



National Forest Inventory Workshop
20th – 22nd May 2014
Hodava Hotel, Port Moresby, PNG

Forests and land use in PNG: Findings from the Phase 1 National Forest Inventory

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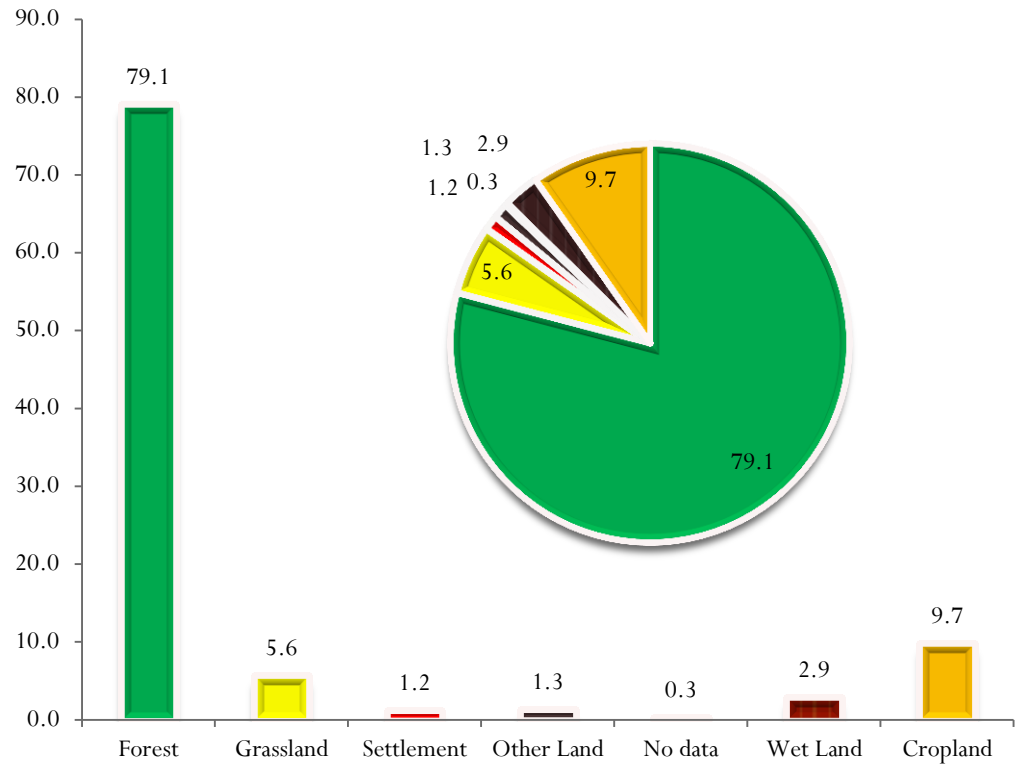


Presentation Outline

1. Land Use in PNG
2. Comparison of Forest area with various reports
3. General Land Use Pattern in PNG
4. Forest
5. Human Impacts
6. Summary

Land Use

Land Use	Plots	Area (h)	%
Forest	19,986	36,865,399	79.1
Grassland	1,422	2,622,966	5.6
Settlement	298	549,679	1.2
Other Land	317	584,726	1.3
No data	72	132,808	0.3
Wet Land	721	1,329,929	2.9
Cropland	2,463	4,543,154	9.7
	25,279	46,628,661	100.0



Comparison of forest area with various reports

1. FRA 2010
2. Forest Base Map 2010
3. NFI Phase I (Collect Earth)
4. UPNG Forest State of PNG (Shearman)

Total area of PNG forest is estimated as **366,138 km²**.

This is 28% increase from **286,400 km²** in FRA Report in 2010.

Is this true?
Why?

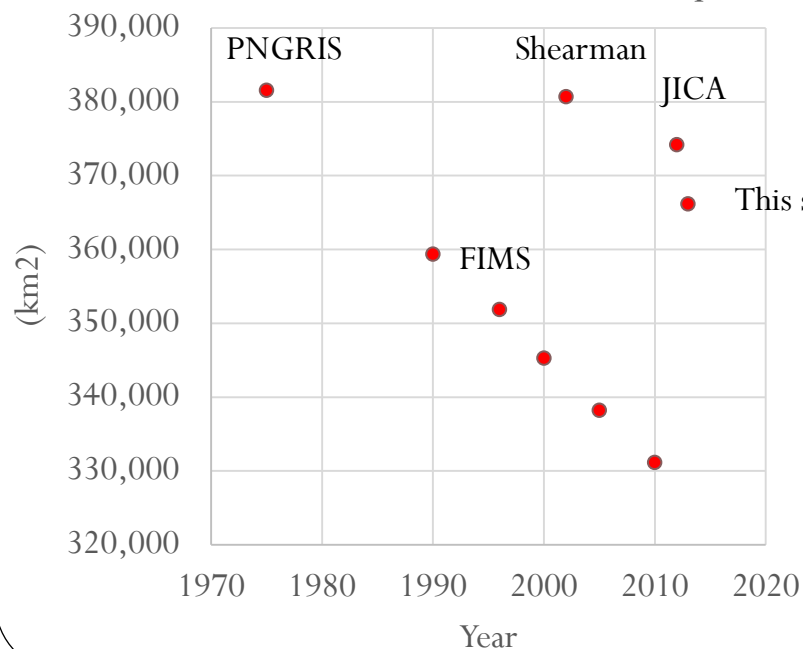


(km²)

	1975	1996		2002	1990	2000	2005	2010		2012	2013
	PNGRIS	FIMS		Shearman	FRA	FRA	FRA	FRA		Base map	Collect Earth
Forest (excl. plantations)	336,670	306,980		329,862	314,600	300,500	293,450	286,400		374,139	366,138*
Other wooded land	44,860	44,860			44,740	44,740	44,740	44,740		NA	NA
Scrub				50,793							

*plantations included

PNG forest area in various report



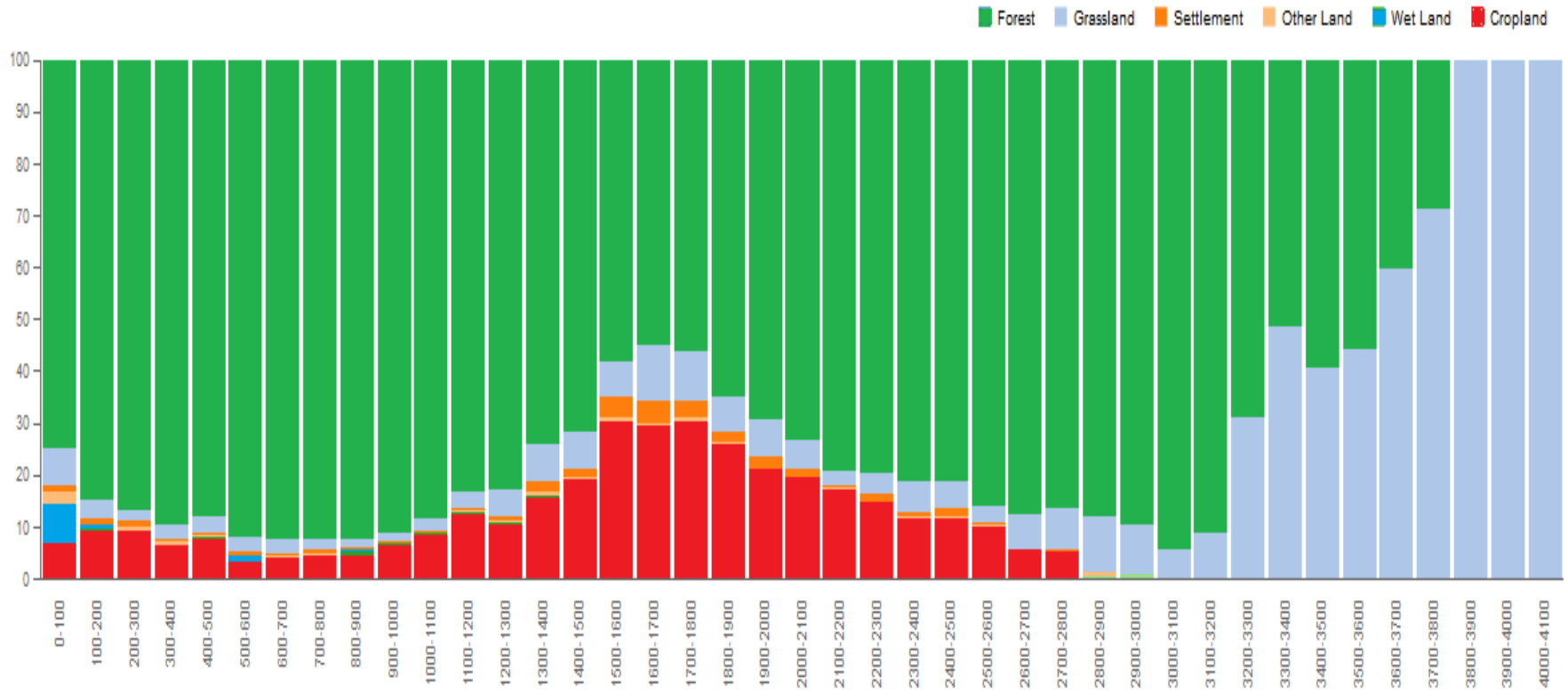
16% increase due to the difference in definition of forest

12% due to inappropriate previous estimate.

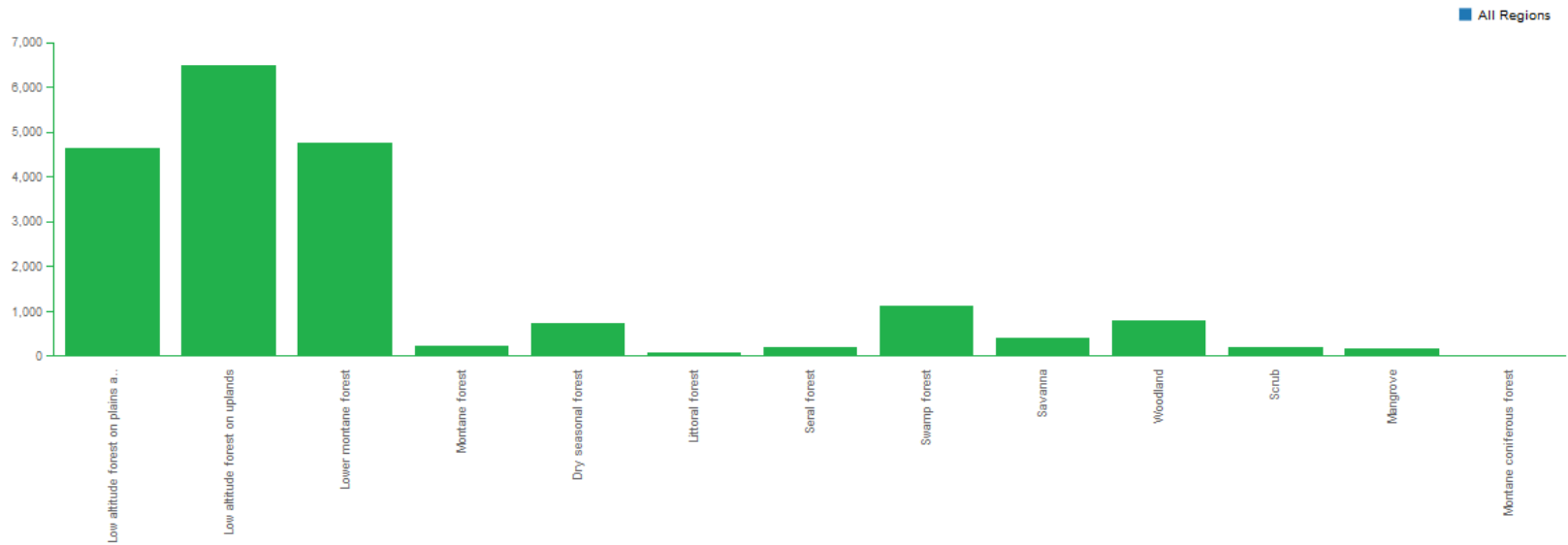
With Collect Earth, PNGFA now has the capacity to monitor the nation wide forest regularly.



Land Use Pattern in PNG

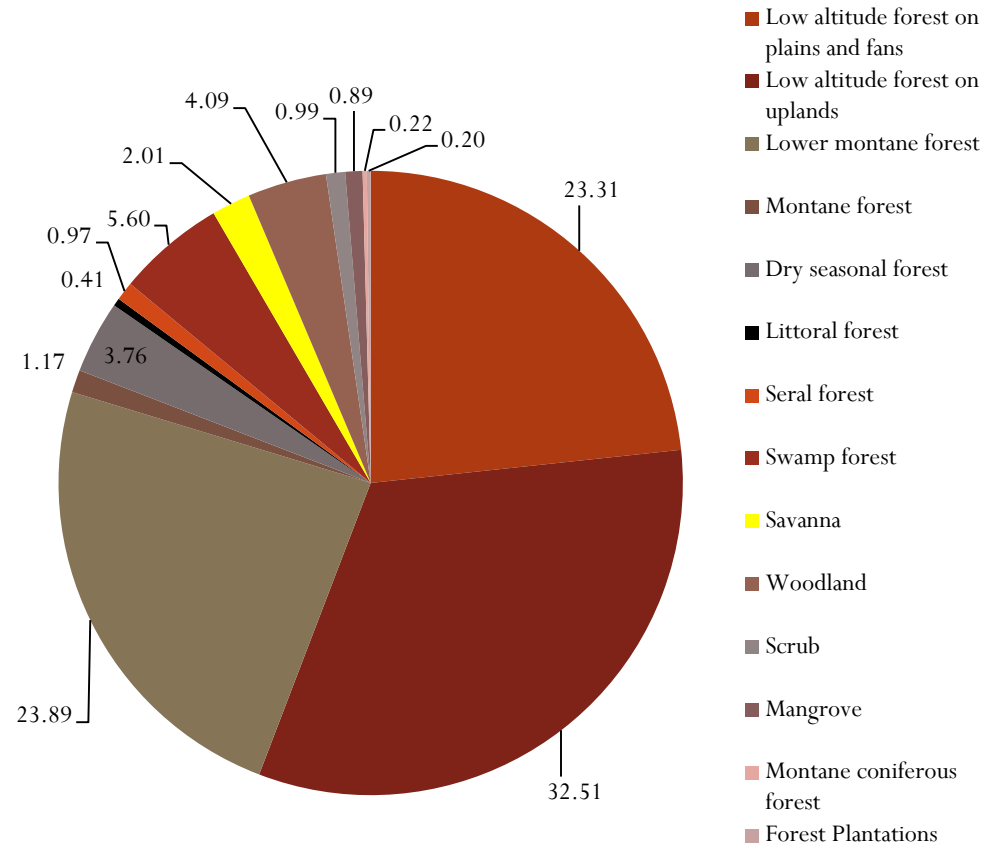


Forest Composition



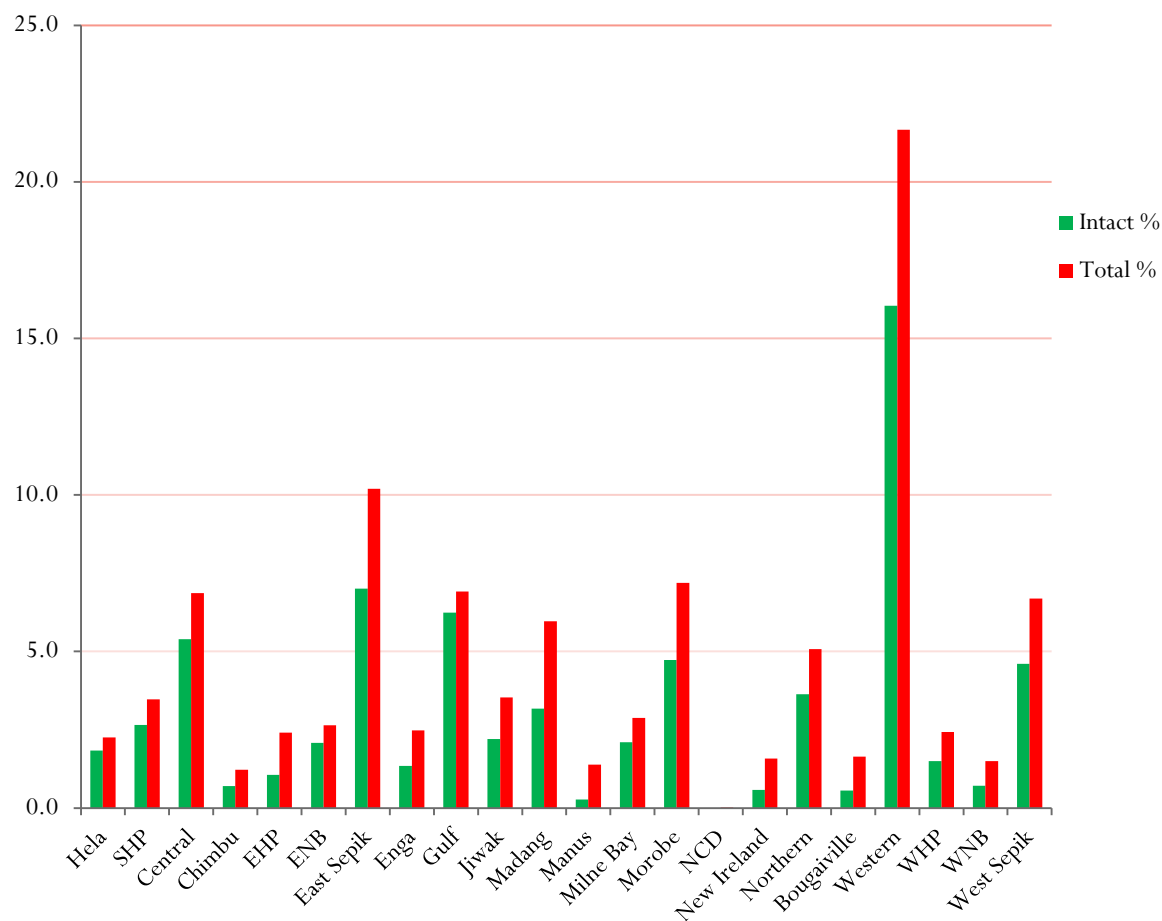
Forest Composition

Forest	%
Low altitude forest on plains and fans	23.31
Low altitude forest on uplands	32.51
Lower montane forest	23.89
Montane forest	1.17
Dry seasonal forest	3.76
Littoral forest	0.41
Seral forest	0.97
Swamp forest	5.60
Savanna	2.01
Woodland	4.09
Scrub	0.99
Mangrove	0.89
Montane coniferous forest	0.22
Forest Plantations	0.20



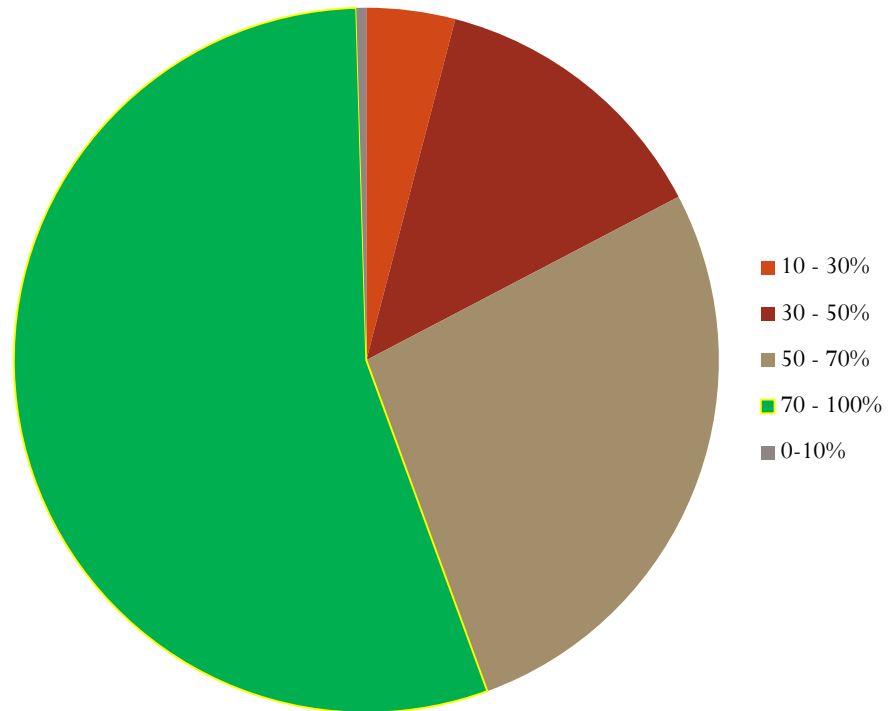
Forest by Province

Province	Intact %	Total %
Hela	1.8	2.3
SHP	2.7	3.5
Central	5.4	6.9
Chimbu	0.7	1.2
EHP	1.1	2.4
ENB	2.1	2.6
East Sepik	7.0	10.2
Enga	1.3	2.5
Gulf	6.2	6.9
Jiwak	2.2	3.5
Madang	3.2	6.0
Manus	0.3	1.4
Milne Bay	2.1	2.9
Morobe	4.7	7.2
NCD	0.0	0.0
New Ireland	0.6	1.6
Northern	3.6	5.1
Bougaville	0.6	1.6
Western	16.0	21.7
WHP	1.5	2.4
WNB	0.7	1.5
West Sepik	4.6	6.7



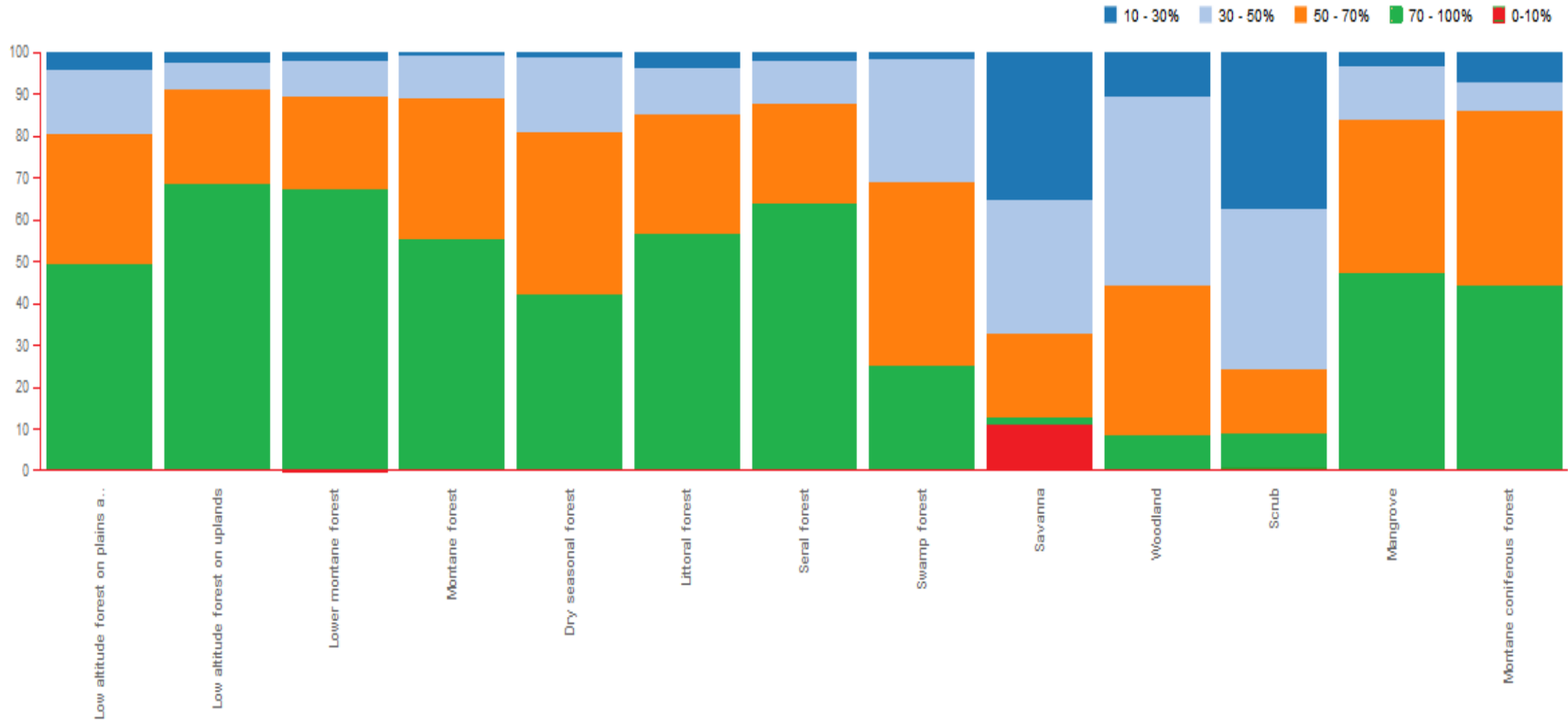
Forest Canopy Cover

Canopy Cover	All Plot files	Area (ha)	% of the forest area
10 - 30%	812	1,497,784	4.1
30 - 50%	2,651	4,889,932	13.3
50 - 70%	5,415	9,988,299	27.1
70 - 100%	11,017	20,321,530	55.1
0-10%	91	167,855	0.5
	19,986	36,865,399	100.0

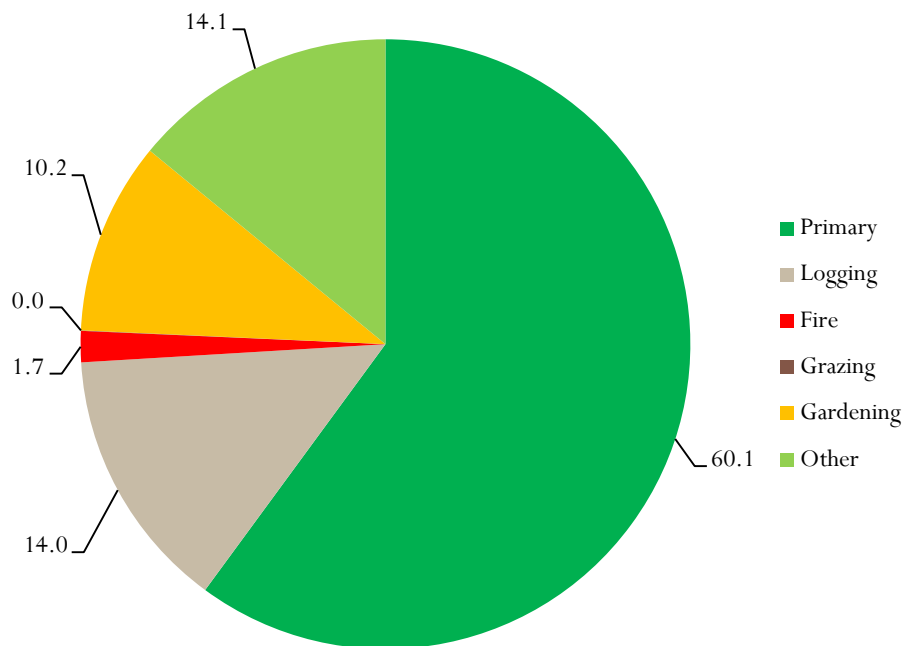
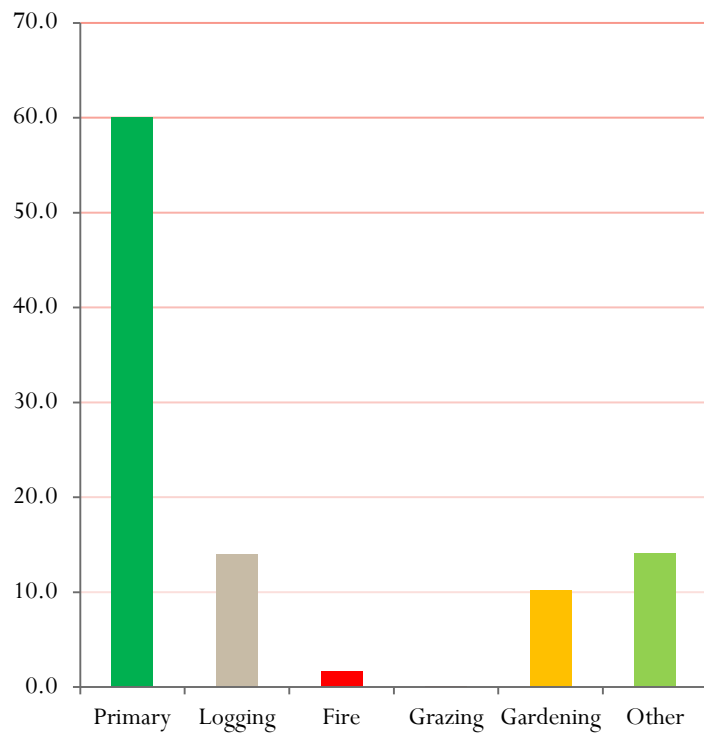


- ✓ More than 80% of the country has a dense forest cover
- ✓ This a good indicator of forest health

Forest Canopy Cover by Forest Types



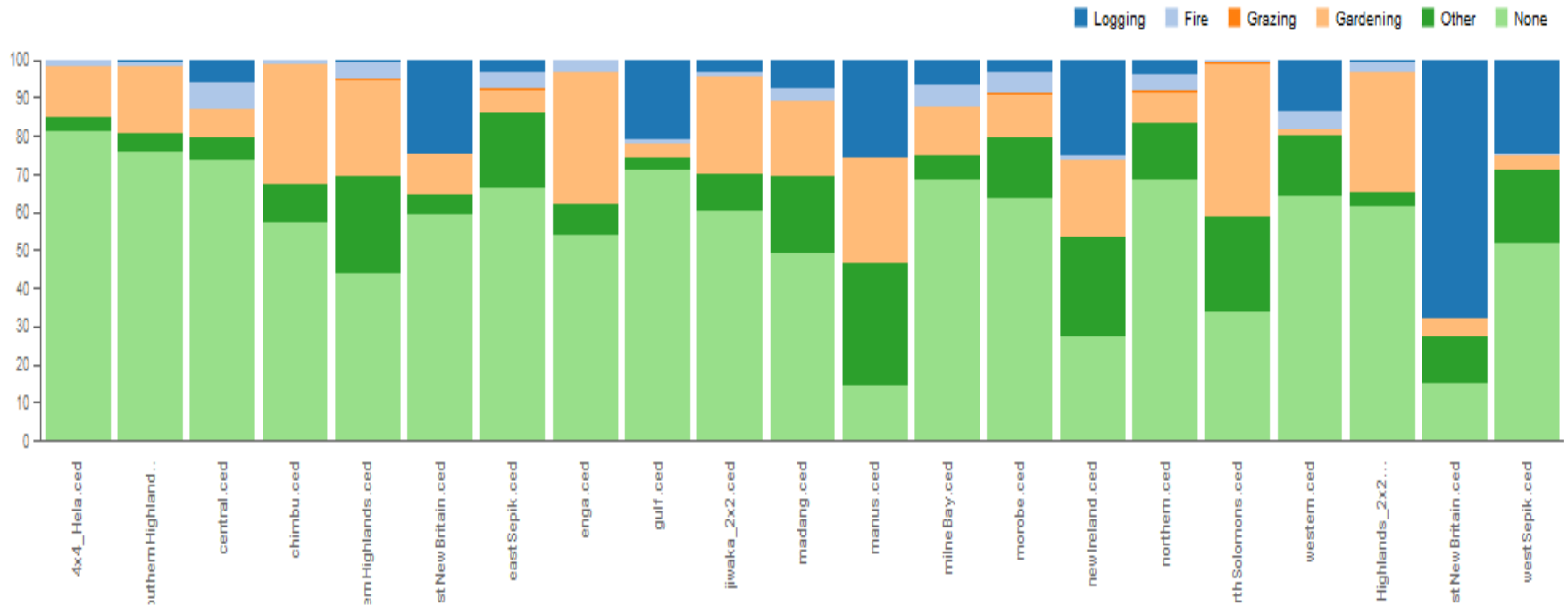
Forest Disturbance



Disturbance by Forest Types

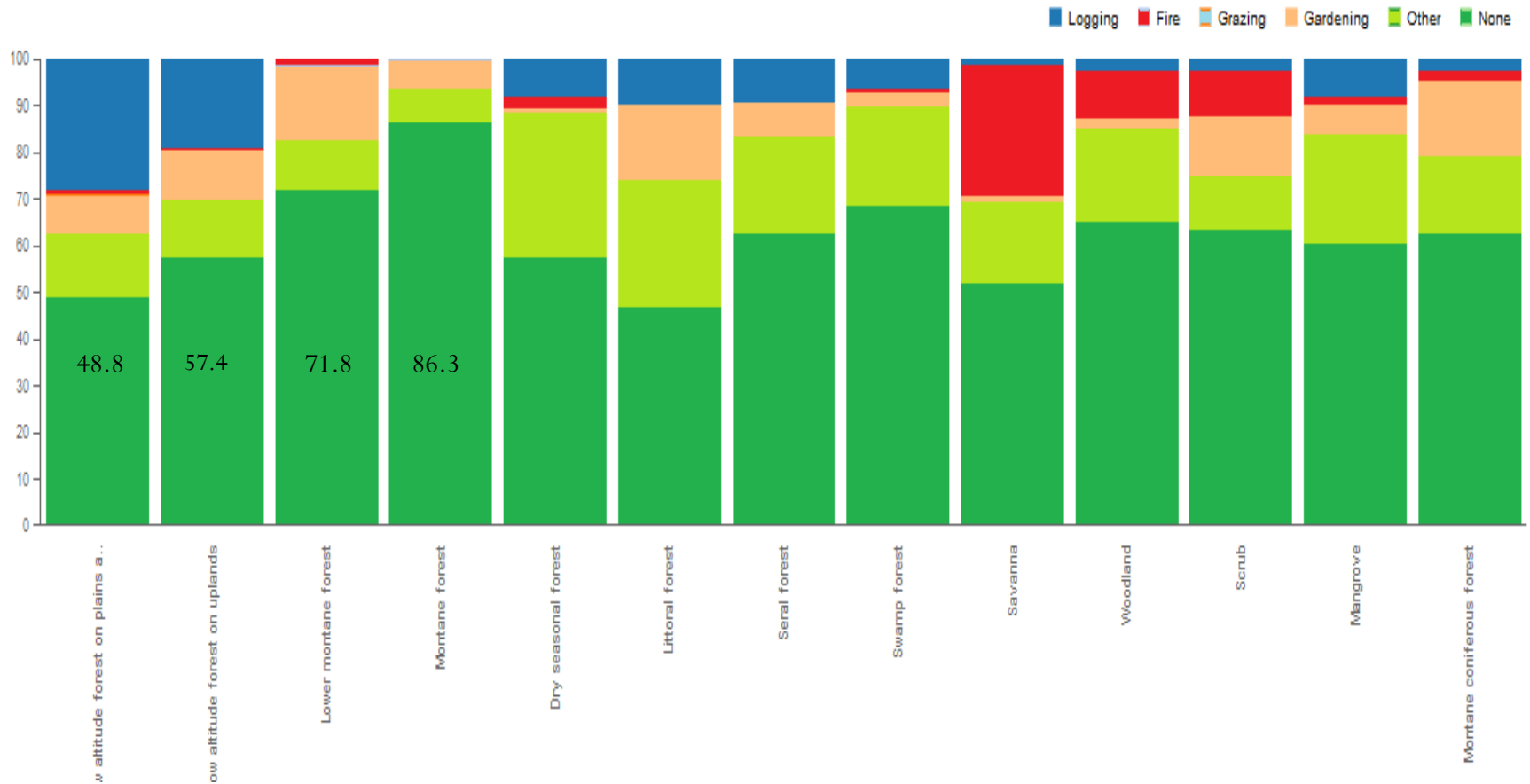
Forest Type	Percentage (%)					
	Logging	Fire	Grazing	Gardening	Other	Primary Forest
Low altitude forest on plains and fans	28.0	0.8	0.1	8.6	13.7	48.8
Low altitude forest on uplands	18.9	0.4	0.0	11.1	12.2	57.4
Lower montane forest	1.0	0.4	0.0	16.1	10.6	71.8
Montane forest	0.0	0.4	0.0	6.0	7.3	86.3
Dry seasonal forest	8.1	2.7	0.0	0.8	31.0	57.4
Littoral forest	9.9	0.0	0.0	16.0	27.2	46.9
Seral forest	9.3	0.0	0.0	7.3	20.7	62.7
Swamp forest	6.3	1.1	0.0	2.9	21.2	68.6
Savanna	1.2	27.9	0.0	1.5	17.4	52.0
Woodland	2.7	9.9	0.0	2.2	20.1	65.1
Scrub	2.5	9.6	0.0	13.1	11.1	63.6
Mangrove	7.9	1.7	0.0	6.7	23.0	60.7
Montane coniferous forest	2.3	2.3	0.0	16.3	16.3	62.8

Forest Disturbance by Provinces

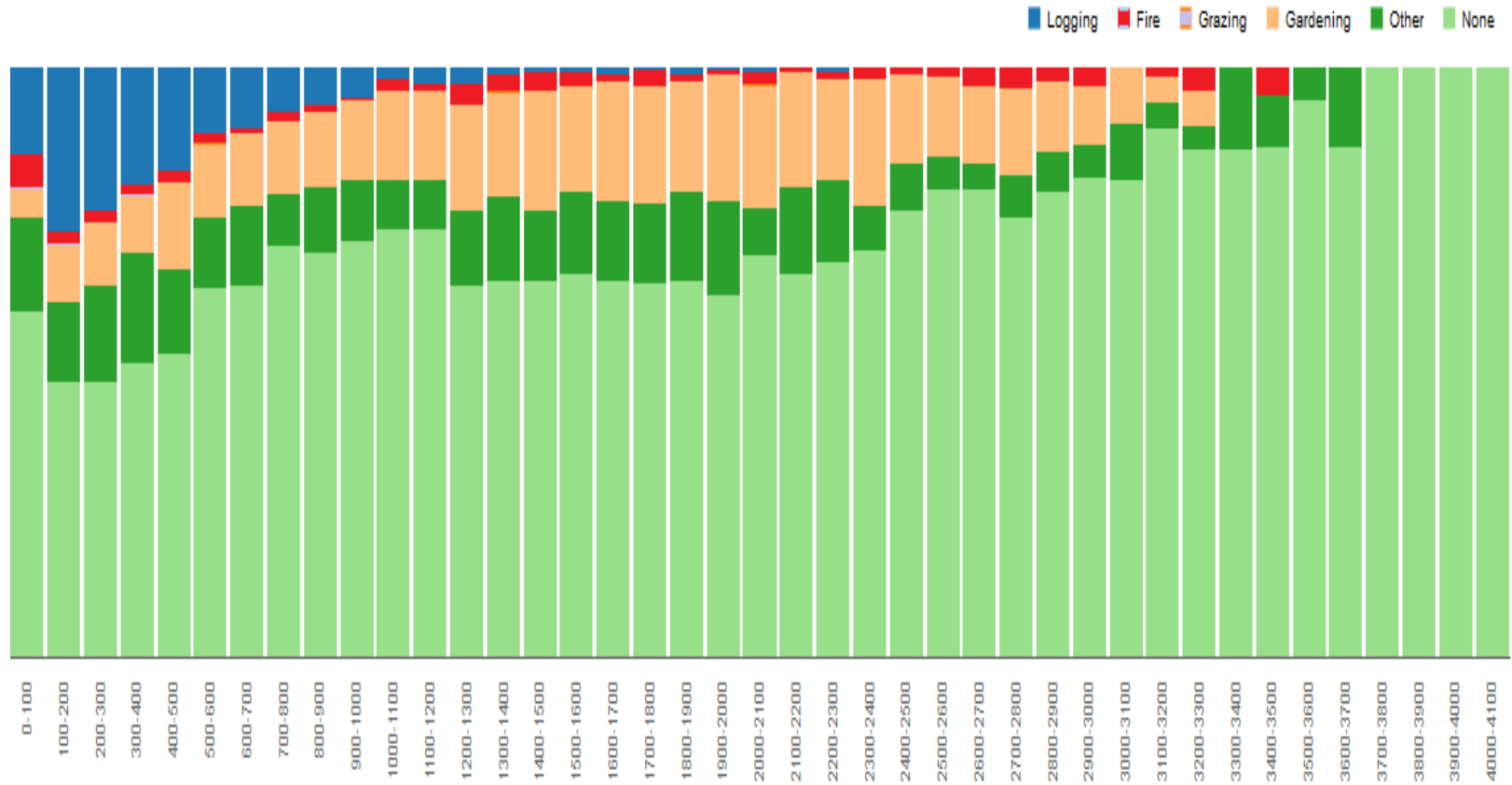


Disturbance by Forest Types

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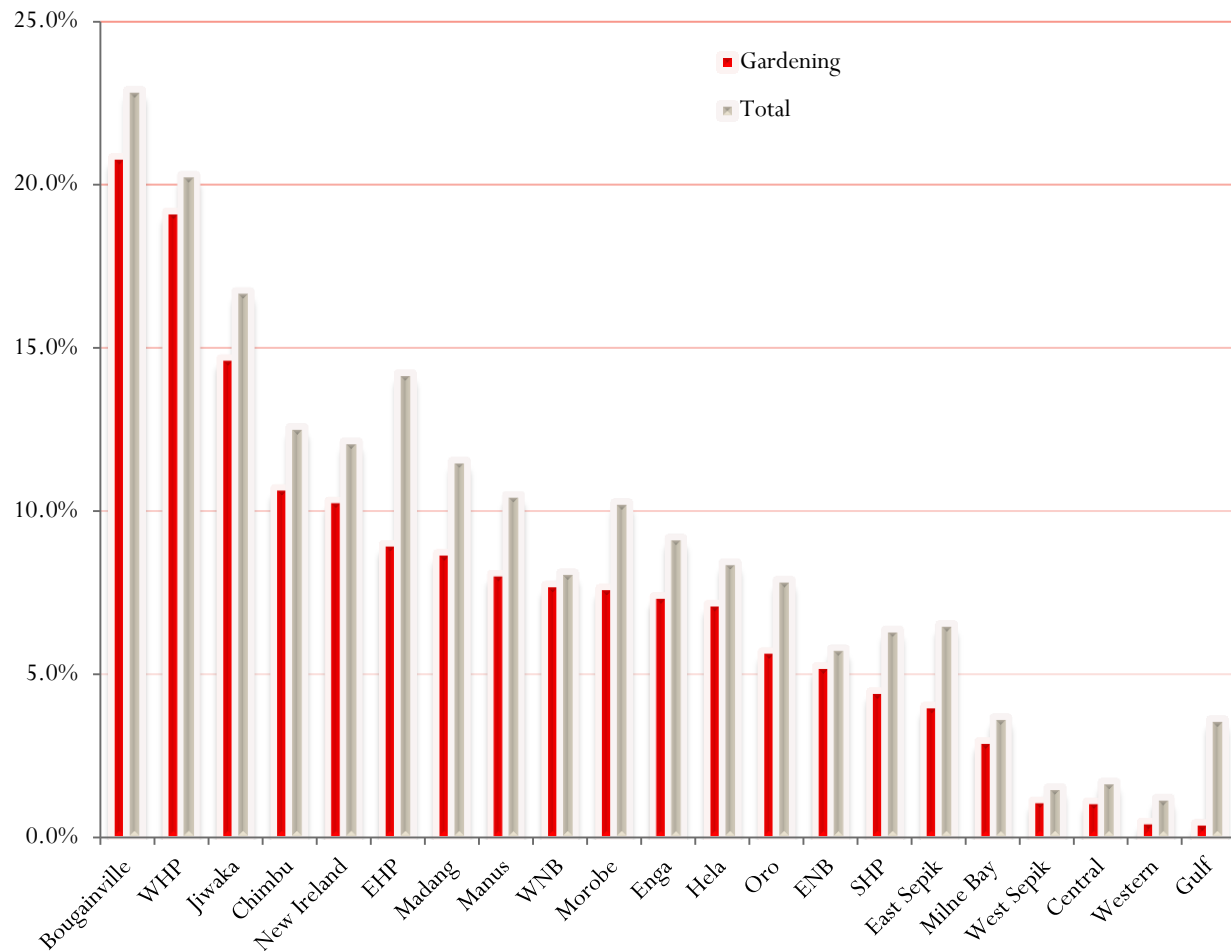
Human Impact along altitudinal gradient



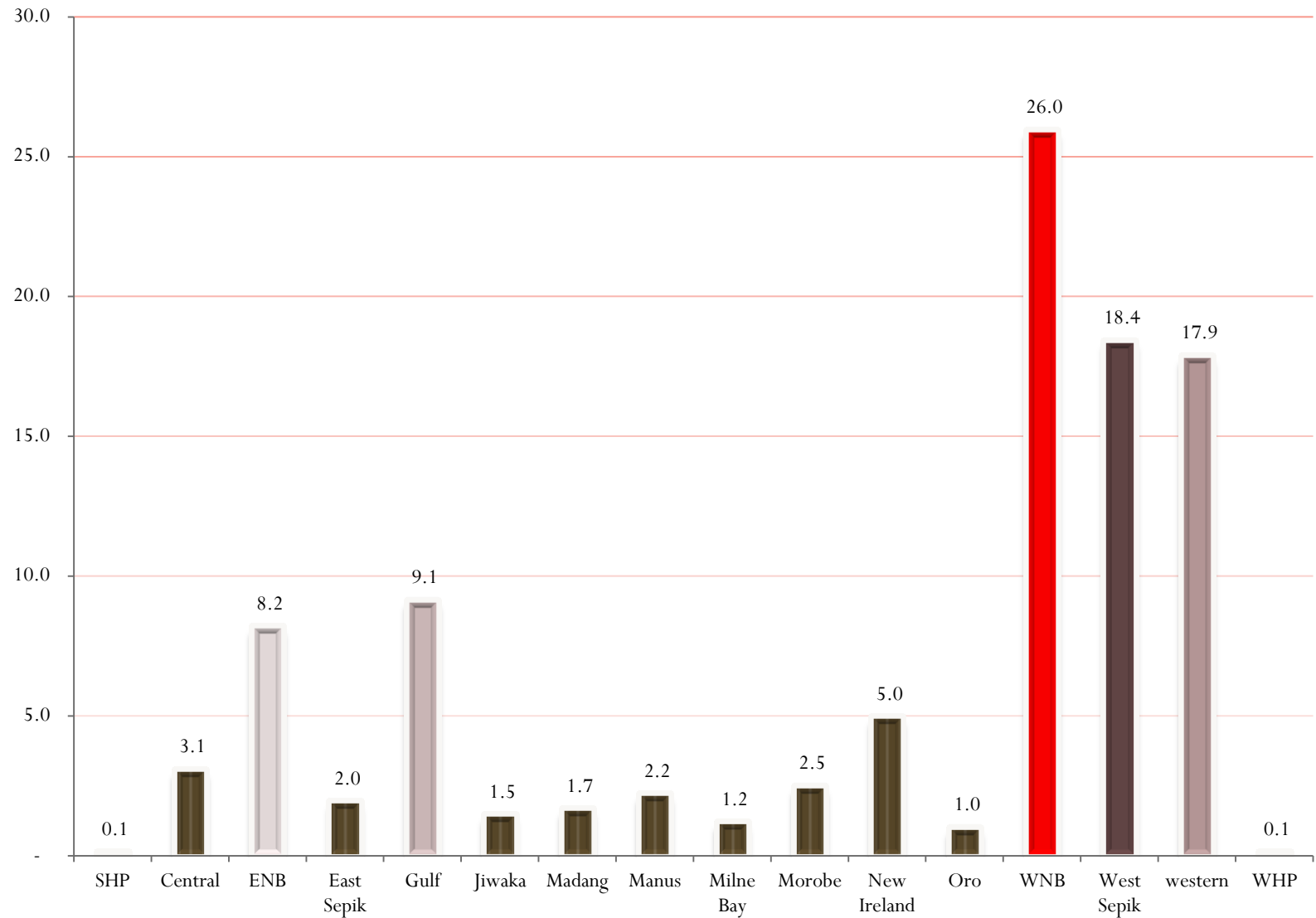
Deforestation by Province

Between 2001 and 2013

Province	Gardening	Total
Bougainville	20.9%	22.9%
WHP	19.2%	20.3%
Jiwaka	14.7%	16.8%
Chimbu	10.7%	12.6%
New Ireland	10.3%	12.2%
EHP	9.0%	14.3%
Madang	8.7%	11.6%
Manus	8.1%	10.5%
WNB	7.8%	8.2%
Morobe	7.7%	10.3%
Enga	7.4%	9.2%
Hela	7.2%	8.5%
Oro	5.7%	7.9%
ENB	5.3%	5.8%
SHP	4.5%	6.4%
East Sepik	4.1%	6.6%
Milne Bay	3.0%	3.7%
West Sepik	1.2%	1.6%
Central	1.1%	1.7%
Western	0.5%	1.3%
Gulf	0.5%	3.7%

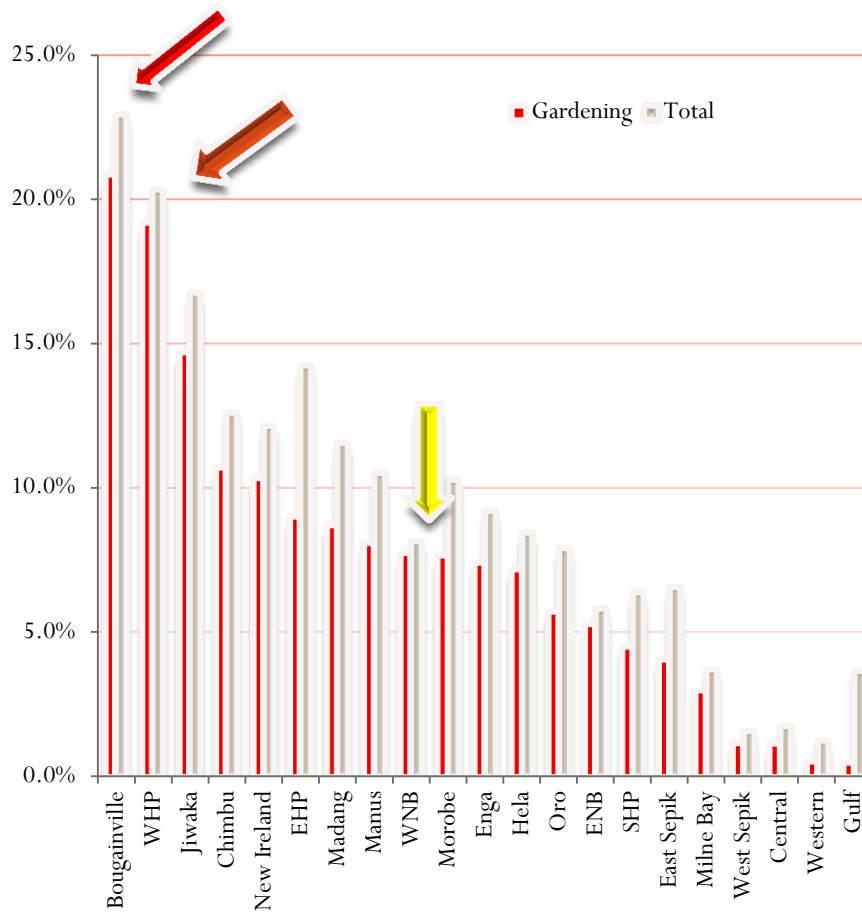


Forest Degradation (Logging) by Province

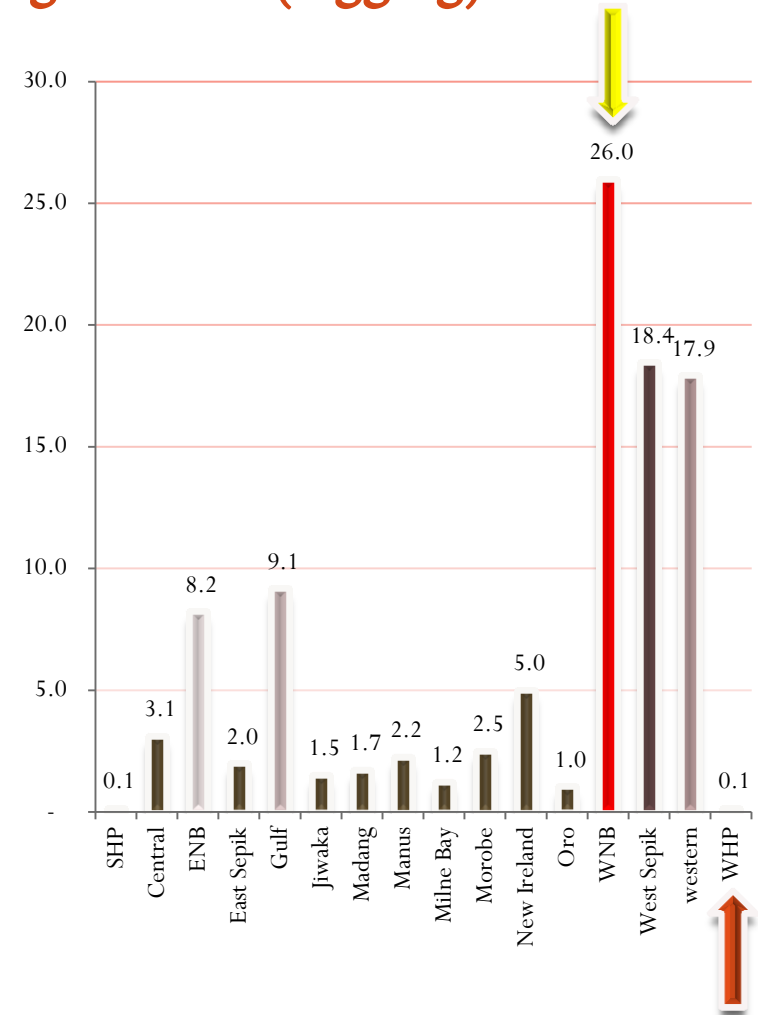


Deforestation/Degradation

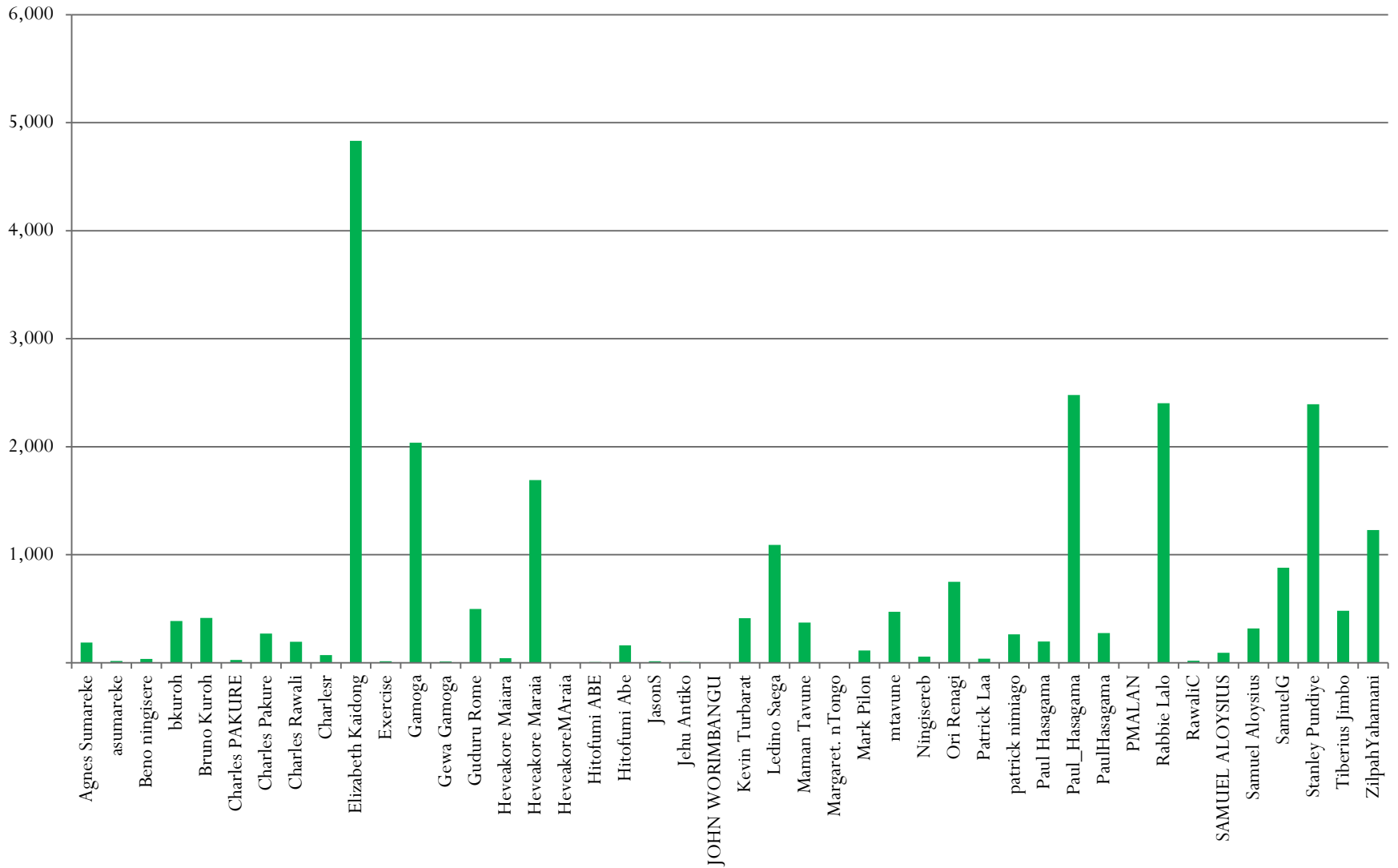
Deforestation (gardening)



Degradation (logging)



Operators



Summary

- PNG has 79% forest. This is considered larger than what has been reported in FRA and Shearman's report
- 3 forest types
 - Low Altitude Forest on Uplands (32%)
 - Low Altitude Forest on Plains & Fans (23%)
 - Lower Montane Forest (23%)
- Western Province has more forest (22%) compared to other provinces
- In terms of canopy cover, >80% of the country's forest is dense
- 0 – 10% canopy cover mostly occur in Savanah
- **Logging** mostly occurs in Low Altitude Forest on Plains & Fans and Low Altitude Forest on Uplands
- More logged over forests in WNB followed by West Sepik and Western
- **Fire** mostly occur in Savanah, Woodland and Scrub
- Compared to other provinces, Bougainville has a high deforestation rate (>20%) while Western Province was just 0.5 – 1.3% between 2001 – 2013.
- At the national level “subsistence agriculture” is the main driver for forest conversion to ‘cropland’

END