

The discrepancy observed for 2010 forest area estimates are mainly due to reasons as below:

- The main reason for the discrepancy is the definition of ‘forest’. In order to facilitate the comparison of forest resources across the world and to aggregate data from countries to produce global statistics, FAO FRA uses a standardized forest definition with 10% minimum canopy cover and 5m minimum tree height at maturity in situ, as the main criteria. The Lao definition used for the DoF Assessment for “current forest” applies a minimum canopy cover threshold of 20 percent, and “Potential Forests and Plantations” may fall below this threshold. FRA reporting process involves a reclassification of the national forest classes into FAO FRA classes. The reclassification is made by national experts in charge of the report compilation (the FRA national correspondent). The Lao country report to the FAO FRA 2020 provides details on how this reclassification was made to convert the DoF assessment classes into the globally standardized forest definition used in FAO FRA. Table 2 indicates how the reclassification was carried out.
- Total land area figures is another source of discrepancy. FAO FRA uses official land areas for each country<sup>1</sup> which is 23 080 000 ha for Lao People’s Democratic Republic while the DoF 2019 Assessment (and Lao REDD+ Report of 2018 submitted to the UNFCCC) applies a total land area of 23 054 258 ha. This has minor implications on the resulting percentage figure of forest areas over total land area.

Table 1Forest area for 2010, as mentioned in FAO FRA, Lao’s REDD+ Report and DoF 2019 Assessment			
	Forest area	% of total land	Remarks
FAO FRA 2020	16.94 million ha	73 % *	Forest as defined by FAO FRA, based on Lao REDD+ report submitted to UNFCCC in 2018
REDD+ FRL 2000-2015	19.59 million ha	85 %	Submitted to UNFCCC in 2018; Forest includes both “current” and “potential forest” categories
DOF Assessment	as above	as above	Forests includes both “current” and “potential forest” categories

\* Note that the forest area percentages of total area have been calculated for the purpose of this Brief, and are not part of the FAO FRA reports

Table 2Conversion of DOF Assessment results to calculate the FAO FRA forest area		
DOF Assessment categories	DOF Assessment subcategories	% of DOF Assessment result area included as “forest” under FAO FRA 2020
Current forest > 20 % canopy cover	<ul style="list-style-type: none"><li>• Evergreen forest</li><li>• Mixed deciduous forest</li><li>• Dry dipterocarp forest</li><li>• Coniferous forest</li><li>• Mixed coniferous &amp; broadleaved forest</li><li>• Forest plantation</li></ul>	All 100 %
Potential forest can include < 20 % canopy cover	<ul style="list-style-type: none"><li>• Bamboo</li><li>• Regenerating vegetation</li></ul>	100 %
		50 %

<sup>1</sup> As maintained in FAOSTAT.

### What figures for forest area should be used for government programs and targets?

Forest area estimates of 57.5 percent (“current forests”, DoF 2019) of the national territory, or 72 percent (FAO FRA 2020), or 84.8 percent (all ‘forest areas’, DoF 2019) are all technically correct<sup>2</sup>. However, when analyzing trends and changes, it is important to use a consistent methodology of estimation and definition of “forest area”.

Table 3 presents the different ways forests can be defined or categorized, such as “natural forests” (green), “current forests” (purple), “forests including both potential and current forests” (orange).

Table 3Forest areas in 2005, 2010, 2015 and 2019 – according to different forest definitions (unit: ha)									
Lao REDD+ forest reference level	Lao forest class	Forest type	2005	2010	2015	2019	Total land	2015(%)	2019(%)
Forest	Current Forest	Evergreen forest	2 618 169	2 613 226	2 605 557	2 594 961		11.3%	11.3%
Forest	Current Forest	Mixed-deciduous forest	9 684 854	9 487 839	9 205 036	9 036 767		39.9%	39.2%
Forest	Current Forest	Coniferous forest	134 055	125 229	124 772	124 009		0.5%	0.5%
Forest	Current Forest	Mixed-coniferous & broadleaf forest	142 458	108 567	107 880	106 848		0.5%	0.5%
Forest	Current Forest	Dry dipterocarp forest	1 272 006	1 215 712	1 188 198	1 171 873		5.2%	5.1%
Forest	Current Forest	Plantations	23 880	110 024	137 965	213 585		0.6%	0.9%
Forest	Potential Forest	Bamboo	68 989	91 143	88 900	84 561		0.4%	0.4%
Forest	Potential Forest	Regenerating vegetation	6 090 500	5 840 908	6 073 581	6 087 141		26.3%	26.4%
Non-forest	Non-forest	Non-forest	3 019 347	3 461 610	3 522 369	3 634 513		15.3%	15.8%
		Area of Natural Forest	13 851 542	13 550 573	13 231 443	13 034 458	23 054 258		
			60.1%	58.8%	57.4%	56.5%			
		Area of Current Forest	13 875 422	13 660 597	13 369 408	13 248 043	23 054 258		
			60.2%	59.3%	58.0%	57.5%			
		Area of Forest (Lao REDD+ forest reference level)	20 034 911	19 592 648	19 531 889	19 419 745	23 054 258		
			86.9%	85.0%	84.7%	84.2%			
		Area of Forest (Lao country report for FAO FRA 2020)	17 216 000	16 940 500	16 768, 000	16 630 000	23 080 000		
			74.6%	73.4%	72.7%	72.1%			
		Area of Non-forest	13.1%	15.0%	15.3%	15.8%			

Source: Table 9 “Areas of land/forest classes from Forest Type Map 2005, 2010 and 2015” of Annex 1 Activity Data Report of Lao PDR’s Forest Reference Emission Level and Forest Reference Level for REDD+ Results Payment under the UNFCCC ([https://redd.unfccc.int/files/lao\\_2018\\_frel\\_submission\\_modified.pdf](https://redd.unfccc.int/files/lao_2018_frel_submission_modified.pdf)); and data from DOF 2019.

<sup>2</sup> However, it is important to note that figures for 2020 from FAO FRA are based on projections based on data from 2010-2015. If these projections were done using more up-to-date results of the DoF Assessment 2019, projection results may vary, albeit slightly.

**To achieve the forest cover target of 70 percent a useful first question to ask would be, “70 percent forest cover according to which definition of forest cover, and including which forest categories?”**

From the results of the DoF assessment, all areas classified as Bamboo, and half of the areas classified as Regenerating Vegetation, were included with the area of “current forests” to accommodate the FAO FRA forest definition of 10% canopy cover.

This is based on the assumption that half of the “regenerating vegetation” area will not recover to forest with canopy cover above 10 percent.



### How does the selection of forest definition affect efforts towards achieving the government’s 70 percent forest cover target?

In order to achieve the historical forest cover target of 70 percent as set out in the national Forestry Sector Strategy to 2020<sup>3</sup>, a useful first question to ask ourselves would therefore be, “70 percent forest cover according to which definition of forest cover, and including which forest categories?”

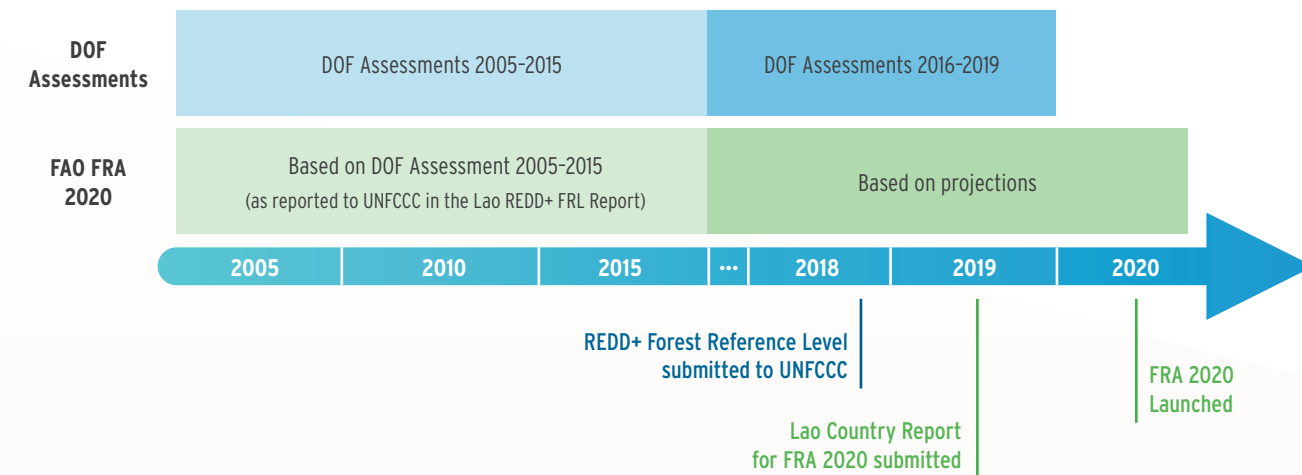
Since it is likely that such questions were not considered when the 70 percent target was initially set, now would be a good time for stakeholders to reconsider the national vision behind this target, and therefore which of the definitions and methodologies for estimating forest area are most relevant for this purpose.

<sup>3</sup> As mentioned in the Forestry Sector Strategy to 2020 to be achieved by 2020, and subsequently reset for achievement by 2025, in the Vision 2030 and the 10 Year Socio-Economic Development Strategy 2016-2025.





**Figure 2** Timeline of forest area calculation and reporting



The results of forest area measurement from DoF 2019 assessment can be described in a number of ways, as illustrated below and in Figure 3.

a

Non-forest cover was 15.8% of the national territory in 2019; the remaining 84.2% was forests.

The country's forest area definitions includes "potential forests and plantations" or "current forests" as follows:

b

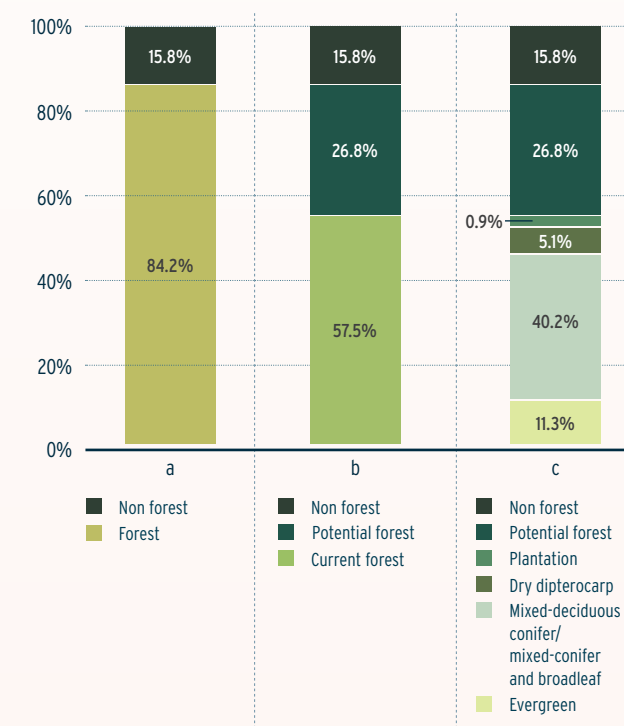
Non-forest cover was 15.8%; potential forest covered 26.8%; and current forest amounted to 57.5% of the national territory in 2019.

These classifications can be further sub-divided, as follows:

c

Non-forest cover was 15.8%; plantations, bamboo and regenerating vegetation together covered 26.8%; plantation covered 0.9%; dry dipterocarp forests covered 5.1%; mixed-deciduous, conifer, mixed-conifer and broadleaf forests amounted to 40.2%; and evergreen forests represented 11.3% of the national territory in 2019.

**Figure 3** Three ways of expressing forest area for 2019\*



\* These assessment results were the main source of information for the Lao REDD+ Forest Reference Level submitted to the UNFCCC in 2018. [https://redd.unfccc.int/files/lao\\_2018\\_frel\\_submission\\_modified.pdf](https://redd.unfccc.int/files/lao_2018_frel_submission_modified.pdf)

### Why are forest area estimates in the DoF 2019 Assessment different from the figure of 72 percent forest cover reported under the FAO FRA 2020?

Data for FAO FRA 2020 were collected before the results of the DoF Assessment for 2019 were available. The FRA 2020 report was therefore based on data from 2000-2015 (i.e. the DoF Assessment of 2015) as reported by the country for its REDD+ Forest Reference Level (FRL) to the UNFCCC, and also using projections for estimating the forest area up to 2020.

See forest area estimates for the year 2010, for the comparison of results from FAO FRA and the DoF Assessment (based on REDD+ FRL data for 2000-2015) in Table 1.

### In a nutshell

Various figures are quoted as the forest area of Lao People's Democratic Republic. These include 57.5 percent ('current forests', DoF 2019) of the national territory, or 72 percent (FAO FRA 2020), or 84.8 percent (all 'forest areas', DoF 2019). All three figures are in fact correct, but represent different ways of defining land and forest area. "Forest area" figures can only be understood, and compared, based on clear definitions. Comparing current forest area of the country with data from a previous years, or with the forest area of others countries, necessitate using consistent definitions of forest.

To discuss progress against the national forest cover target of 70 percent, the definition of forests needs to be clarified, and so does the purpose of this target. Without these clarifications, discussions regarding the target, and progress towards it, can become confusing and counterproductive.

### References

FAO. 2020 a. Global Forest Resources Assessments [online]. Rome. [Cited 15 December 2020]. <http://www.fao.org/forest-resources-assessment/en/>

FAO. 2020 b. Global Forest Resources Assessments 2020 Report Lao People's Democratic Republic [online]. Rome [Cited 15 December 2020]. <http://www.fao.org/3/cb0023en/cb0023en.pdf>

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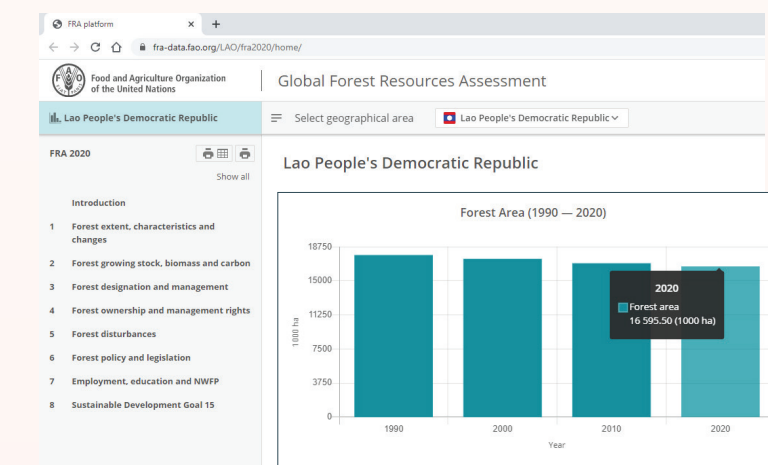
## What is the forest area of Lao People's Democratic Republic?

### Understanding forest area figures from FAO Global Forest Resources Assessment 2020 and the Department of Forestry Forest Assessments

The Food and Agriculture Organization of the United Nations (FAO) launched the latest Global Forest Resources Assessment (FRA) in July 2020 (FAO, 2020 a). Since 1946, FAO has been monitoring the world's forest resources through periodic assessments conducted in cooperation with its member countries.

These assessments have been published every five years since 1990. As a part of this process, the Department of Forestry (DoF), under the Ministry of Agriculture and Forestry (MAF), has compiled and submitted regular country reports to the FAO FRA Secretariat. Both the FRA 2020 country report (FAO, 2020 b) for and the data (FAO, 2020 a. <https://fra-data.fao.org/>) used to develop this report are accessible through the FAO FRA website and online platform.

**Figure 1** FAO FRA online portal



According to the FRA 2020 country report, national forest area is 16.6 million ha in 2020, approximately 72% of the national land area.

### How is forest area measured in Lao People's Democratic Republic?

Forest area was measured by DoF most recently in 2019, applying a two-step methodology using remote sensing technology: (1) a forest change map was produced by comparing current forest cover with the latest national forest cover map from 2015, (2) using a stratified sample-based approach, the forest change map was analyzed to correct for possible bias of the map.

The DoF conducted such forest assessments in 2015 and 2019, with support from the Japan International Cooperation Agency (JICA) to estimate national forest area, as part of the Lao government's efforts for reducing emissions from deforestation and forest degradation (REDD+). Forest area data from the 2015 assessment was then used in the country's submission of its Forest Reference Level for REDD+ to the United Nations Framework Convention on Climate Change (UNFCCC) in 2018 and the same data was also used to report to FRA for the preparation of FAO FRA 2020 Lao country report (Figure 2).