



PANDA MITI
KIBIASHARA
PRIVATE FORESTRY PROGRAMME

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RUVUMA PRIVATE FORESTRY
INVESTMENT OPPORTUNITIES

SITE PROFILES



United Republic of Tanzania
MINISTRY OF NATURAL RESOURCES AND TOURISM
Forestry and Beekeeping



MINISTRY FOR FOREIGN
AFFAIRS OF FINLAND



Ruvuma Private Forestry Investment Opportunities

Site Profiles

19 October 2016



United Republic of Tanzania
**MINISTRY OF NATURAL RESOURCES
AND TOURISM**
Forestry and Beekeeping Division



EMBASSY OF FINLAND
DAR ES SALAAM

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Cover photo: A potential site for forest plantation establishment is being inspected by LECIDE/PFP team in Lihumbe Mountain, Mbinga District.

DISCLAIMER: Private Forestry Programme made its best effort to provide accurate and complete information while executing the assignment behind this document, but assumes no liability or responsibility for any outcome of this document. No socioeconomic mapping or ecological risk assessment were conducted during the assignment.

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ABBREVIATIONS

CCRO	Certificate of Customary Right of Occupancy
DC	District Council
LECIDE	Land, Environment, Community Initiatives and Development
m.a.s.l.	Metres above sea level
PFP	Private Forestry Programme
TFS	Tanzania Forest Service
TGA	Tree Growers' Association
VLUP	Village Land Use Plan

1. INTRODUCTION

Eleven blocks totalling about 80,000 ha of land are being made available for investment in plantation forestry in Ruvuma Region of Tanzania (summarised in Table 2). This report is intended to provide potential investors with a brief overview of these opportunities.

These sizeable blocks (ranging in size from 1,000 to 34,500 hectares) are located on land that is gazetted to Tanzania Forest Service (TFS), land that is gazetted to District Councils (DC), and village land allocated to Tree Grower's Associations (TGAs). The blocks are highly suitable for plantation forestry due to good growing conditions, enabling policy environment, local people's willingness to be involved in plantation activities and virtual absence of competition for alternative land uses.

The Ruvuma Region is part of both the Southern Agricultural Growth Corridor and the Mtwara Corridor, and as such is benefitting from investment in roads, railways and port facilities. All national stakeholders including Ruvuma regional authorities and Ministry of Natural Resources and Tourism as well as the community members are ready to facilitate investors.

The blocks are being made available for investors to lease for up to 99 years in order to develop commercial plantations and vertically integrated processing industries. Potential investors are invited to inspect these sites and negotiate with concerned TFS, DC and TGA representatives.

2. BRIEF DESCRIPTION OF RUVUMA REGION

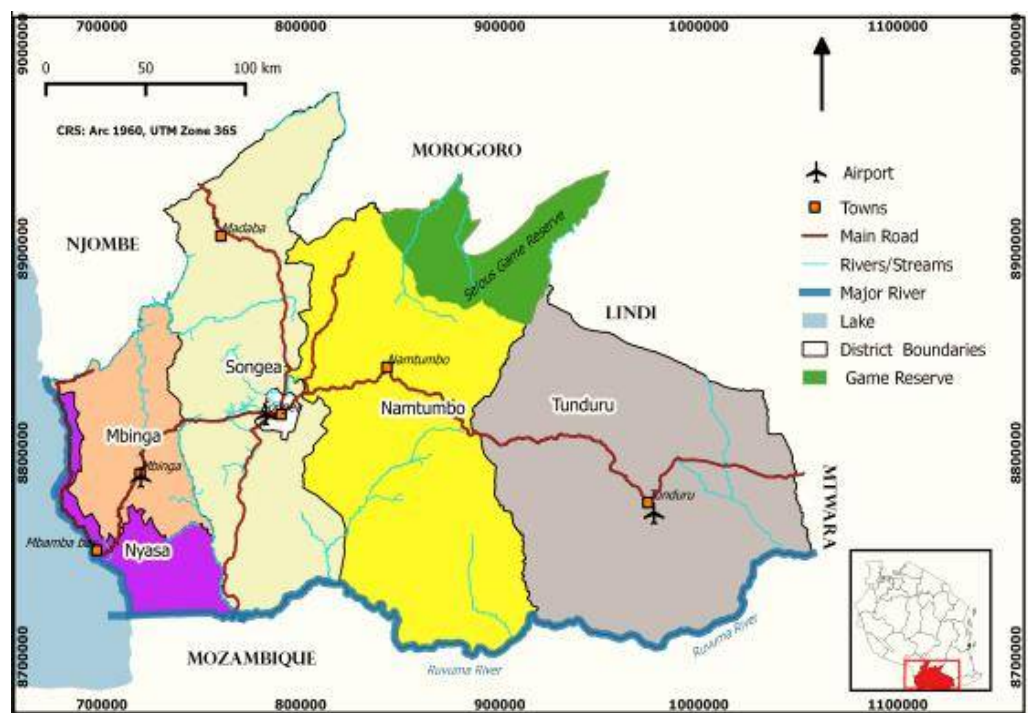
2.1 Location

Ruvuma Region is situated in the southern Tanzania. It extends between latitudes 9°35' S and 11°45' S and longitudes 34°35' W and 38°10' W. Ruvuma Region borders the Republic of Mozambique to the south, Malawi and Lake Nyasa to the west, Njombe and Morogoro Regions to the north, and Mtwara Region to the east. The lowlands in the eastern part of the region are 300 metres above sea level while the northern and western parts of the Lukumburu and Matengo mountains rise to 2,000 m.a.s.l.

2.2 Area and administrative units

Ruvuma Region covers an area of 63,968 km² and is divided into five rural districts and three town councils (Figure 1). The districts are Mbinga, Nyasa, Namtumbo, Songea and Tunduru. The town councils include Mbinga, Tunduru and Songea Municipal.

Figure 1 Administrative units in Ruvuma Region



2.1 Population distribution

Ruvuma region has a population of 1,376,891 inhabitants (National Census Report, 2012). The average density is just 21.5 inhabitants per square kilometre, a rate indicative of a sparse population with low pressure on the land. Mbinga District has the highest population, 353,683 inhabitants, and the highest density, 73.1 inhabitants per km² and Namtumbo District has the lowest population and density, at 201,639 inhabitants and 9.3 inhabitants per km² respectively. Songea and Tunduru districts also recorded low densities, just 1.44 and 16.2 inhabitants per km² respectively. The three districts of Namtumbo, Songea and Tunduru have much land that can be allocated for forest plantations if village land use plans (VLUPs) are prepared in areas with sparse populations.

Table 1 Population and population density in Ruvuma Region

S/n	District/Municipal	Area (km ²)	Population census 2012	Population density (persons/km ²)
1	Tunduru	18,413	298,279	16.2
2	Namtumbo	20,375	201,639	9.3
3	Songea	14,027	173,821	12.4
4	Mbinga	4,859	353,683	73.1
5	Nyasa	3,659	146,160	39.9
6	Songea Municipal	Negligible	131,336	High
	Total	63,968	1,376,891	21.5

2.2 Climate

2.2.1 Temperature

Ruvuma Region is characterized by mild temperatures which average 23 °C year-round but depend on altitude and season. The months of June, July and August are chilly, with temperatures dropping to 13 °C particularly within the areas surrounding the Matengo Highlands in Mbinga District. October and November, with an average temperature of 30 °C, are the hottest months.

2.2.2 Rainfall

Except for bad years, the region experiences adequate annual rainfall. The rainy season begins in November and ends in May and brings between 800 mm and 1,800 mm. The quantity of rain varies by district, with Mbinga District recording the greatest annual average rainfall (1,225 mm) and Tunduru District the least (less than 900 mm).

2.2.3 Humidity

The mean humidity for Ruvuma Region is high, especially in the morning. It is about 88% during the day in March but only about 37% in the evenings in October.

2.3 Land cover

The edaphic vegetation for Ruvuma Region consist mainly of Miombo woodlands – a wooded savanna and the most dominant type of natural forest formation in the southern Africa. The dominant tree species generally belong to one of the three genres of *Branchystegia*, *Julbernardia* and *Isoberlinia*. While they used to cover large areas in the not-so-distant past, the common practice of shifting cultivation has left most parts of the Ruvuma Region covered in bushland or grassland.

The process of deforestation through human activities such as the collection of firewood and timber, charcoal making, tobacco curing and brick making is still ongoing, further reducing the native forest cover. Bushland is found on lower slopes, where human practices like forest clearing, shifting cultivation, tobacco curing and tree cutting account for the conversion from woodland. Grasslands are common in lowlands and on plateaus due to these same destructive human activities.

Additionally, some edaphic grasslands occur due to rainfall distribution and special drainage conditions.

Arable land under active use often includes planted trees, bamboo and shrubs. Areas surrounding Mount Matogoro are covered by pines and eucalyptus trees, where planting started in 1961.

Degraded bushlands and grasslands with currently active agriculture included account for about 60% of the land area, including some parts of the districts of Songea (rural), Tunduru and Mbinga. 35% remains covered by Miombo woodlands. Only 5% is occupied by settlements, which include housing, social facilities and institutional lands.

3. POTENTIAL BLOCKS FOR COMMERCIAL FORESTRY INVESTMENTS

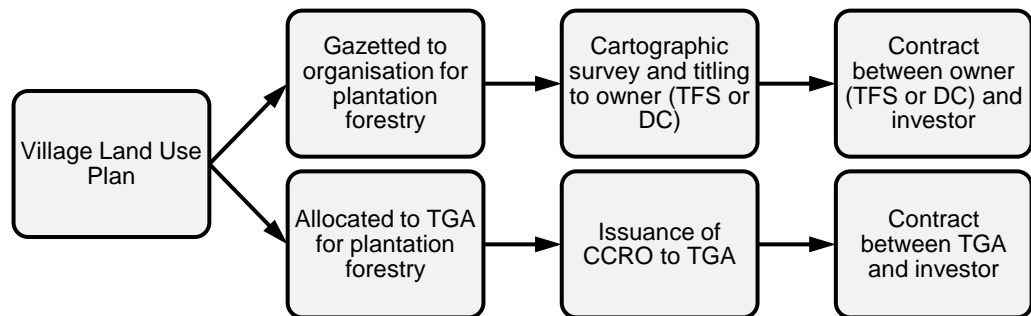
Legal status of the investment blocks

In collaboration with regional and district authorities, as well as the Ministry of Natural Resources and Tourism, the PFP identified land that could be made available for investors to invest in plantation forestry. These potential areas were grouped into eleven blocks for investment (Table 2 and Figure 3).

Eight of these blocks had been gazetted and three were declared (Ifinga Blocks A & B and Masonya Block), but none were titled.

Normally a Village Land Use Plan should be prepared before sites are declared, gazetted or allocated for TGAs for plantation forestry (Figure 2), but this has been somewhat overlooked and will need to be rectified. The gazetted blocks also need to be surveyed and titled before any contracts for investment can be completed. TGAs need to be issued with group certificates of customary right of occupancy (CCRO) before entering into contracts with investors.

Figure 2 Alternative routes to external investment in plantation forestry



Additional roundwood supplies for wood industries

Many of the blocks present opportunities for supplementing roundwood supply by promoting outgrower schemes, and in addition most have nearby plantations which could further add to roundwood supply.

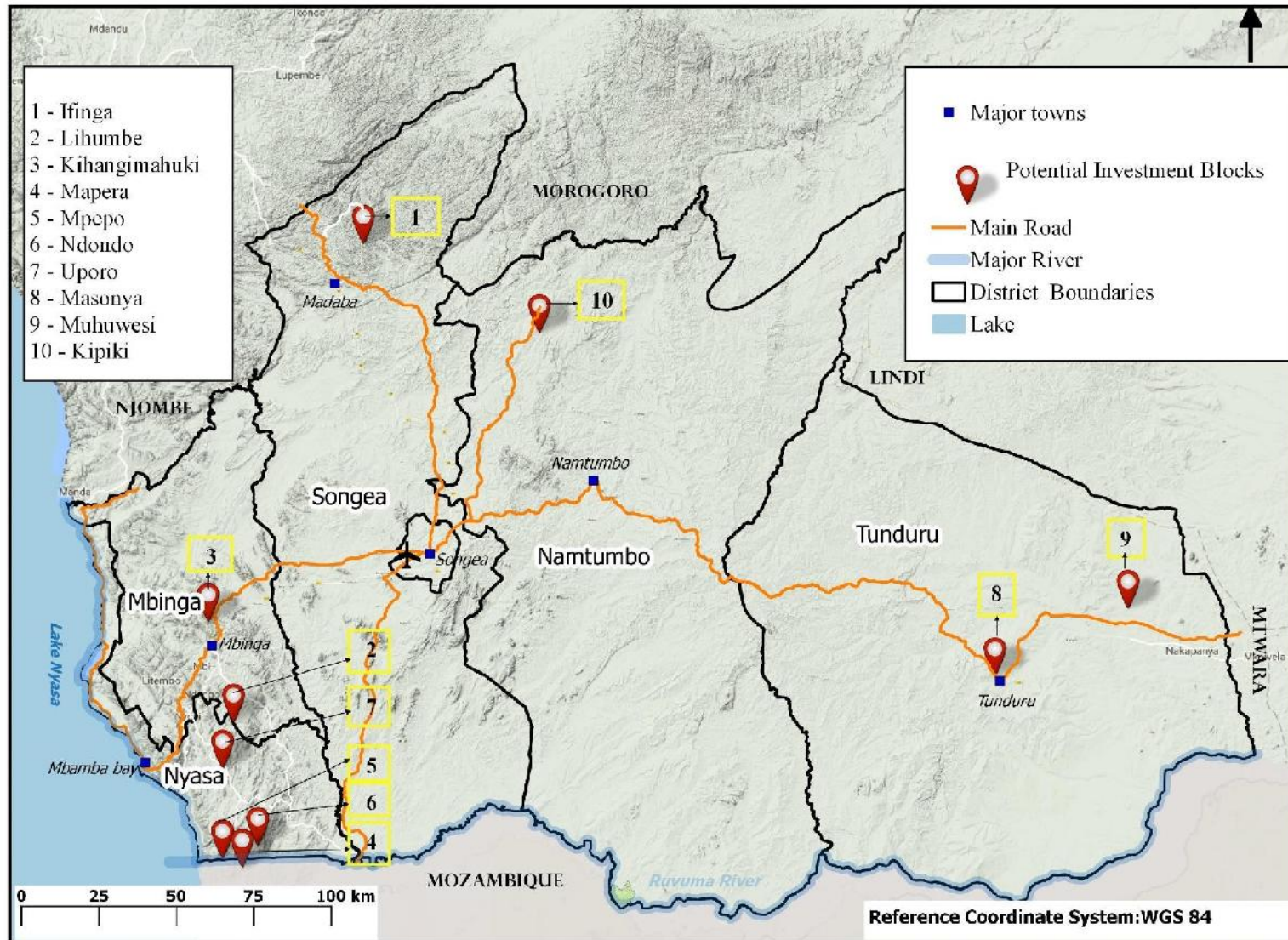
Commercial species suitable for the region

The commercial plantation species that grow well include *Tectona grandis* and *Milicia excelsa* in lowlands; *Pinus kesiya*, *P. caribea* and *P. oocarpa* in mid-altitudes; and *P. patula*, *P. tecunamanii* and *P. maximinoides* in uplands. *Eucalyptus grandis*, *E. saligna* and *E. maidenii* also perform well at high altitudes.

Table 2 Summary of commercial plantation forestry investment opportunities in Ruvuma Region

District	Village	Village Land Use Plan Status	Investment block	Legal status of the land	Total area (ha)	Altitude range (m.a.s.l.)	Annual precipitation (mm)	Additional land potentially available for outgrowers	Additional sources of roundwood nearby
Madaba DC (Songea Rural)	Ifinga	Present	Ifinga Block (A): TFS sectors	declared (TFS)	10,564	1,200–1,600	1,500	7,291 ha allocated	2,800 ha TFS plantations
	Wino	Present							
	Mkongotema	Present							
	Ifinga	Present	Ifinga Block (B): TGA sectors	declared (TGAs)	34,541				
	Wino	Present							
	Mkongotema	Present							
Mbinga	Ukimu	Not prepared	Lihumbe Block	gazetted (DC)	3,077	1,450	>1,500	2,575 ha allocated	Individual woodlots
	Lipilipili	Not prepared	Kihangimahuki Block	gazetted (TGAs)	7,500	1,400–1,900	1,500	To be decided	
	Lipumba	Not prepared							
	Kihangimahuki	Not prepared							
	Lukarasi	Not prepared							
	Matiri	Not prepared							
	Mapilipili	Not prepared							
	Linda	Not prepared							
Nyasa	Mtetema	Not prepared	Mapera Block	gazetted (TFS)	1,955	1,300–1,800	>1,500	1,200 ha allocated	
	Mpepo	Not prepared	Mpepo Block	gazetted (TFS)	3,000	1,300–1,800	>1,500	2,000 ha allocated	
	Lunyele	Not prepared	Ndondo Block	gazetted (TGAs)	998	1,300–1,800	>1,500	500 ha allocated	
	Mpepo	Not prepared							
	Uporo	Not prepared	Uporo Block	gazetted (DC)	3,600	1,300–1,500	>1,500	2,000 ha allocated	
	Kingirikiti	Not prepared							
	Tingi	Not prepared							
Tunduru	Masonya	Not prepared	Masonya Block	declared (DC)	3,000	500–600	1,000 (high water table)	5,000 ha allocated	Village forest reserve under sustainable production
	Muhuwesi	Not prepared	Muhuwesi Block	gazetted (TFS)	5,000	500–600	1,000 (high water table)	3,000 ha allocated	
Namtumbo	Kitanda	Present	Kipiki Block	gazetted (TFS)	7,000	800–1,000	>1,500	2,000 ha allocated	Individual woodlots
Grand Total					80,235				

Figure 3 Location of the investment blocks within Ruvuma Region



3.1 Ifinga Block

Plantable area, location and access

A: TFS sectors

Village	Officially gazetted (or declared) area (ha)
Ifinga	10,564
Wino	1,512
Mkongotema	8,491
Total	20,567

B: TGA sectors

Village	Additional village land allocated for forest plantation investment as per Village Land Use Plans (ha)
Ifinga	12,738
Wino	16,935
Mkongotema	4,868
Total	34,541



Ifinga Block is located in Madaba District (previously Songea Rural), just off the highway from Njombe to Songea and about 15 km from the town of Madaba, so accessibility is excellent (Figure 4). The block comprises of land in the villages of Ifinga, Wino and Mkongotema, and includes: a) Tanzania Forest Service (TFS) land, and b) village land allocated to TGAs for plantation development.

The area declared to TFS that is available for afforestation totals up to 20,567 ha.

The TGA land totals up to 34,541 ha within the three villages.

Village land use planning

Village land use plans for all three villages have been prepared recently and endorsed at district level.

Site conditions

The topography of the block undulates and its altitude mostly ranges between 1,500 m.a.s.l. to 1,600 m.a.s.l. Temperatures are between 15 °C to 25 °C, and average rainfall is 1,500 mm per annum.

The area has grayish soils mixed with sand (Mollisols), although lowlands and valleys have black cotton soils (Vertisols). The hills are covered with grasslands and remnants of native forest, the latter of which are occurring mainly as narrow patches along streams between the hills.

Nearby sources of roundwood

TFS has already established 1,512 ha of plantations in Wino and planted about 1,300 ha in Ifinga. There are also numerous small private plantations nearby.



Figure 4 Location of Ifinga Block and its potential forest investment sites in Madaba DC

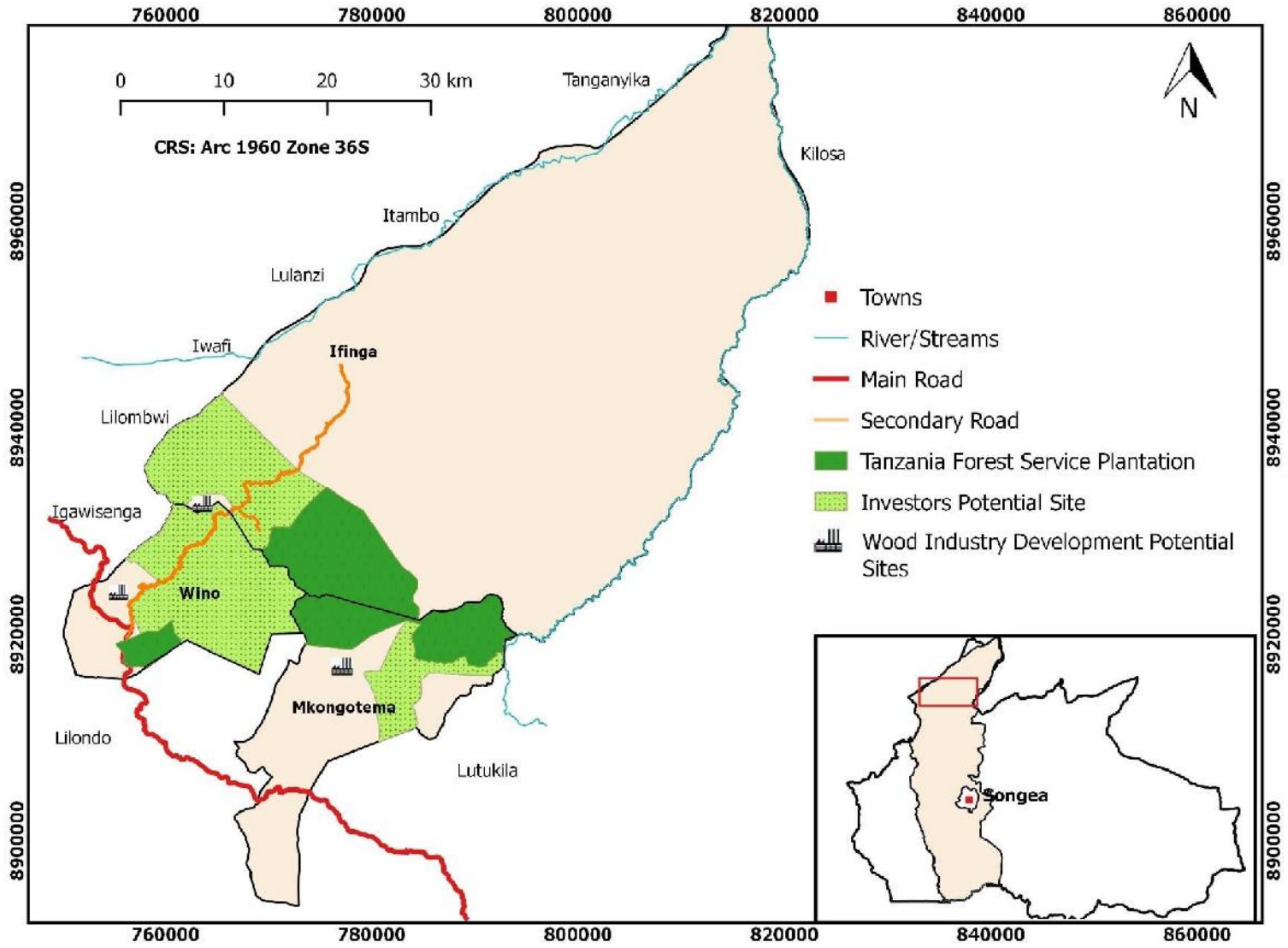
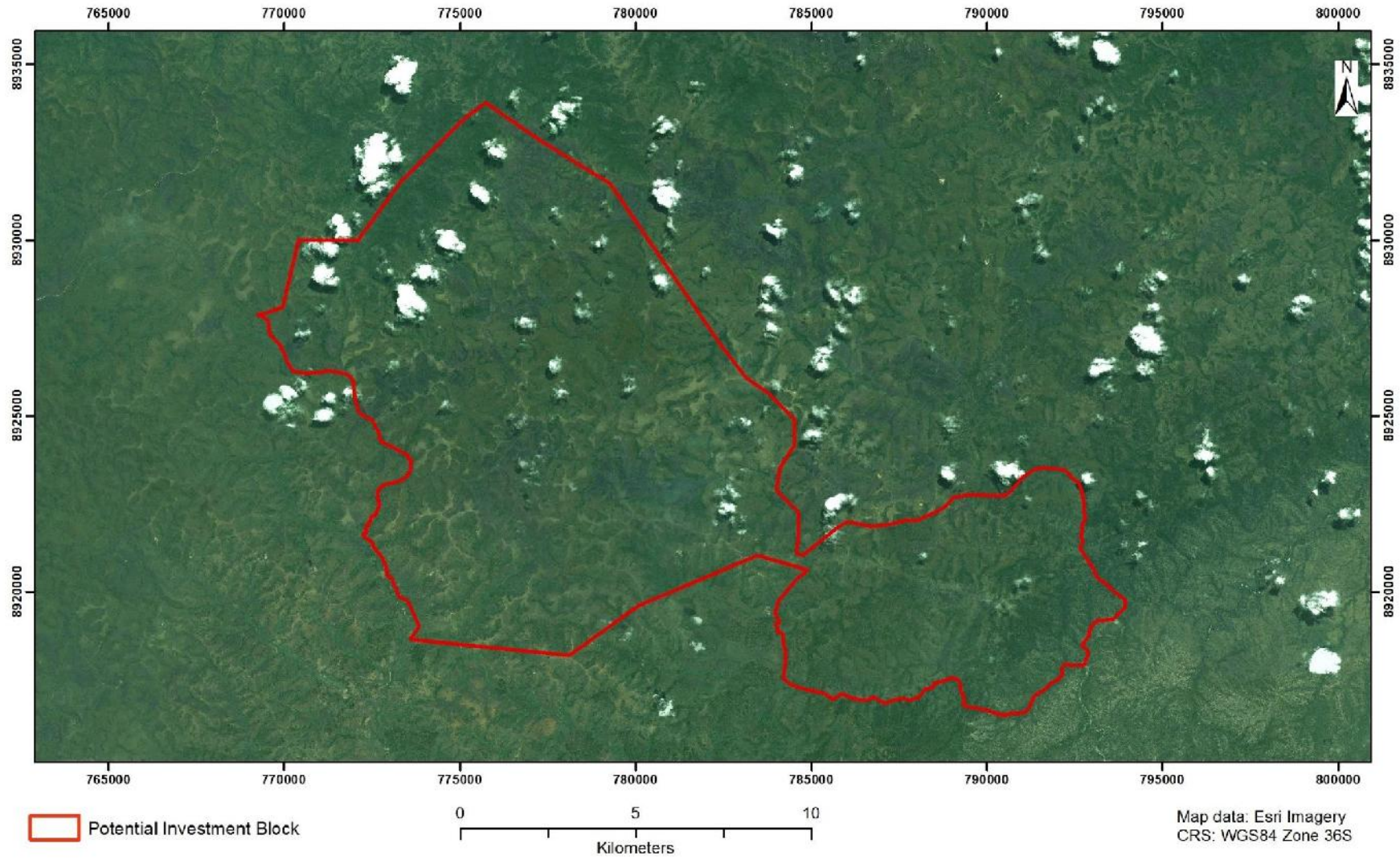


Figure 5 Ifinga Block (TFS) in satellite image



3.2 Lihumbe Mountain Block

Plantable area, location and access

Village	Officially gazetted (or declared) area (ha)
Ukimo	207
Lipilipili	2,870
Total	3,077



Lihumbe Block is located in the Lihumbe Hills of Mbangamao Ward in Mbinga Town Council. It has about 3,000 ha that are suitable for plantation forestry (Figure 6, Figure 7). Lihumbe Block is 20 km from Mbinga Town. It partially overlaps two villages, Ukimo in the northwest corner of the block and Lipilipili in the south. Accessibility remains a constraint to site development.

Village land use planning

The villages own the land under customary law but neither has a VLUP. The average household farm size in the lowlands is 0.4 ha to 2.4 ha, a fact suggesting that the land shortage needs to be addressed.

The hills were gazetted in 1994 for commercial tree planting under government notice GN No.450.

Site conditions

The altitude of the proposed forest plantation is ranges between 900 m.a.s.l. and 1,500 m.a.s.l. Temperatures range between 19 °C to 31 °C, and average rainfall is 1,224 mm per annum.

The Lihumbe Hills are covered by red clay soils mixed with sand (Oxisols) while the slopes have clay soils mixed with sandstone. The lowlands and valleys have black clay soil (Vertisols). The hills are covered by grasslands, mixed woodlands, and Miombo woodland.

The hills are the source of water for Mbinga Town Council.

Figure 6 Location of Lihembe Block and its potential forest investment site in Mbinga District

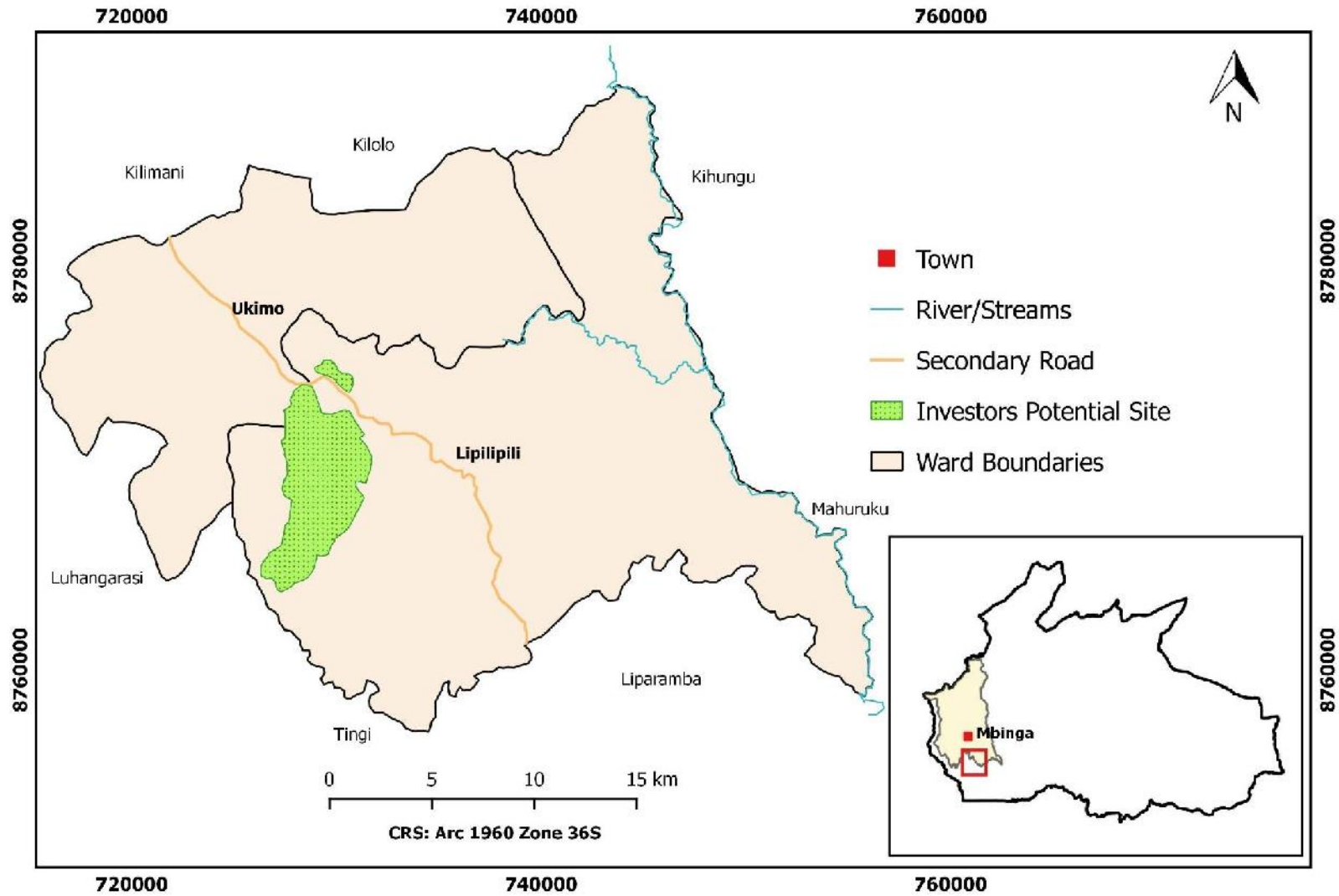
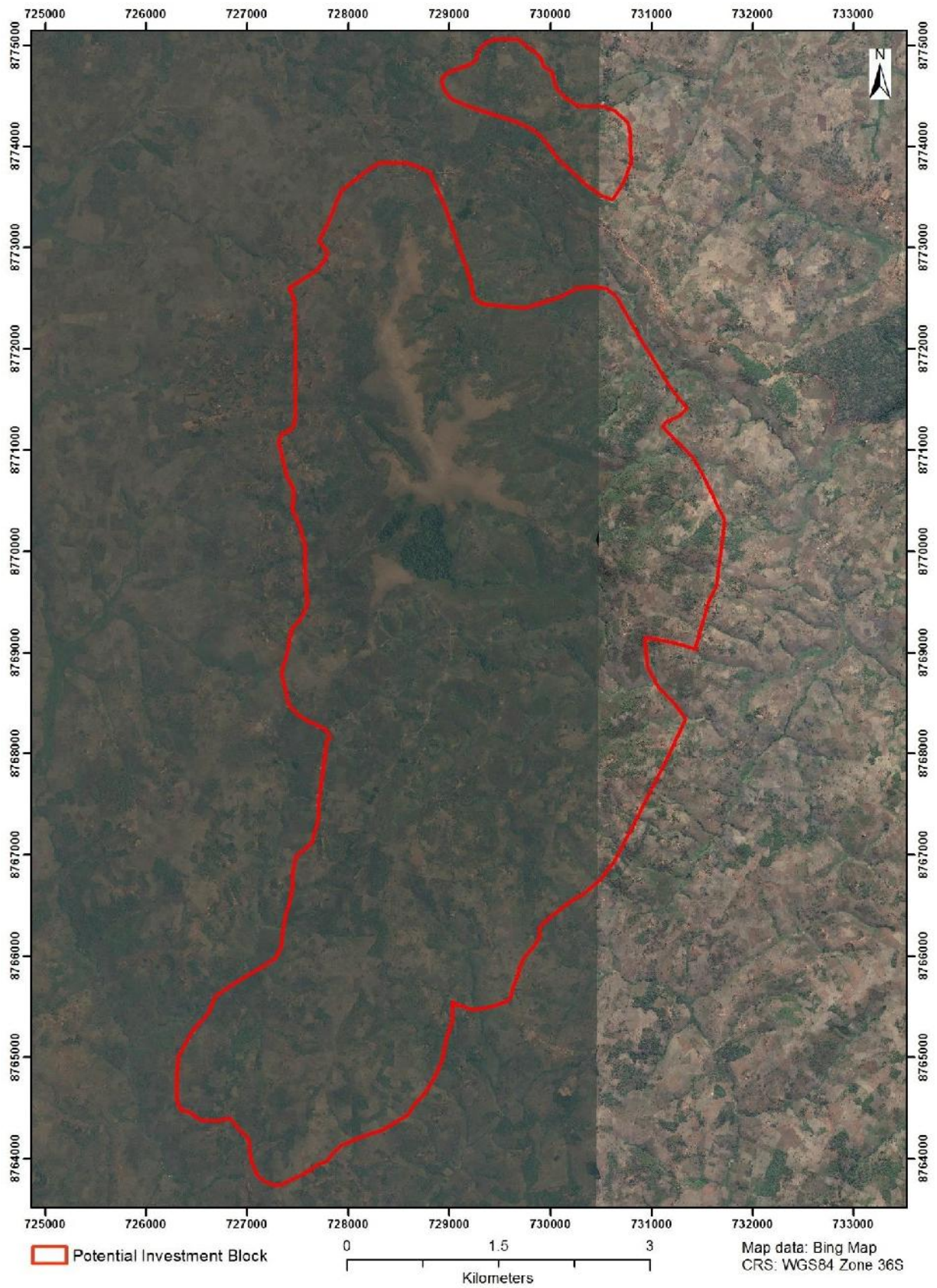


Figure 7 Lihumbe Mountain Block in satellite image



3.3 Kihangimahuki Block

Plantable area, location and access

Village	Officially gazetted (or declared) area (ha)
Lipumba	<i>no data</i>
Kihangimahuki	<i>no data</i>
Lukarasi	<i>no data</i>
Matiri	<i>no data</i>
Mapilipili	<i>no data</i>
Linda	<i>no data</i>
Total	7,500



The Kihangimahuki Block is located along the range of mountains namely Mapilipili, Kitumbalomo and Kihangimahukiha in the northern part of Mbinga district. The block has total area of 7,500 ha stretching over an area belonging to six villages, including Lipumba, Kihangimahuki, Mapilipili, Lukarasi, Matiri and Linda (Figure 8, Figure 9).

Village land use planning

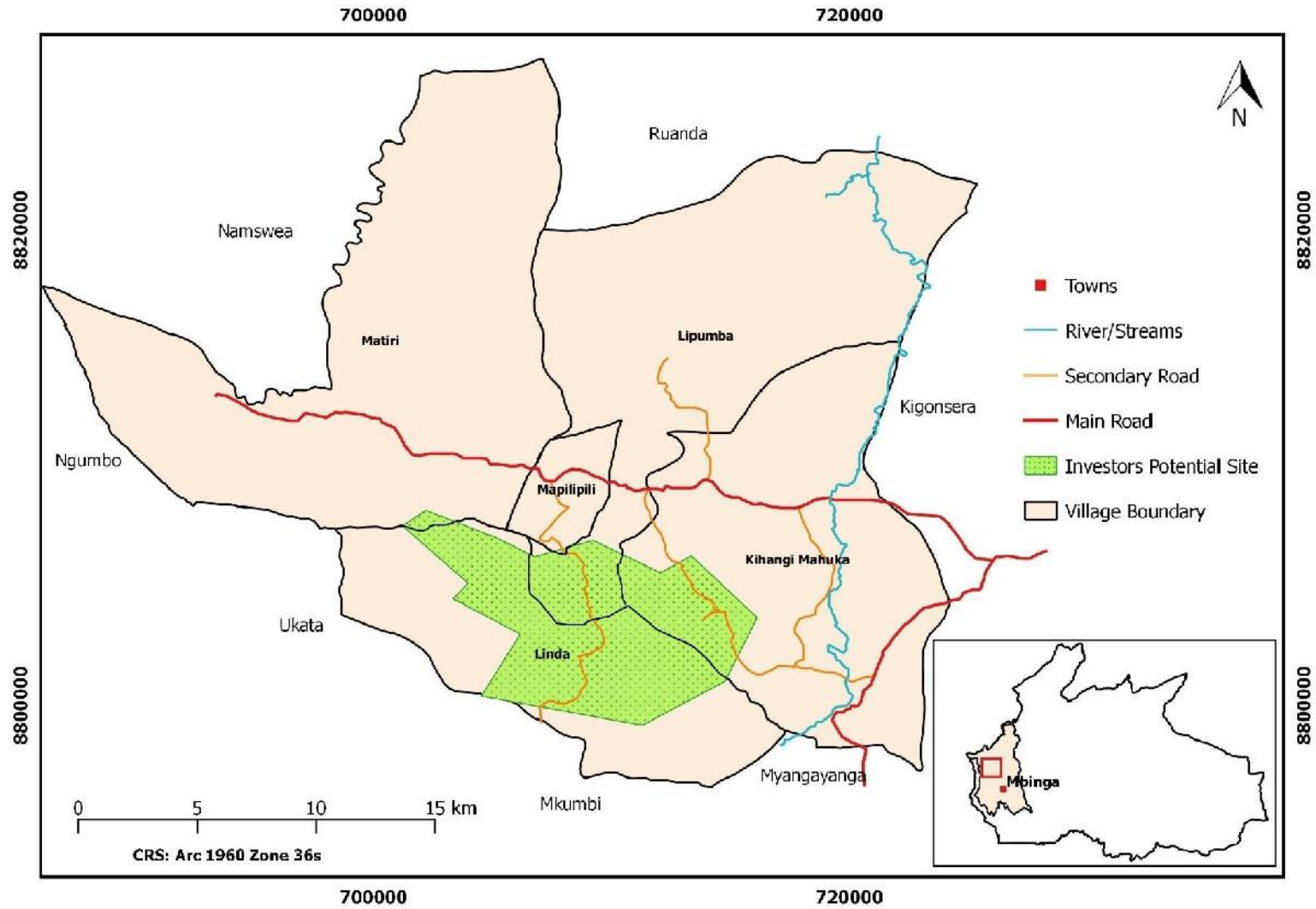
Village land use plans for the six villages remain to be drafted.

The Kihangamahuki Block was gazetted for tree planting in 1994 by GN no. 450. Since then the individual villagers have owned the plots. Four tree growers' associations have been formed, but they lack in capacity to develop the site.

Site conditions

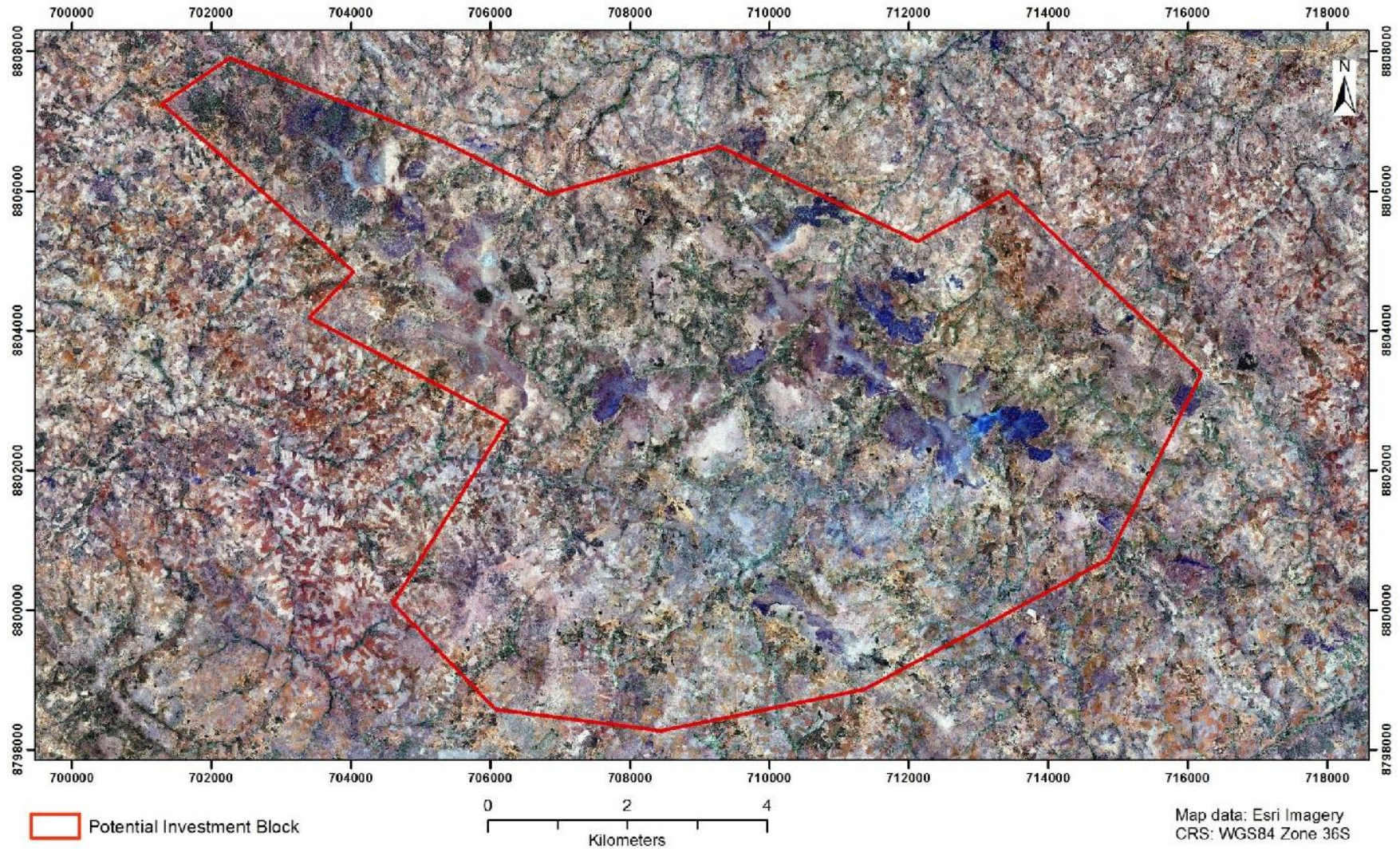
The elevation of the block ranges from 1,400 to 1,900 m.a.s.l. The average rainfall is 1,500 mm per annum and the average temperature is 23 °C.

Figure 8 Location of Kihangimahuki Block and its potential forest investment site in Mbinga District



Note: Up-to-date spatial information on village boundaries was not available. The boundaries in the map do not completely reflect current reality.

Figure 9 Kihangimahuki Block in satellite image



3.4 Mapera Block

Plantable area, location and access

Village	Officially gazetted (or declared) area (ha)
Mpepo	1,955



Mapera Block is 80 km from Mbinga Town. It is located in the village of Mpepo in Nyasa District. The block has about 1,955 ha that could be planted and has been gazetted for commercial tree planting (Figure 10, Figure 11). There is an all-weather road from Mbinga through Tingi service centre to Mpepo, but accessibility to the site needs improvement from Tingi to Mtetema.

Village land use planning

Neither village has a VLUP though the TFS has budgeted funds for them to engage in the VLUP process. The villages own the land under customary law. Average household farm size in the lowlands ranges between 2 to 4 ha, a figure suggesting that there is no land shortage.

Site characteristics

The altitude of the proposed forest plantation is between 1,200 m.a.s.l. and 1,800 m.a.s.l., temperatures ranges between 15 °C and 25 °C, and average annual rainfall is 1,500 mm per annum.

The hills in Mapera Block comprise very old red clay soils mixed with sand (Oxisols and Ferralsols) while the slopes have clay soils mixed with sandstone. In the lowlands and valleys are black cotton soils (Vertisols). The hills are covered by grasslands and patches of woodland.

Figure 10 Location of Mapera Block and its potential forest investment site in the village of Mtetema

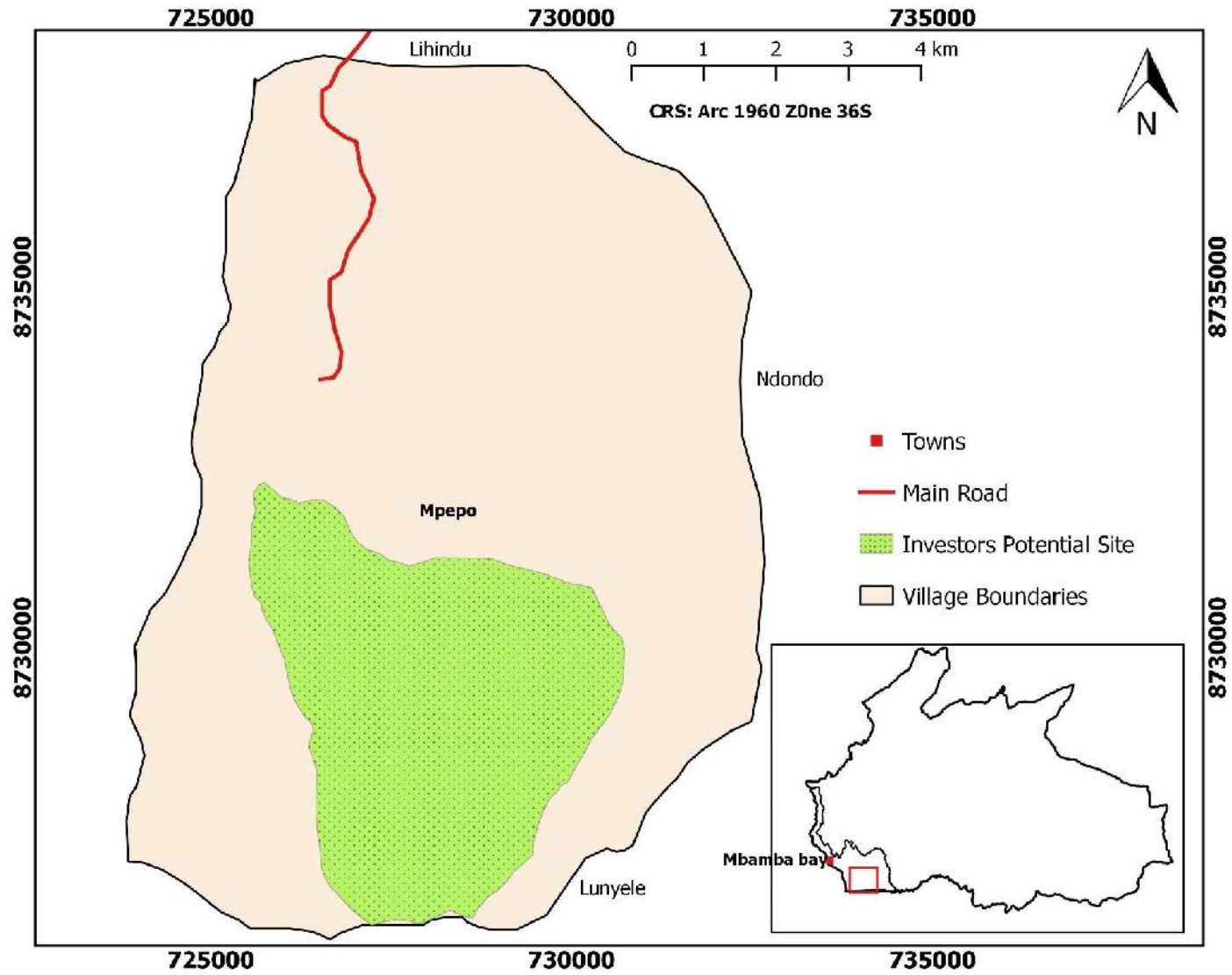
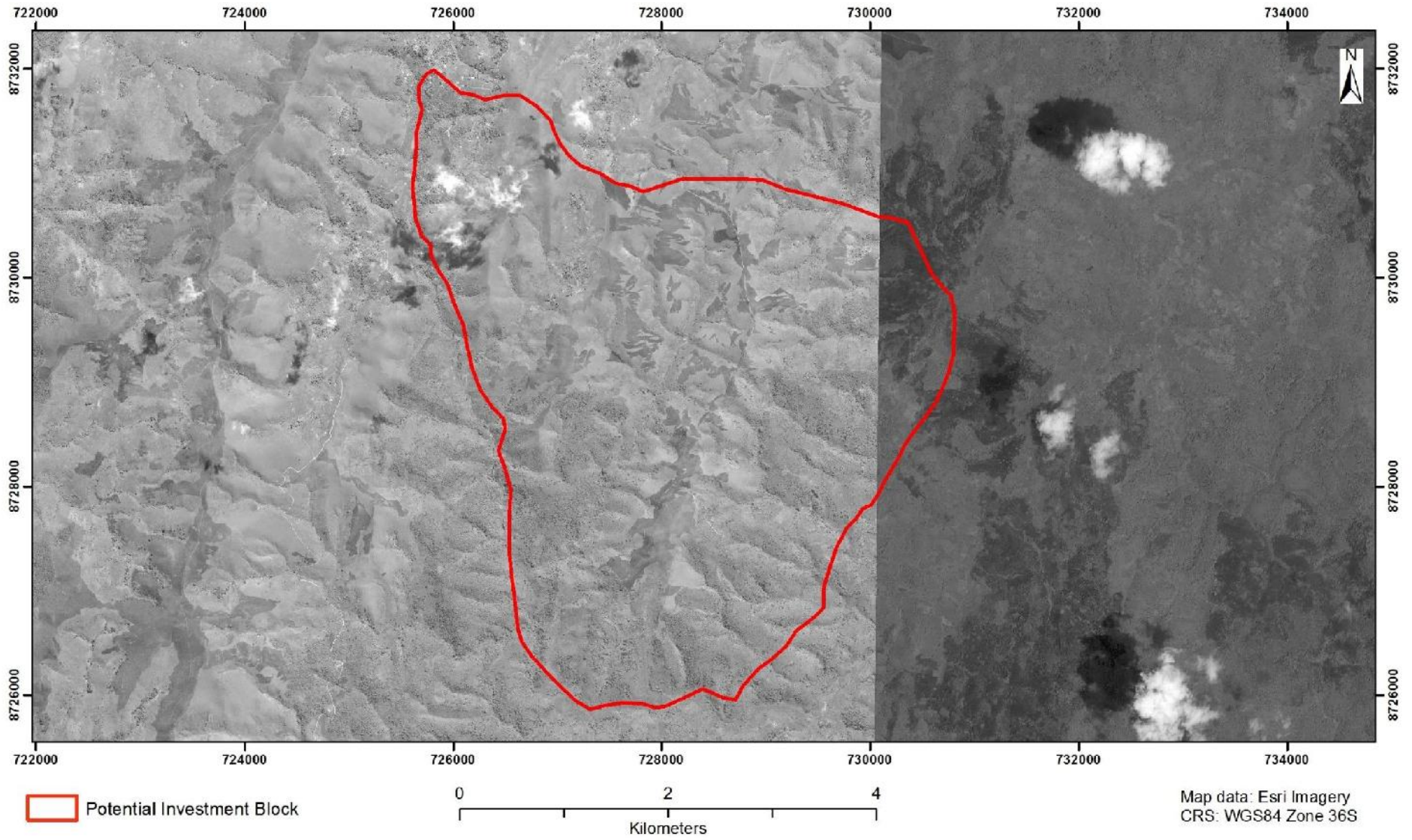


Figure 11 **Mapera Block in satellite image**



3.5 Mpepo Block

Plantable area, location and access

Village	Officially gazetted (or declared) area (ha)
Mpepo	<i>no data</i>
Lunyele	<i>no data</i>
Kihurunga	<i>no data</i>
Total	3,000



This block is located within the area of three villages of Mpepo, Lunyele and Kihurunga (Figure 12, Figure 13). The average household farm size in the lowlands is between 2 ha and 4 ha, a figure which suggests that there is no land shortage currently but that there will be as soon as the plantation project is launched.

Village land use planning

Neither of the two villages has a VLUP though the TFS has budgeted funds for the VLUP process. The villages own the land under customary law.

Site conditions

The hills in the Mpepo Block are covered with very old red clay soils mixed with sand (Oxisols) while the slopes have clay soils mixed with sandstone. In the lowlands and valleys have black cotton soils (Vertisols). The hills are covered by grasslands and patches of woodland.

Figure 12 Location of Mpepo Block and its potential forest investment site in Nyasa District

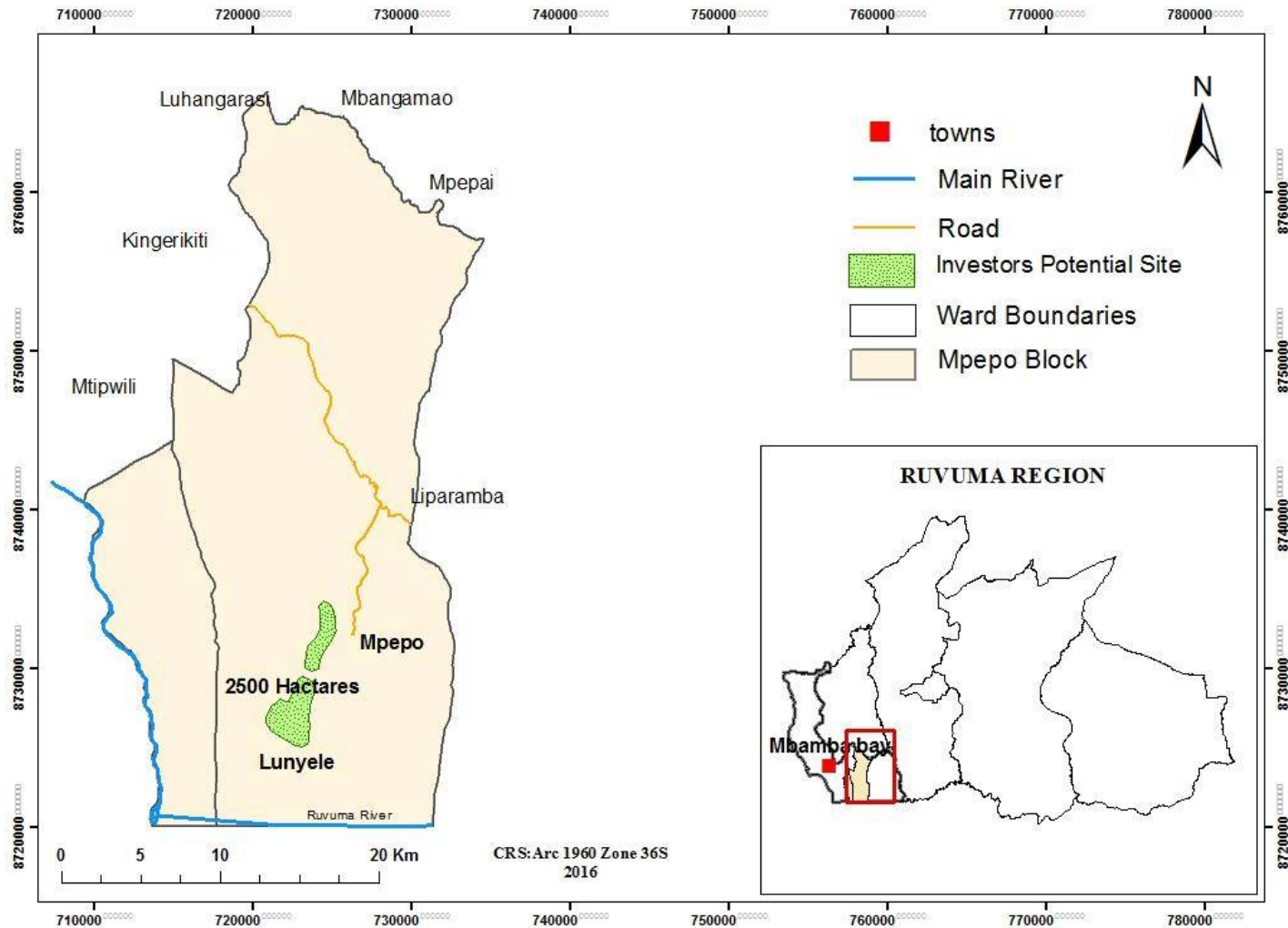
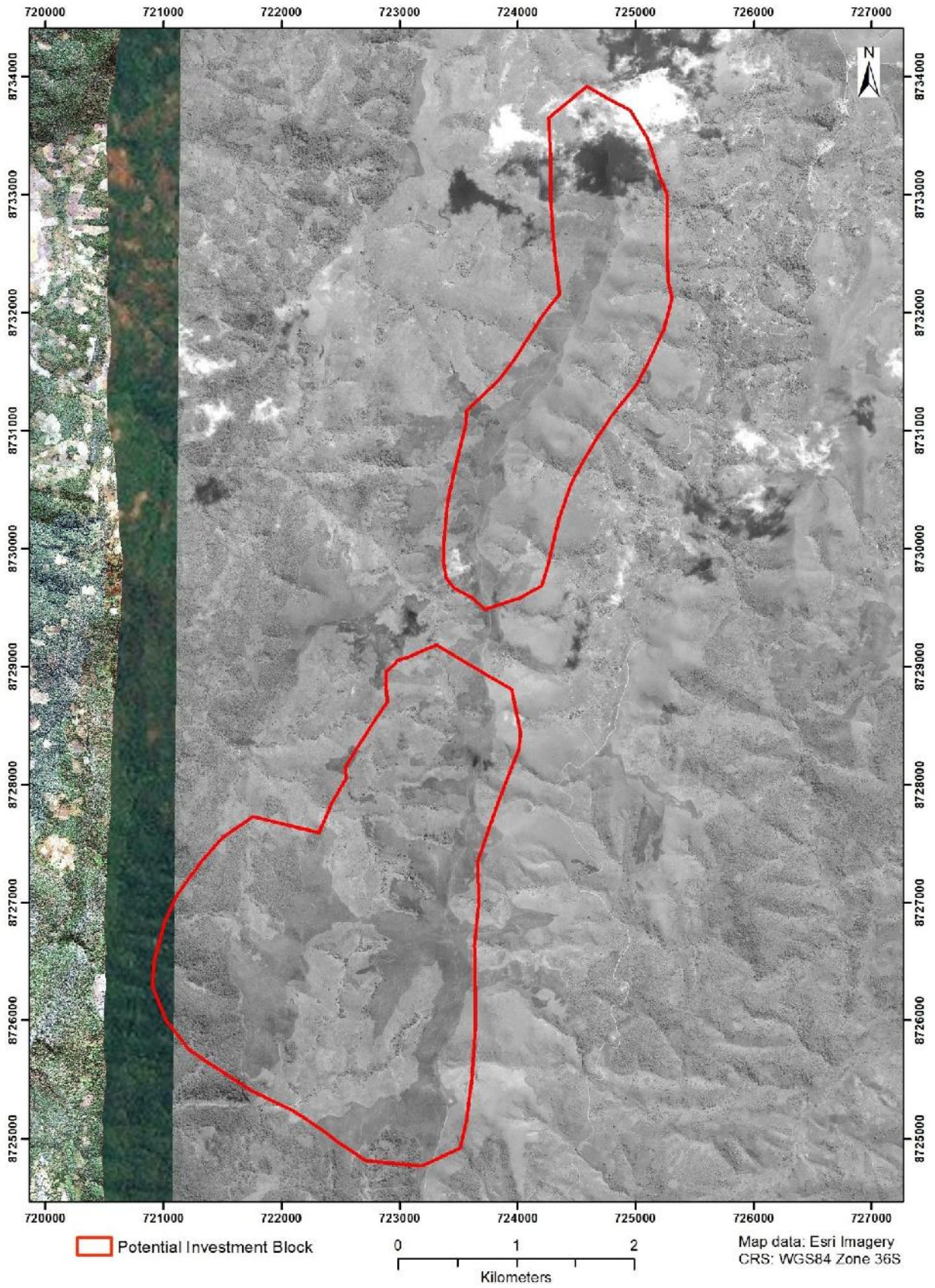


Figure 13 Mpepo Block in satellite image



3.6 Ndongo block

Plantable area, location and access

Village	Officially gazetted (or declared) area (ha)
Ndongo	887
Mpepo	111
Total	998



Ndongo Block is in the villages of Ndongo and Mpepo, about 80 km from Mbinga Town, in Nyasa District. The block has about 1,000 ha that could be planted and is gazetted for commercial tree planting (Figure 14, Figure 15). There is an all-weather road from Mbinga through Tingi Service Centre to the village of Ndongo, but the stretch between Tingi and Ndongo needs to be improved.

Village land use planning

Neither of the two villages has a VLUP though the TFS has budgeted funds for them to make such plans. They own the land under customary law. The average household farm size in the lowlands is between 2 ha and 4 ha in the lowlands, a figure which suggests that there is no land shortage currently but that there will be as soon as the plantation project is launched.

Site conditions

The proposed forest plantation will be located between 1,200 m.a.s.l. and 1,800 m.a.s.l. Temperatures range between 15 °C to 25 °C and average annual rainfall is 1,500 mm.

The hills in the Ndongo Block are covered by very old red clay soils mixed with sand (Ultisols) while the slopes have clay soils mixed with sandstone. Lowlands and valleys have black cotton soils (Vertisols). The hills are covered by grasslands and patches of woodland.

Figure 14 Location of Ndondo Block and its potential forest investment site in Nyasa District

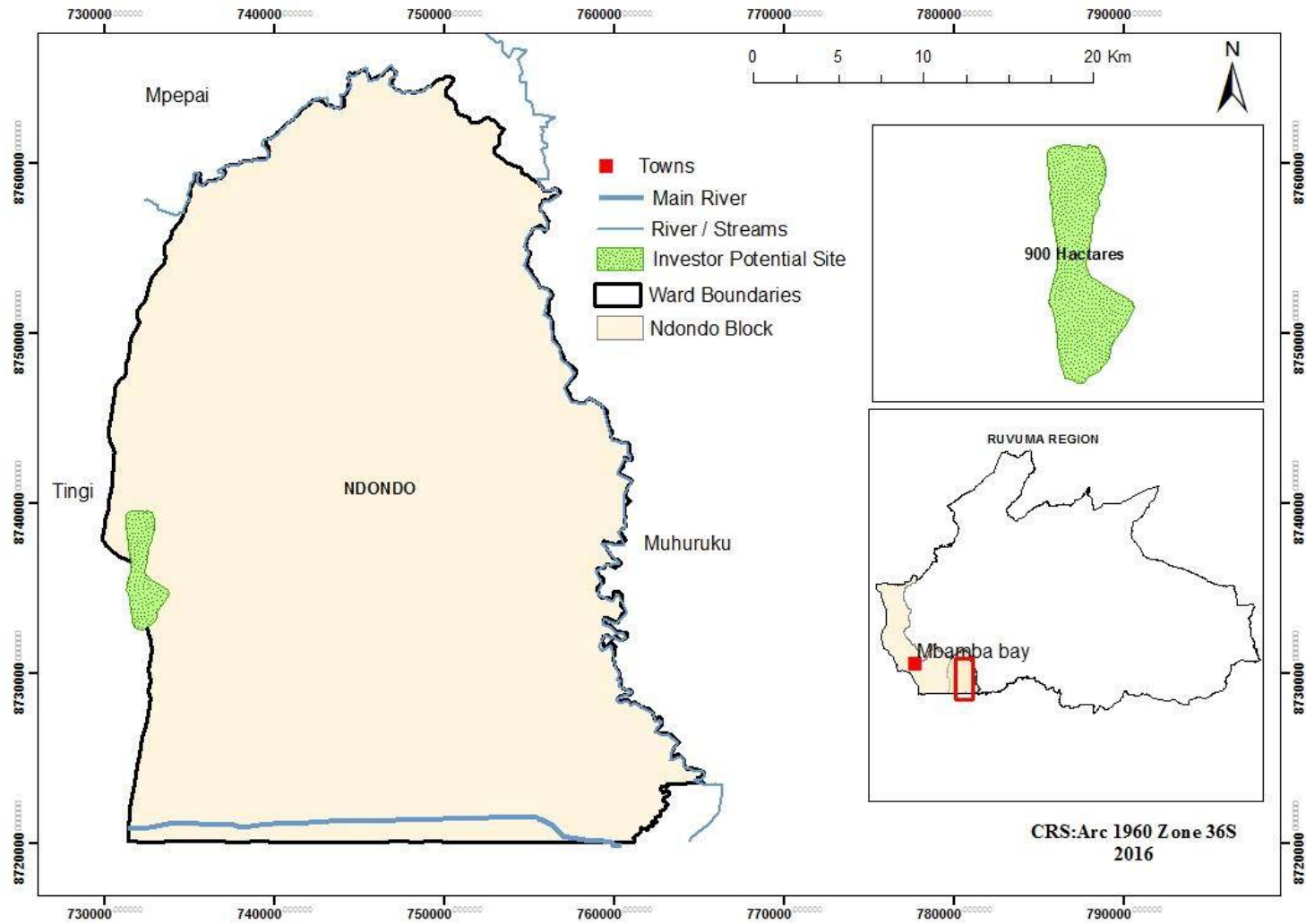
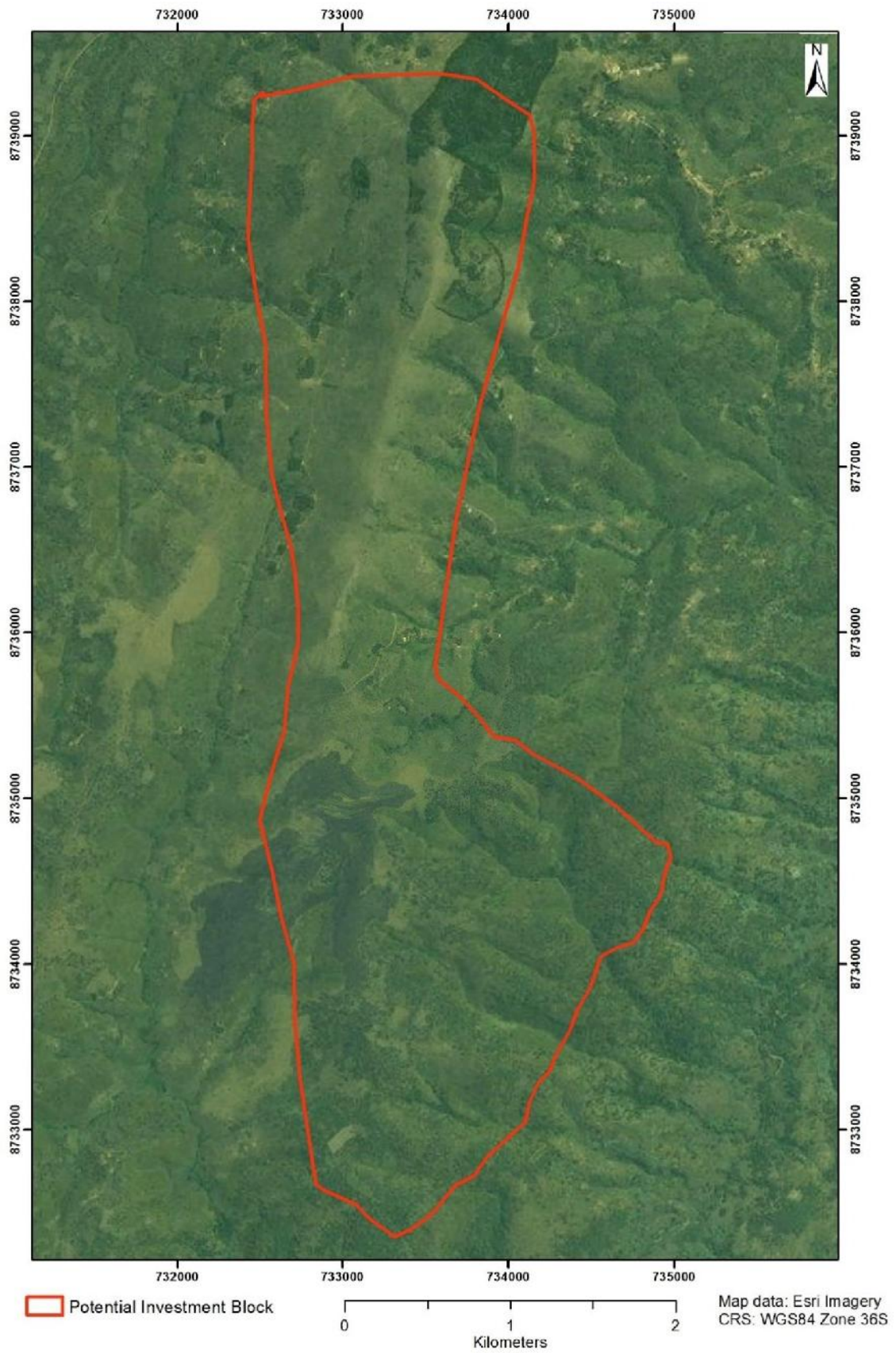


Figure 15 Ndondo Block in satellite image



3.7 Uporo Block

Plantable area, location and access

Village	Officially gazetted (or declared) area (ha)
Uporo	<i>no data</i>
Kingirikiti	<i>no data</i>
Tingi	<i>no data</i>
Total	3,600



Uporo Block is 65 km from Mbinga Town. It lies within the villages of Uporo, Kingirikiti and Tingi in Nyasa District (Figure 16, Figure 17). It has about 3,600 ha with the potential for tree planting and is gazetted for commercial tree planting. There is an all-weather road from Mbinga to Upolo, but the stretch between Mbinga and the Mbambabay Road which goes to Uporo needs to be improved.

Village land use planning

None of the three villages has a VLUP and the budget allocated by the TFS for the VLUP is inadequate. The villages own the land under customary law. The average household farm size in the lowlands is between 2 ha to 4 ha, a figure which suggests that there is no land shortage currently but that there will be as soon as the plantation project is launched.

Site conditions

The altitude of the proposed forest plantation is between 1,200 m.a.s.l. and 1,800 m.a.s.l. The temperatures range between 15 °C and 25 °C and average annual rainfall is 1,500 mm.

The hills of Uporo Block are covered by red clay soils mixed with sand (Ultisols) while the slopes have clay soils mixed with sandstone (Arenosols). The lowlands and valleys have black cotton soils (Vertisols). The hills are covered by grasslands and patches of woodland.

Figure 16 Location of Uporo Block within Uporo village

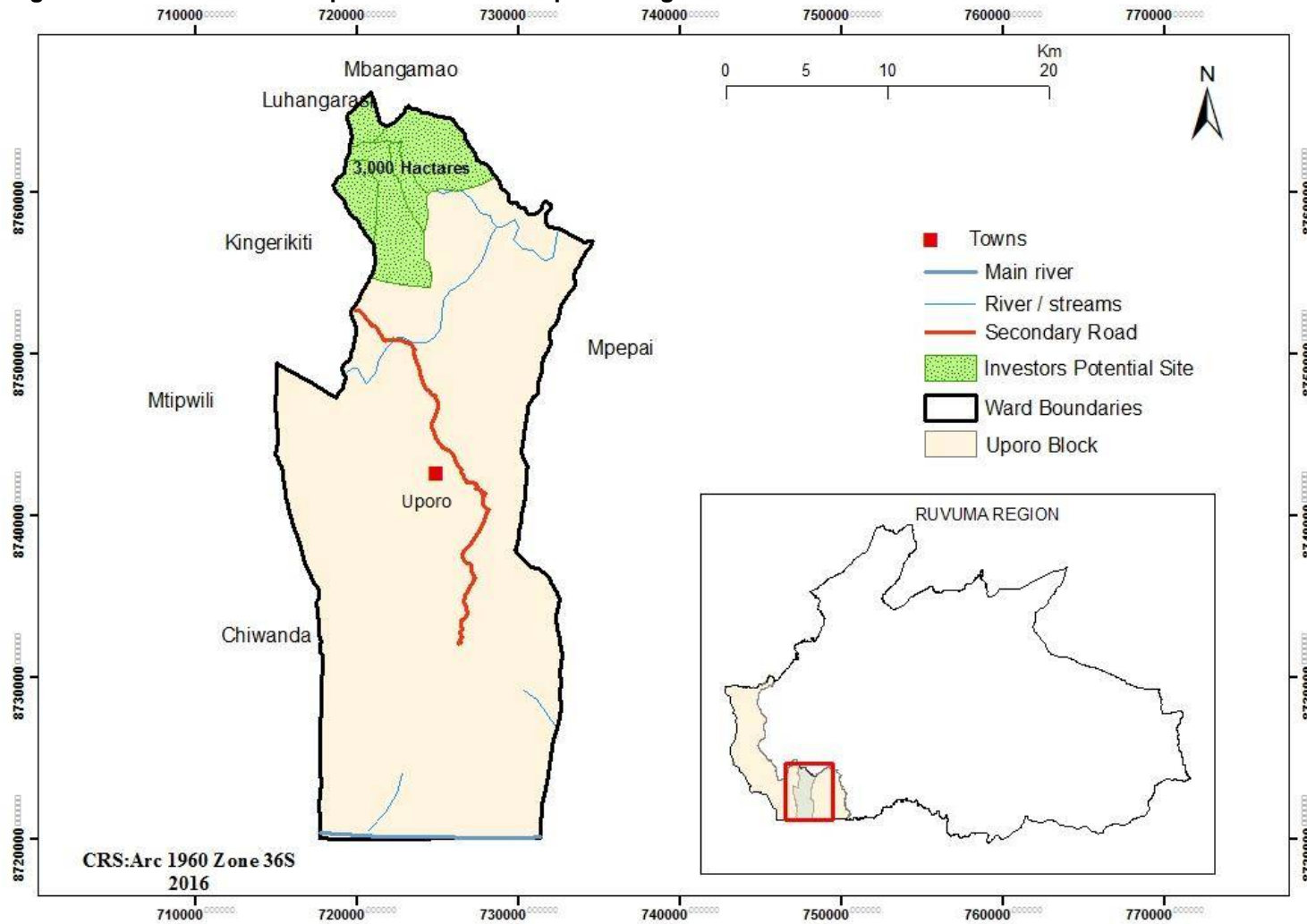
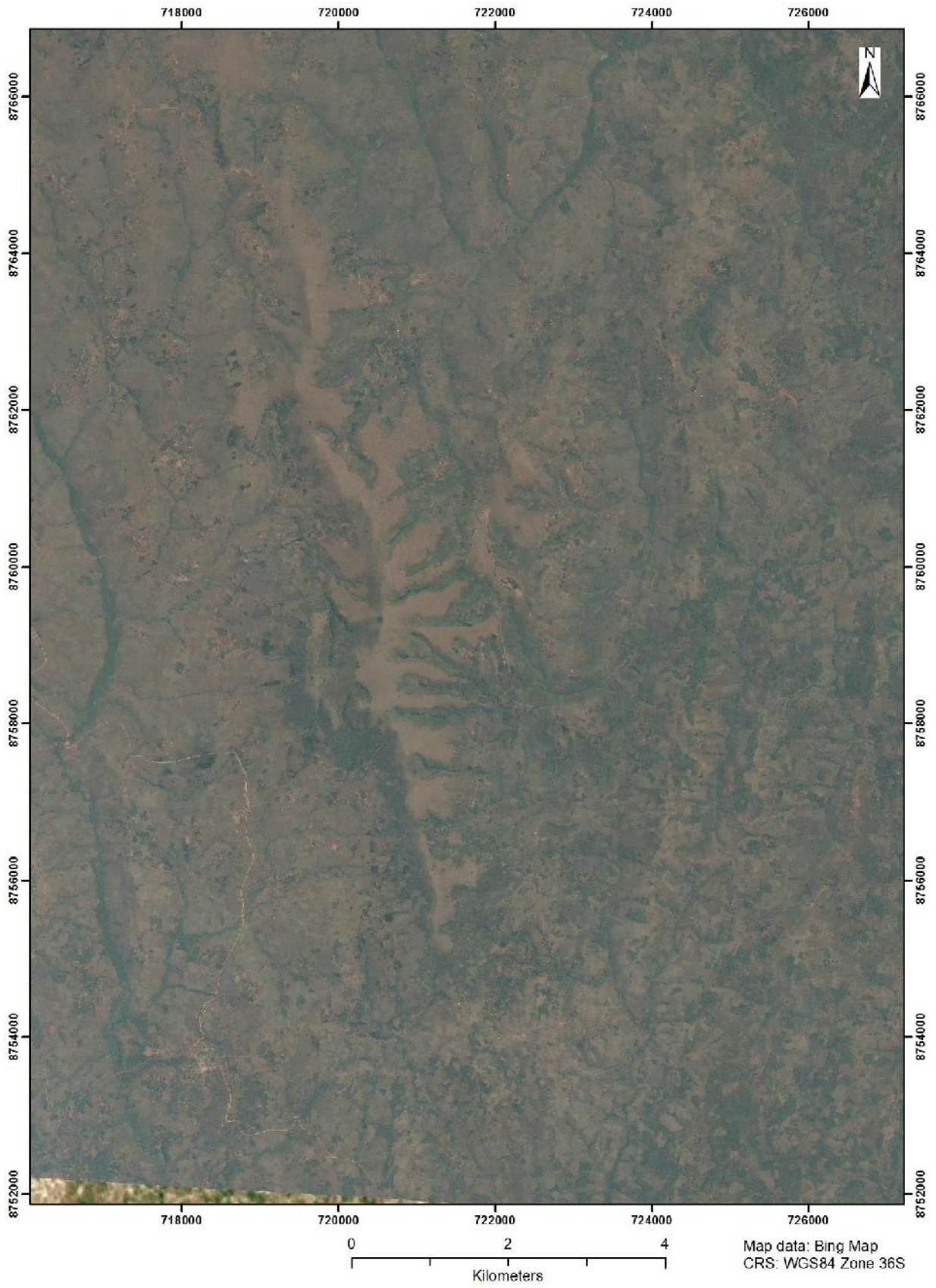


Figure 17 Landscape of Uporo Block area in satellite image



3.8 Masonya Block

Plantable area, location and access

Village	Officially gazetted (or declared) area (ha)
Masonya	3,000



Masonya Block is located 5 km west of Tunduru Town in the village of Masonya. Tunduru DC declared that 3,000 ha of land once used for livestock ranching is now Masonya Forest Plantation and should be used for commercial tree planting (Figure 18, Figure 19).

Village land use planning

The villages own the land under customary law. They have not prepared VLUPs. The average household farm size outside the area proposed for forest plantation is between 4 ha and 5 ha.

Site conditions

The altitude of the proposed forest plantation is about 500 m.a.s.l. and the land is flat. Temperatures range between 20 °C and 35 °C and the average annual rainfall is 1,000 mm. The Masonya Forest Plantation is covered by clay soils mixed with sand.

Figure 18 Location of Masonya Block and the potential forest investment site in the village of Masonya

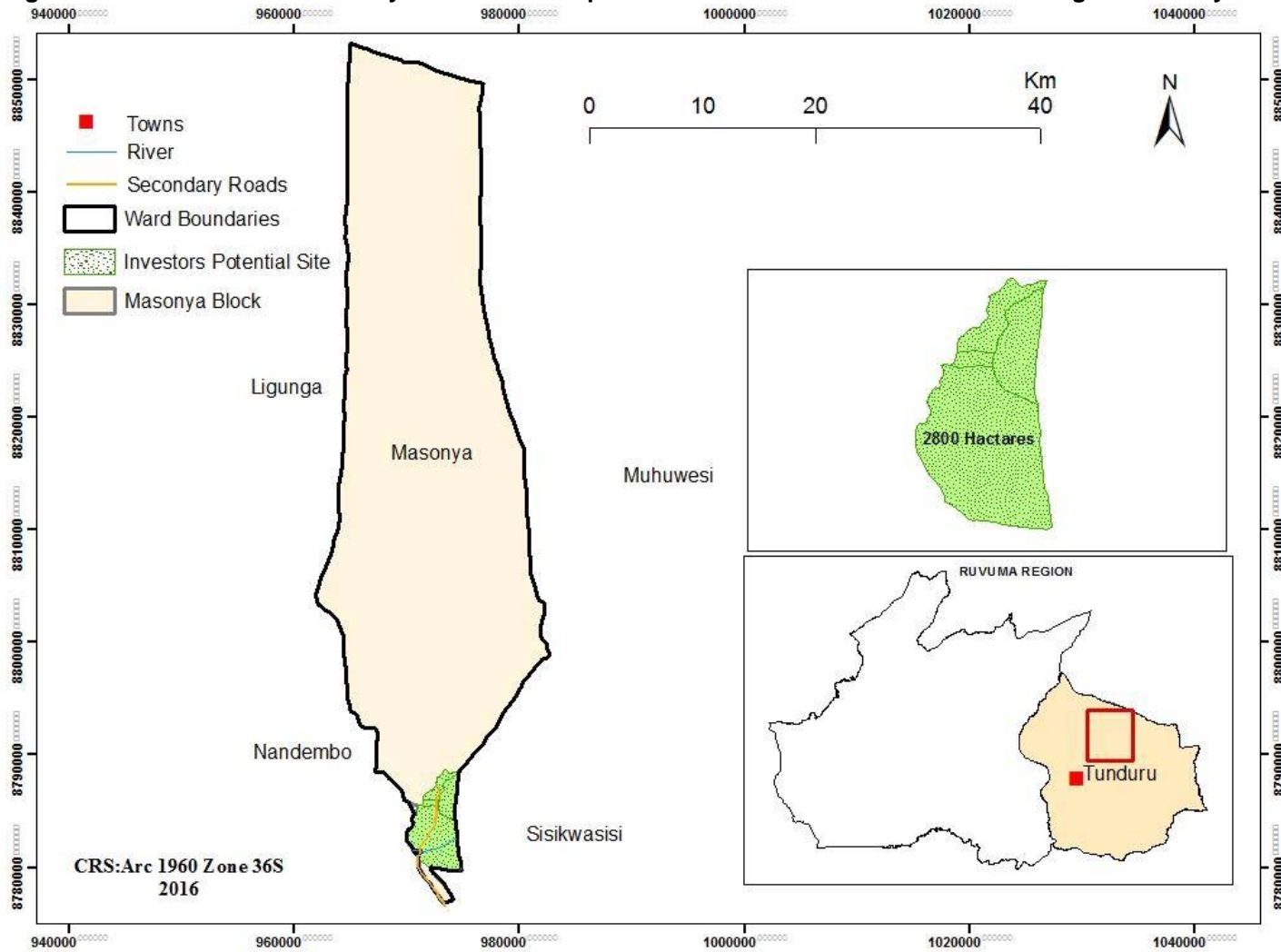
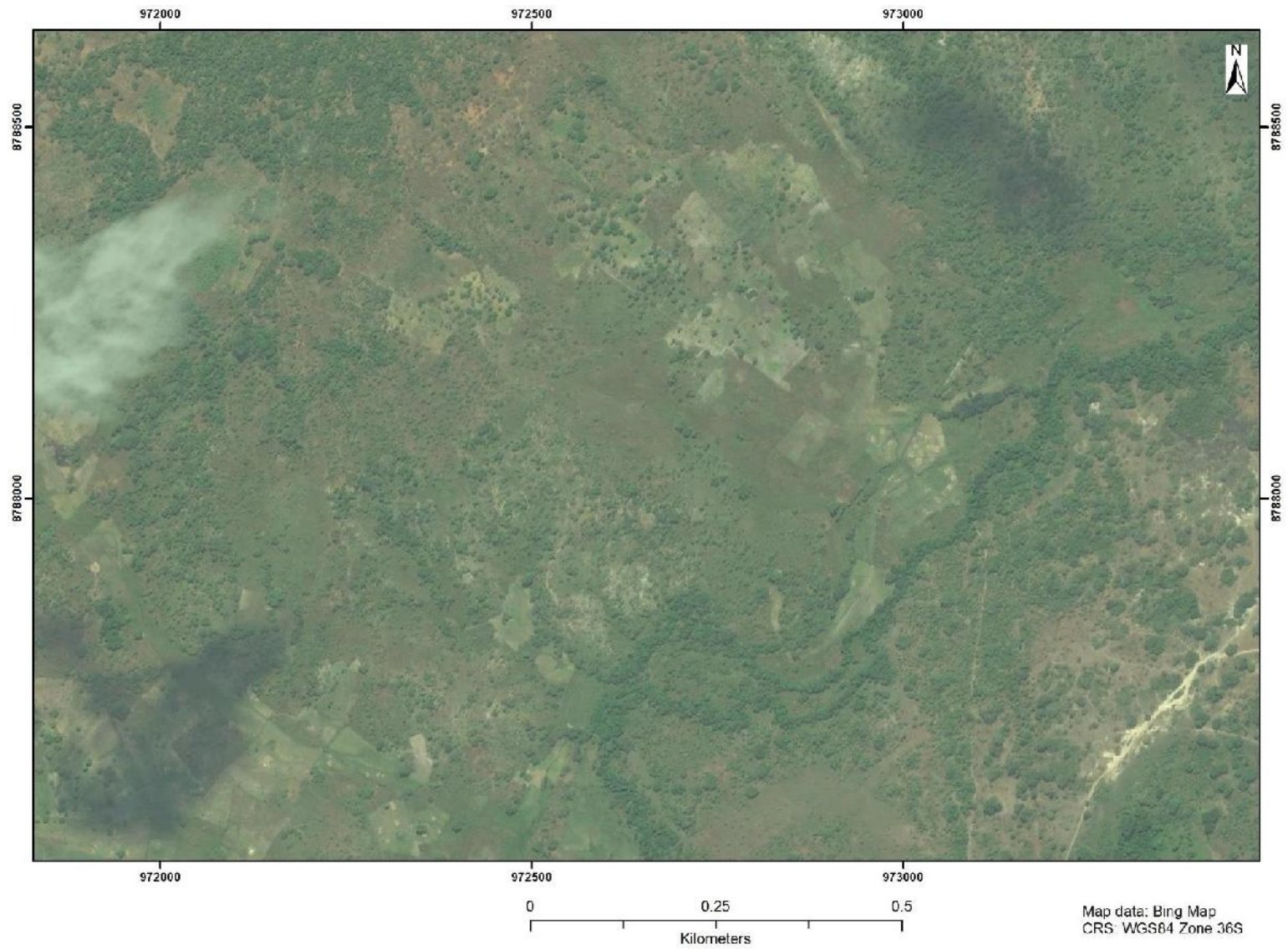


Figure 19 Landscape of Masonya Block area in satellite image



3.9 Muhuwesi Block

Plantable area, location and access

Village	Officially gazetted (or declared) area (ha)
Muhuwesi	5,000



The Muhuwesi Block is within Muhuwesi village in eastern Tunduru District, 80 km from Tunduru Town. Muhuwesi Forest Reserve has 5,000 ha that could be planted. It is gazetted as a forest reserve and has been proposed for commercial tree planting.

Village land use planning

The village owns the land under customary law. It has not prepared a VLUP. The average household farm size outside the forest reserve is between 3 ha and 5 ha.

Site conditions

The altitude of the proposed forest plantation is between 500 m.a.s.l. and 800 m.a.s.l. and its temperatures between 20 °C and 35 °C. The average annual rainfall is 1,000 mm.

Muhuwesi Forest Reserve is covered by clay soils mixed with sand while lowlands and valleys have black cotton soils (Vertisols). The area is covered by grasslands and patches of Miombo woodland. A map describing the block remains to be prepared due missing spatial land use planning information, but a visit to the site revealed that the site is suitable for teak tree plantation.

3.10 Kipiki Block

Plantable area, location and access

Village	Officially gazetted (or declared) area (ha)
Kitanda	7,000



The Kipiki Block is in the village of Kitanda in northern Namtumbo District, 80 km from Songea Town. Kipiki Block is within Kipiki Forest Reserve. There is 7,000 ha in the cleared forest that could be planted. The reserve is gazetted as a forest reserve and the cleared forest area has been proposed for commercial tree planting. The forest reserve is part of Mbarangandu Wildlife Management Area, which is managed by an NGO composed of members who live around Selous Game Reserve.

Village land use planning

The villagers own the land under customary law. Kitanda prepared a VLUP in 2012 (Figure 20). VLUP shows the areas which villagers have set aside as a reserve and pasture respectively (titled as “Eneo la hifadhi na malisho” in the VLUP legend). These areas can be negotiated for forest plantation (Figure 21). The average household farm size outside the forest reserve is between 3 ha and 5 ha.

Site conditions

The altitude of the proposed forest plantation is between 800 m.a.s.l. and 1,000 m.a.s.l. Temperatures range between 15 °C and 31 °C. Average annual rainfall in the area is 1,200 mm.

Kipiki Forest Reserve is covered by red clay soils mixed with sand (Oxisols) while the slopes in the block have clay soils mixed with sandstone. The lowlands and valleys have black soils (Vertisols).

Figure 20 Kitanda village land use plan overlaid with red box indicating the location of the area available for investment

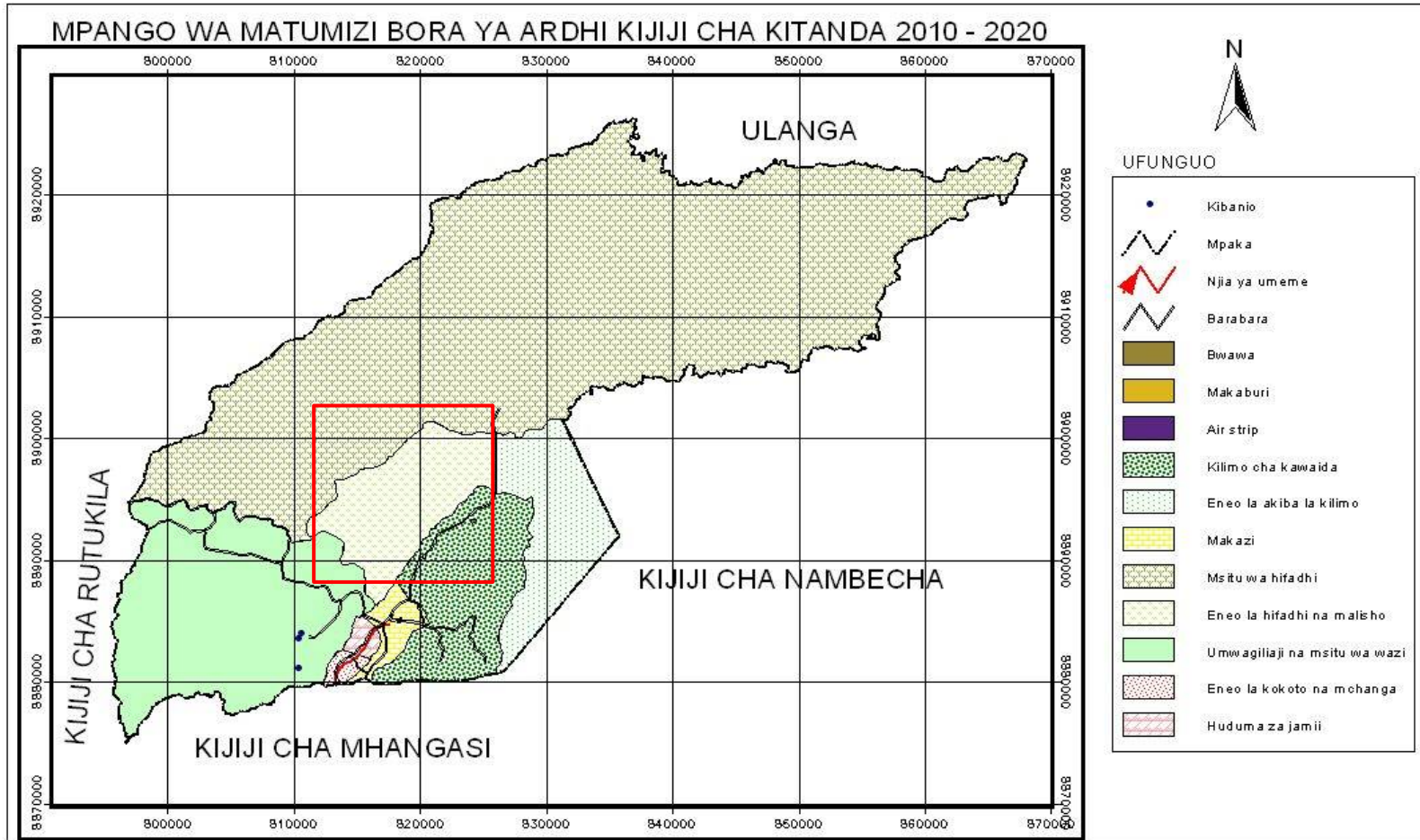
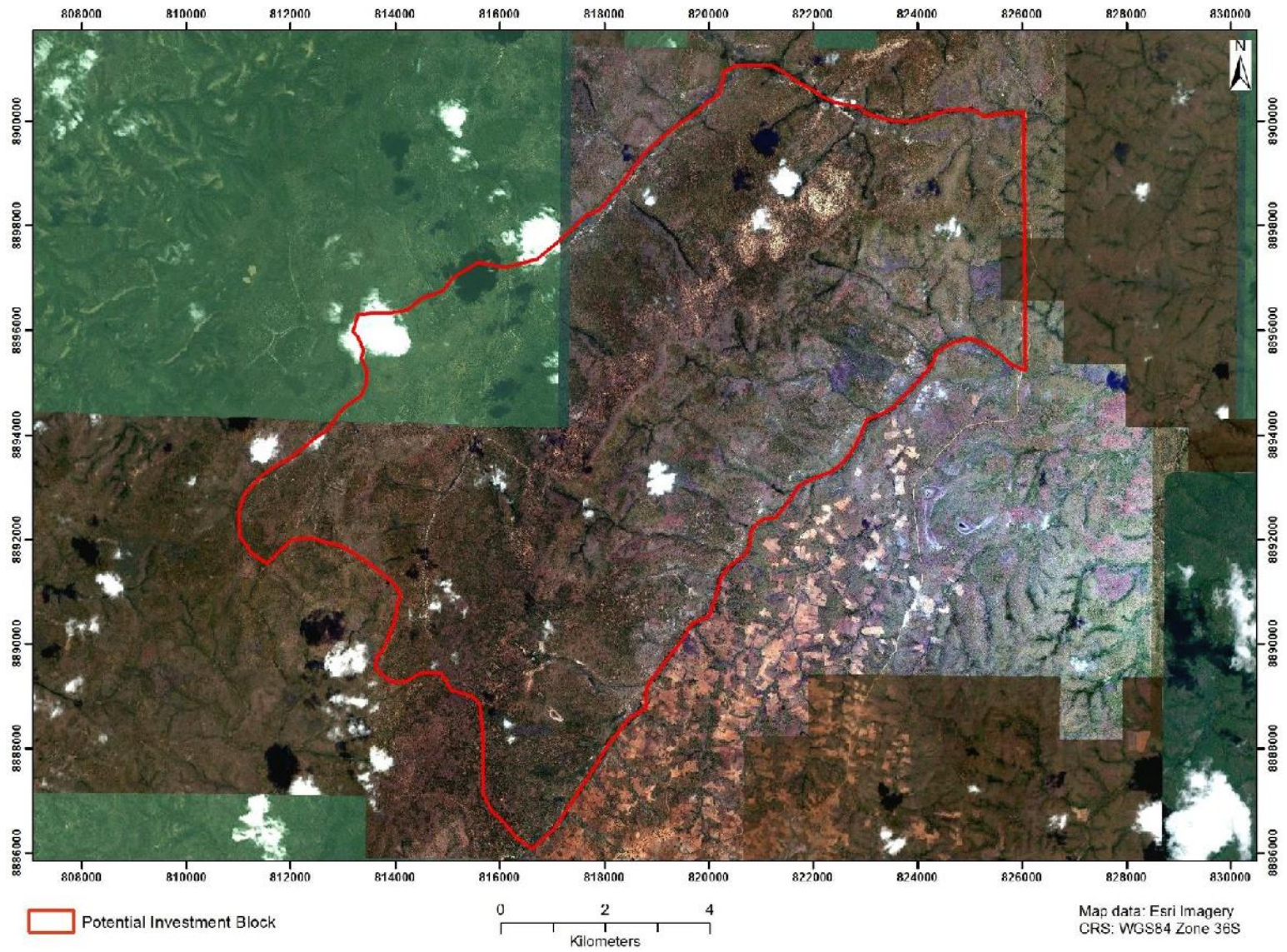


Figure 21 Kipiki Block in satellite image





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