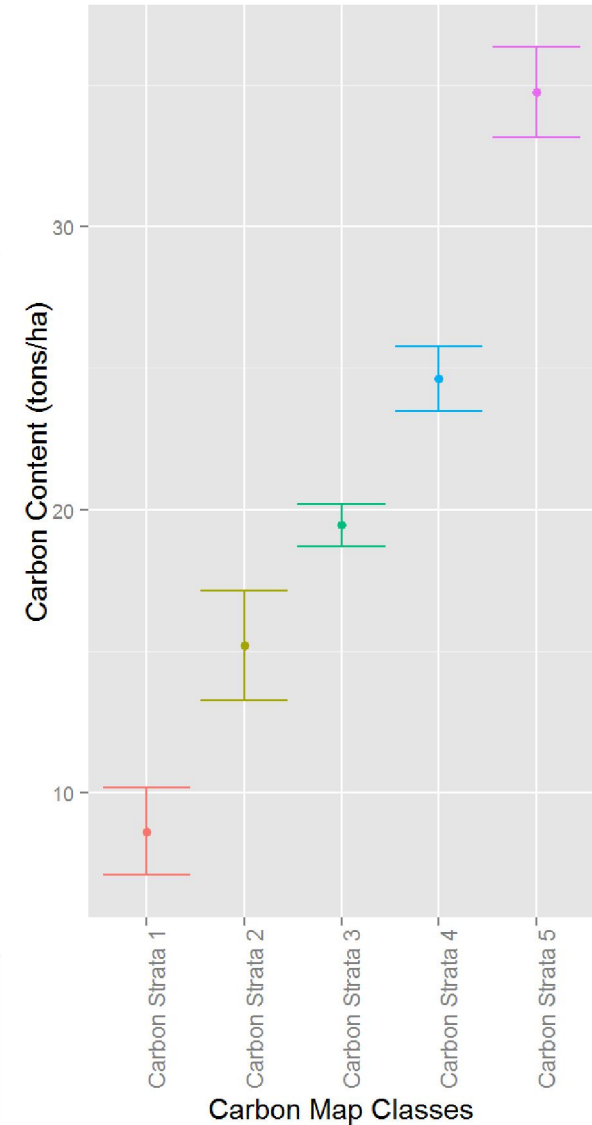
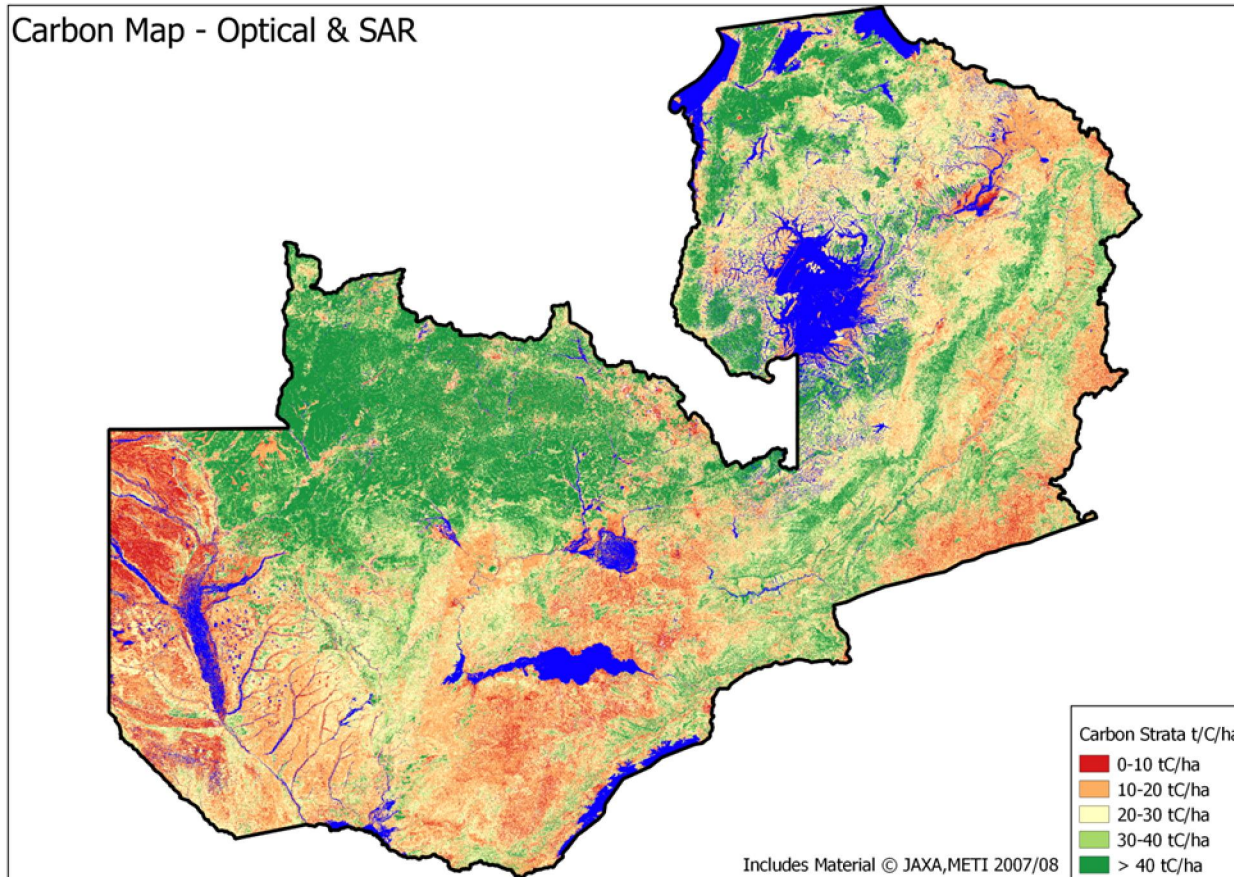




Zambia: FREL – Emissions Factors



- Forest stratification and Emissions factors used ILUA II plot level data

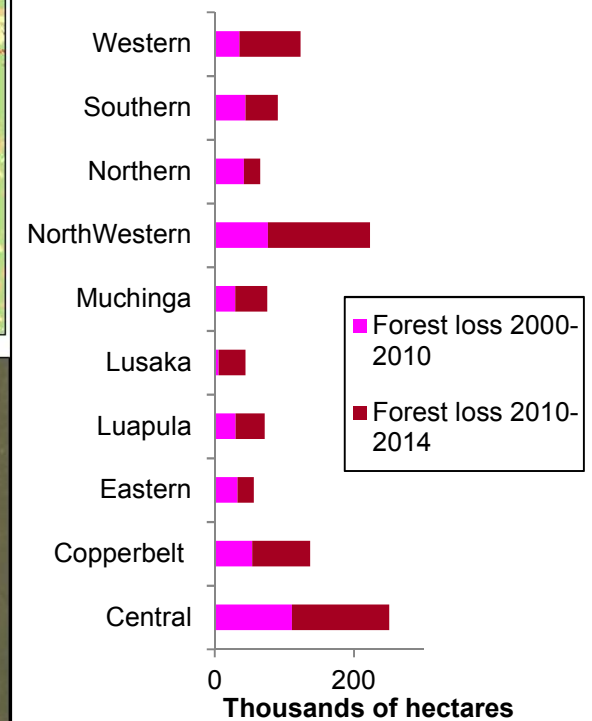
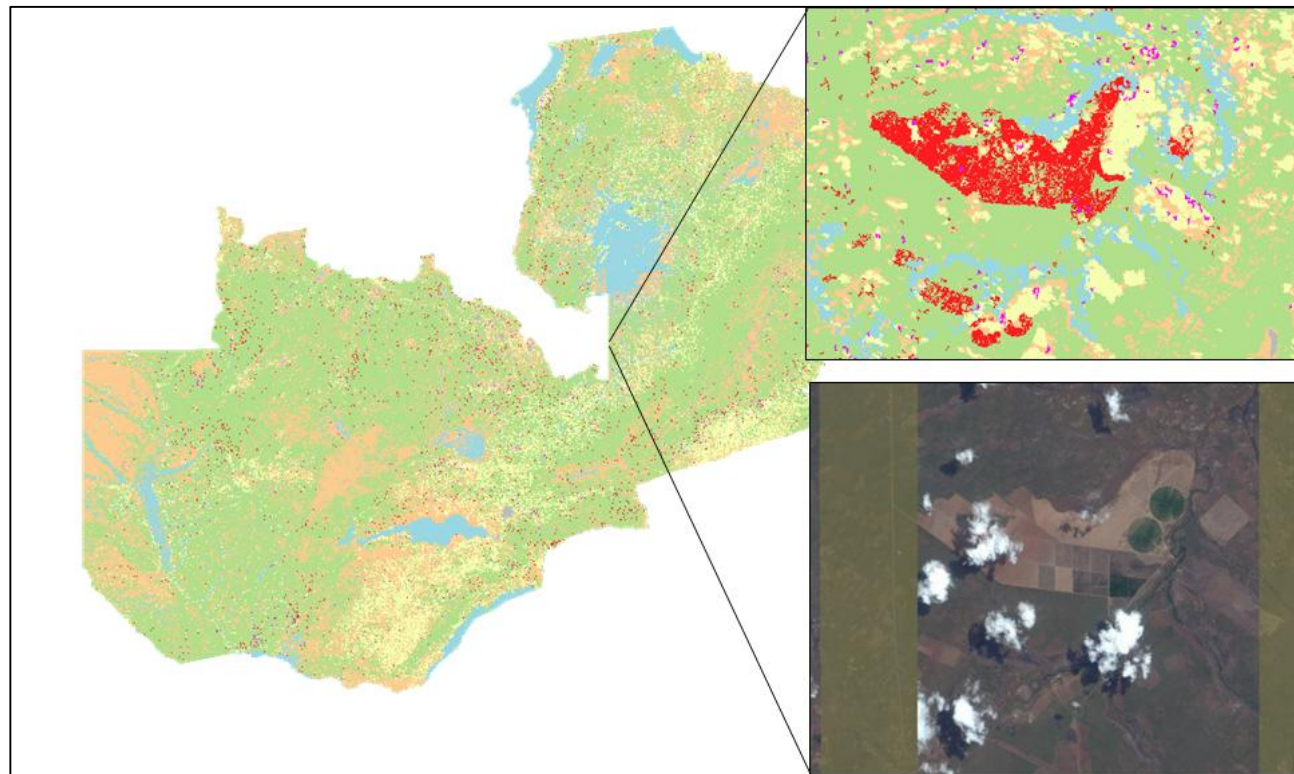




Zambia: FREL – Activity Data



- Activity data collected using supervised classification of satellite imagery – mapping undertaken as part of ILUA II
- Forest loss data employed in the FREL development

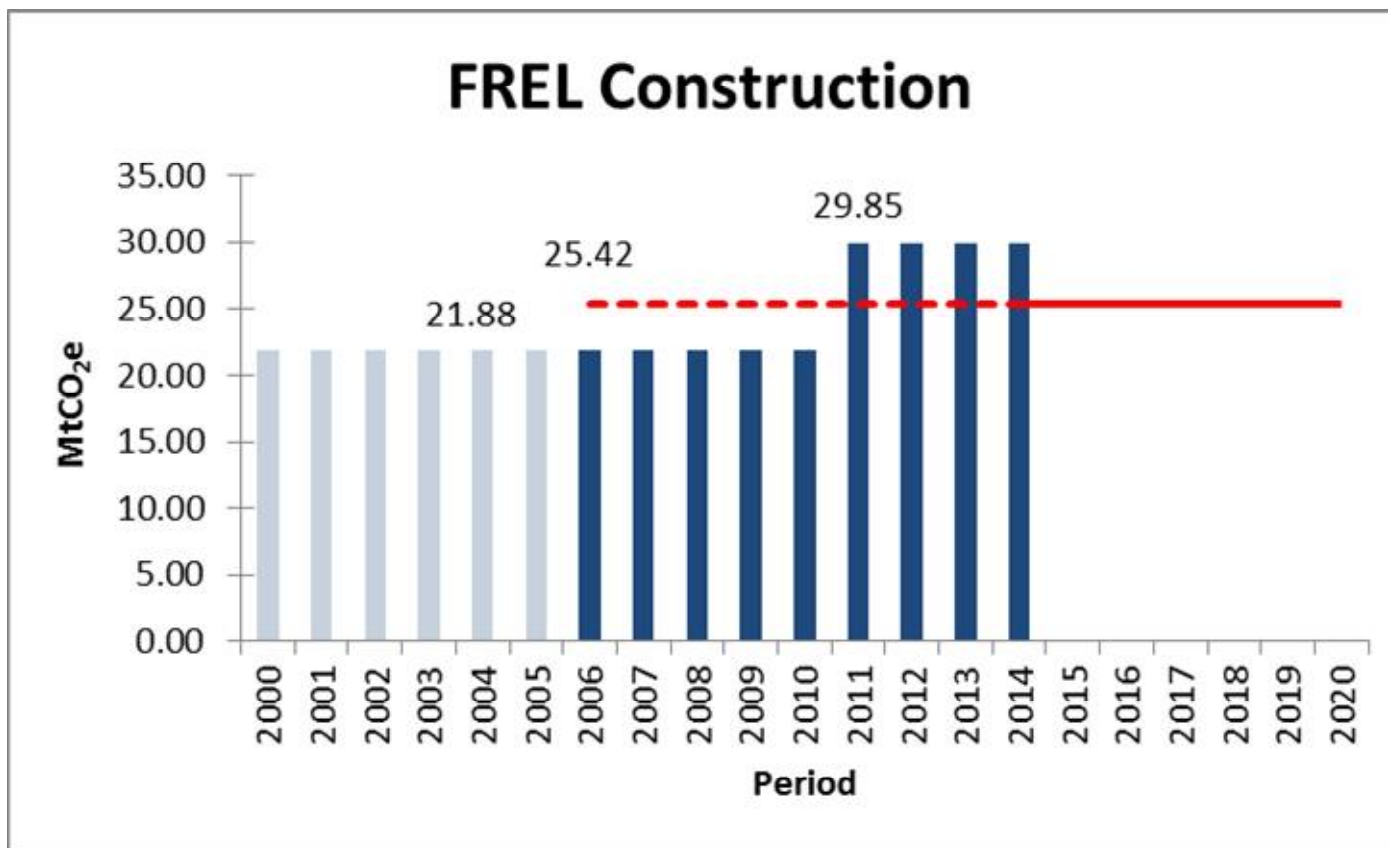




Zambia: FREL – Submission to UNFCCC



- FREL Technical Assessment guide decision making on REDD+ activities in Zambia



<http://redd.unfccc.int/submissions.html?country=zmb>



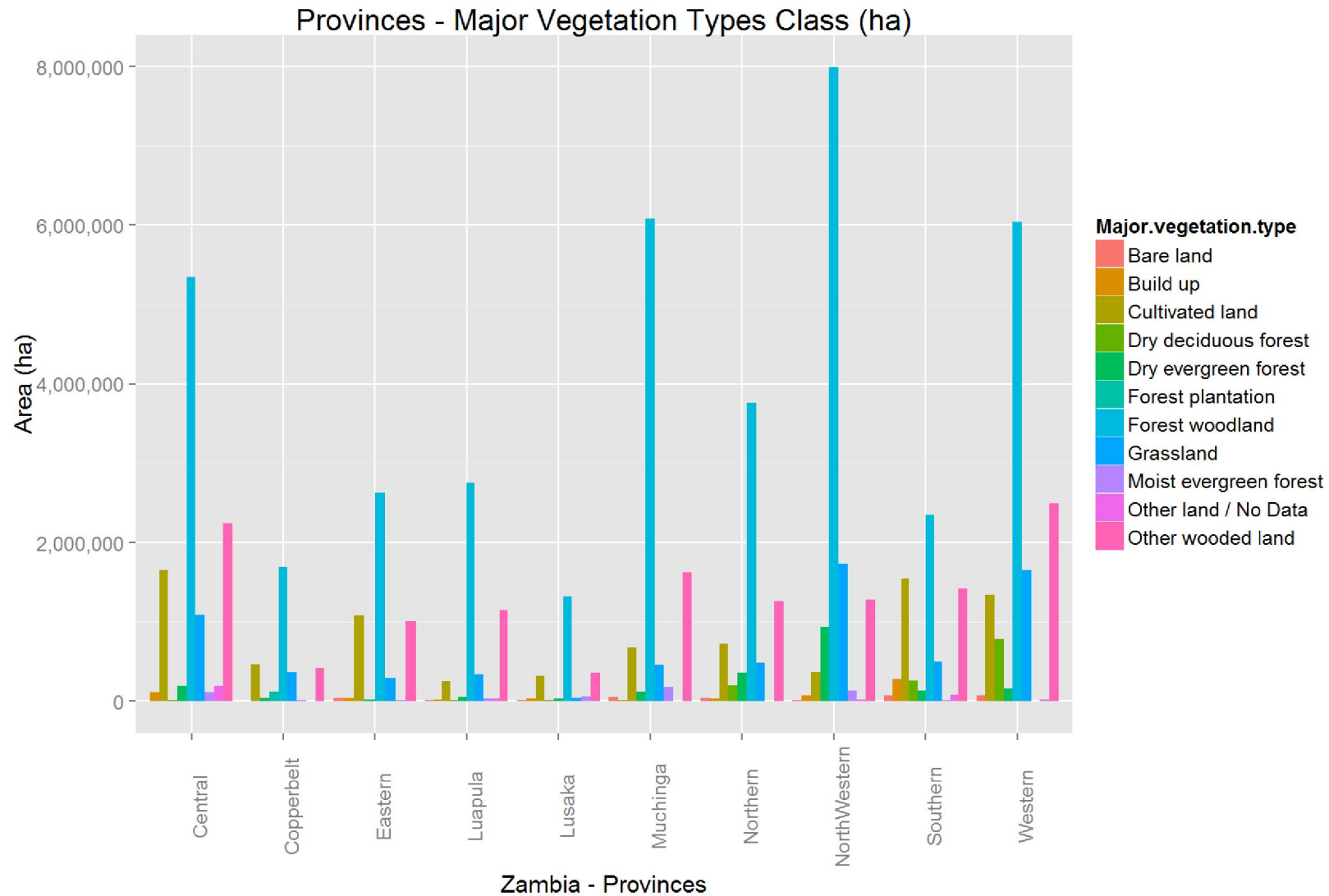
Zambia: Sustainable Forest Management



- Biophysical & Socioeconomic Data
 - Merchantable Volume
 - DBH Classes
 - Forest Cover / Species Distribution
 - Non-Wood Forest Products
- Provincial Forest Management Plans
 - Management objectives
 - Calculating sustainable yields
 - Zoning of managed forests



Zambia: SFM – Vegetation Type Area (Province)





Zambia: SFM – DBH class distribution (saiku output)



Columns: Tree_count (Mean), Tree dbh class 05

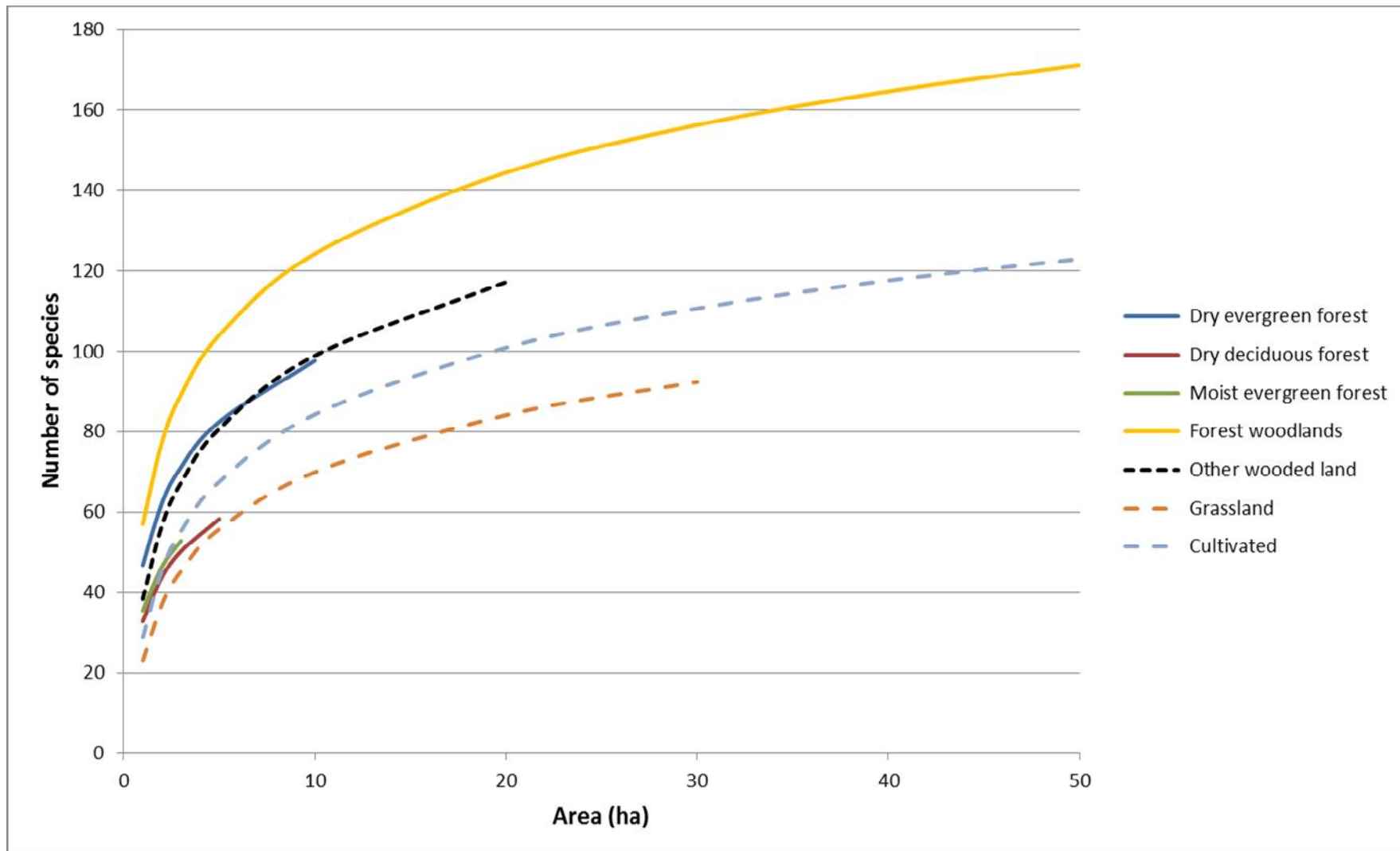
Rows: Province, Fra Class Options, Valuable species

Filter: Living_Dead

Province	Fra Class Options	Valuable species	Tree_count (Mean)							
			<10 cm	10-14.9 cm	15-19.9 cm	20-24.9 cm	25-29.9 cm	30-34.9 cm	35-39.9 cm	40+ cm
Southern	Forest	Not valuable	0,4141	43,1825	25,6729	12,3632	6,8027	4,1408	2,4845	6,0929
		Valuable	0,0592	17,6279	10,8252	8,2224	4,3182	2,4845	1,7746	2,0704
Central	Forest	Not valuable	0,5323	68,9441	32,6651	17,5092	10,7856	5,827	3,4738	4,6504
		Valuable	0,2521	28,3228	17,8734	12,9148	7,5079	4,8746	2,5213	3,0256
Northern	Forest	Not valuable	0,2371	72,3066	36,904	20,4671	10,2336	6,3614	3,0424	4,1092
		Valuable	0,079	25,5246	17,4247	13,1989	8,6136	5,9268	2,7656	3,5165
Muchinga	Forest	Not valuable	0,3209	74,3828	31,8645	16,5259	9,4021	5,1664	2,535	5,5835
		Valuable	0,2246	29,2653	18,4833	11,3596	7,2201	4,2999	2,2783	2,0216



Zambia: SFM – Species Area Distribution (MVT)





Moving Forward



- Capacity building
- Strengthening the continuous data collection system
- Moving away from the project approach
- Research on forest degradation
- Digital data collection





Conclusion



- ILUA II – Largest Natural Resource Inventory in Zambia
- Data collection informed through stakeholder interactions
- Data collected using international methodologies
- Data managed using state of the art software tools
- Data employed in UN REDD+ activities and Sustainable Forest Management
- Maintenance of data system ongoing





Acknowledgements



- Ministry of Lands Natural Resources and Environmental Protection
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- Food and Agricultural Organisation of the UN
- UN REDD programme
- IUFRO Special Project on World Forests, Society and Environment (IUFRO-WFSE)
- Finland-FAO Forestry Programme



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Thank You

