

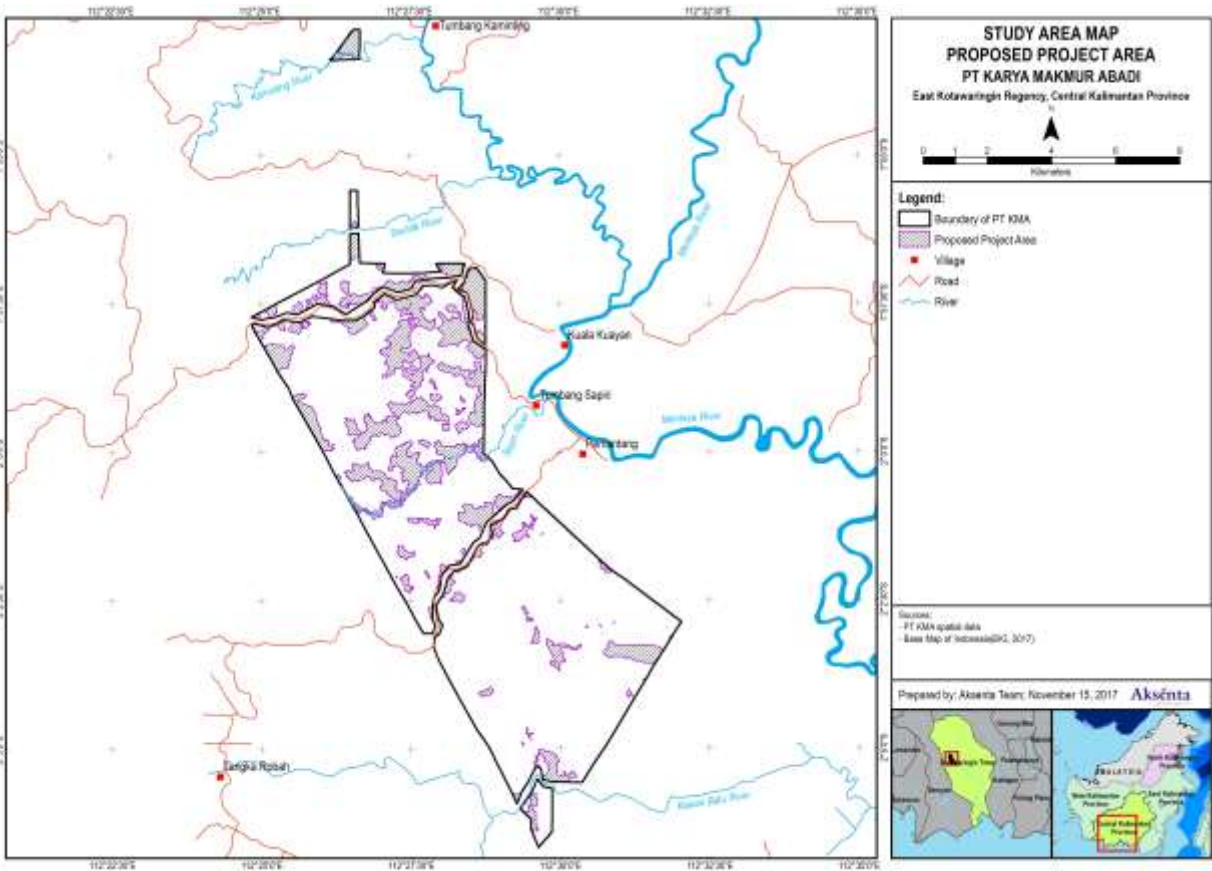
Additional Information on Land Use Change Analysis Proposed Project Area of PT Karya Makmur Abadi

1. Brief Information of Scope of the Study

This study was carried on as a complementary of the previous LUCA conducted in 2014. Update of the legal operational area of the company from *Izin Lokasi* to *Hak Guna Usaha* (HGU) results change of the size of the legal operational area of the company. This study aims to re-identify the conservation liability of the company according to the up to date legal operational area by the time of NPP submission. Due to this change, some areas which used to be part of the operational area and scope of the LUCA in 2014 are no longer included in this study since the legal operational area is decreased.

In addition, HCV Review and Update was carried out in 2016 to comply with the NPP since the company has not done any land clearance and development after the HCV Assessment in 2014 (3 years after HCV Assessment “expiry period”). According to the mentioned matter, time of the HCV Review and Update was also included as one of the cut-off date of the analysis in this study. However, identified conservation liability outside the HGU is also attached in the results of the study since it is part of the company’s responsibility.

Study area of this brief analysis is the Proposed Project Area (PPA) inside the *Hak Guna Usaha* (HGU) of PT Karya Makmur Abadi. The PPA is area which is not cleared and planted by oil palm yet and proposed for future development. Total area of the PPA is 1,741.4 ha. The cut-off periods of the analysis consist of: 1) November 1, 2005; 2) December 1, 2007; 3) January 1, 2010; 4) May 9, 2014 and 5) September 2016 (Date of the HCV Review and Update is conducted).



Since the PPA were not cleared until the HCV Review and Update is conducted, there is no compensation liability on the PPA. Each land cover change detected in this analysis is categorized as non-corporate clearance, it caused by local community’s shifting cultivation and timber harvesting activity.

2. Historical Land Use on the Proposed Project Area								
Land cover	November 1, 2005	December 1, 2007	January 1, 2010	May 9, 2014	Sept 2016			
Secondary forest	187.3	113.3	70.4	-	-			
Old shrub	150.4	363.5	90.7	271.7	271.7			
Young shrub	1,015.6	1,171.8	1,226.8	1,151.0	1,151.0			
Bush	388.1	21.7	266.2	190.2	190.2			
Bare land	-	71.1	87.4	124.5	124.5			
Oil palm	-	-	-	-	-			
Jumlah	1,741.4							
3. Land Cover Change Analysis for Each Period								
3.1. Period November 1, 2005-December 11, 2006 - in hectares								
Non-corporate								
	Land cover class	November 30, 2007						Total Nov 1, 05 (sum of columns)
		1	2	3	4	5	6	
November 1, 2005	1	80.1	36.8	70.0	-	-	-	187.3
	2	33.2	68.4	38.6	-	10.1	-	150.4
	3	-	258.3	747.6	2.6	7.0	-	1,015.6
	4	-	-	315.5	19.1	53.6	-	388.1
	5	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-
Total Nov 30, 07 (sum of rows)		113.3	363.5	1,171.8	21.7	71.1	-	1,741.4
Note: 1. Secondary forest, 2. Old shrub, 3. Young shrub, 4. Bush, 5. Bare land, 6. Oil palm								
3.2. Period December 1, 2007-December 31, 2009 - in hectares								
Non-corporate								
	Land cover class	December 31, 2009						Total Dec 31, 07 (sum of columns)
		1	2	3	4	5	6	
December 31, 2007	1	37.4	-	74.1	-	1.7	-	113.3
	2	33.0	-	352.2	2.6	2.7	-	363.5
	3	-	90.7	827.4	193.3	60.4	-	1,171.8
	4	-	-	-	17.5	4.1	-	21.7
	5	-	-	-	52.7	18.4	-	71.1
	6	-	-	-	-	-	-	-
Total Dec 31, 09 (sum of rows)		70.4	90.7	1,226.8	266.2	87.4	-	1,741.4
Note: 1. Secondary forest, 2. Old shrub, 3. Young shrub, 4. Bush, 5. Bare land, 6. Oil palm								
3.3. Period January 1, 2010-May 8, 2014 - in hectares								
Non-corporate								
	Land cover class	May 8, 2014						Total Jan 1, 10 (sum of columns)
		1	2	3	4	5	6	
January 1, 2010	1	-	47.6	14.2	-	8.6	-	70.4
	2	-	8.6	53.9	28.1	0.1	-	90.7
	3	-	215.5	852.8	60.0	98.4	-	1,226.8
	4	-	-	175.5	74.6	16.0	-	266.2
	5	-	-	58.5	27.5	1.4	-	87.4
	6	-	-	-	-	-	-	-
Total May 8, 14 (sum of rows)		-	271.7	1,151.0	190.2	124.5	-	1,741.4
Note: 1. Secondary forest, 2. Old shrub, 3. Young shrub, 4. Bush, 5. Bare land, 6. Oil palm								
3.4. Period May 9, 2014-September 2016 - in hectares (Date when the HCV Review and Update is conducted)								
Non-corporate								
	Land cover class	September 2016						Total May 9, 14 (sum of columns)
		1	2	3	4	5	6	
May 9, 2014	1	-	260.3	-	11.5	-	-	271.7
	2	-	284.1	839.8	29.8	1.2	-	1,151.0
	3	-	-	-	190.2	-	-	190.2
	4	-	-	75.5	30.9	18.1	-	124.5
	5	-	-	-	-	-	-	-

	6	-	-	-	-	-	-
Total Sept 16 (sum of rows)		-	544.4	915.3	262.5	19.3	1,741.4

Note: 1. Secondary forest, 2. Old shrub, 3. Young shrub, 4. Bush, 5. Bare land, 6. Oil palm

4. Land Cover Change Analysis for Each Period

Land cover class	Vegetation Coefficient	Nov 1, 2005 to Nov 30, 2007	Dec 1, 2007 to Dec 31, 2009	Jan 1, 2010 to May 8, 2014	May 9, 2014 to Sept 2016
One or more land cover classes which fulfill the criterion of vegetation coefficient 1.0	1.0	-	-	-	-
One or more land cover classes which fulfill the criterion of vegetation coefficient 0.7	0.7	-	-	-	-
One or more land cover classes which fulfill the criterion of vegetation coefficient 0.4	0.4	-	-	-	-
One or more land cover classes which fulfill the criterion of vegetation coefficient 0.0	0	-	-	-	-
Total (sum of rows)		-	-	-	-

5. Final compensation liability (see Remediation and Compensation Procedures November 2015, page 15, Table 3 determining conservation liability)

Period of land clearance	Land controlled by a non-member at time of clearance	Land controlled by an RSPO member at the time of clearance. This includes land acquired from other RSPO members
May 9, 2014 to Sept 2016	N.A.	-
Jan 1, 2010 to May 8, 2014	N.A.	-
Dec 1, 2007 to Dec 31, 2009	N.A.	-
Nov 1, 2005 to Dec 11, 2006	N.A.	-
Total (sum of rows and columns)		0

According to Hak Guna Usaha (HGU) as the scope of the study, the company has no compensation liability. However, according to the LUCA study in 2014, the company has 58.4 ha conservation liability which occurred in the Izin Lokasi (see LUCA Report of PT KMA, 2014). The liability is still a responsibility of the company, though it is no longer part of the legal operational.

Map Album

Land Use Change Analysis

PT Karya Makmur Abadi

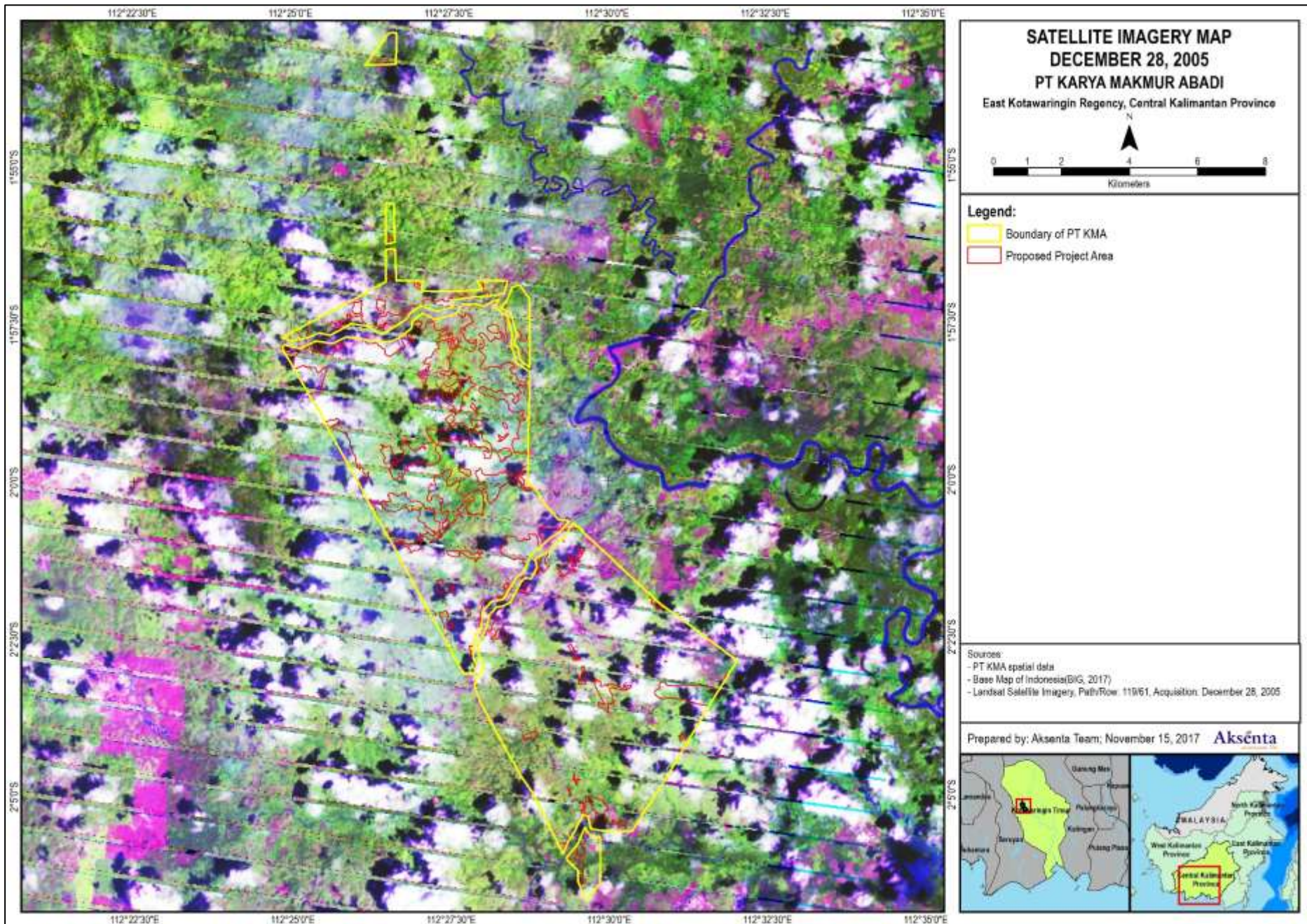
Proposed Project Area for NPP

Kotawaringin Timur Regency,
Central Kalimantan Province

Compiled by
LUCA Team of Aksenta



Jakarta | November 2017





SATELLITE IMAGERY MAP
JANUARY 19, 2008
PT KARYA MAKMUR ABADI
 East Kotawaringin Regency, Central Kalimantan Province

N

0 1 2 4 6 8
 Kilometers

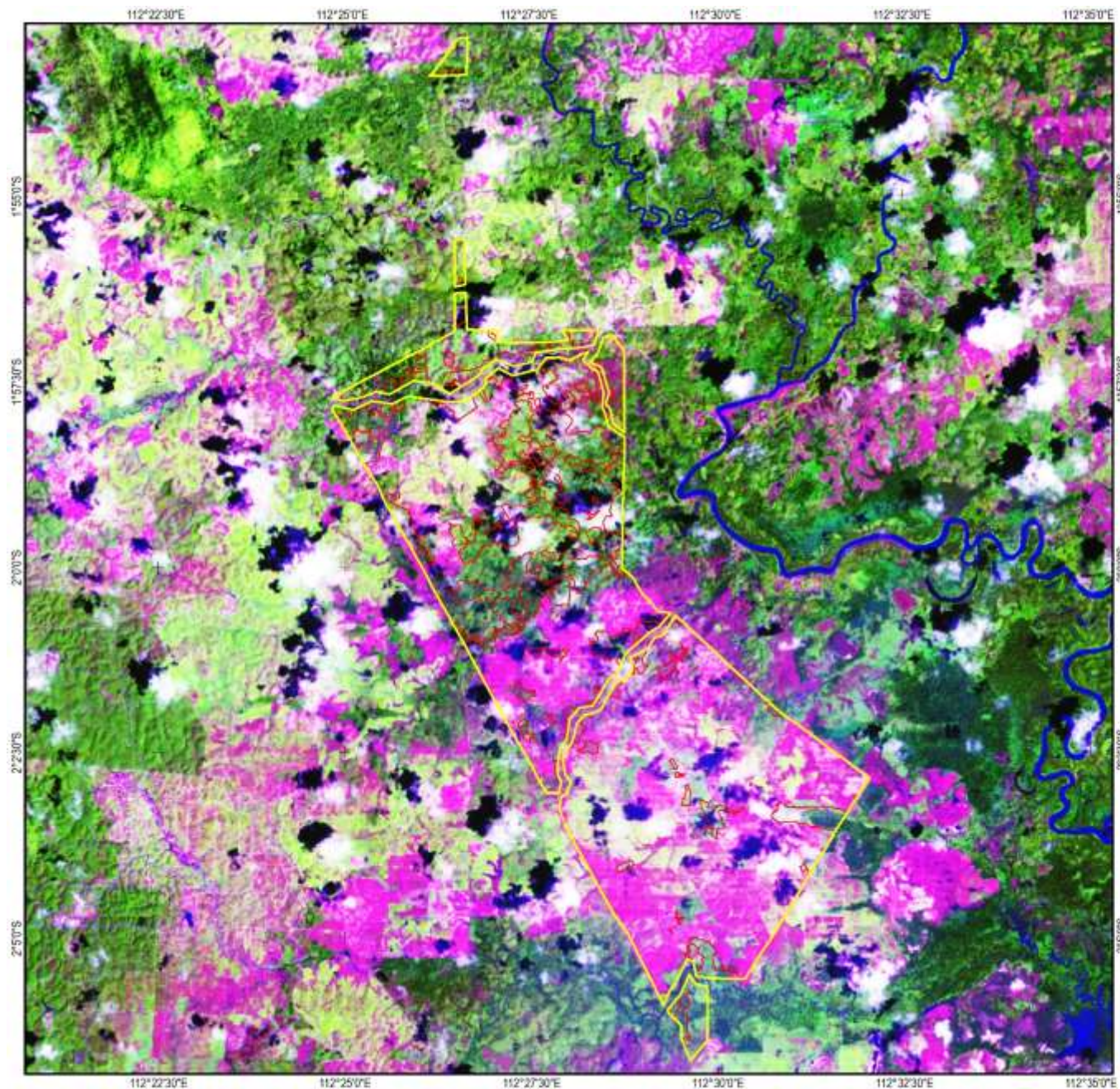
Legend:

- Boundary of PT KMA
- Proposed Project Area

Sources:
 - PT KMA spatial data
 - Base Map of Indonesia (BIG, 2017)
 - Landsat Satellite Imagery, Path/Row 119/61, Acquisition: January 19, 2008

Prepared by: Aksenta Team; November 15, 2017 **Aksenta**





SATELLITE IMAGERY MAP
JANUARY 16, 2010
PT KARYA MAKMUR ABADI
 East Kotawaringin Regency, Central Kalimantan Province

N

0 1 2 4 6 8
 Kilometers

Legend:

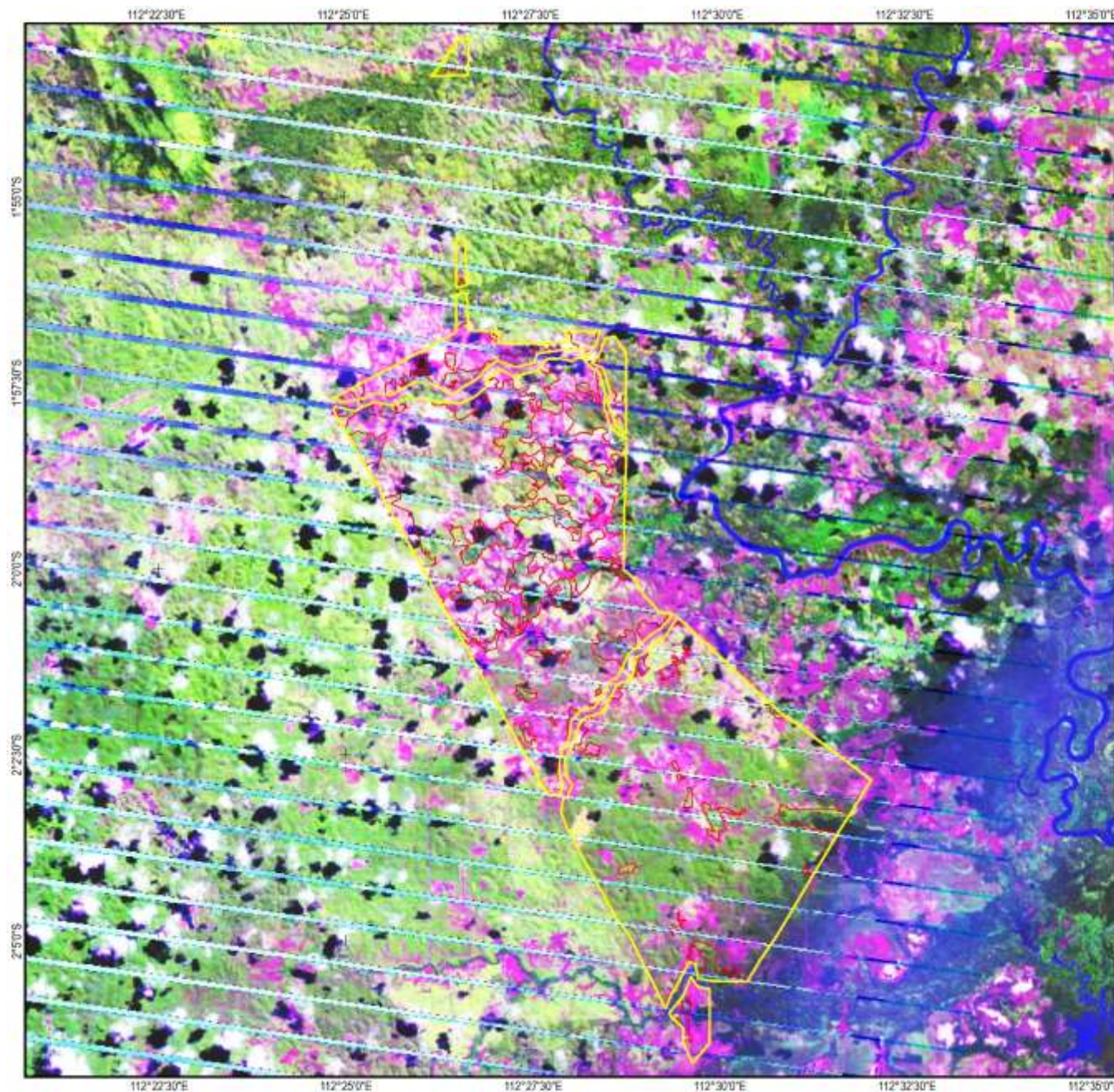
- Boundary of PT KMA
- Proposed Project Area

Sources:

- PT KMA spatial data
- Base Map of Indonesia (BIG, 2017)
- Landsat Satellite Imagery, Path/Row 119/61, Acquisition: January 16, 2010

Prepared by: Aksenta Team; November 15, 2017 **Aksenta**





SATELLITE IMAGERY MAP
JUNE 12, 2014
PT KARYA MAKMUR ABADI
 East Kotawaringin Regency, Central Kalimantan Province

N

0 1 2 4 6 8
 Kilometers

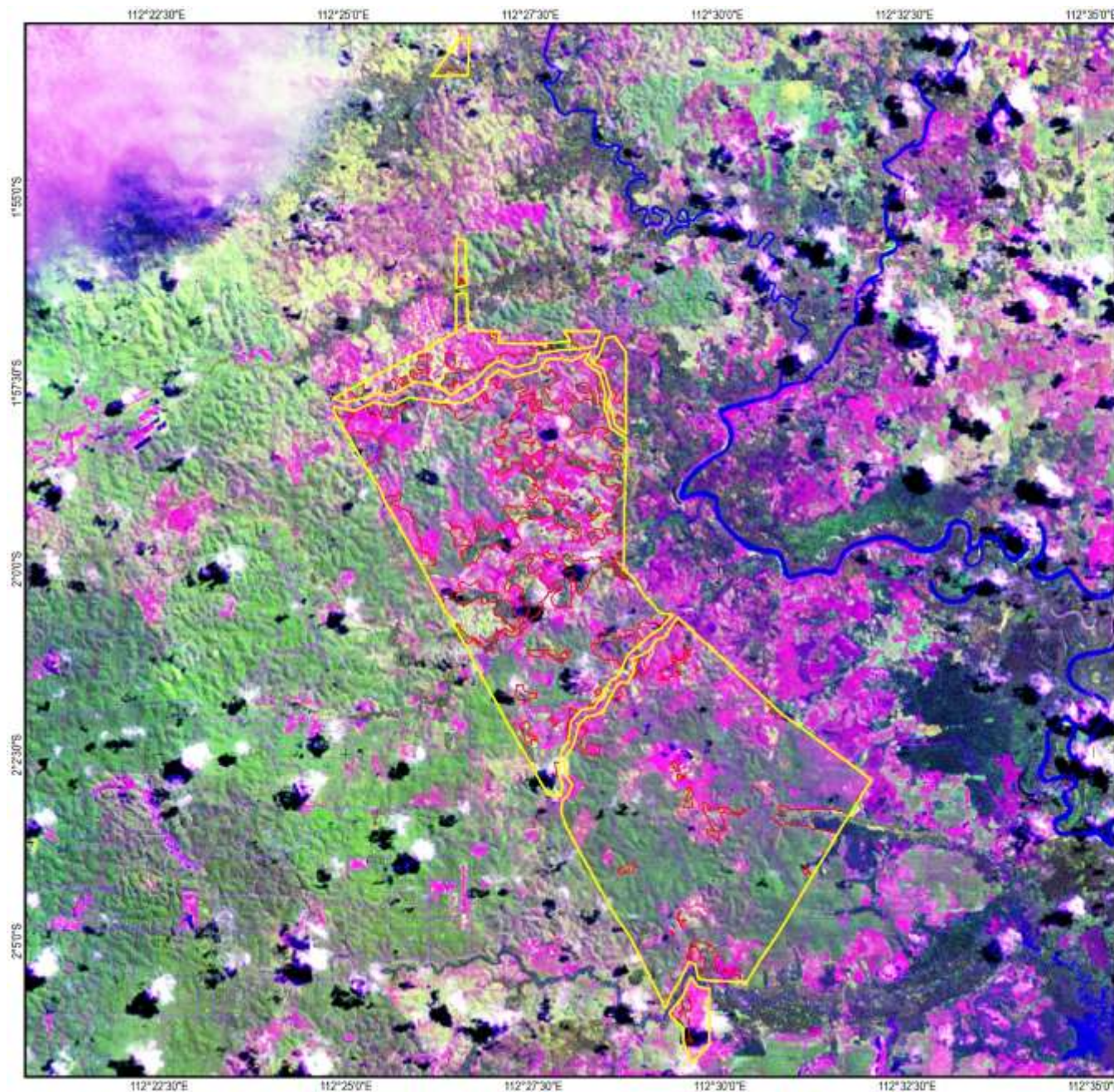
Legend:

- Boundary of PT KMA
- Proposed Project Area

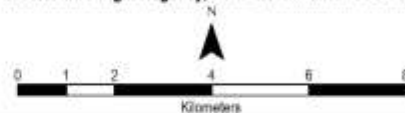
Sources:
 - PT KMA spatial data
 - Base Map of Indonesia (BIG, 2017)
 - Landsat Satellite Imagery, Path/Row 119/61, Acquisition: June 12, 2014

Prepared by: Aksenta Team; November 15, 2017 **Aksenta**





**LANDSAT SATELLITE IMAGERY MAP
 SEPTEMBER 2016
 PT KARYA MAKMUR ABADI
 East Kotawaringin Regency, Central Kalimantan Province**



Legend:

- Boundary of PT KMA
- Proposed Project Area

Sources:
 - PT KMA spatial data
 - Base Map of Indonesia (BIG, 2017)
 - Landsat Satellite Imagery, Path/Row 119/61, Acquisition: July 27, 2016

Prepared by: Aksenta Team; November 15, 2017 **Aksenta**



