



Organisation des Nations Unies
pour l'alimentation
et l'agriculture

Global sample-based assessment of agricultural deforestation drivers

A remote sensing study:

How much do large-scale and small-scale farming contribute to global deforestation?

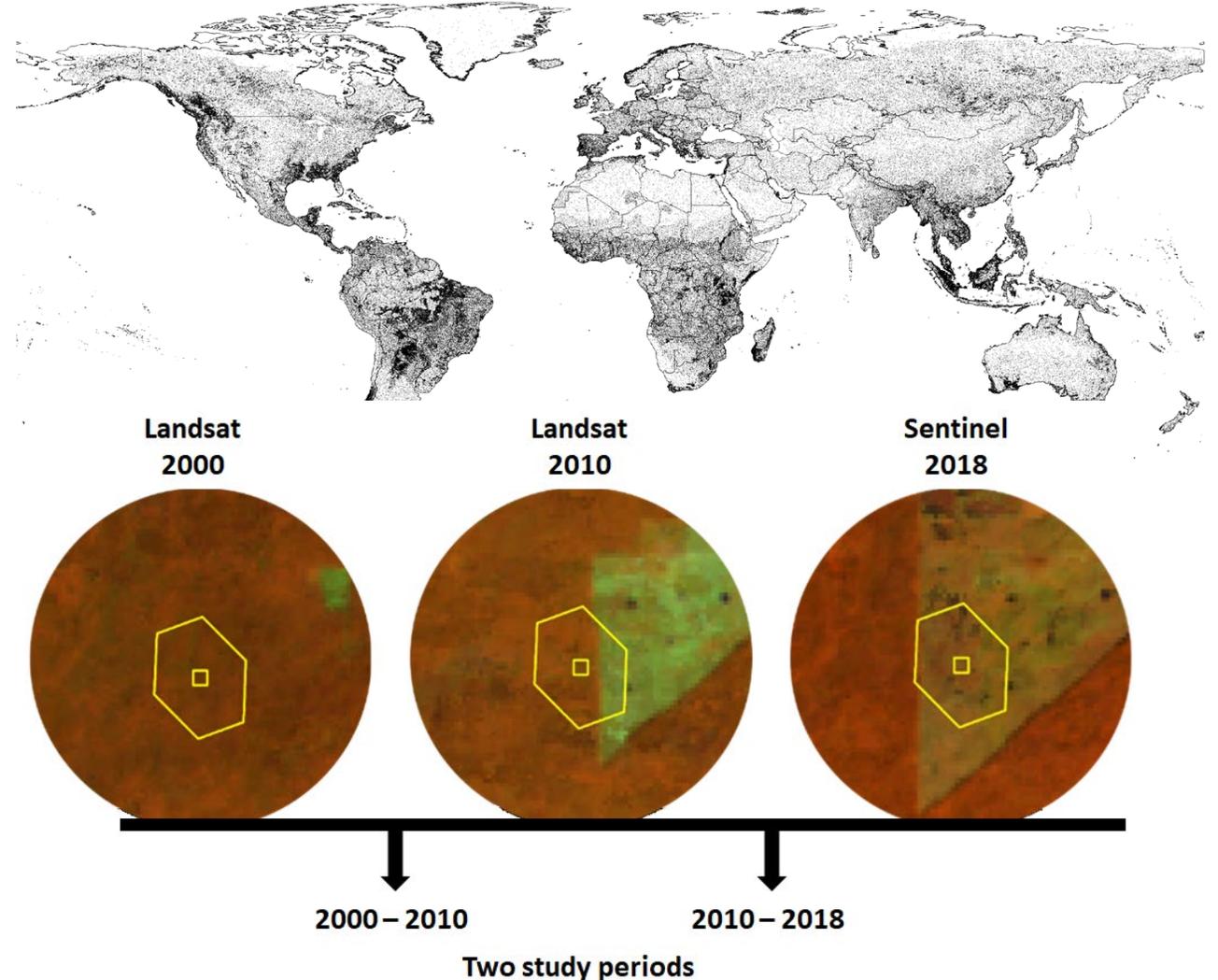
GFOI Plenary 11 May 2023

*Anne Branthomme, Caroline Merle,
Adolfo Kindgard, Ana Lourenço, Wai-Tim
Ng,
Rémi D'Annunzio, Aurélie Shapiro*

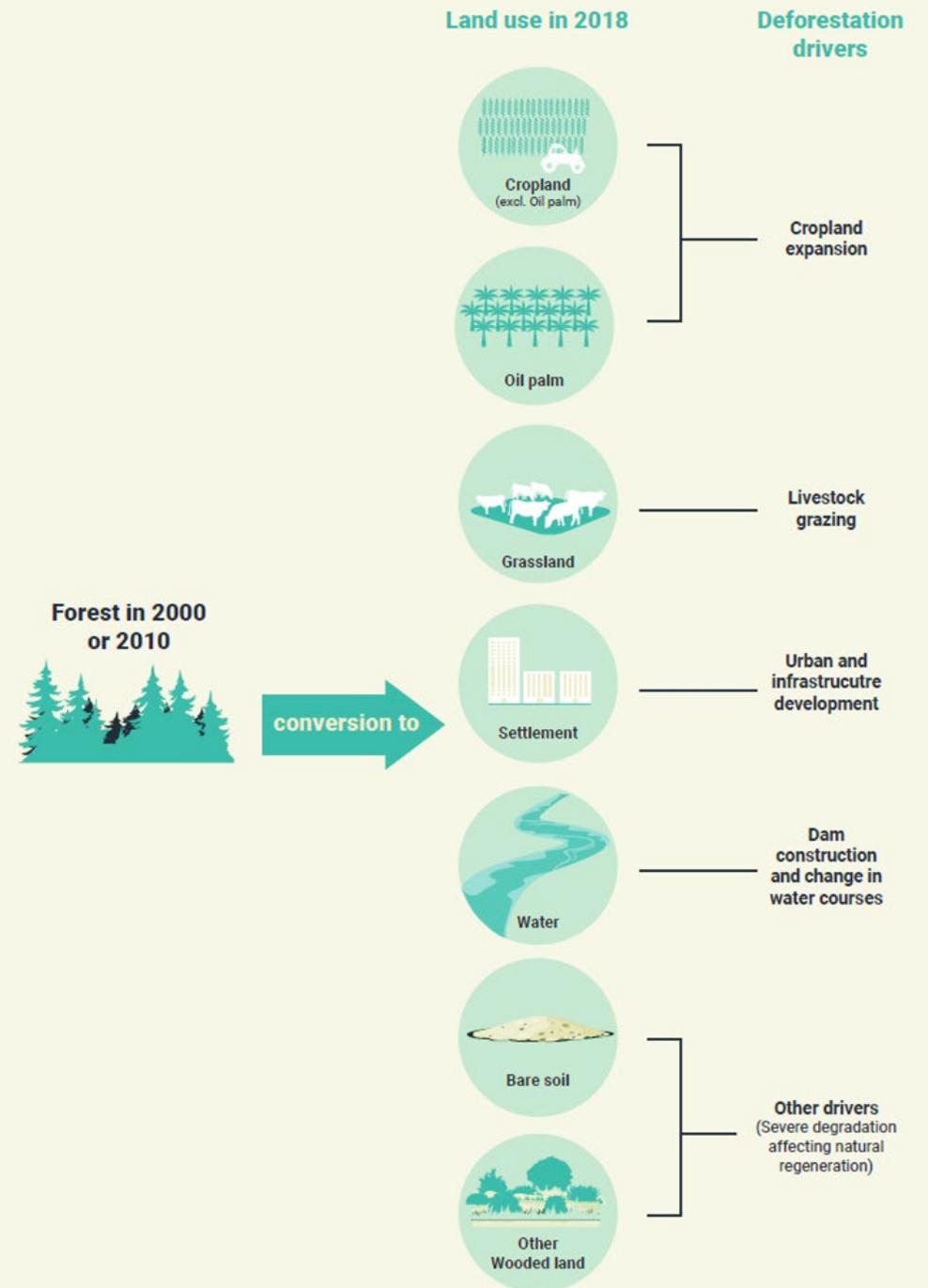


FAO FRA 2020 remote sensing survey

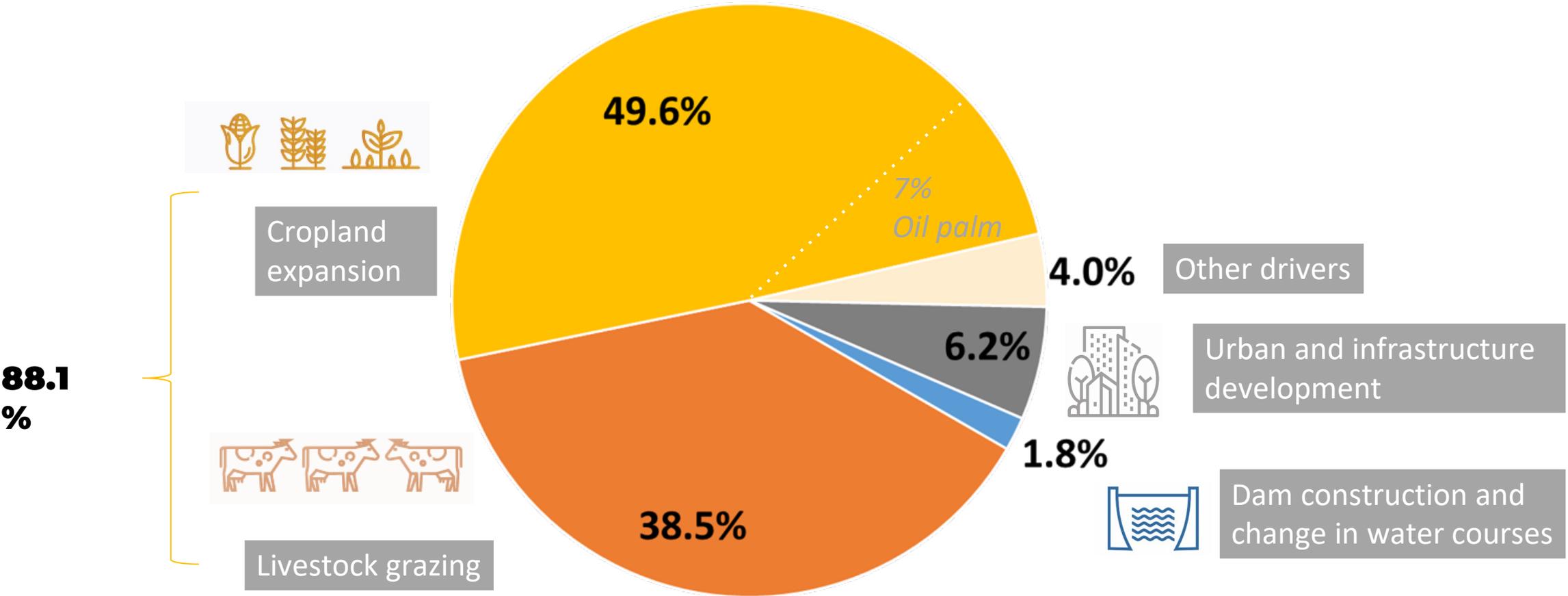
- Study of forest **changes** in 2000-2010 and 2010-2018
- Based on 400 000 remote sensing samples visually assessed using Collect Earth on line
- Involved 800 national experts from 126 countries
- Results released at the World Forestry Congress



Assessing drivers of deforestation from satellite imagery



Main drivers of deforestation 2000-2018



Pilot Study: refining the assessment of agricultural drivers

Agriculture



Conversion to cropland



Conversion to grassland

Small-scale



Large-scale



Small-scale



Large-scale



Large-scale farming

- Industrial and medium to high technology production processes
- Over larger areas
- Involving significant capital investment, machinery or infrastructure

Small-scale farming

- Apply non-industrial methods, low technology production processes
- Over limited area
- Labor force as the main investment

Study methodology

35 500 FRA RSS samples with deforestation in 2000-2010 or 2010-18



For each sample



Set of criteria

- Landscape context and fragmentation
- Speed of forest clearing
- Field size
- Field boundaries
- Field shape
- Field pattern
- Infrastructure

Large-scale



Small-scale

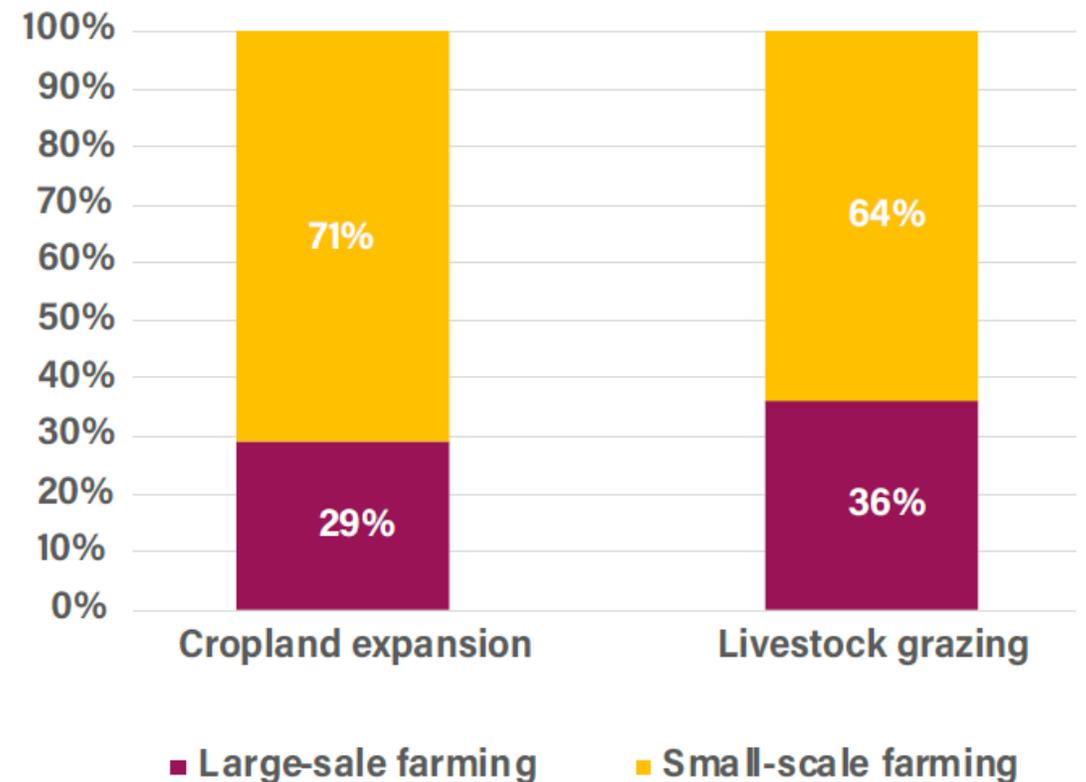
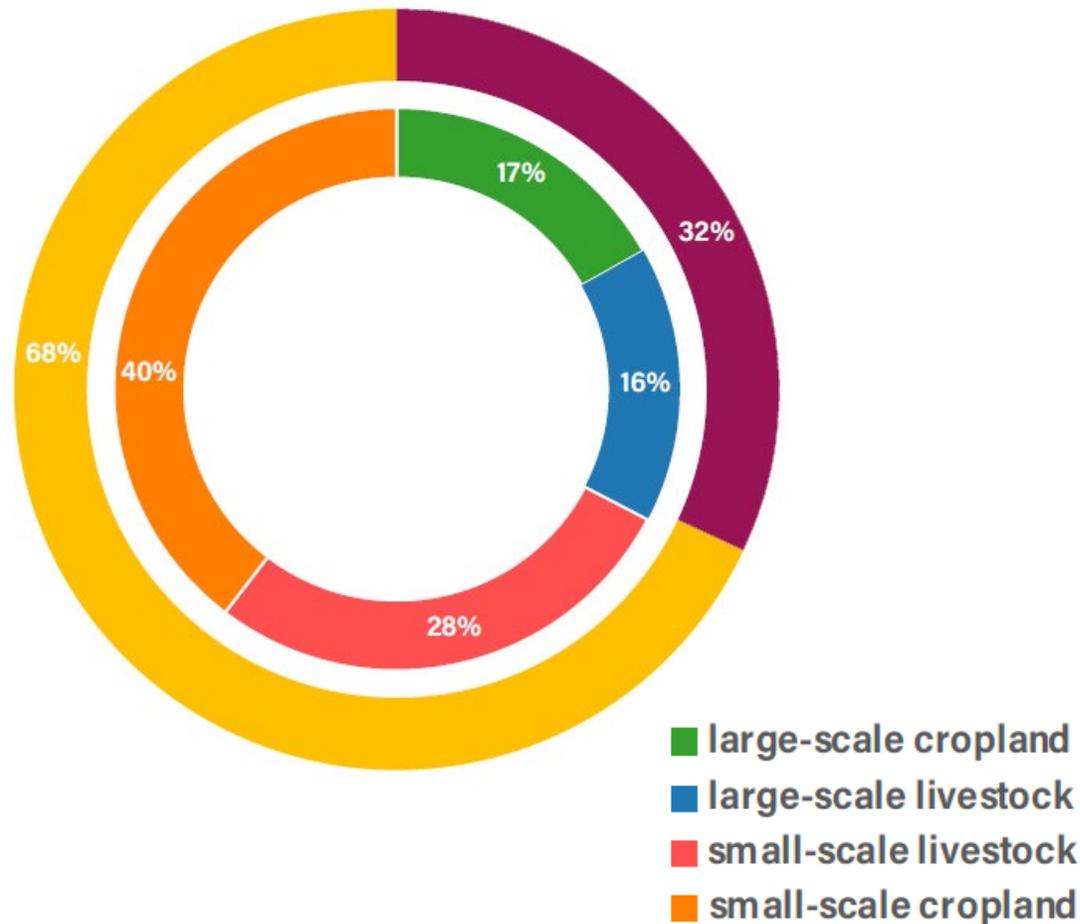


Results

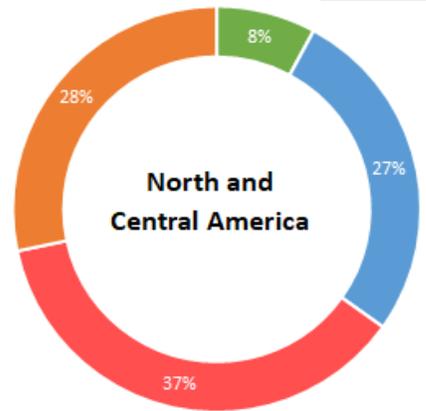
Criteria relevancy for each region

Distribution globally & per region

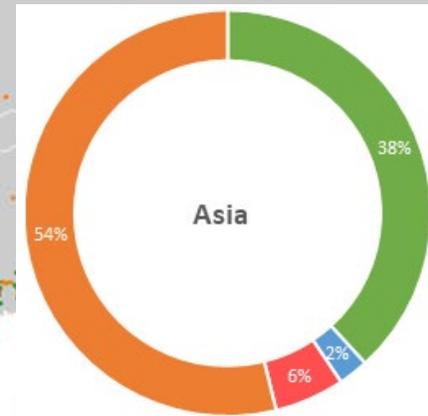
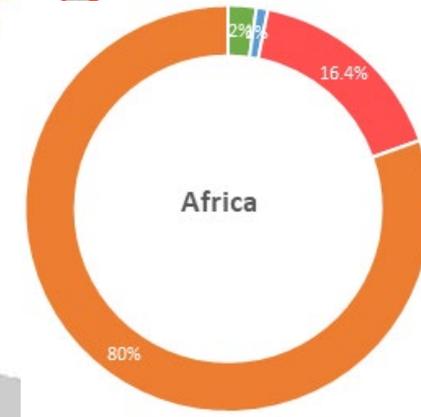
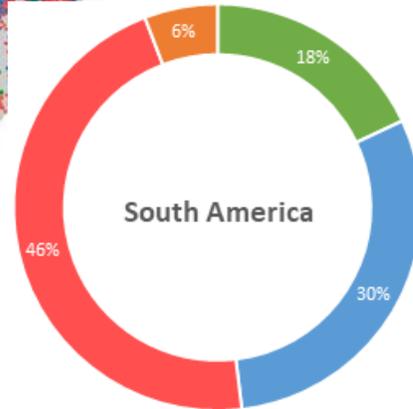
Results: How much do large-scale and small-scale farming contribute to global deforestation?



Results: How much do large-scale and small-scale farming contribute to global deforestation?



- Cropland Small-scale
- Livestock Small-scale
- Cropland Large-scale
- Livestock Large-scale



Released today!



Food and Agriculture
Organization of the
United Nations

How much do large-scale and small-scale farming contribute to global deforestation?

Results from a remote sensing pilot approach



Thank you!

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