

# Myth or Fact: The Dilemma of Forest Development in Ethiopia

---

Mulugeta Lemenih Kassaye (PhD)



# Background

- **Point of departure:**

- The recent news about forest cover increase.
  - Declined from ca 40% to ca 3%,
  - Reversed from 3% to 23.6%
- Such a news is not new. Similar claims were made before (e.g., in 2010, 2017).
  - 2010 -- 11.0%
  - 2017 -- 15.0%
  - 2019 -- 17.2%
  - 2023 -- 23.6%
- Global headline news, awards, tributes as exemplary country;

- **The question is:**

- Are these claims true? Did forest cover really increase in Ethiopia?

- **Objective:**

- Fact checking the claims, through an in-depth and objective analysis of evidences

-- 2024

•“የዘንድሮው የአረንጓዴ አሻራ ቅድመ ማስጀመሪያ መርጋ ግብር ጠቅላይ ሚኒስትር ዐቢይ አሕመድ (ዶ/ር) በተገኙበት ከቀናት በፊት ተካሂዷል። በቅድመ ማስጀመሪያ መርጋ ግብሩ ላይ ባስተላለፉት መልእክትም በዛፍ መጨፍጨፍ ሳቢያ **የኢትዮጵያን የደን ሽፋን** ከነበረበት **40 በመቶ ወደ 3 በመቶ** እንዲያሸቆለቁል ማድረጉን አንስተዋል። በአረንጓዴ አሻራ መርጋ ግብር በተሰራው ስራ ግን በ2011 ዓ.ም **ከነበረበት** 17 ነጥብ 2 በመቶ አሁን ላይ ወደ 23 ነጥብ 6 በመቶ **ከፍ ማድረግ መቻሉን** ገልጸዋል።”

MOA(<https://www.facebook.com/MoAEthiopia/posts/pfbid02H3DPyosNziUapC8Q3PPBUtsxHS4JW7UPCFXKyvvpPgB3VfK8D8Cuhq4GaArB8i2tl>)

•“Ethiopia’s forest cover report increased to **23.6 percent by 2023 from 17.2 percent** in 2019, Prime Minister Abiy Ahmed revealed during the Green Legacy Initiative pre-launch program held on Friday..., which were 40 percent of the country’s landmass in the beginning of 20th century and declined into 3 percent.

FBC(<https://www.fanabc.com/english/ethiopia-current-forest-cover-report-pursues-international-standards-forestry-devt/>);

-- 2010

Previous claims: <https://walmartinfo.com/50344/>  
<https://www.independent.co.uk/climate-change/news/ethiopia-s-forest-cover-triples-ministry-2029508.html>

# Background

- Expect three key **take away messages**:
  - **Forest has 100s of definitions** ([Forest – Wikipedia](#)):
    - Nationally, three different definitions during three time-periods;

The classical defn	FAO-GFRA defn	REDD+ defn
up to 1990s	1990 - 2015	2015 – present
high forest (20%)	0.5ha, 5m, 10%	0.5ha, 2m, 20%
No woodlands+No P (e.g., WBISSP)	HF+Some woodlands+P (e.g., FAO Country report)	HF+most woodlands+P FREL (2017)
  - **Comparing what should not be compared** is a major cause of confusion in forest trend analysis.
    - Data from **different definitions** are compared directly, **technically wrong**
      - e.g. 40% to 3% and back to 23.6% -- are from hugely different defn
  - On a similar definition basis, forest cover never **increased**, rather declining at an alarming rate. No **visible** impact from the huge (**50 billion**) seedlings claimed to have been planted since 2007 including the GLI
    - Developments in the **central and highlands**, but mapped forests in the **peripheral lowlands**

# Major Forest Vegetation of Ethiopia

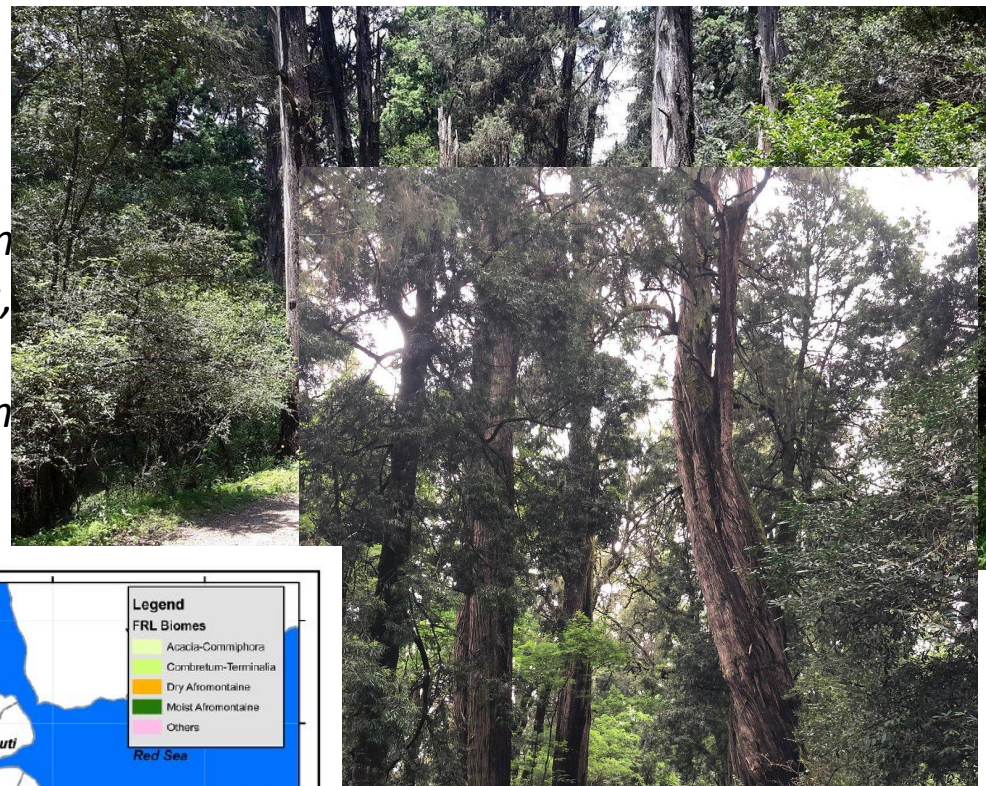
Moist evergreen



Juniper,  
Podocarpus,  
*Ekebergia capensis*,  
*Prunus africana*,  
*Olea europea*,  
*Hagenia abyssinica*

*Mixed farming*

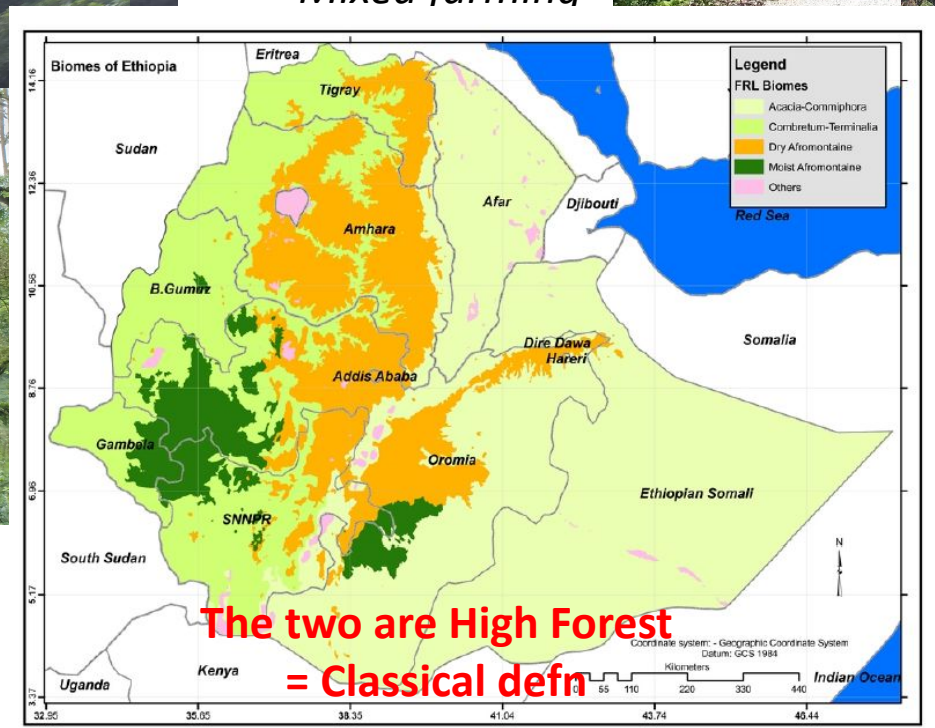
Dry evergreen



Aningeria  
adolphi-friderici,  
Olea capensis,  
Sapium ellipticum,  
Macaranga,  
Polyscias,  
Schefflera,  
Cordia



Coffee under canopy



**The two are High Forest  
= Classical defn**



# Major Forest Vegetations...



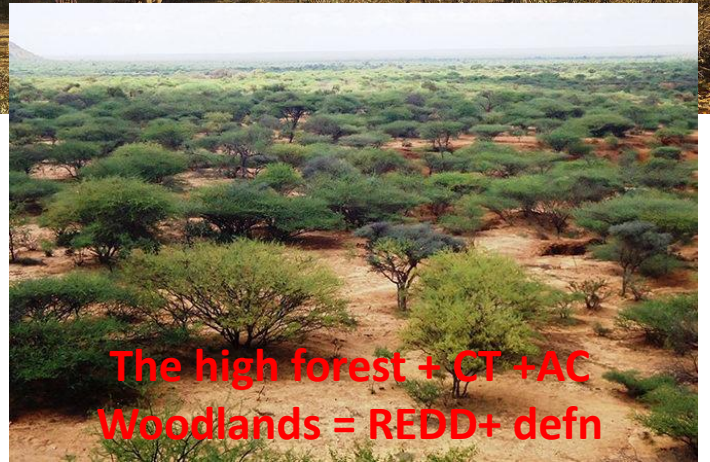
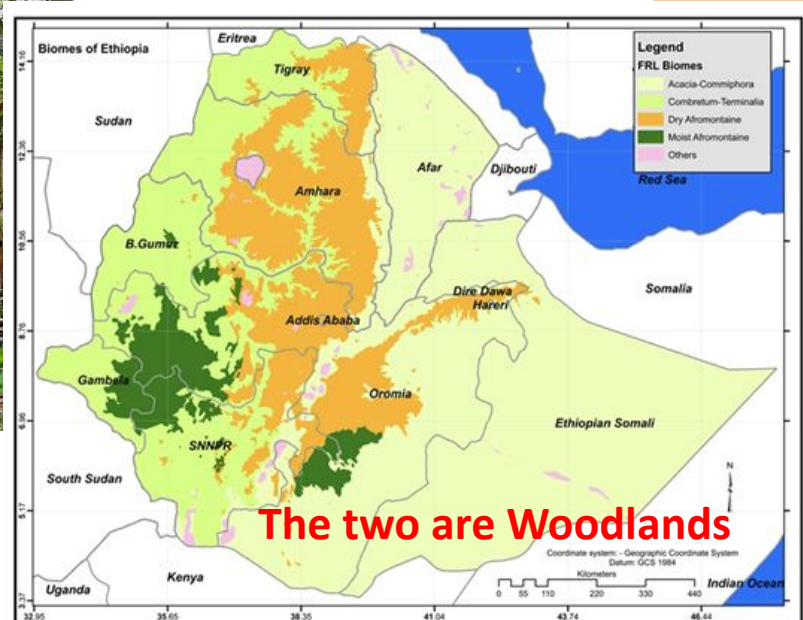
**Combretum-Terminalia (CT) woodland (<= 20m)**

- Western lowlands and river gorges
- Typical landuse
  - Shifting cultivation (Sesame, cotton, Sorghum)
- High woodlands/WL



**Acacia-Commiphora woodland (<5m)**

- Eastern, SE, Rift lands;
- Pastoral lands/low



The high forest + CT Woodlands =  
FAO defn

The two are Woodlands

The high forest + CT + AC  
Woodlands = REDD+ defn

# The 1<sup>st</sup> period (classical defn) (1900s – 1990s) 40% & 3.5% forest cover

A frequently cited statistics in discussions, news, and publications about the forests of Ethiopia is the 40% cover around the beginning of the 20th century and the decline of it to 3.5% around end of the 20<sup>th</sup> century

# Which forest was covering 40% (37%) around 1900?

Earlier usage of the term “forest” is to refer to what is known as “high Forest” (Breitenbach, 1962). This is forest with tall trees, multi-species, multistory, intermingled with liana and in high rainfall areas).

Two categories :

- 1) Moist evergreen Afromontane forest
- 2) Dry evergreen Afromontane forest

<https://www.researchgate.net/publication/260050853>

Friis (1992). Forest Vegetation of Ethiopia

## Classical forest definition

Forest is a continuous stand of trees which may attain a height of 50 m or more, with crowns touching or intermingling and often interlaced with lianas (Friis, 1986, 1992).

### 1. FORESTS

#### 1.1 Extent and Location of Ethiopia's High Forests.

WBISPP has used the definition of Friis (1992) who defined "Forest" as "a relatively continuous cover of trees, which are evergreen or semi-deciduous, only being leafless for a short period, and then not simultaneously for all species. The canopy should preferably have more than one story."

**WBISPP (1990-2004)** was a project that developed a strategic plan for Ethiopia to sustainably manage and conserve its woody biomass resources. Conducted extensive survey, image analysis and field inventory to generate detail data of forest resources of Ethiopia. The best national scale comprehensive forest inventory ever in Ethiopia. Classified forest vegetation into

- **Forest, Woodland, Shrubland, Plantation.**
- **Served as the main data source for nearly 25 years**

During the 1960s, the high forests were more or less popular in the discussion from the economic point of view, particularly the lumber production. The woodlands and the bushlands used by the pastoralists in the lowland area have not been regarded as forests by then and there was no information about these forests. Thus, it was not considered in the percentage computation of the total land cover and Brietenbach regarded only the high forests as 37%. But this issue was verified during the

በ19ኛው መቶ ክፍለ ዘመን መግቢያ እኩባቢ ከሀገሪቷ የቆዳ ሽፋን ውስጥ 35 በመቶ የሚሆነው በከፍተኛ ጥቅጥቅ ደን የተሸፈነ እንደነበረ የታሪክ መረጃዎች ይጠቀማሉ። ዛሬኛ ዘርዘር ብለው የሚገኙትን ሌሎች ሥርዓተ ምህጻኖች ጨምሮ በአጠቃላይ ወደ 66 በመቶ የሚጠጋው የሀገሪቷ ክፍለ በደን የተሸፈነ ነበር። ሀገር በቀል የሆነው የሀገሪቷ ከፍተኛ ጥቅጥቅ ደን በ1940ዎቹ 9.9% ወደ 16 በመቶ፣ በ1970ዎቹ ወደ 3.6 በመቶ፣ በ1980ዎቹ ወደ 2.7 በመቶ እንዲሁም በ1990 መግቢያ ላይ ከ2.5 በመቶ በታች እሽቆልቋል።

(EBI, 1993)

# Where from is the 37%/40% estimate & how do we know it is about High Forest?

Table 2: 1962 Vegetation of Ethiopia

Vegetation Type	Area (Ha)
High Forest	4,000,000
<i>Juniperus</i> Forest	600,000
<i>Podocarpus</i> Forest, and	400,000
<i>Pouteria</i> Forests	3,000,000
Mountainous forests	800,000
<i>Hagenia-Juniperus</i> Forests	200,000
<i>Arundinaria</i> Forests	600,000
Lowland Forests	200,000
<b>Total Forests</b>	<b>4,800,000</b>

Source: von Breitenbach, 1962.

In his study and analysis, von Breitenbach, considered only the high forests of the country, where industrial uses and household consumptions were highly concentrated at that time. The lowland forest, particularly the woodland and the bushland which was used by nomadic pastoralists were not regarded as forests at all.

Thus, in his Ancient Ethiopian vegetation and the 1962 vegetation list, von Breitenbach did not include woodland and bushland as forest cover, which are the main vegetation types of the lowland area. When von Breitenbach said that "from the original 37%, the forest had been reduced to about 5 million ha or 3.1%", he referred to only the high forest but not to the woodland and bushland forests. The lowland high forest (200,000 ha) which he referred in his 1962 vegetation list was the lowland Illubabor and Gambela high forests and not the wood and bushland forests of the lowland areas. According to EFAP (1996), the wood and bushland forests of the lowland areas were estimated at about 25 million ha. Originally this area was estimated to have been over 30 million ha. Thus the original vegetation cover of Ethiopia was about 63% of the total land as envisaged in the study of EFAP (1996).

Lowland forest = Afromontane transitional rainforest

Area of Ethiopia = ca. 111,300,000ha  
Old data includes Eritrea. 37% = 40%



## 2. A Comparison of the Results of the Surveys and Studies with Respect to Forest Resources.

Because of the problems of definition with respect to shrubland, bushland and woodland the comparison is confined to "Cultivation" and "Forest", which in Ethiopia is normally taken to refer to "High Forest" although areas of Juniperus woodland found on the Eastern Escarpment in Amhara and Tigray Regions and in the southeastern part of Oromiya Regions are normally included in the definition of "Forest". Also normally included are the Lowland Forests of Gambela Region, although as noted below both CESEN/ENEC and the LUPRD-MOA/FAO Surveys mapped this as "Dense Woodland" **WBISPP (2005)**

WOODY BIOMASS INVENTORY AND STRATEGIC PLANNING PROJECT

Table 1.

### ETHIOPIA: VARIOUS ESTIMATES OF LANDCOVER 1977 - 2000

	CESEN (1) 1977 Area ha	Chaffey (2) 1979 Area ha	LUPRD/FAO (3) 1980 Area ha	SFCDD (4) 1990 Area ha	EFAP (5) 1992 Area ha	FAO (6) 1999 Area ha	WBISPP 1995 Area ha
Cultivation	10,594,287		27,265,217	n.d.	n.d.		21,298,529
Forest (inc. riverine) Plantation	5,436,602	2,746,400	5,281,687	4,208,000	2,300,000	13,439,000	4,073,213
Woodland	n.d.		41,623	463,400	200,000		501,522
Shrubland	32,789,872	357,000	3,312,754	18,480,000	5,000,000		29,549,016
Grassland	48,449,972	124,500	42,171,308	n.d.	20,000,000		26,403,048
Afro-alpine	13,682,441		19,191,387	n.d.	n.d.		14,620,707
Highland Bamboo	109,100		259,179	n.d.	n.d.		245,326
Lowland Bamboo	n.d.	109,700	n.d.	n.d.	n.d.		31,003
Swamp	n.d.	113,400	572,408	450,000	n.d.		494,564
Water	1,142,015		935,631	n.d.	n.d.		810,213
Bare rock, soil, etc	n.d.		724,410	n.d.	n.d.		828,277
Urban	2,082,498		14,515,943	n.d.	n.d.		15,359,404
TOTAL	n.d.		15,241	n.d.	n.d.		71,965
	<b>114,286,788</b>		<b>114,286,788</b>				<b>114,286,788</b>

n.d. = Not determined

n.s. = Not stated

1. Technical Report No. 1 "Biomass Energy Resources, Cesen/ENEC, 1984: Adjusted by removing Eritrea and making total equal to that of W

2. Southwest Ethiopia Forest Inventory Project: A Reconnaissance Inventory of Forest in Southwest Ethiopia, LRDC Report No. 31, 1982.

Only includes Forest blocks >200ha within 450kms south and west of Addis Ababa

3. Obtained by area calculation in WBISPP's GIS from digitized map of LAU/LUPRD LandCover Maps 1:1,000,000 and adjusted by removing and making total equal to WBISPP

4. Ethiopian Forest Resource Base: Identification, Conservation and Rational Use in Ethiopia", SFCDD, MoA, May 1990

5. Ethiopia Forestry Action Plan: Volume II: "The Challenge for Development: Table 2.2.1, December 1994.

6. "State of the World's Forests 1999": FAO 1999.

FAO definition of "Forest" = "Land with tree crown cover of more than 10% and area more than 0.5ha able to reach a height of 5meters at ma Includes young plantations and areas temporarily unstocked but expected to revert to "forest".

# 19<sup>th</sup> Century forest...

- More evidences of 30-40% cover come from:
  - Late 19<sup>th</sup> and early 20<sup>th</sup> century travelers;
  - Historians review (e.g., Pankhurst, 1995; Melaku, 1998);
- There is clear indication that:
  - **Most areas south of Addis Ababa was hosting huge forest around 1900s**

Shortage of firewood, as well as of provisions, was reportedly a major factor leading to the institution of moving capitals,

Ankober – Addis Ababa – Addis Alem – Addis Ababa

From Axum to Lasta-Lalibella was the same reason

Harris (1844) found the site which the capital, Addis Ababa, is now occupying attractive and mostly covered with vegetation. He wrote: "Finfine (Addis Ababa)...with shady groves of the most magnificent juniper lining the slopes, and waving their moss grown branches...proclaimed a district which had long escaped the hand of wrath". He further described the forest as an "extensive belt of dark juniper".

When Menelik moved to Entoto in 1882, the site was well covered with trees. But, after some years, according to Vivian (1901), Entoto which comprised about 50,000 people, was abandoned for lack of wood. Addis Ababa was the substitute, and as many expatriates in the diplomatic missions and other fields speculated Addis was to be abandoned because of scarcity of wood. In fact, Menelik began in 1900 the construction of a palace in Addis Alem to settle closer to the juniper forests of Mecha. The successful propagation of the newly introduced eucalyptus may have played a part in bringing an end to Addis Alem project, the change of capital.

# Travelers account... further south, east, SW

A gradual ascent from the lakes brought us to a low watershed, which separates the basin of the Zwai group of lakes from that of Lake Awasa. To the west Gara Abaro, covered with virgin forest, forms a very prominent landmark. It was with great difficulty, and in torrents of rain, that the survey party forced its way up this hill through thick matted undergrowth. Near the summit, which we only found with difficulty, we "jumped" some buffalo, but did not get a glimpse of them. There were also fresh tracks of greater kudu, but no indication that man had ever disturbed this retreat before. After making a few lanes through the trees on the summit, I was able to see from this commanding point that the country to the east was mountainous, and covered with dense forest as far as the eye could reach. As only very

Maud (1904)

The top and slopes of the Sidamo escarpment, as I call the first one, are covered with dense forest. The original narrow path through the forest had been improved into a route for our benefit by our Abyssinian colleagues, who had sent Galla clearing parties on ahead. My guide explained to me as we entered the forest that this point was considered the dividing-line between the high cold country and the hot low country, and it is certainly the natural eastern boundary of the Sidamo highlands. In the dimly lit forest we were frequently entertained by

Emerging from the forest at the bottom of the steep descent of the escarpment, we came on a low watershed, from either side of which a broad valley runs down to the Ganale and Daua rivers. The latter opens out into the undulating forest-clad plain of Adola, which is enclosed by the two escarpments to which I have just referred. Here were fresh tracks of elephants. I afterwards learnt that Butter, while

- The coffee, Khat & eucalypt dominated landscape today,
- The highest population density, Sidamo was sparse and full of forest then!

EXPLORATION IN THE SOUTHERN BORDERLAND OF ABYSSINIA. 561

hunting in the thick forest, had a narrow escape. An infuriated cow elephant charged him in an alley walled in by impenetrable undergrowth. His shots failed to turn her, and she got right over him as he attempted to wriggle out of sight. While she searched around with her trunk, Butter gave her both barrels of his .577 rifle from underneath, which caused her to depart, luckily without treading on him. Baird was more fortunate, and secured a good bull with tusks weighing about 50 lbs. each.

# Travelers account... further SW,...

The speed of deforestation may have varied in the past, but it can certainly be rapid. Logan (1946) quotes local sources from Jima in Kefa, stating that the forest, now little nearer than Saddaro and Belletta some 25–35 km away, 50 years ago reached almost to the town.

their own needs. [50] further detailed his observations of areas around Jimma, Kaffa, and beyond, stating, "As we passed through Jimma, we came to the Gojeb River. This is a wild part of the country. There are fine forests in this part of the world, which remind one of parts of the New Forest in England, and numbers of the beautiful Colobus monkeys are found in these forests." This description

In short, the 37% high forest cover seems real

- Coffee dominated landscapes today in SW, South, SE were not there around 1900

**The decline of forest  
cover to 3.5% in the  
1980s/1990s**

Which forest declined to <4%? And where is the estimate from?

- Strictly the “high forest”

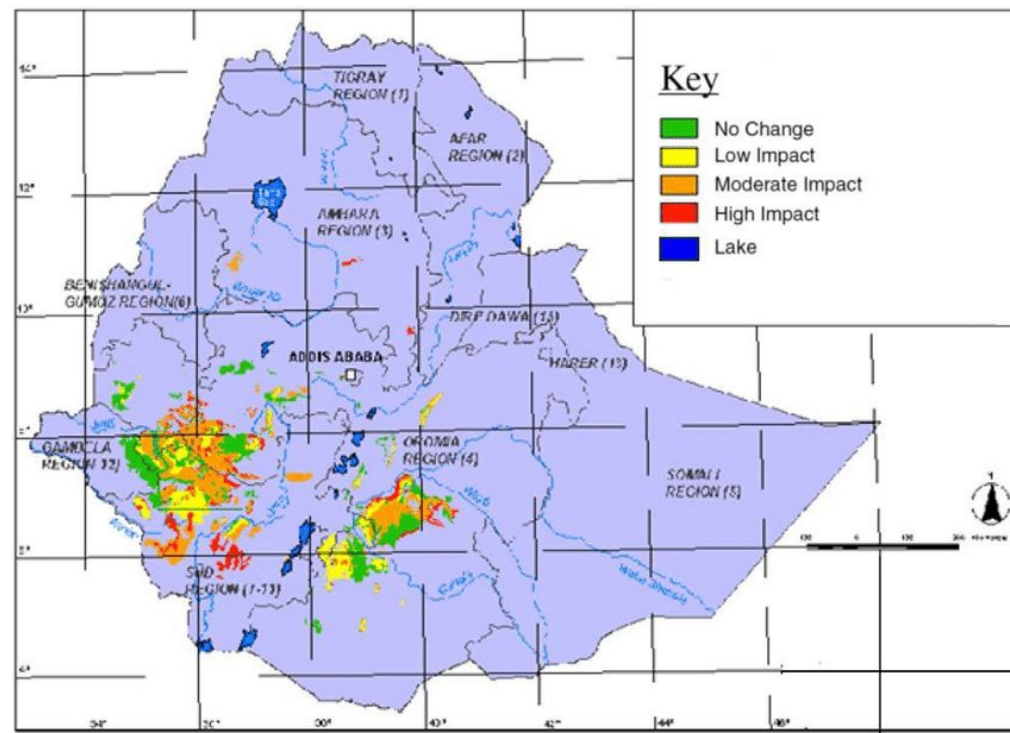


Table 1. A summary of land cover types in Ethiopia in the 1990s based on the WBISPP (2005):

Land cover type	Area cover (ha)	% cover
1. High forests	4,073, 213	3.56
2. Plantations	501,522	0.4
3. Woodlands	29,549,016	25.8
4. Shrublands	26,403,048	23.1
5. Highland bamboo	31,003	0.027
6. Lowland bamboo	1,701,981	0.97
<b>Total</b>	<b>62228780.00</b>	<b>53.86</b>

Source: WBISPP, 2005 (p. 18).

The relic forests of Ethiopia between 1973 and 1990. Source: (Reusing, 2000/1998).

- 1970s = 4.75% high forest
- 1980s = 3.93%

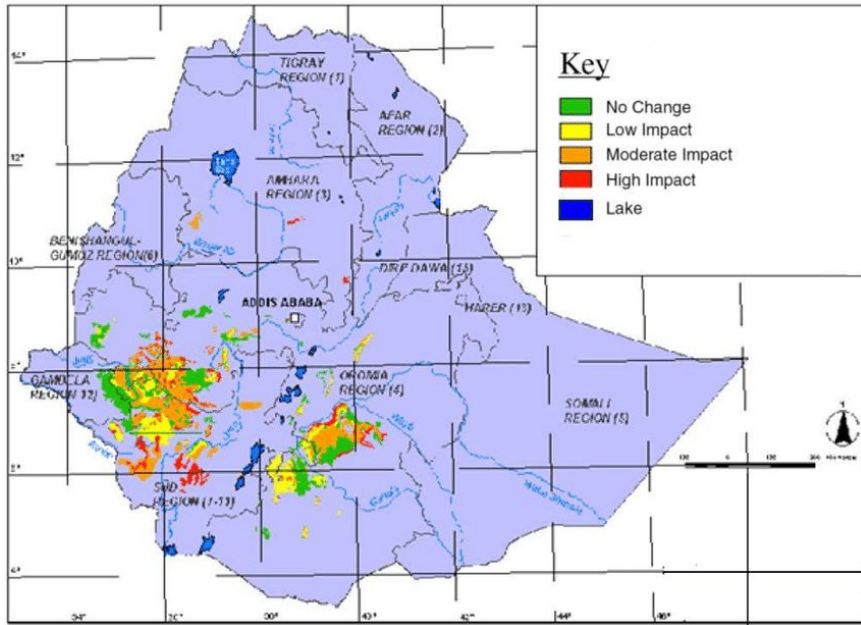
Table 2: Forest Cover change of Ethiopia 1973-1990

Forest Class	1973-1976		1986 - 1990	
	Area (km <sup>2</sup> )	Area (%)	Area (km <sup>2</sup> )	Area (%)
Closed High Forest	30,243	2.64	2,346	0.20
Slightly Disturbed High Forest	14,158	1.24	7,466	0.65
Heavily Disturbed High Forest	10,009	0.87	35,243	3.08
<b>Total</b>	<b>54,410</b>	<b>4.75</b>	<b>45,055</b>	<b>3.93</b>

Source: (Reusing 1998).

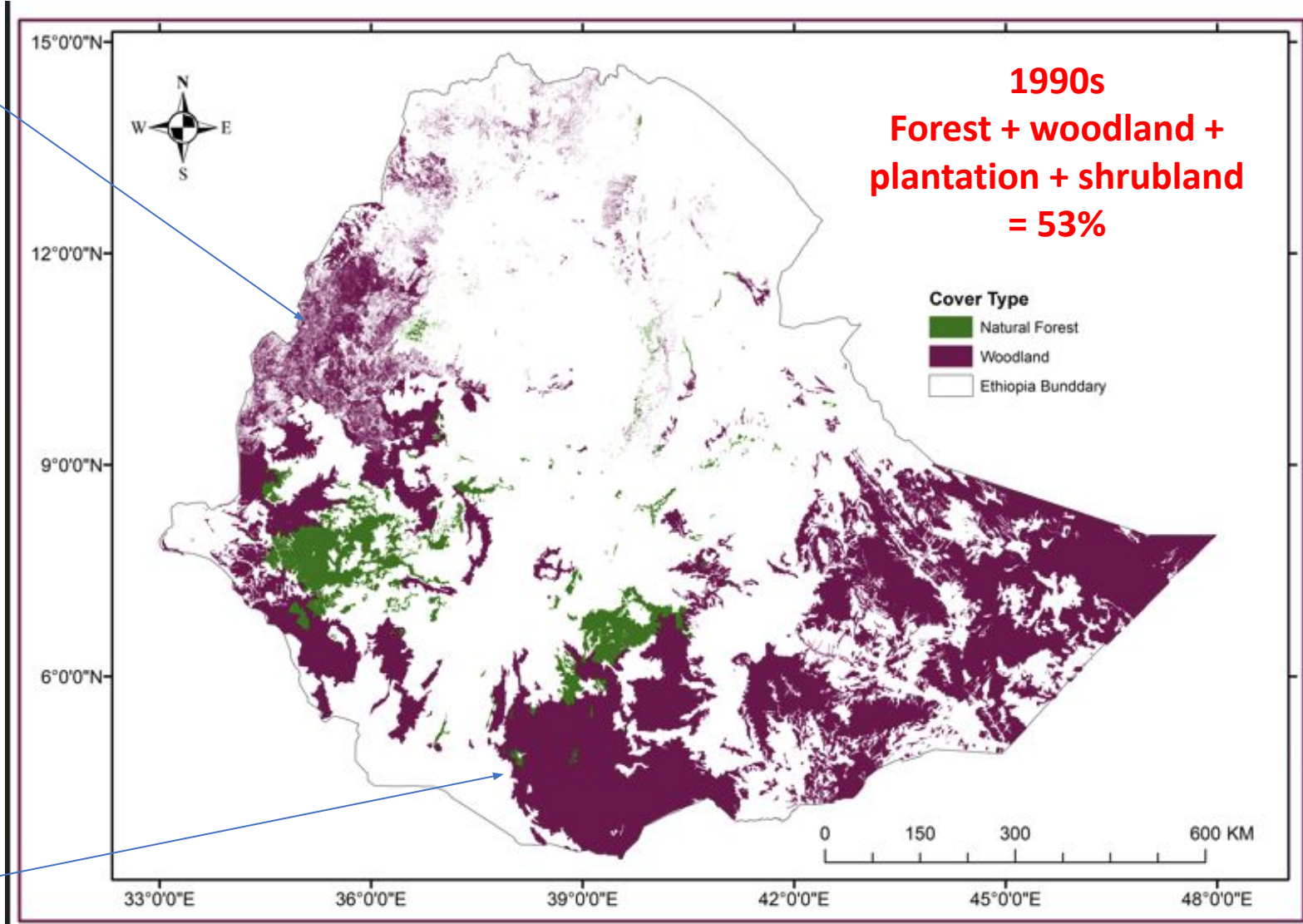
# WBISPP (2005) – map based on shapefile

C-T woodland  
(High woodland)



1990s  
High forest = 3.5%

A-C woodland  
(low woodland)



## So, 1900-1990s summarized

### • Late 19<sup>th</sup> Century

- Forest = high forest
- High forest = 37% (42 M ha).
- All (forest + WL) = 63% -66% (72 M ha)
- **No plantation here**

### • Late 20<sup>th</sup> Century (1990s)

- Forest = High forest
- High forest = ca. 3.5% (4 M ha)
- All (forest +WL+SL+P) = **ca. 53% (62 M ha)**
- **Plantation = 200k – 500k**

Year	Forest type	% cover	Area (ha)	Remark
1900	High forest	37	42,000,000	Breitenbach (1962)
1900	All forest	63	72,000,000	63 – 66%
1940	High forest	16	18,160,000	Mooney (1946)
1960	High forest	4.5	4,800,000	Breitenbach (1962)
1970	High forest	3.0 - 4.56	4,900,000	Reusing (1998)
1990	High forest	2.5 - 3.6	4,000,000	<b>EFAP (1994/1992)</b> <b>WBISPP (2005)</b>
1990	All	53.9	62,200,000	<b>WBISPP (2005)</b>



## 2<sup>nd</sup> Period/phase (1990 – 2015)

## FAO-FRA with a new definition

- **Global definition of forest:** “Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds *in situ*” (natural + plantation).
- **Consistency** for inter-period comparison (trend analysis); inter-country comparison (forest richness)
- Ethiopia is one of the countries providing data **since 1990, 5yr**  
<https://www.fao.org/forest-resources-assessment/past-assessments/en/>
- Where was the data supplied came from?
  - WBISPP data for 25 years (1990-2015)
  - Modification of categories
  - For each phase – deforestation rates are applied to project deforested area and adjust forest data

The data from WBISSP (2004) project shown in table 1.2.3a provides a comprehensive national forest statistics by regional state. According to this study the total high forest cover of the country is 3.65 million ha, high woodland which also falls within forest class according to FAO’s definition is estimated at about 10 million ha. Together both types provide the forest estimate of 13701014 ha for early 2000s.

The forest statistics for Ethiopia reported for 2005 and 2010 are also extracted from this basic data. The current estimate for 2015 is also based on this and additional information obtained from the sources indicated in section 1.1.1. The estimate for 2015 is summarized in table 1.2.3b.

### Forest area

### Data of different periods

The areas of forest and OWL (in 2015) have been estimated using a revised deforestation rate obtained from various studies and synthesized together into a national average using expert guess. Accordingly the deforestation rate since 2010 for the forest is estimated as 1.25% per year and for other woodlands 1.8% per year.

WBISPP forest category	Reclassification by MoA	FAO Category
Forest (High forest)	Forest	Forest
Woodland	High Woodland ( $\geq 5m$ ). Combretum - Terminalia woodlands (western lowlands)	Forest
	Low woodland ( $\geq 2m$ ). Acacia - Commiphora woodland (eastern and southeastern lowlands)	Non-Forest
Shrubland	Shrubland	Non-Forest
Plantation	Plantation	Forest

#### 1.4 Reclassification into FRA 2005 classes

Reclassification is done before estimation and forecasting.

Reclassification	Forest <sup>FAO</sup>	OWL	OL	Inland water
Forest	100%			
High woodland area	100%			
Plantations	100%			
Low woodland + Shrubland		100%		
Other land			100%	
Inland water				100%

#### 1.2.2 Classification and definitions

National class	Definition
Forest	Land with relatively continuous cover of trees, which are evergreen or semi-deciduous, only being leafless for a short period, and then not simultaneously for all species. The canopy should preferably have more than one story.
High Wood Land	Combretum-Terminalia Woodland with trees $>5m$ and crown tree cover $>20\%$ . It is found in East and West Wellega, Jima & Illubabor zone of Oromia region, in zone 2 of Gmbella Region, all of Benshangule -Gumuz Region, and west Gojam, Awi and north Gonder zone of Amhara region. In other areas, it is woodland lying above 1250m above sea level. This class does not include shrubs and bushes.
Plantation	Mainly Eucalyptus, Cupressus and Pinus plantation with $>5m$ and crown density $>20\%$ & thus is included in "Forest" as defined by FAO
Low woodland	All other woodlands and shrubland $<5m$ in height and with crown cover $>20\%$
Other land	Other land is land area that is not categorized as forest. This includes agricultural land, settlements, etc

# Original Data from WBISPP (1997)

WOODY BIOMASS INVENTORY AND STRATEGIC PLANNING PROJECT

**Table 1. Extent of Ethiopia's High Forests**

REGION	Total (ha)	%
Oromiya	2,547,632	63%
SNNPR	775,393	19%
Gambella	535,948	13%
Dire Dawa	0	0%
Harari	216	0%
Amhara	92,744	2%
Tigray	9,332	0%
Beneshangul	68,495	2%
Afar	39,197	1%
Somali	4,257	0%
	0	0%
<b>TOTAL</b>	<b>4,073,213</b>	<b>3.56%</b>

High woodland:  
Ca.10 M ha

Low woodland:  
Ca.19 M ha

Total = ca. 60 m  
4.07+29.2+26.4 =60M

**Table 2 a. Woodlands**

REGION	Area (hectares)	As % of National Woodland
Oromiya	9,823,163	34%
SNNPR	1,387,759	5%
Gambella	861,126	3%
Dire Dawa	0	0%
Harari	0	0%
Amhara	1,040,064	4%
Tigray	294,455	1%
Beneshangul	2,473,064	8%
Afar	163,657	1%
Somali	13,199,662	45%
<b>TOTAL</b>	<b>29,242,949</b>	<b>25.54%</b>

**Table 2b. Shrublands**

REGION	Area (hectares)	As % of National Shrublands
Oromiya	7,750,422	29%
SNNPR	2,434,779	9%
Gambella	146,103	1%
Dire Dawa	36,635	0%
Harari	7,497	0%
Amhara	4,352,672	16%
Tigray	1,841,182	7%
Beneshangul	1,422,191	5%
Afar	3,024,697	11%
Somali	5,384,022	20%
<b>TOTAL</b>	<b>26,400,200</b>	<b>23.06%</b>

# Ethiopia's FAO Report 1990 –2010

<https://www.fao.org/4/aj012E/aj012E00.pdf>

## Deforestation rate used to adjust forest area

### Forest area

The areas of forest and OWL (in 2015) have been estimated using a revised deforestation rate obtained from various studies and synthesized together into a national average using expert guess. Accordingly the deforestation rate since 2010 for the forest is estimated as 1.25% per year and for other woodlands 1.8% per year.

## 1.2 National data

### 1.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Woody Biomass Inventory and Strategic Planning Project (WBISPP), Ministry of Agriculture and Rural Development, May 2004	H	Land use/ Land cover, Growing stock	Land sat TM images: 1986-1989 and 1995	Woody Biomass Inventory using remote sensing (satellite imagery) . Satellite images were used to derive estimates for 2000 and 2005. Several assumptions were made to arrive at estimates for 2005.
Ethiopian Forestry Action Program (EFAP), 1994, Ministry of Natural Resources and Environmental Protection.	M	Forest resource base	1992	EFAP' estimation of Ethiopia's forest resource base for 1992 was used.

Total remains the same =  
 $3.65 + 10 + 46.3 = \text{ca. } 60 \text{ M}$

### 1.2.3 Original data

Table 1.2.3a Estimates for 2000 as obtained from the WBISPP report

Regions (1)	Forest ha	"High" Wood land ha	Plantation ha	Low Woodland + Shrubland ha	Other land ha	Water ha	Total ha
Oromiya	2205619	5257683	62770	9806112	18422447	260500	36015130
SNNPR	740271	560000	237198	1349431	7667390	152860	10707150
Gambella	491805	899578	0	422042	1371684	0	3185109
Dire Dawa	0	0	0	36635	92163	0	128798
Harari	216	0	0	7497	24839	0	32552
Amhara	92744	841896	199496	7863448	6456317	310379	15764280
Tigray	9332	0	649	2135637	2788537	6212	4940367
Beneshangul	68495	2471761	0	1416368	955145	15216	4926985
Afar	39197	0	0	3169871	6329065	82142	9620275
Somali	4257	18160	1410	20090489	9007056	968	29122340
Addis Ababa	0	-	7900	0	54450	0	62350
<b>ETHIOPIA</b>	<b>3651935</b>	<b>10049079</b>	<b>509422</b>	<b>46297530</b>	<b>53169093</b>	<b>828277</b>	<b>114505336</b>

#### NOTES:

(1) Low woodland and shrub land are included in the other land category in the WBISPP report. However, for the purpose of FRA 2005 report these two categories are separated.

# Ethiopia's FAO Report 1990 - 2010

What happened in 2010 surely surprise you.

## 1.3.3 Estimation and forecasting

Using a linear extrapolation, the areas of forest and OWL (in 1990 and 2000) have been estimated and forecasted.

FRA Category	Area in hectares			
	1990	2000	2005	2010
Forests	15 113 503	13 704 675	13 000 261	12 295 847
OWL	44 649 764	44 649 764	44 649 764	44 649 764

+ ←————→ -

<https://www.fao.org/4/al501E/al501E.pdf>

<https://www.fao.org/forest-resources-assessment/past-assessments/fra-2010/country-reports/en/>

In 2010, about 12.3 M ha (11%) was estimated and reported to FAO,

This is a decline of ca. 3.0 M ha from the size in 1990 for the same definition.

However, look the news on the next slide

- comparing with the 3%, which is referring to only high forest, the GoE claimed increase. **Wrong comparison & wrong claim!!**

The outcome was impressive. Due to the interventions made during the last decade have been bearing fruits that the forest cover has started to grow. The total forest cover of Ethiopia has tripled in size since 2000 as a result of large-scale reforestation campaigns.”

According to a UN report, Ethiopia planted more than 700 million trees in 2007 alone. The Ministry of Agriculture have recently announced that “Ethiopia was able to increase its forest coverage” and “the increase is attributed to the reforestation campaign that took place across the country since the last decade

According to recent data about 11 percent of Ethiopia’s land area is now forested (12.3 million hectares). Another 44.6 million hectares are under wooded land. The forest vegetation consists mainly of Acacia and Boswellia, but also includes some high forest, riverine woodlands, mixed deciduous woodlands and bamboo woodlands.

<https://wainfo.com/50344/>

Ethiopia has 12.3 million hectares of forests comprising of natural and planted forests, woodland, with a coverage of about 15% of the country. There are also huge areas that are covered by wooded grasslands. Apart from the natural and the planted forests, the forest genetic resources of the country include trees outside natural forests, which are mainly found in traditional agro-forestry system. Planted forests constitute over 972,000ha (Million Bekele, 2011). The area coverage of trees and shrubs that are found on farm lands is not clearly known.

Climate > News

## Ethiopia's forest cover triples: ministry

Afp • Sunday 18 July 2010 17:37 BST • 0 Comments



<https://www.independent.co.uk/climate-change/news/ethiopia-s-forest-cover-triples-ministry-2029508.html>

**Big news of forest increase, while in reality a significant decline was reported to FAO. Misinformation?**



### 2000 – 2013 FREL

Table 10: Bias-corrected area estimates by biomes (ha)

FL= Forest Loss , FG= Forest Gain

Biome	Bias corrected area (thousands of ha)	
	Forest loss	Forest gain
Acacia-Commiphora	194	30
Combretum-Terminalia	712	8
Dry Afromontane	66	179
Moist Afromontane	206	29
Other Biome	14	0.8
<b>Total</b>	<b>1,193</b>	<b>246</b>

### Environment

The total forest cover of Ethiopia has tripled in size since 2000 as a result of large-scale reforestation campaigns, the authorities announced. Ethiopia, which suffered from chronic droughts and famine in the past, has in recent years undertaken massive tree-planting campaigns to help reduce land degradation and improve its biodiversity. Ethiopia was able to increase its forest coverage to 9% now from only 3% previously. Ethiopia planted more than 700 million trees in 2007 alone, according to the UN (AFP/Independent, July 18).

## Ethiopia's forest area triples



by Mihai Andrei — July 23, 2010 - Updated on March 11, 2013 in Environment, World Problems Reading Time: 1 min read

Ethiopian authorities announced that thanks to large-scale reforestation campaigns the forest cover of their country has tripled since 2000. The African country has suffered from severe droughts in the past, and their solution to this problem turned out to be just great.

“Ethiopia was able to increase its forest coverage to nine percent now from only three percent previously,” the agriculture ministry said in a statement. The increase... is attributed to the forestation campaign launched all over the country since the last decade,” he added.

Ethiopia planted over 700 million trees in 2007 alone in their attempt to combat climate change and droughts. The country had some really major issues, as forest surface had fallen from 35 percent in the early 20th century to 3 percent towards the century’s end. We welcome and hail this initiative, and hope this will be just the first of many countries to undergo such campaigns.

<https://www.zmescience.com/ecology/ethiopia-forest-area-triples/>

# FAO GFRA -2015

## Plantation data: from Million Bekele (2011);

Change in plantation area

### Major change plantation forest

FRA 2015 – Country Report, Ethiopia

1	Woody Biomass Inventory and Strategic Planning Project (WBISPP), Ministry of Agriculture and Rural Development, May 2004	Land use/ Land cover, Growing stock	Land sat TM images: 1986-1989 and 1995	Woody Biomass Inventory using remote sensing (satellite imagery). Satellite images were used to derive estimates for 2000 and 2005. Several assumptions were made to arrive at estimates for 2005.
2	Million Bekele (2010) (African Forest Forum)	Plantation forests of Ethiopia	2007 and 2008	Based on regional assessment and literature review
3	Several local level scholarly studies	Deforestation rates	1990s, 2000s	MSc and PhD studies based on satellite imageries and GIS analyses
4	N/A	N/A	N/A	N/A

National Categories	Area in hectares			
	2000	2005	2010	2015
<b>Forest</b>	<b>3651935</b>	<b>3337988</b>	<b>12 295 847</b>	<b>11527356</b>
<b>High woodland area</b>	<b>10049079</b>	<b>9632616</b>	<b>9030577.5</b>	<b>8466166</b>
<b>Plantations</b>	<b>509422</b>	<b>509422</b>	<b>509422</b>	<b>972000</b>
<b>Low woodland + Shrubland</b>	<b>46297530</b>	<b>46297530</b>	<b>44 649 764</b>	<b>40631285.24</b>
<b>Other land</b>	<b>53169093</b>	<b>53899503</b>	<b>52 685,000</b>	<b>52685000</b>
<b>Inland Water</b>	<b>828277</b>	<b>828277</b>	<b>799,000</b>	<b>828277</b>
<b>Total</b>	<b>114505336</b>	<b>114505336</b>	<b>119969610</b>	<b>115110084</b>

### Forest area

The areas of forest and OWL (in 2015) have been estimated using a revised deforestation rate obtained from various studies and synthesized together into a national average using expert guess. Accordingly the deforestation rate since 2010 for the forest is estimated as 1.25% per year and for other woodlands 1.8% per year.

### Forest plantations and woodlots in Ethiopia

An estimated 190,000 ha in 1990 to c. **972,000 ha today**. Of this area, c. **190,000 ha are commercial plantations**, remaining 80% are non-industrial **private** small-scale plantation and woodlots. Ca. 650,000 ha in Amhara. (Hence, not due to government but due to Farmers action)

**Attribution – to farmers**



## 3<sup>rd</sup> Period (2015- present )

### REDD+ & Ethiopia with its own new forest definition!!

- Ethiopia is active in REDD+ agenda
- IPCC – provision for countries to produce their own definition
- Ethiopia produced a new definition. Decision made to include the “**low woodlands**”, left out of the FAO definition!!
- Misconception that payment is by forest area, while payment is by the amount of deforestation avoided!!



# REDD+ - FREL - Ethiopia

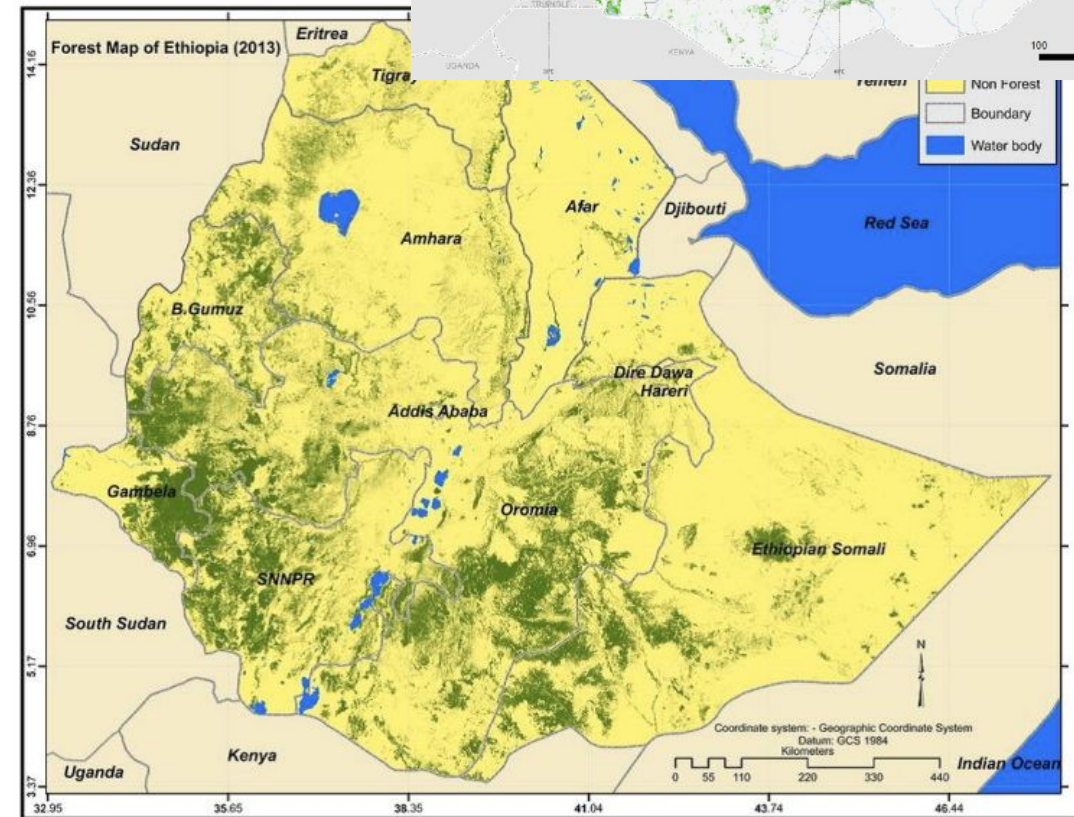
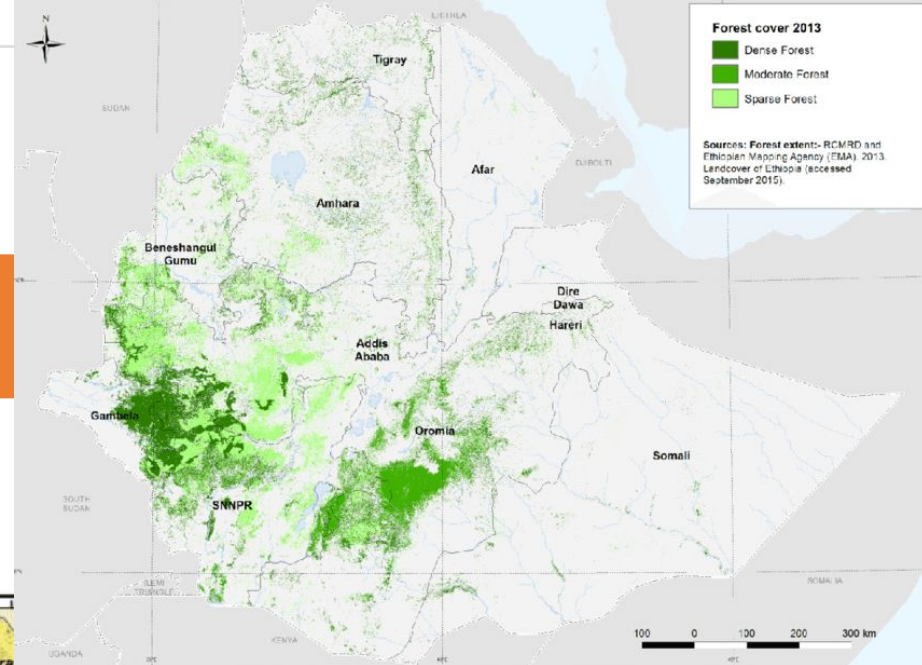


## FOREST DEFINITION

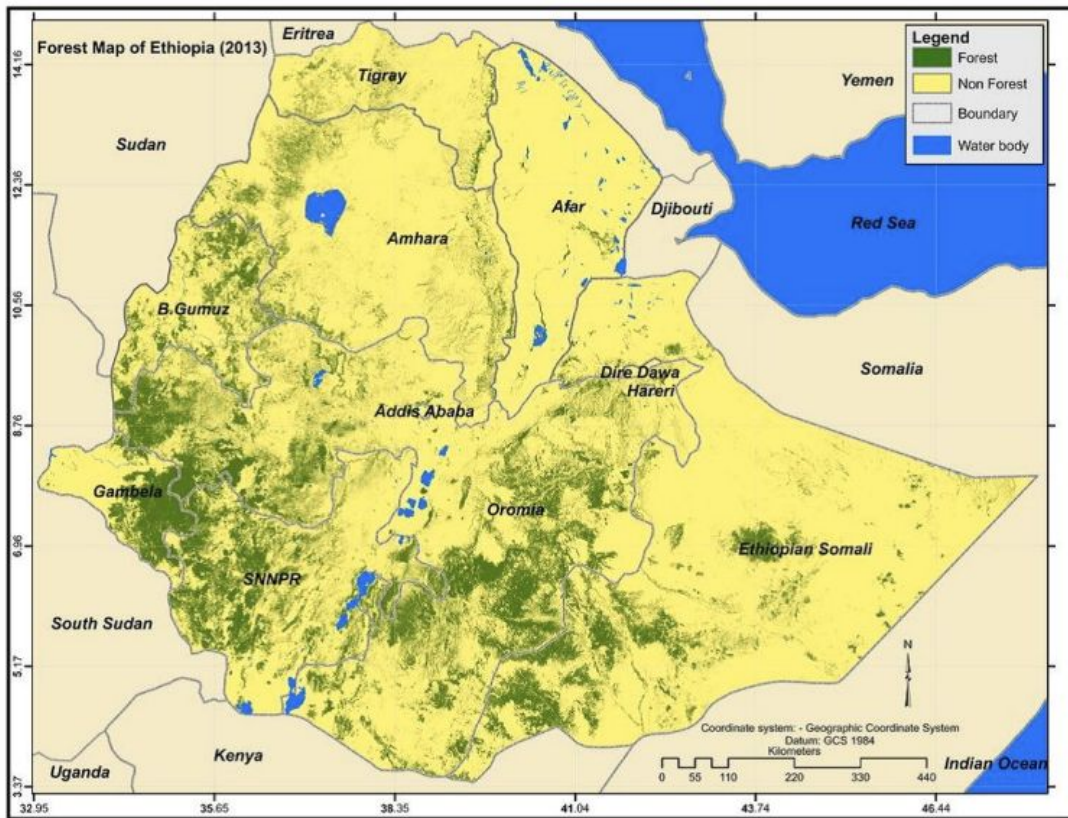
In February 2015 Ethiopia adopted a new forest definition (MEF 2015) as follows: 'Land spanning more than 0.5 ha covered by trees (including bamboo) (with a minimum width of 20m or not more than two-thirds of its length) attaining a height of more than 2m and a canopy cover of more than 20% or trees with the potential to reach these thresholds in situ in due course (Minutes of Forest sector management, MEFC, Feb. 2015). Ethiopia is in the process of approving this as its national legal definition.

This forest definition differs from the definition used for international reporting to the Global Forest Resources Assessment (FRA) and from the forest definition used in the NFI which both applied the FAO forest definition with the thresholds of 10% canopy cover, a 0.5 ha area and a 5 m height.

The reason for changing the national forest definition is to better capture the natural primary state of Ethiopia's forest vegetation. Specifically, the reason for lowering the tree height from 5 meters to 2 meters is to capture natural forest vegetation types like the dryland forests, which of trees reaching a height of around 2-3 m. The proposed change in forest definition results in the inclusion of what previously was classified as Ethiopia's dense woodlands that have a wider distribution through the country (see Figure 1). Commercial agriculture is expanding mainly on dense woodlands and Ethiopia desires to enable REDD+ incentives for its conservation.



# REDD+...



## Forests Data

According to the national REDD+ secretariat National REDD+ Strategy (2018) document and the interview with the national REDD+ secretariat officer, one of the main activities in preparation for the REDD+ policy environment, has been to carry out a nationwide study about forest types, extent geographical location, rate, and drivers of deforestation and forest degradation (REDD Ethiopia 2016; interview Feb 10, 2020; National REDD+ Strategy 2018). A major change of this inventory in relation to previous ones has been a revised definition of 'forest'. The new Ministry of Environment, Forest and Climate Change (MEFCC) included woodland areas in the new technical definition (MEFCC 2015). This technical redefining of forests was for the purposes of the REDD+ projects and for its implementation. In the new definition, forest is defined as:

Land spanning at least 0.5 ha covered by trees (including bamboo) attaining a height of at least 2 m and a canopy cover of at least 20% or trees with the potential to reach these thresholds in situ in due course (MEFCC 2015 in National REDD+ Strategy 2018, 16).

This a new definition of forest immediately increased the amounts of forest in Ethiopia. As shown in figure 5 the amount of forest area increased to 17.2 million hectares of forests, now covering 15.5% of the national territory (MEFCC 2015).

From 11.5 M ha by FAO to 17.2 M ha by FREL

## Introduction

### Report preparation and contact persons

The present report was prepared by the following person(s)

Name	Role	Email	Tables
Kibebework Getachew	Alternate national correspondent	gkibebework@yahoo.com	All
Teshome Tamirat	National correspondent	tesh_40@yahoo.com	All

### Introductory text

Ethiopia is located in the horn of Africa covers about 1.01 million square km area. According to the National forest inventory report (2018) the forest cover is estimated 15.7%. It is a country of about 100+ million populations over 80% of its population resides in rural area depending on economic activities of agriculture and natural resources. Agriculture (mixed crops and livestock) and forest based activities is the main livelihood portfolio. Ethiopia has diverse vegetation resources that range from lowland scrubs to tropical rainforest. The forest resources comprised both natural and planted forest. The natural forests are also different types: moist and dry tropical Afromontane forests, woodlands and shrub lands. Planted forests comprised industrial plantation and small scale woodlots.

There is significant deforestation and forest degradation in Ethiopia. The main drivers include small and large-scale agricultural land conversion, increased wood extraction for fuel and construction, and pressure caused by increased livestock grazing (REED+ strategy, 2005). The indirect threats comprise gaps in the application of forest policy and regulations; tenure/unclear forest user rights; lack of private investment in forestry development; population growth; inadequate land use planning and participatory forest management (PFM) related implementation gaps. As a result, the forestry sector is the second largest contributor of GHG emissions in the country after agriculture (CRGE, 2011). Recent study and assessment of the forest resources indicated that the current forestry contribution to national GDP has grown from 8% to 12% which draws the attention of policy makers to give a due concern to the development of the forestry sector.

## 1 Forest extent, characteristics and changes

### 1a Extent of forest and other wooded land

#### National data

#### Data sources

2013	References	Land use / land cover map 2013, Ministry of Environment, Forestry and Climate Change (MEFCC) Ethiopia's Forest Reference Level Submission to the UNFCCC, March 2017
	Methods used	Full-cover forest/vegetation maps
	Additional comments	

**FAO FRA 2020: Data source changed from WBISPP to the FREL. Why? Not better methodology.**

**WBISPP: served for 25 years (1990-2015) & retired**

# Revised estimate: retrospective estimation

FRA 2020 report, Ethiopia

FRA categories	Area (1000 ha)									
	1990	2000	2010	2015	2016	2017	2018	2019	2020	
Forest (a)	19 258.50	18 528.50	17 798.50	17 433.50	17 360.50	17 287.50	17 214.50	17 141.50	17 068.50	
Other wooded land (a)	22 394.30	22 394.30	22 394.30	22 394.30	22 394.30	22 394.30	22 394.30	22 394.30	22 394.30	
<b>Other land (c-a-b)</b>	<b>70 318.75</b>	<b>71 048.75</b>	<b>71 778.75</b>	<b>72 143.75</b>	<b>72 216.75</b>	<b>72 289.75</b>	<b>72 362.75</b>	<b>72 435.75</b>	<b>72 508.75</b>	
<b>Total land area (c)</b>	<b>111 971.55</b>	<b>111 971.55</b>	<b>111 971.55</b>	<b>111 971.55</b>	<b>111 971.55</b>	<b>111 971.55</b>	<b>111 971.55</b>	<b>111 971.55</b>	<b>111 971.55</b>	

The FAOSTAT land area figure for the year 2015 is used for all reference years



## Comments

### Forest area and area change estimation:

The reason to why the data reported to FRA 2020 is different from what was reported to FRA 2015 is that new data has become available. For FRA 2015 two old Woody Biomass Inventories using remote sensing were used. For the FRA 2020 reporting a forest, non-forest vegetation map from 2013 was used and the new estimates are believed to be better. Also a new definition of forest has been applied, where the height threshold now is 2m, which also has resulted in including more areas as forest.

According to official data **forest area cover 15.7% of the total land area**. This percentage was applied to the official land area. The forest area change estimates comes from Ethiopia's Forest Reference Level (FREL) submission to the UNFCCC (March 2017). The average annual net loss of 73 thousand ha per year (92,000 ha of losses and 18,000 ha of gains) over the period 2000-2013 was applied to the 2013 forest area and data for the FRA reference years were calculated.

### Other wooded land area and change estimation:

Other wooded land was calculated using two data sources, the 2013 national land cover map produced by MEFCO with the support of FAO and the 2016 Africa regional land cover map produced by the European Space Agency (ESA). Shrubland was translated as Other wooded land and both maps show approximately 20% (~22 million hectares) land coverage. No data for determining the change rate of Other wooded land is available so the area is kept constant.

Violation of FAO def

# FAO – FRA 2020: retrospective calculation!!

Table 2. Forest resources and their trends in Ethiopia as reported in Global Forest Resources Assessment

(Source: FAO-FRA, 2010; FAO-FRA, 2020)

Forest Resource Assessment Categories	Forest area (1000 ha)					Changes (1990-2020)
	1990	2000	2010	2015	2020	
Naturally regenerated forests:						
*Revised estimate	18,918.89	18,188.89	17,067.79	16,461.50	15,865.2	-3,053.69
**Earlier estimate	15,114.00	13,705.00	12,295.85	11,527.35		-3,586.65
Adjustment made	+3,804.89	+4,483.89	+4,771.94	+4,934.15		
Planted forests	339.61	339.61	740.71	972	1203.3	+863.69
Other planted forest	67.92	67.92	148.14	194.4	240.65	
<b>Total forest area</b>	<b>19,258.50</b>	<b>18,528.50</b>	<b>17,798.50</b>	<b>17,433.50</b>	<b>17,068.50</b>	<b>-2,190.00</b>
<b>% cover</b>	<b>17.3%</b>	<b>16.7%</b>	<b>16.0%</b>	<b>15.7%</b>	<b>15.3%</b>	

- Earlier estimate based on WBISPP
- Revised estimate based on FREL

The forest gain from FREL is added

Despite multiple adjustments, forest is yet consistently declining

Forest area (% of land area) - Ethiopia

Food and Agriculture Organization, electronic files and web site.  
License : CC BY-4.0





Restoring/rehabilitating/reforesting/afforesting:  
what impact?

# History



Major action began with *Eucalyptus* introduction - 1900



**Derg regime:**

Yehibret sira/community forestry/S-W conservation, area exclosures

Commercial plantation: Fine manmade forests – still observable



**Economic liberalization after Derg: boom in small scale tree plantings ca 1,000,000;**



**Mass planting – since the Ethiopian Millennium (including GLI)= 57.6 Billion trees**



**Several project/program-based efforts: – SLM, MERET, GTP, CRGE, REDD+**

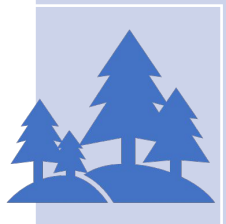


**NGOs – environmental NGOs – managing nearly 1.5 million ha of forest -- PFM**

# Mass tree planting (2007- 2023)

Project	Source	# reported (Billion/10 <sup>9</sup> )	Ha	Link	Remark
National Millennium tree planting (2007)	Two Trees for Ethiopian New Millennium (Two Trees for 2000)	0.06		<a href="https://allafrica.com/stories/200705070386.html">https://allafrica.com/stories/200705070386.html</a>	
Meles Zenawi Memorial (2017)	<a href="https://waltainfo.com">https://waltainfo.com</a> & <a href="https://www.UNEP.org">https://www.UNEP.org</a>	0.7	300,000	<a href="https://waltainfo.com/50344/">https://waltainfo.com/50344/</a>	
UNEP's Billion Tree Campaign	<a href="https://www.UNEP.org">https://www.UNEP.org</a>	1.7		<a href="https://www.unep.org/news-and-stories/press-release/unep-pays-tribute-meles-zenawi-prime-minister-ethiopia">https://www.unep.org/news-and-stories/press-release/unep-pays-tribute-meles-zenawi-prime-minister-ethiopia</a>	
Green legacy Initiative (GLI) Phase I (2019-2022)	<a href="https://sdgs.un.org">https://sdgs.un.org</a>	25	3,253,000	<a href="https://sdgs.un.org/partnerships/green-legacy-initiative">https://sdgs.un.org/partnerships/green-legacy-initiative</a>	The 3.253 million ha is for 2019 planting alone. Plan in GLI phase I was 20 billion seedlings, yet it achieved planting 25 billion
Green Legacy Initiative phase II (2023-2026)	<a href="https://greenlegacy.et/green-legacy/home">https://greenlegacy.et/green-legacy/home</a>	15		<a href="https://www.fanabc.com/english/premier-says-ethiopia-planted-a-whopping-7-5bn-seedlings-during-the-current-planting-season/#:~:text=On%2017th%20July%202023%2C%20the,hours%20on%2017%20July%2C%202023.">https://www.fanabc.com/english/premier-says-ethiopia-planted-a-whopping-7-5bn-seedlings-during-the-current-planting-season/#:~:text=On%2017th%20July%202023%2C%20the,hours%20on%2017%20July%2C%202023.</a>	7.5 billion in 2023 & 7.5 billion in 2024. Plan for the GLI phase II is 25 billion. Phase I plus Phase II = 50 billion)
The GTP II	<a href="#">Environment Forest and Climate Change Commission (EFCCC), 2020].</a>	15	2,600,000	<a href="https://www.frontiersin.org/journals/forests-and-global-change/articles/10.3389/ffgc.2022.796106/full#B10">https://www.frontiersin.org/journals/forests-and-global-change/articles/10.3389/ffgc.2022.796106/full#B10</a>	21 billion was the plan
Area enclosure	<a href="https://www.frontiersin.org/journals/forests-and-global-change/articles/10.3389/ffgc.2022.796106/full#B10">https://www.frontiersin.org/journals/forests-and-global-change/articles/10.3389/ffgc.2022.796106/full#B10</a>		1,500,000	Birhane et al., 2018	1990-to present?
<b>Total</b>		<b>57.46/50.00</b>	<b>6,153,000</b>		

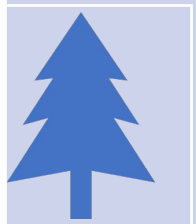




If

57.5 Billion planted;

85% survival = 48.875 Billion trees survived;

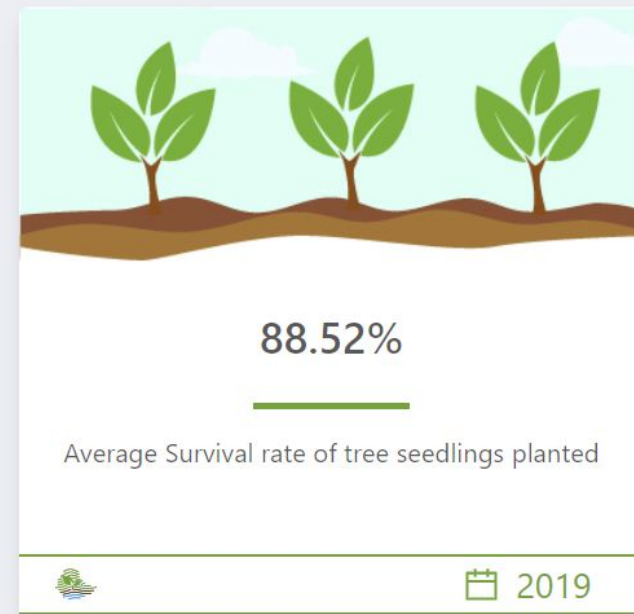


Area :

1.5\*1.5 m = ca. 10, 996,875 ha forest/tree cover expected

- = big enough to be detectable;
- = even farm forests are conspicuous
- But where are they??

<https://greenlegacy.et/green-legacy/home>

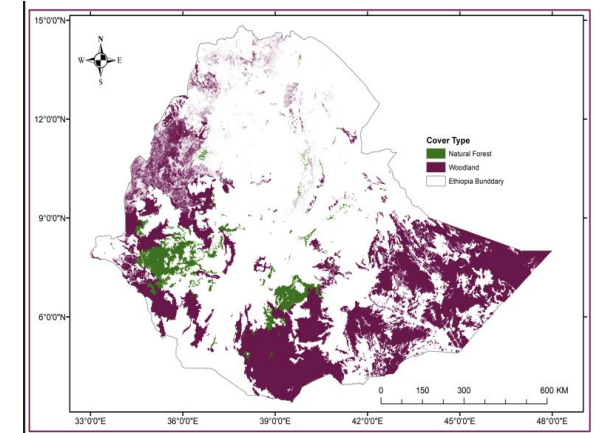
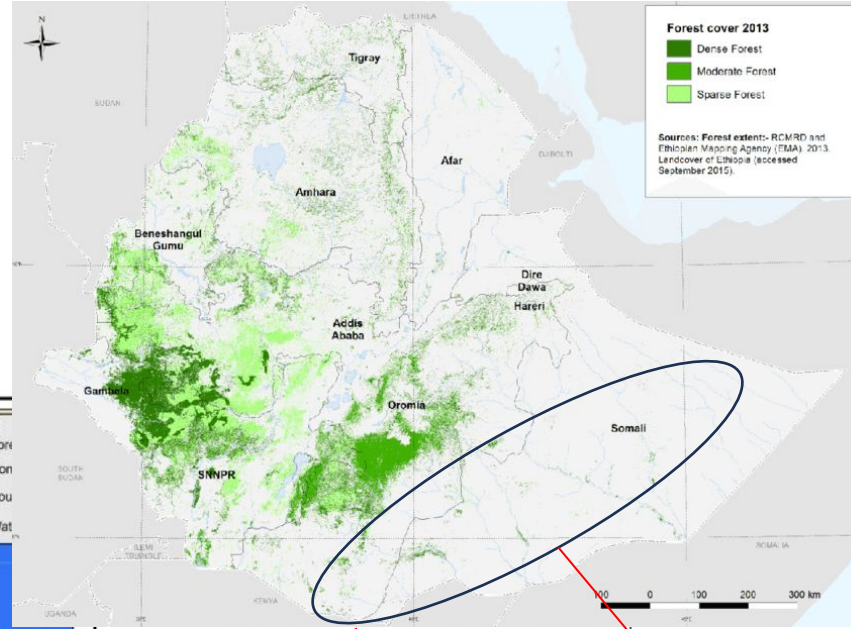


# Where are the forest?

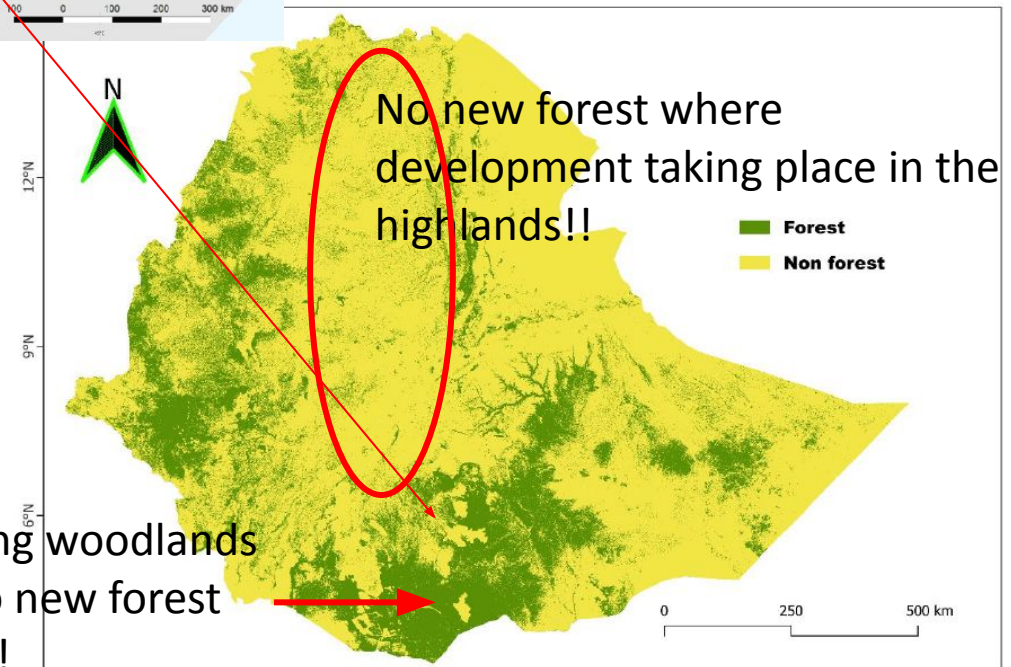
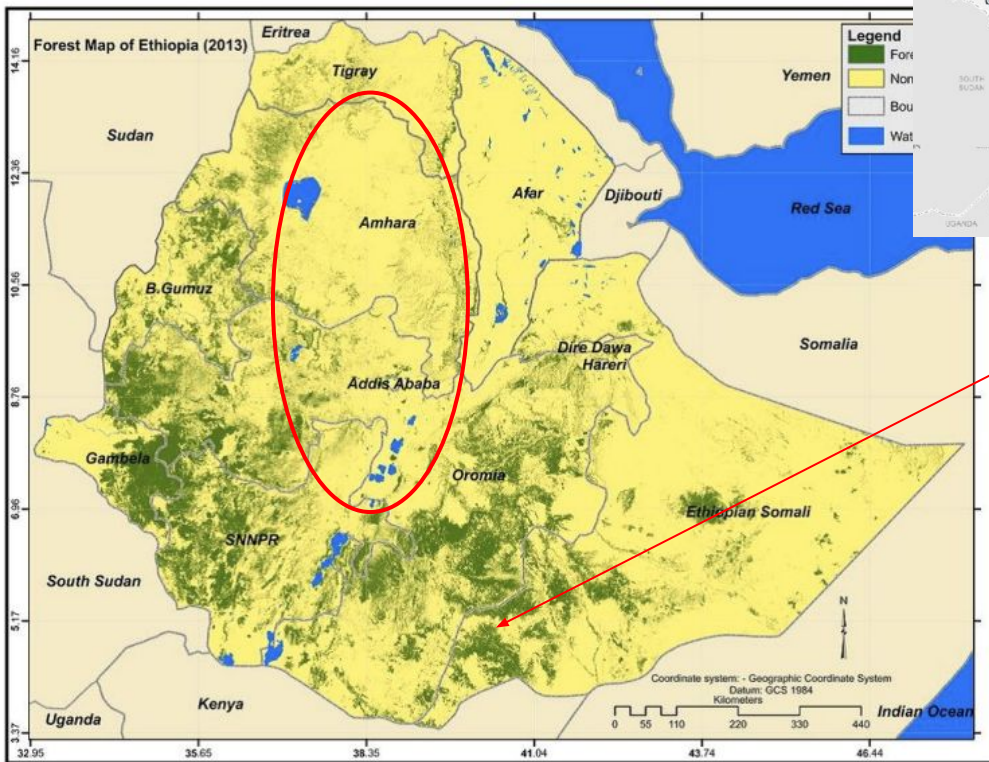
EMA, 2013 FAO definition

- Any evidence?

FREL, 2013 new country forest definition



CIFOR/EFD, 2023



More existing woodlands mapped, no new forest discovered!!

Figure 3. Forest map based on the new government definition (FDRE 2015; Ethiopian REDD+ secretariat national strategy 2018, 17).

# Conclusion

- Back to the News:
  - If similar definition is applied, Ethiopia has lost huge forest
    - Between 1900 (historic cover) & 2023 = ~~66% - 23.6%~~  
ca. **40% net forest loss**
    - Between 1990 (WBISPP) & 2023 = 53.2% - 23.6%  
Ca. **30% net forest loss**
    - **33% - 23.6%**  
Ca. **10% loss**
  - Major problems: – definition related
  - Increase or decrease is not development related, no sign from development, but politics, it is misinforming the public.

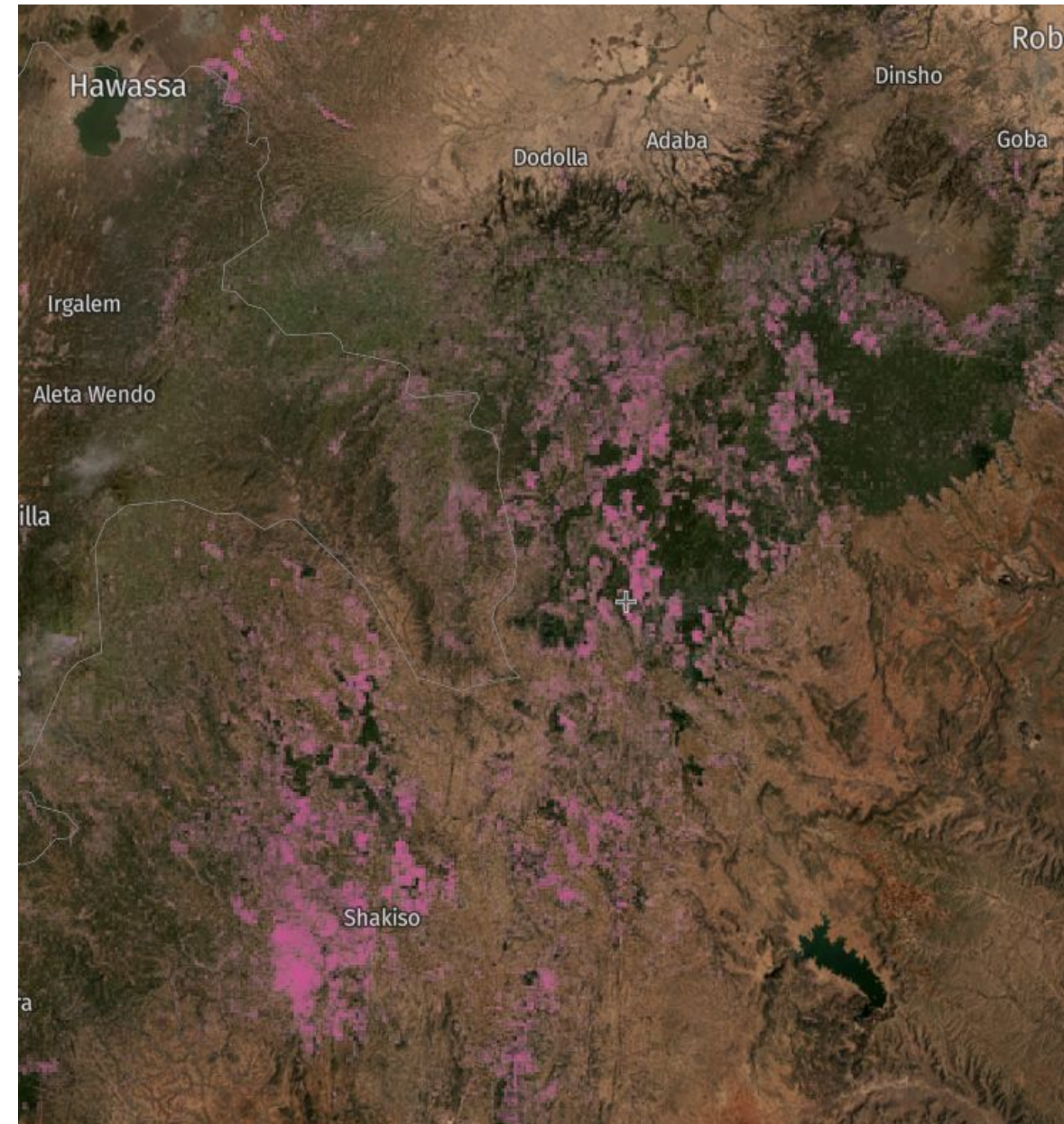
Table 2: Summary of Ethiopian wooded area estimates

	EMA	WBISPP	FRA	FSR
	km <sup>2</sup>			
Forestland	162,200	46,600	123,000	29,000
Woodland	23,800	295,500	406,300	215,000
Shrubland	467,700	264,000		201,000
<b>Total</b>	<b>653,700</b>	<b>606,100</b>	<b>529,300</b>	<b>445,000</b>
<b>Notes:</b>	EMA – 2013 Ethiopian Mapping Agency land cover database			
	WBISPP - Estimates prepared for the World Bank's Woody Biomass Inventory and Strategic Planning Project (WBISPP, 2005a)			
	FRA - Estimates prepared for the Ethiopian Forest Resource Assessment (FAO, 2010)			
	FSR - Estimates prepared for the World Bank's Ethiopian Forest Sector Review (UNIQUE Forestry and Land Use and Conscentia, 2015)			

Much of the variability in the estimates is accounted for by differences in the definition of forest. The age of the data used is another reason for the variation, as Ethiopia's forests are rapidly evolving due to human pressures. The WBISPP and the 2013 World Bank review both used restrictive forest definitions, placing much more land area in the "woodland" category and less in "forestland". FAO and the Ethiopian Mapping Agency (EMA) used more inclusive definitions that resulted in higher estimates of forestland and, in the case of the EMA data, the highest area of wooded land overall.

THE CONTRIBUTION OF FORESTS TO NATIONAL INCOME IN ETHIOPIA AND LINKAGES WITH REDD+ (2016)  
Vs 26 M ha -- 2023

# Huge deforestation ongoing!



<https://gfw.global/3TEO7Bj>

# Why no success?

- 1) claims are political/unrealistic/not verifiable -- very suitable for mass mobilization for political gain
  - Billions can not be raised and planted (7.5 billion /yr )
    - Tree seed supply is critically a challenge in Ethiopia
    - Too high to appear true, Nursery networks
  - Experts in gov system – if not with us or you are against us is the hard choice!!
- 2) Ownership: objective less, ownerless,
  - Why is farm forest flourishing but state-owned natural forest is declining or mass planting not surviving?
- 3) Institutional base: no responsible entity for protection, follow up, utilization. Thrown into the soil?
- 4) Technical challenge: – quality of seedling, planting and tending
- 5) Human population increased geometrically; rural confinement, economy stagnating : - these do not allow effective conservation!!

## Previous critics on similar subject

ሪፖርት:- በቅርቡ በተደረገ ምዘና የአገሪቱ የደን ሽፋን 15.5 በመቶ እንደሆነ ይነገራል። በአንፃሩ የሚጨፈጨፈው ደን መጠንም ከሚተከለው በላይ ነው። የደን ሽፋን ጨምሯል አልጨመረም በሚለው ክርክር ላይ እርስዎ ምን ይላሉ? ዶ/ር ሙሉጌታ:- እውነቱን ለመጥገር ከማንም ሰው ጋር የምጋፈጠው ነገር ነው። የኢትዮጵያ ደን ሽፋን 15.5 በመቶ ወይም 17 ሚሊዮን 200 ሺሕ ሎክታር መሬት በደን የተሸፈነ ነው የተባለው አገላለጽ ስህተት ነው። የደን ሽፋን በዚህ ደረጃ አድጎ ሳይሆን ያለው የደን መጠን በአዲሱ ትርጓሜ መሠረት ሲታይ ይህንን ቁጥር ስለሚሰጥ ነው። ለደን አዲስ ትርጓሜ ሰጥቷል። የተመድ የአየር ንብረት እ.ኤ.አ. ከ2000 እስከ 2013 ባለው ጊዜ ውስጥ ኢትዮጵያ በየዓመቱ 80 ሎክታር መሬት እንምታጣ ለተመድ ሪፖርት አቅርባለች። ይህ ማለት በየዓመቱ የደን ጭፍጨፋ መጠኑ 120 ሺሕ ሎክታር መሬት እንደሚሸፍን፣ በየዓመቱ የምታለማው 40 ሺሕ ሎክታር መሬት በደን ስለምትሸፍን ልዩነቱ 80 ሺሕ ሎክታር የደን መሬት እየታጣ ነው ማለት ነው። ስለዚህ በየዓመቱ 80 ሺሕ ሎክታር የደን መሬት እያጣህ የደን ሽፋን ሰፍቷል ልትል አትችልም። በመሆኑም የደን መጠን ጨመረ አትባሉ። ይልቁንም አዲስ ትርጓሜ ስለሰጠን የኢትዮጵያ የደን ይዘት፣ ድግ ደን አይደለም ያልነውን አሁን ወደ ደን በማካተታችን አሁን ያለን የደን ይዘት ይህን ያህል ነው ብሎ እያልን በየመድረኩ እየተነጋገርን ነው።

29 October 2017

Thank you!

Q&A