

# Genesis

RESEARCH REPORT, 14 MARCH 2024, GENESIS BENGKULU<sup>1</sup>:

## ASTRA AGRO LESTARI PENETRATES INDONESIA'S FOREST ESTATES

PT Astra Agro Lestari Tbk (PT AAL) or Astra Agro was established in 1988. It is engaged in oil palm plantations and carries out various other business activities. Oil palm plantations from PT AAL are spread across the islands of Sumatra, Kalimantan and Sulawesi with a plantation area of 287,044 hectares. ( <https://www.astra-agro.co.id/tonggak-sejarah/>)

Genesis Bengkulu conducted analysis on the overlap between PT AAL plantation concessions and forest areas with a legal status: Indonesia's forest estate. The data are retrieved from the Nusantara Atlas Map (<https://map.nusantara-atlas.org/>), the land plot map of the government agency of spatial planning ATR BPN (<https://bhumi.atrbpn.go.id/peta>) and the Decrees on forest estates from the Ministry of Environment and Forestry. The Decrees are established before the enactment of law nr. 6 of 2023: Job Creation Law. The Nusantara atlas is an important resource to identify plantation concession areas, palm oil mill units and names of companies, since the government data on the Right to Cultivate (HGU) are not open to the public.

Forested land outside Indonesia's forest estate are not included in the research. Also, this research does not look at deforestation linked to PT AAL palm oil mill units outside the borders of its plantation concessions. Therefore, the deforestation linked to PT AAL is likely underestimated.

The results of our analysis show that PT AAL has 41 subsidiaries with an area of 358,917 hectares of oil palm plantations, consisting of 56 plantation concessions and 32 units of palm oil mills spread across 8 provinces. This area is larger than PT AAL describes on its webpage, likely because PT AAL only lists the core plantations and not the total area of plantation concessions.

No	Province	Number of Concessions	Area concession (hectares)	Number of palm oil mills (Units)
1	Aceh	3	6.517,40	3
2	Riau	7	61.557,31	6
3	Jambi	3	5.252,65	2
4	West Sulawesi	4	25.746,94	4
5	Central Sulawesi	9	85.834,21	3
6	Central Kalimantan	11	60.639,46	5
7	East Kalimantan	10	70.024,92	6
8	South Kalimantan	9	43.344,46	3
TOTAL		56	358.917,35	32

Table 1: PT AAL plantation concessions in 8 provinces

<sup>1</sup>Research commissioned by Milieudefensie – Friends of the Earth Netherlands in December 2023

## PT AAL CONCESSION AREAS INSIDE INDONESIA'S FOREST ESTATE

Genesis Bengkulu analysis show overlap between the forest estate and 19 plantation concessions with a total area of 20.555,37 hectares. These are located in Riau Province, South Kalimantan, East Kalimantan, Central Kalimantan, West Sulawesi and Central Sulawesi.

The forest estate of Indonesia is divided into various categories with specific rules on use and conversion. Only the Conversion Production Forest can be cleared for non-forest uses such as palm oil plantations. This clearance can only take place when the company has received all relevant permits, including the Right to Cultivate (HGU).

No	PT AAL subsidiary	Regency	Province	Forest Category	Overlap (hectares)	Legal Status
1	PT Tunggal Perkasa Plantation	Indragiri Hulu	Riau	Conversion Production Forest	1.873,66	903/MENLHK/SETJEN/PLA.2/12/2016
2	PT Eka Dura Indonesia	Rokan Hulu	Riau	Conversion Production Forest	28,23	903/MENLHK/SETJEN/PLA.2/12/2016
3	PT Sawit Asahan Indah	Rokan Hulu	Riau	Conversion Production Forest	16,01	903/MENLHK/SETJEN/PLA.2/12/2016
4	PT Pasangkayu	Pasangkayu	West Sulawesi	Protected Forest	616,99	862/MENHUT-11/2014
5	PT Mamuang	Pasangkayu	West Sulawesi	Protected Forest	22,19	862/MENHUT-11/2014
				Conversion Production Forest	239,17	
6	PT Letawa	Pasangkayu	West Sulawesi	Conversion Production Forest	138,98	862/MENHUT-11/2014
7	PT Rimbunan Alam Sentosa	Morowali Utara	Central Sulawesi	Protected Forest	1.319,52	869/MENHUT-11/2014
				Limited Production Forest	134,73	
				Permanent Production Forest	1.836,52	
				Conversion Production Forest	3.048,70	
8	PT Sawit Jaya Abadi	Morowali Utara	Central Sulawesi	Protected Forest	46,91	869/MENHUT-11/2014
				Conversion Production Forest	725,58	
9	PT Agro Nusa Abadi	Morowali Utara	Central Sulawesi	Protected Forest	66,06	869/MENHUT-11/2014
10	PT Cipta Agro Nusantara	Morowali Utara	Central Sulawesi	Limited Production Forest	178,38	869/MENHUT-11/2014
				Permanent Production Forest	4.632,96	
11	PT Surya Indah Nusantara Pagi	Kotawaringin Barat	Central Kalimantan	Permanent Production Forest	239,13	529/MENHUT-II/2012
12	PT Persada Bina Nusantara Pagi	Kotawaringin Barat	Central Kalimantan	Permanent Production Forest	37,84	529/MENHUT-II/2012
13	PT Agro Menara Rachmat	Kotawaringin Barat	Central Kalimantan	Permanent Production Forest	189,68	529/MENHUT-II/2012
14	PT Gunung Sejahtera Ibu Pertiwi	Kotawaringin Barat	Central Kalimantan	Permanent Production Forest	314,34	529/MENHUT-II/2012
15	PT Bhadra Cemerlang	Kotawaringin Timur	Central Kalimantan	Permanent Production Forest	38,80	529/MENHUT-II/2012
16	PT Subur Agro Makmur	Hulu Sungai Selatan	South Kalimantan	Conversion Production Forest	1.341,61	435/MENHUT-II/2009

17	PT Cakung Permata Nusa	Tabalong	South Kalimantan	Permanent Production Forest	2.803,56	435/MENHUT-II/2009
				Conversion Production Forest	602,47	529/MENHUT-II /2012
18	PT Borneo Indah Marjaya	Paser	East Kalimantan	Nature Reserve	52,94	435/MENHUT-II/2009
19	PT Tri Buana Mas	Tapian	East Kalimantan	Conversion Production Forest	10,41	435/MENHUT-II/2009

Table 2: PT AAL subsidiaries concession overlap with forest estate in 6 provinces.

Genesis Bengkulu calculated the number of hectares of oil palm plantations from 19 PT AAL subsidiaries inside the forest estate in 2015 and additional plantings by 2023. We used the methodology of Visual Analysis of Planetary Satellite Images for the period December 2015 and 2023 with a resolution of 4,7 meter x 4,7 meter, with oil palm beds whose patterns and stands are exactly those in the company's oil palm plantations outside the forest estate. This Visual Analysis is verified using Google Satellite Imagery and Satellites.pro Imagery. The polygon is calculated using the Cylindrical Equal Area (sphere) Coordinate System.

Based on this analysis, we found that 14 PT AAL subsidiaries planted 4.352,99 hectares of oil palm in the forest estate in 2015. By 2023 554 hectares of additional plantings were identified in 10 subsidiaries of PT AAL. Only the category of Conversion Production Forest can be converted into plantations when all relevant permits are in place. Plantations are illegal in other forest estate categories, because these cannot be changed into other landuse. Our analysis shows that by 2023 8 PT AAL subsidiaries planted 1100,06 hectares with oil palms in forest estate categories where this is not allowed: protected forests, limited and permanent production forest (see data in red colour in table 3).

No	PT AAL subsidiary	Regency	Province	Forest Category	2015 plantation in forest estate (ha)	2023 update (ha)
1	PT Tunggal Perkasa Plantation	Indragiri Hulu	Riau	Conversion Production Forest	1.334,41	41,08
2	PT Eka Dura Indonesia	Rokan Hulu	Riau	Conversion Production Forest	21,63	0,00
3	PT Sawit Asahan Indah	Rokan Hulu	Riau	Conversion Production Forest	15,96	0,00
4	PT Pasangkayu	Pasangkayu	West Sulawesi	Protected Forest	101,63	115,75
5	PT Mamuang	Pasangkayu	West Sulawesi	Protected Forest	2,96	1,54
				Conversion Production Forest	136,19	50,2
6	PT Letawa	Pasangkayu	West Sulawesi	Conversion Production Forest	81,84	30,55
7	PT Rimbunan Alam Sentosa	Morowali Utara	Central Sulawesi	Conversion Production Forest	1.362,68	261,09
8	PT Cipta Agro Nusantara	Morowali Utara	Central Sulawesi	Limited Production Forest	27,10	0,00
				Permanent Production Forest	37,06	0,00
9	PT Surya Indah Nusantara Pagi	Kotawaringin Barat	Central Kalimantan	Permanent Production Forest	239,13	0,00
10	PT Agro Menara Rachmat	Kotawaringin Barat	Central Kalimantan	Permanent Production Forest	93,27	8,2
11	PT Gunung Sejahtera Ibu Pertiwi	Kotawaringin Barat	Central Kalimantan	Permanent Production Forest	267,07	41,00
12	PT Bhadra	Kotawaringin	Central	Permanent	36,23	0,51

	Cemerlang	Barat	Kalimantan	Production Forest		
13	PT Subur Agro Makmur	Hulu Sungai Barat	South Kalimantan	Conversion Production Forest	129,80	3,77
14	PT Cakung Permata Nusa	Tabalong	South Kalimantan	Permanent Production Forest	128,61	0,00
				Conversion Production Forest	337,42	0,31
<b>TOTAL</b>					<b>4.352,99</b>	<b>554,00</b>

Table 3: PT AAL palm oil plantation inside forest estate in 2015 and 2023.

## PT AAL DEFORESTATION

Genesis Bengkulu measured open land cover within the forest estate in the concession areas of nineteen subsidiaries of PT AAL. We assume the clearance is an act of deforestation carried out by the company PT AAL or can be attributed to the company because the deforestation is inside legally established forest estate inside their plantation concession boundary and most of the time has a clear pattern of clearing for palm oil plantations. Deforestation due to other activities was found in PT Cakung Permata Nusa, because the concession overlaps with PT Adaro Indonesia coal mining. In the PT ANA concession extensive clearances for nickel mining take place by PT Gunbuster Nickel Industry, but not inside the forest estate.

We identified open land cover inside the forest estate by means of remote sensing analysis with Digital Analysis methodology through the calculation of NDVI (Normalized Difference Vegetation Index) value of Planet Satellite Images for each year from 2015 - 2023 resolution of 4.7 meter x 4.7 meter. When cloud cover was disturbing the analysis we added visual cross-checks with clear imagery. In addition, the interpretation of open land is based on the Regulation of the Director General of Forestry Planning Number: P.1 / VII-IPSDH / 2015. Open land cover is an area that has been cleared and not planted or covered by any natural vegetation. The resulting polygon is calculated using the UTM Coordinate System.

Based on this analysis we found deforestation in 15 PT AAL plantations in the forest estate from 2015 - 2023 with a cumulative total of over 48.000 hectares. This is the sum of all open land cover for each year and therefore has duplications. We calculated the newly cleared open land cover for each year, providing a total of 12.970,30 hectares of deforestation in the period of 2015 to 2023.

No	Company Name	Extent of open land cover inside forest estate (hectares)									Total
		2015	2016	2017	2018	2019	2020	2021	2022	2023	
1	PT Tunggal Perkasa Plantation	132,15	215,49	13,82	19,65	18,16	6,4	75,63	39,50	39,50	560,3
2	PT Gunung Sejahtera Ibu Pertiwi	0,56	7,11	0,22	0,20	0,22	9,23	2,25	0,00	20,89	40,68
3	PT Agro Menara Rachmat	34,76	4,72	0,76	1,84	1,63	0,33	1,33	0,00	10,87	56,24
4	PT Surya Indah Nusantara Pagi	25,45	64,73	2,63	0,51	0,53	1,06	0,1	0,94	0,44	96,39
5	PT Persada Bina Nusantara Pagi	12,88	11,94	0,83	1,10	0,31	0,33	0,33	0,51	1,87	30,1
6	PT Bhadra Cemerlang	10,85	3,22	1,20	0,05	0,26	0,07	4,30	0,09	2,21	22,25
7	PT Subur Agro Makmur	48,59	275,20	34,69	123,95	44,96	29,26	10,98	14,38	6,89	588,9
8	PT Cakung Permata Nusa	1.532,75	703,61	208,06	202,85	68,11	59,21	234,03	35,72	13,23	3.057,57
9	PT Letawa	15,16	73,81	0,54	1,32	1,38	0,22	1,80	0,00	0,87	95,1
10	PT Mamuang	20,92	84,75	2,32	1,34	1,36	1,16	2,43	0,12	4,57	118,97

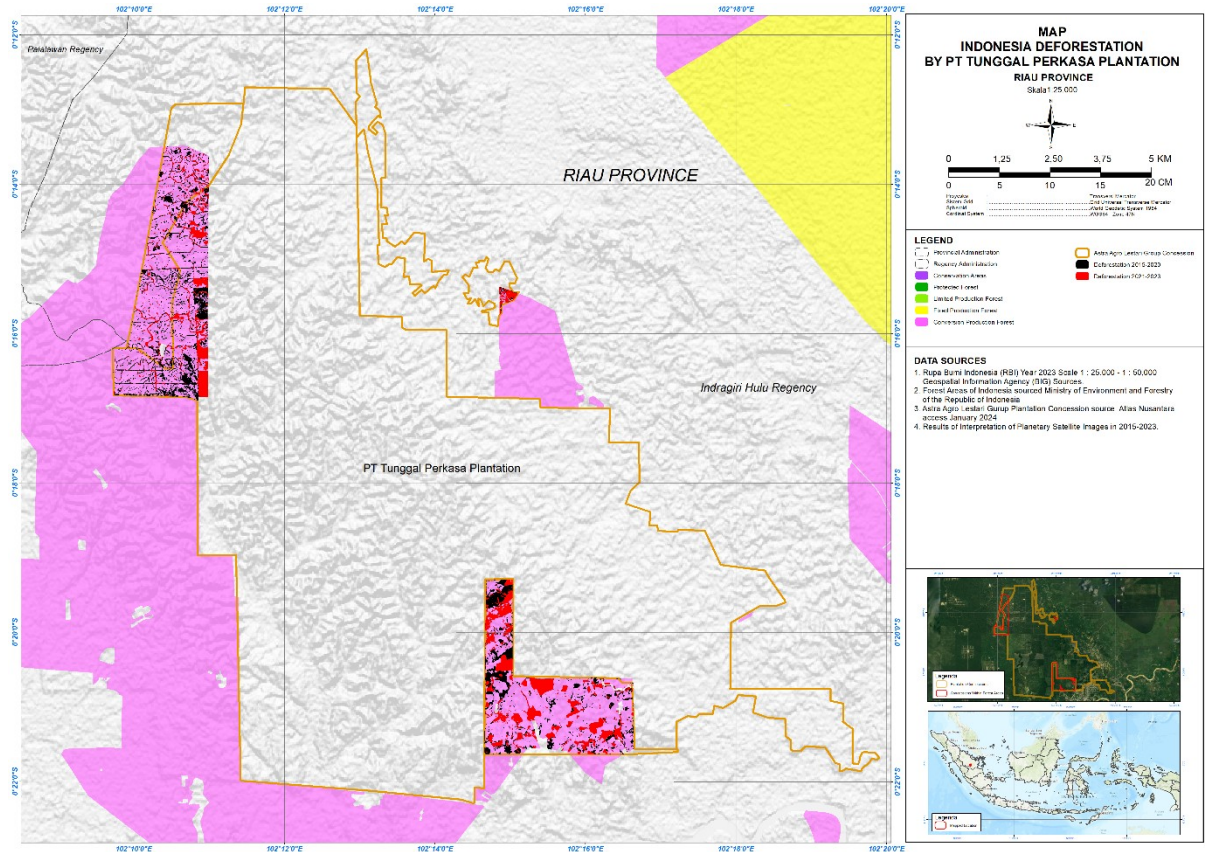
11	PT Pasangkayu	22,37	247,23	35,34	26,77	12,14	13,65	32,68	0,75	19,27	410,2
12	PT Rimbunan Alam Sentosa	936,44	1.449,06	173,35	366,82	151,09	98,15	382,02	560,32	91,61	4.208,86
13	PT Sawit Jaya Abadi	60,04	123,37	17,28	10,81	15,96	32,82	8,34	10,03	55,74	334,39
14	PT Cipta Agro Nusantara	792,10	848,54	25,55	15,83	42,66	17,14	1.417,30	1,36	189,37	3.349,85
15	PT Agro Nusa Abadi	0,02	0,00	0,05	0,00	0,06	0,00	0,00	0,36	0,01	0,5
Total Clearance		3.645,04	4.112,78	516,64	773,04	358,83	269,03	2.173,52	664,08	457,34	12.970,30

Table 4: new land clearance inside forest estate of 15 PT AAL plantation concessions from 2015 to 2023.

## DEFORESTATION MAPS

Genesis Bengkulu mapped the 15 companies with deforestation inside the forest estate. The new clearances from January 2021 onwards are shown in black. This date is the cut - off date for deforestation for companies that want to place palm oil and its derived products on the EU market in compliance with the European Regulation for deforestation free supply chains. Only products that have been produced on land that has not been subject to deforestation or forest degradation after 31 December 2020 will be allowed on the EU market from 1 January 2025 onwards.

### 1. PT Tunggal Perkasa Plantation

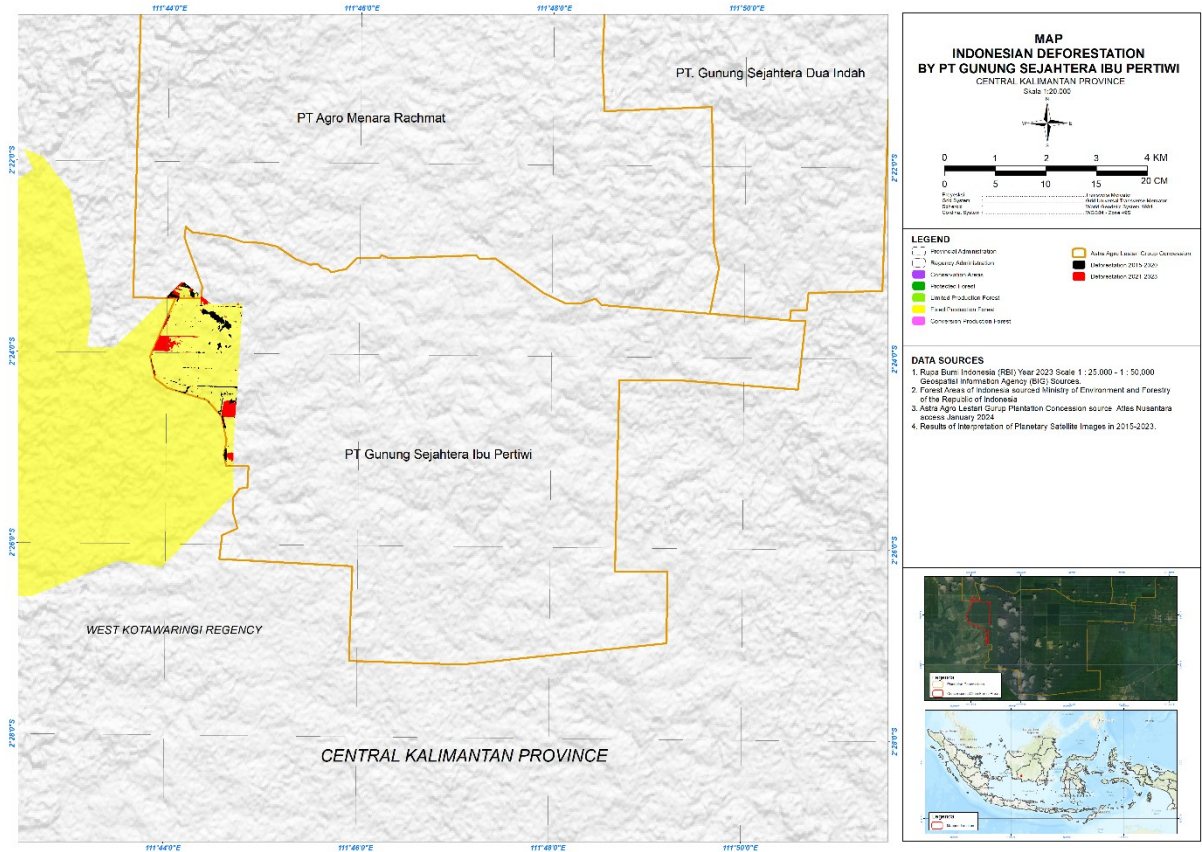


In PT Tunggal Perkasa plantation concession 1.873,66 ha is located in the Conversion Production Forest of Riau Province SK 903/MENLHK/STJEAN/PLA.212/2016 . The company's activities have resulted in deforestation from 2015-2023. Annual extent of deforestation:

- 2015 : 132,15 ha
- 2016 : 215,49 ha
- 2017 : 13,82 ha
- 2018 : 19,65 ha

- e. 2019 : 18,16 ha
- f. 2020 : 6,4 ha
- g. 2021 : 75,63 ha
- h. 2022 : 39,50 ha
- i. 2023 : 39,5 ha

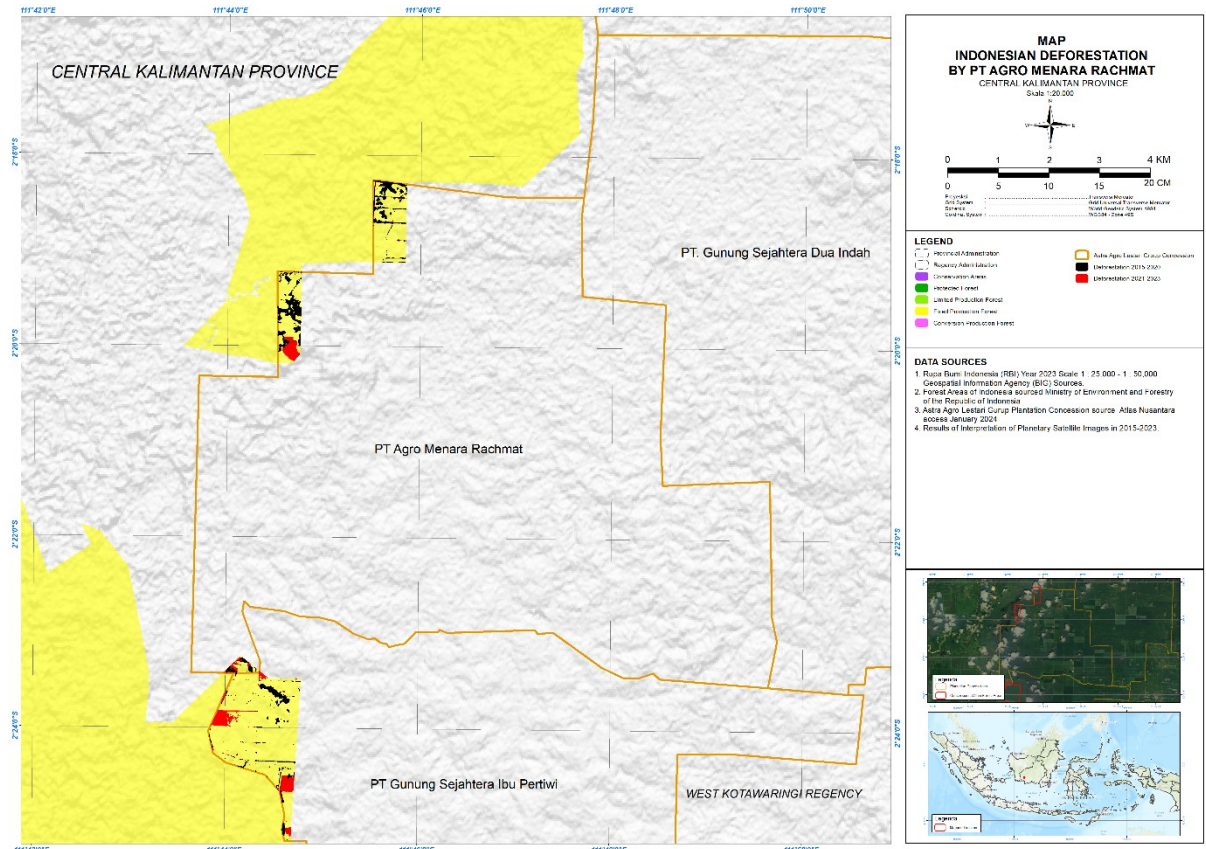
2. PT Gunung Sejahtera Ibu Pertiwi



In PT Gunung Sejahtera Ibu Pertiwi concession 314,34 ha is located in the Permanent Production Forest of Central Kalimantan Province SK. 529/Menhut-II/2012. The company's activities have resulted in deforestation from 2015-2023. Annual extent of deforestation:

- a. 2015 : 0,56 ha
- b. 2016 : 7,11 ha
- c. 2017 : 0,22 ha
- d. 2018 : 0,20 ha
- e. 2019 : 0,22 ha
- f. 2020 : 9,23 ha
- g. 2021 : 2,25 ha
- h. 2022 : 0,00 ha
- i. 2023 : 20,89 ha

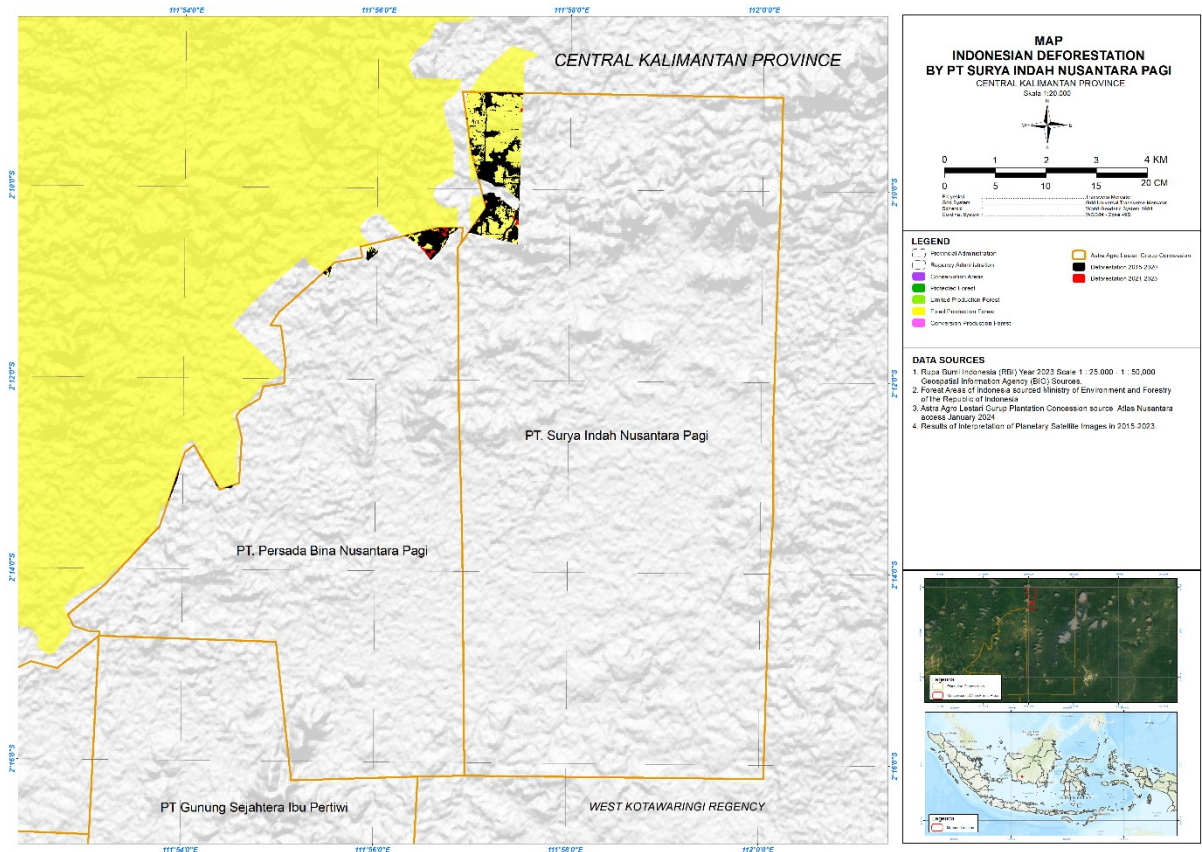
### 3. PT Agro Menara Rachmat



In PT Agro Menara Rachmat 189,68 ha is located in the Permanent Production Forest of Central Kalimantan Province SK. 529/Menhut-II/2012. The company's activities have resulted in deforestation from 2015-2023. Annual extent of deforestation:

- 2015 : 34,76 ha
- 2016 : 4,72 ha
- 2017 : 0,76 ha
- 2018 : 1,84 ha
- 2019 : 1,63 ha
- 2020 : 0,33 ha
- 2021 : 1,33 ha
- 2022 : 0,00 ha
- 2023 : 10,87 ha

#### 4. PT Surya Indah Nusantara Pagi

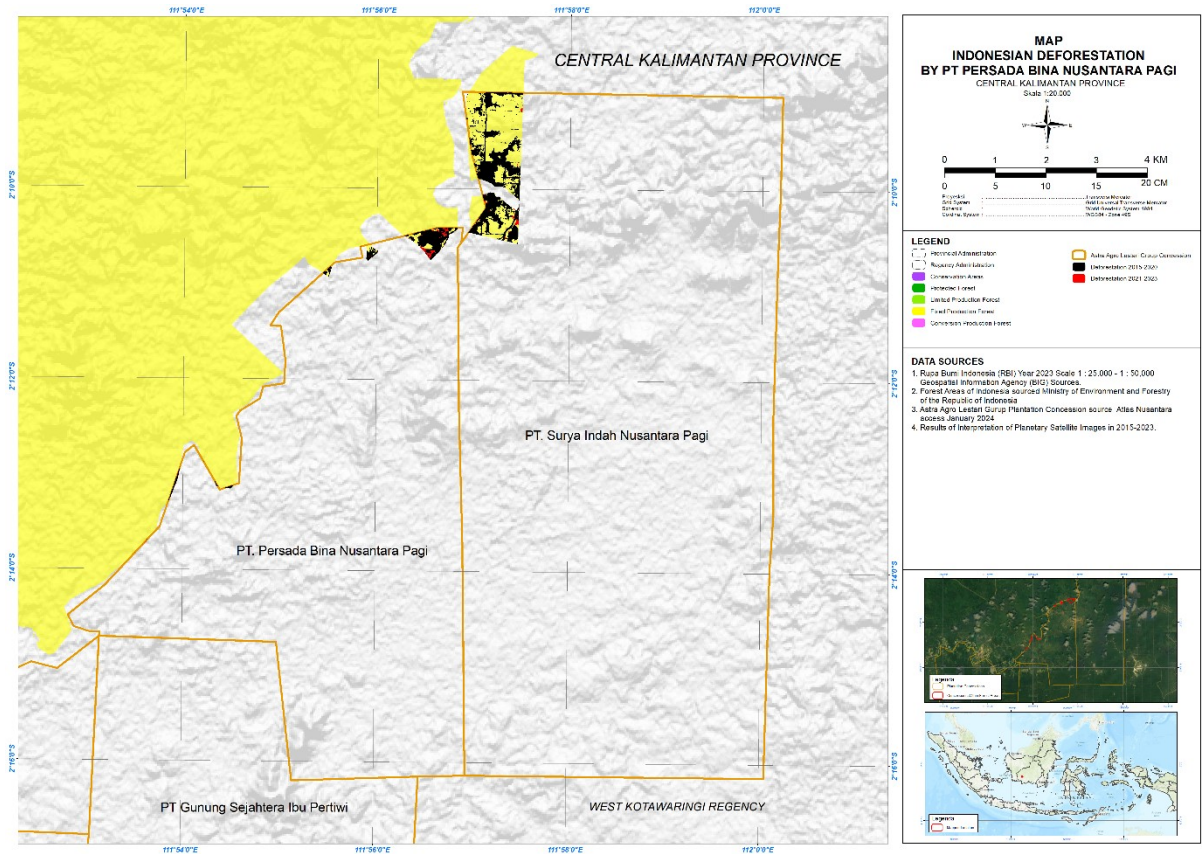


In PT Surya Indah Nusantara Pagi 239,13 ha, located in the Permanent Production Forest of Central Kalimantan Province SK. 529/Menhut-II/2012. The company's activities have resulted in deforestation from 2015-2023. Annual extent of deforestation:

- 2015 : 25,45 ha
- 2016 : 64,73 ha
- 2017 : 2,63 ha
- 2018 : 0,51 ha
- 2019 : 0,53 ha
- 2020 : 1,06 ha
- 2021 : 0,10 ha
- 2022 : 0,94 ha
- 2023 : 0,44 ha



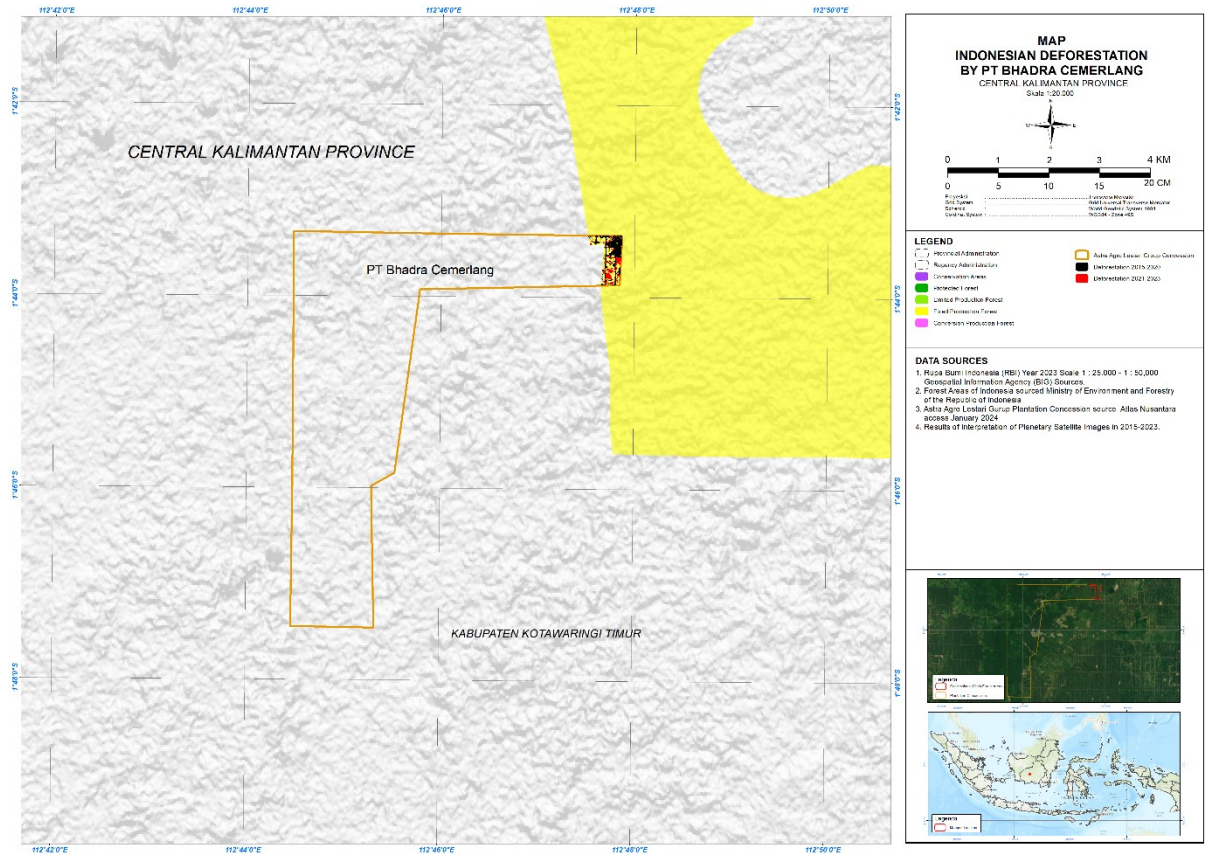
## 5. PT Persada Bina Nusantara Pagi



In PT Persada Bina Nusantara Pagi 37,84 ha is located in the Permanent Production Forest of Central Kalimantan Province SK. 529/Menhut-II/2012. The company's activities have resulted in deforestation from 2015-2023. Annual extent of deforestation:

- 2015 : 12,88 ha
- 2016 : 11,94 ha
- 2017 : 0,83 ha
- 2018 : 1,10 ha
- 2019 : 0,31 ha
- 2020 : 0,33 ha
- 2021 : 0,33 ha
- 2022 : 0,51 ha
- 2023 : 1,87 ha

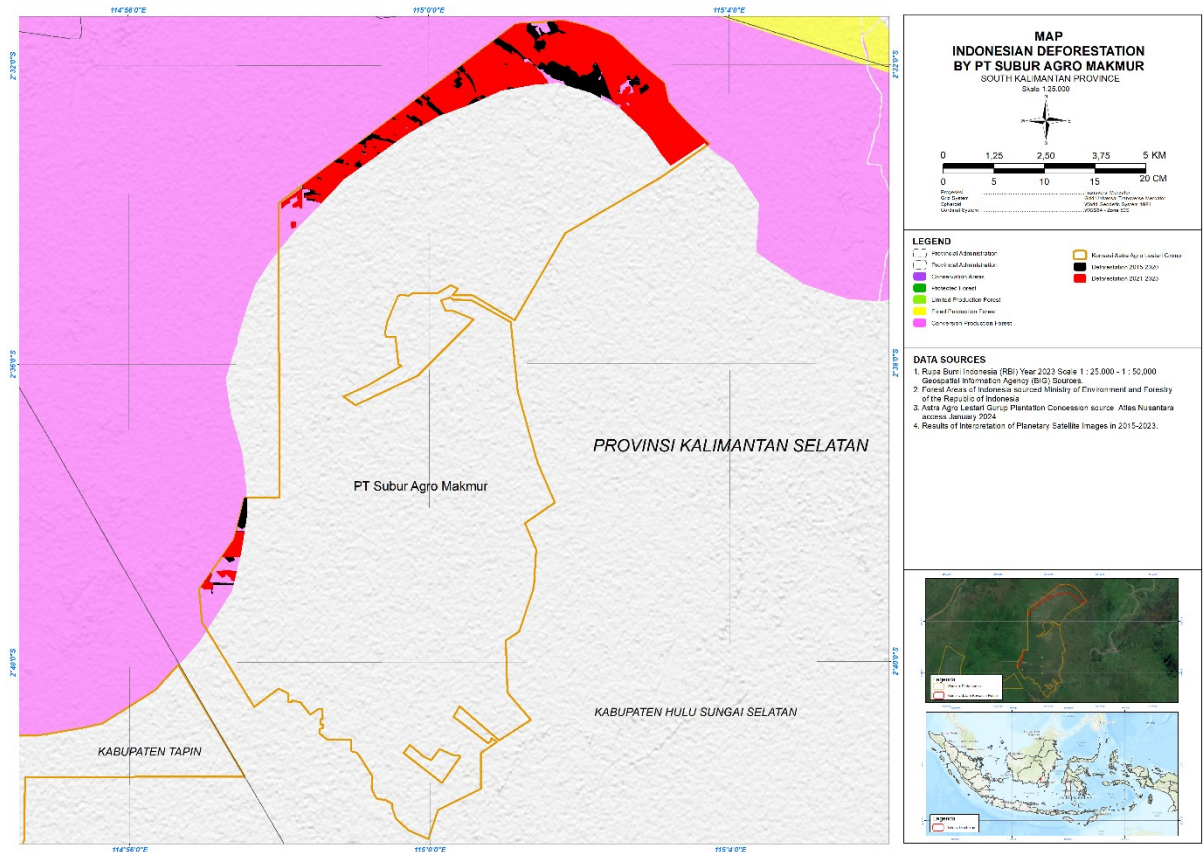
## 6. PT Bhadra Cemerlang



In PT Bhadra Cemerlang 36,23 ha is located in the Permanent Production Forest of Central Kalimantan Province SK.529/MENHUT-II/2012. The company's activities have resulted in deforestation from 2015-2023. Annual extent of deforestation:

- 2015 : 10,85 ha
- 2016 : 3,22 ha
- 2017 : 1,2 ha
- 2018 : 0,05 ha
- 2019 : 0,26 ha
- 2020 : 0,07 ha
- 2021 : 4,30 ha
- 2022 : 0,09 ha
- 2023 : 2,21 ha

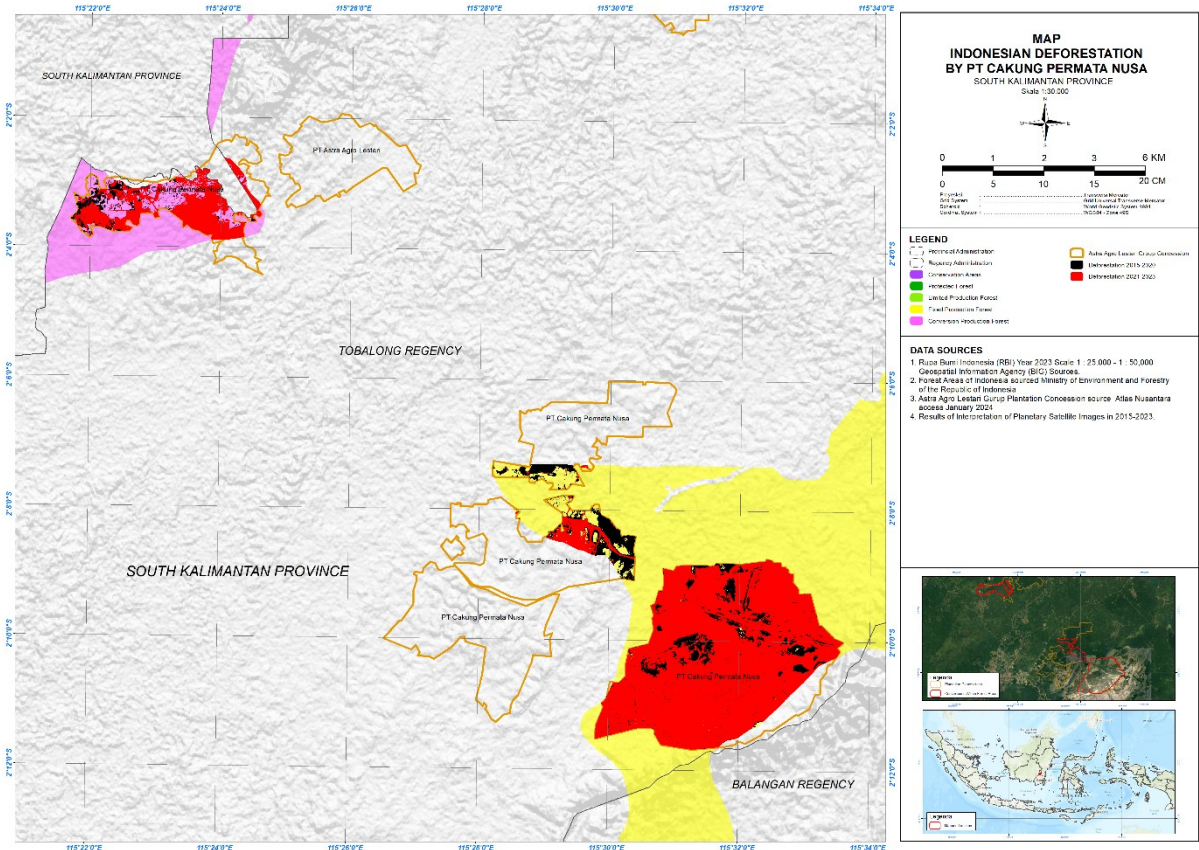
## 7. PT Subur Agro Makmur



In PT Subur Agro Makmur 1.341,61 ha is located in the South Kalimantan Provincial Conversion Production Forest SK.435/Menhut-II/2009. The company's activities have resulted in deforestation from 2015-2023. Annual extent of deforestation:

- 2015 : 48,59 ha
- 2016 : 275,20 ha
- 2017 : 34,69 ha
- 2018 : 123,95 ha
- 2019 : 44,96 ha
- 2020 : 29,26 ha
- 2021 : 10,98 ha
- 2022 : 14,38 ha
- 2023 : 6,89 ha

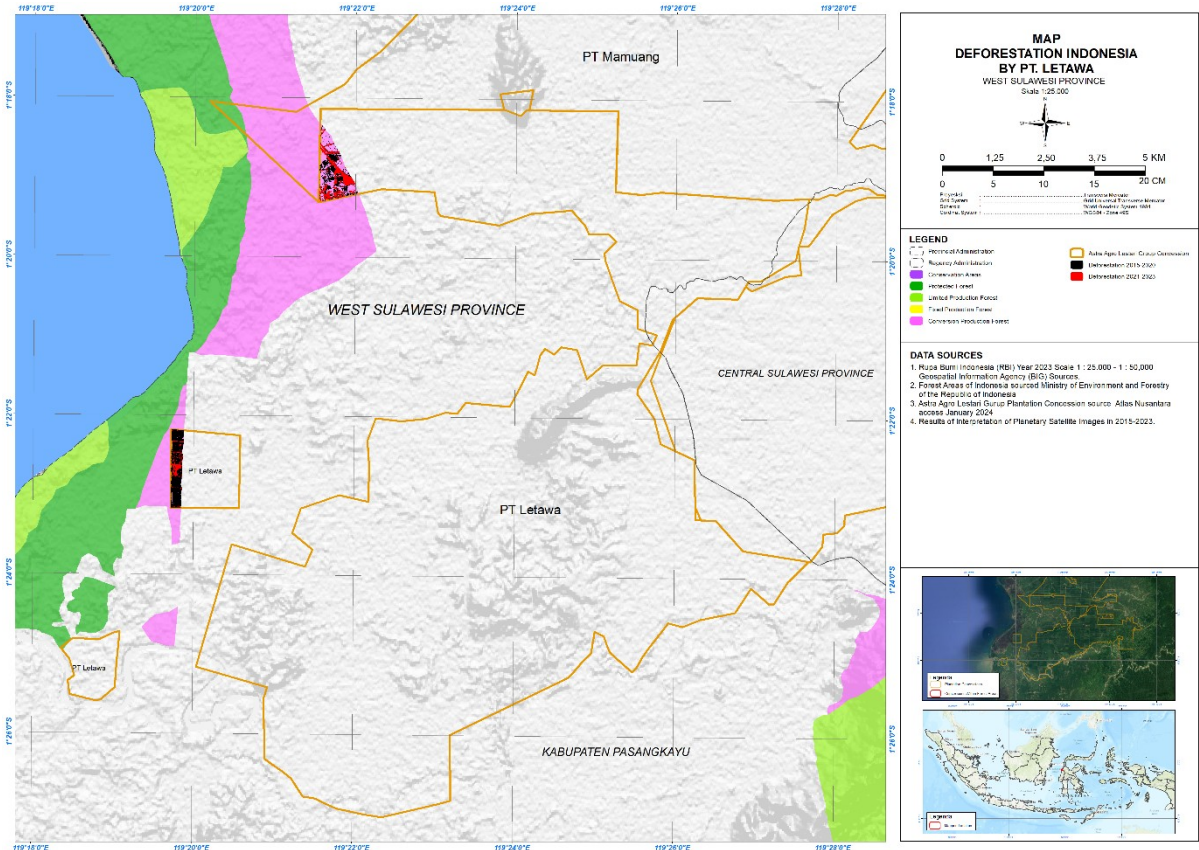
## 8. PT Cakung Permata Nusa



In PT Cakung Permata Nusa 3.406,03 ha is located in the Permanent Production Forest and Conversion Production Forest of South Kalimantan Province (2,804.2 ha) SK.903 / Menhut-II / 2012 and the Conversion Production Forest of Central Kalimantan Province (591,89 ha) SK.529 / Menhut-II / 2012. The company's activities have resulted in deforestation from 2015-2023. Annual extent of deforestation:

- 2015 : 1.532,75 ha
- 2016 : 703,61 ha
- 2017 : 208,06 ha
- 2018 : 202,85 ha
- 2019 : 68,11 ha
- 2020 : 59,21 ha
- 2021 : 234,03 ha
- 2022 : 35,72 ha
- 2023 : 13,32 ha

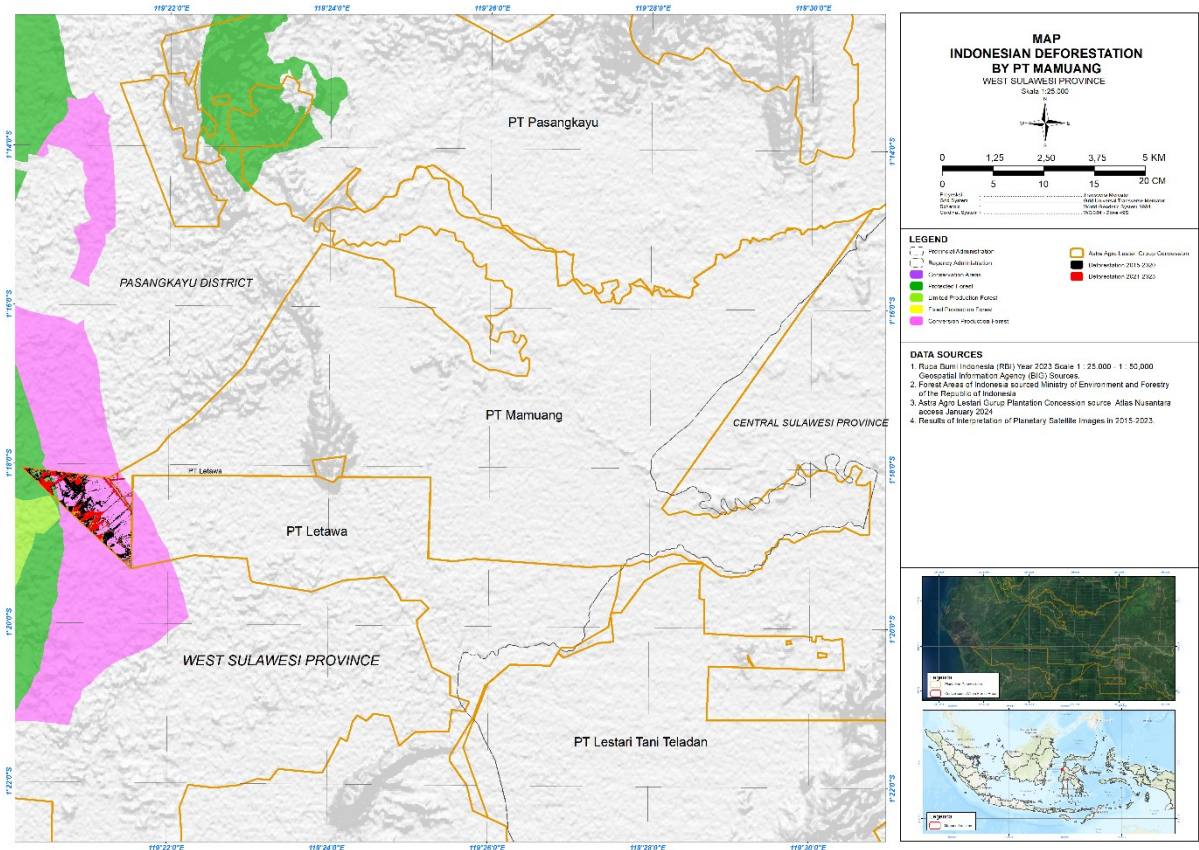
## 9. PT Letawa



In PT Letawa 138,98 ha is located in the West Sulawesi Province Conversion Production Forest SK.862 / Menhut-II / 2014. The company's activities have resulted in deforestation from 2015-2023. Annual extent of deforestation:

- 2015 : 15,16 ha
- 2016 : 73,81 ha
- 2017 : 0,54 ha
- 2018 : 1,32 ha
- 2019 : 1,38 ha
- 2020 : 0,22 ha
- 2021 : 1,80 ha
- 2022 : 0,00 ha
- 2023 : 0,87 ha

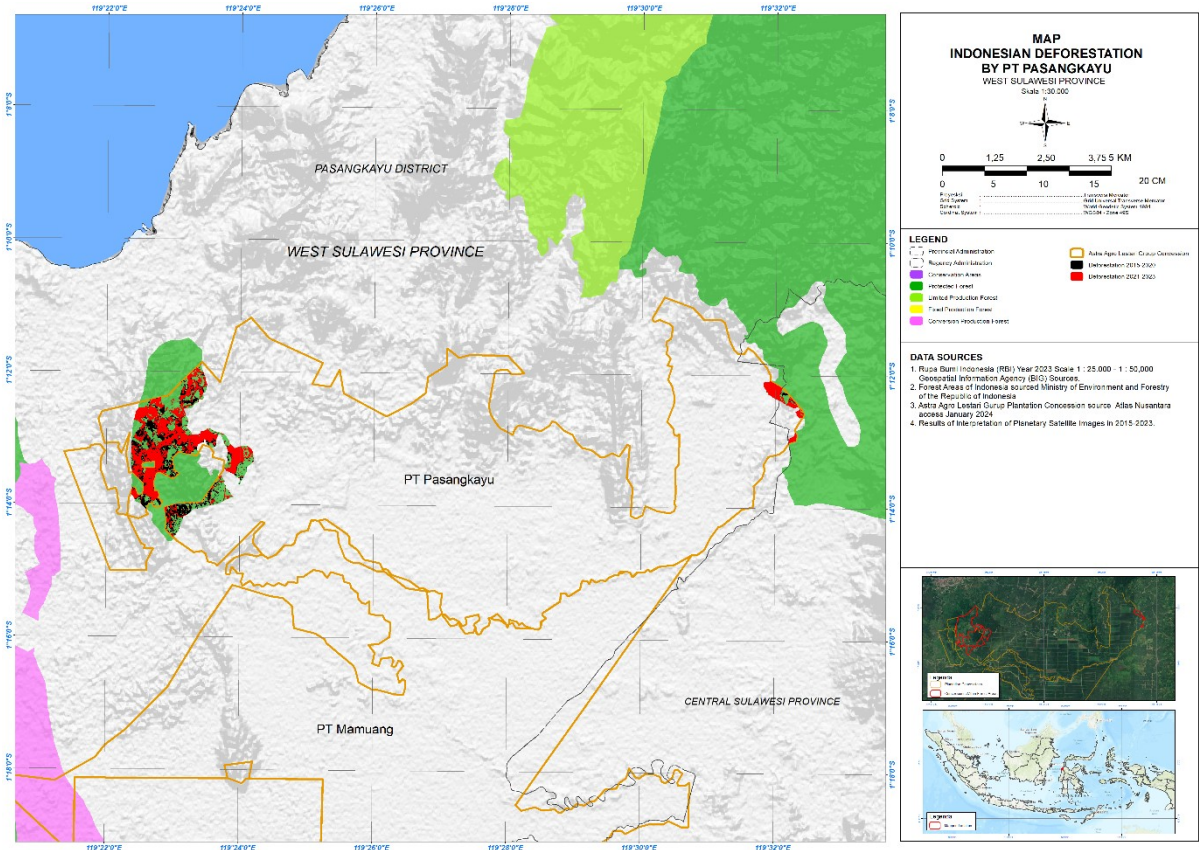
## 10. PT Mamuang



In PT Mamuang covering 261,36 ha is located in Protected Forest and Conversion Production Forest of West Sulawesi Province SK.862 / Menhut-II / 2014. The company's activities have resulted in deforestation from 2015-2023. Annual extent of deforestation:

- 2015 : 20,92 ha
- 2016 : 104,05 ha
- 2017 : 35,01 ha
- 2018 : 23,80 ha
- 2019 : 29,86 ha
- 2020 : 24,53 ha
- 2021 : 32,12 ha
- 2022 : 2,12 ha
- 2023 : 40,72 ha

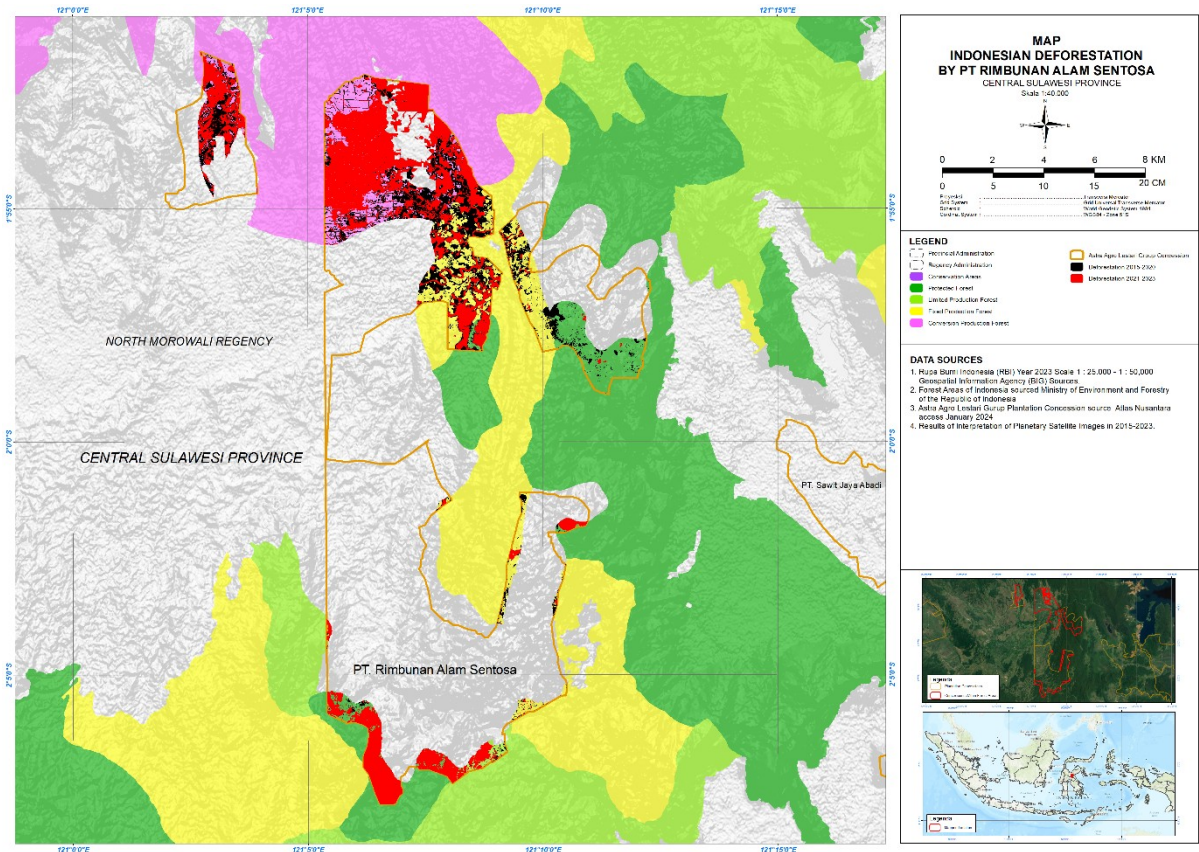
## 11. PT Pasangkayu



In PT Pasangkayu 616,99 ha is located in the Protected Forest of West Sulawesi Province SK.862 / Menhut-II / 2014. The company's activities have resulted in deforestation from 2015-2023. Annual extent of deforestation:

- 2015 : 22,37 ha
- 2016 : 247,23 ha
- 2017 : 35,34 ha
- 2018 : 26,77 ha
- 2019 : 12,14 ha
- 2020 : 13,65 ha
- 2021 : 32,68 ha
- 2022 : 0,75 ha
- 2023 : 19,27 ha

## 12. PT Rimbunan Alam Sentosa

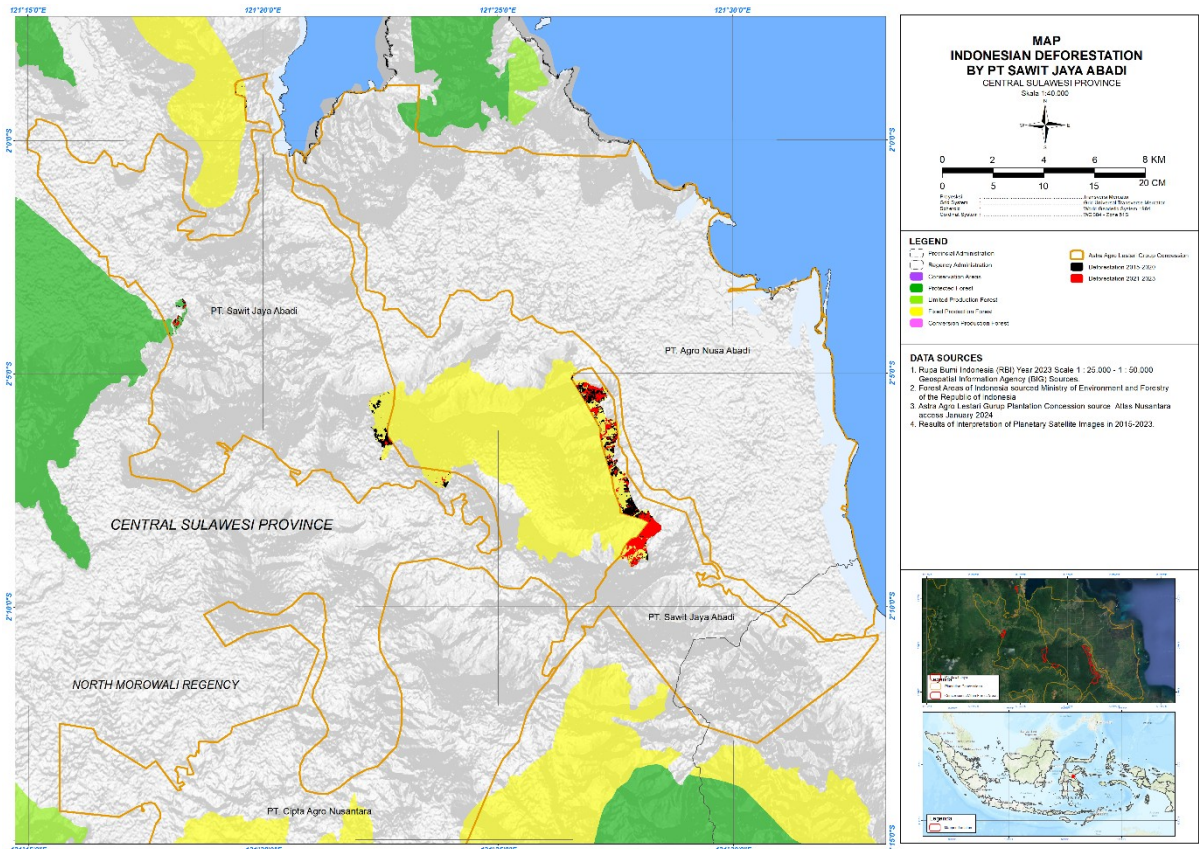


In PT Rimbunan Alam Sentosa 5.019,95 ha is located in Protected Forest, Limited Production Forest, Permanent Production Forest and Conversion Production Forest of West Sulawesi Province SK.869/Menhut-II/2014. The company's activities have resulted in deforestation from 2015-2023. Annual extent of deforestation:

- 2015 : 936,44 ha
- 2016 : 1.449,06 ha
- 2017 : 173,35 ha
- 2018 : 366,82 ha
- 2019 : 151,09 ha
- 2020 : 98,15 ha
- 2021 : 382,02 ha
- 2022 : 560,32 ha
- 2023 : 91,61 ha



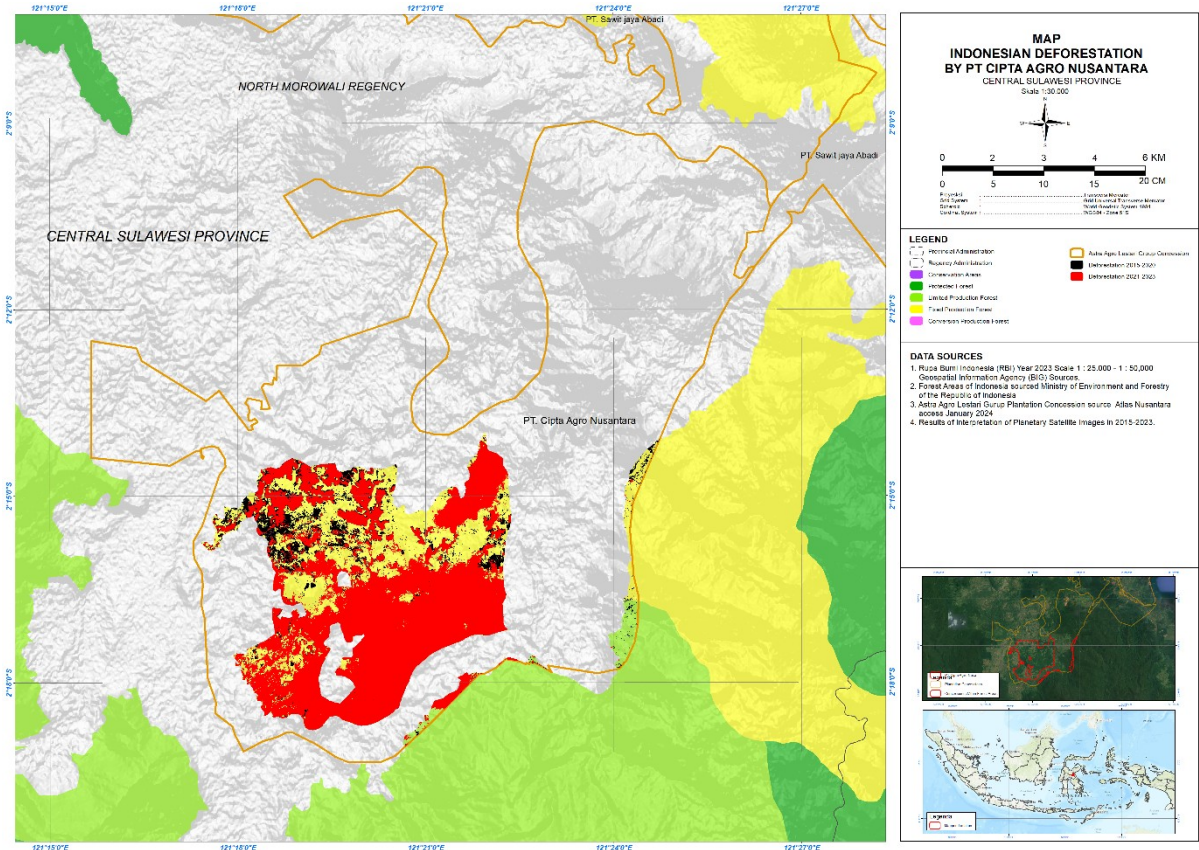
### 13. PT Sawit Jaya Abadi



In PT Sawit Jaya Abadi 772,59 ha is located in Protected Forest and Permanent Production Forest of Central Sulawesi Province SK.869 / Menhut-II / 2014. The company's activities have resulted in deforestation from 2015-2023. Annual extent of deforestation:

- 2015 : 60,04 ha
- 2016 : 123,37 ha
- 2017 : 17,28 ha
- 2018 : 10,81 ha
- 2019 : 15,96 ha
- 2020 : 32,82ha
- 2021 : 8,34 ha
- 2022 : 10,03 ha
- 2023 : 57,74 ha

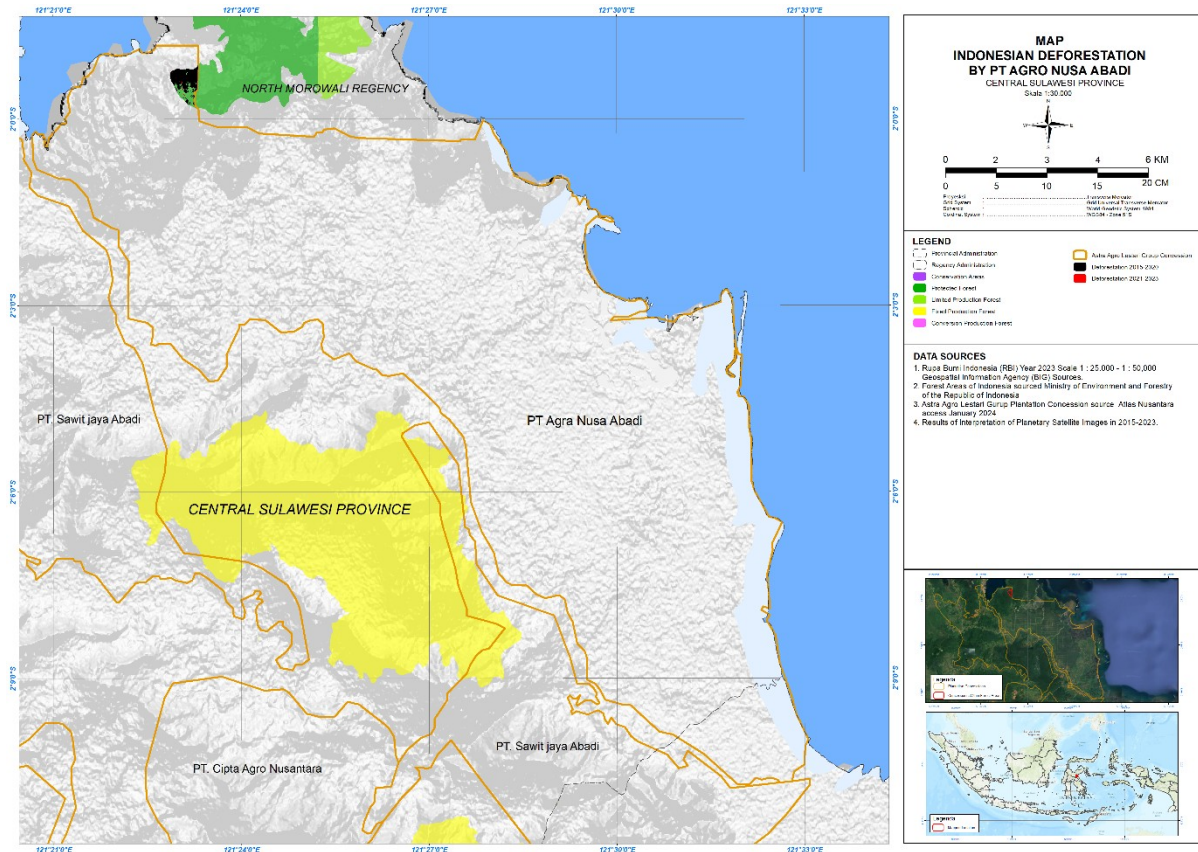
## 14. PT Cipta Agro Nusa



In PT Cipta Agro Nusa 4.811,34 ha is located in Limited Production Forest and Permanent Production Forest of Central Sulawesi Province SK.869 / Menhut-II / 2014. The company's activities have resulted in deforestation from 2015-2023. Annual extent of deforestation:

- 2015 : 792,13 ha
- 2016 : 848,54 ha
- 2017 : 25,55 ha
- 2018 : 15,83 ha
- 2019 : 42,66 ha
- 2020 : 17,14 ha
- 2021 : 1.417,30 ha
- 2022 : 1.36 ha
- 2023 : 189,37 ha

## 15. PT Agro Nusa Abadi



In PT Agro Nusa Abadi 66,06 ha, is located in the Protected Forest of Central Sulawesi Province SK.869 / Menhut-II / 2014. The company's activities have resulted in deforestation from 2015-2023. Annual extent of deforestation:

- 2015 : 0,02 ha
- 2016 : 0,00 ha
- 2017 : 0,05 ha
- 2018 : 0,00 ha
- 2019 : 0,06 ha
- 2020 : 0,00 ha
- 2021 : 0,00 ha
- 2022 : 0,36 ha
- 2023 : 0,01 ha