

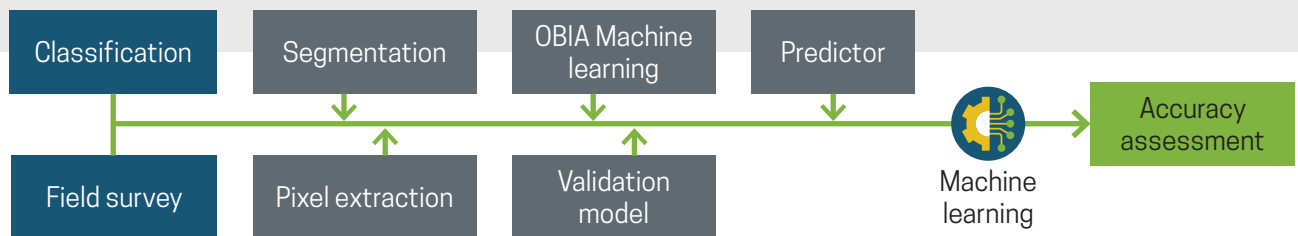


Land Use dynamic and Oil Palm Productivity Estimation Labuhan Batu Utara District 2010 - 2022

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Oil palm commodities mapping is carried out to determine spatial conditions regarding oil palm productivity estimation in Labuhan Batu Utara District.

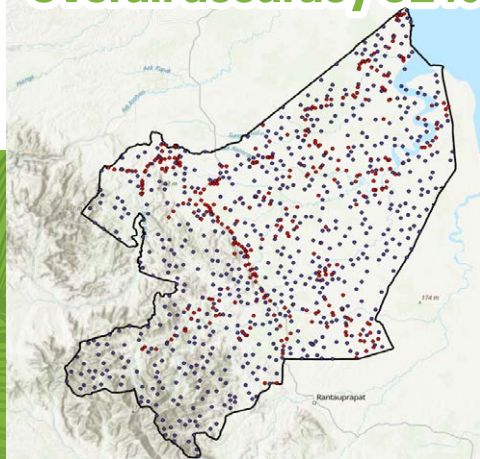
This method using satellite imagery multi series and information from field to get an overview of the current age estimation of oil palm plantation so that it can be classified as high productivity or low productivity.



Picture 1. Flow chart

Overall accuracy 81%

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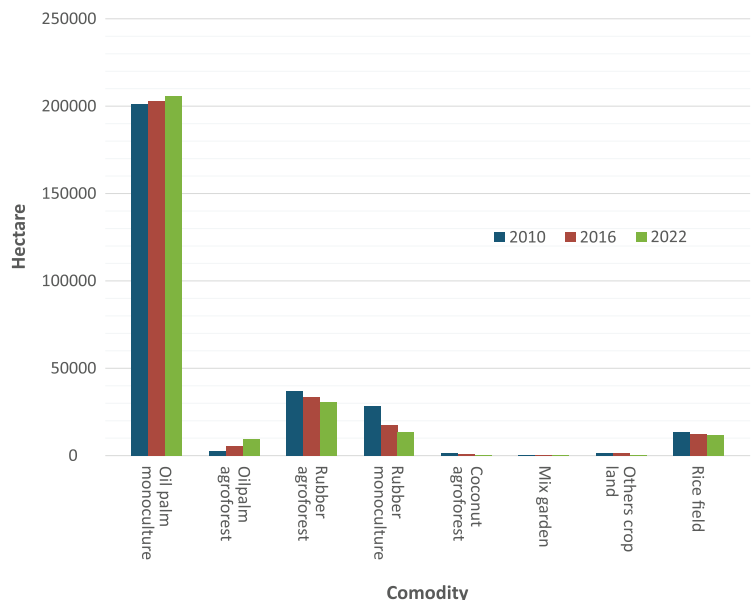
There are 1200 sample points used in land cover mapping process and accuracy assessment

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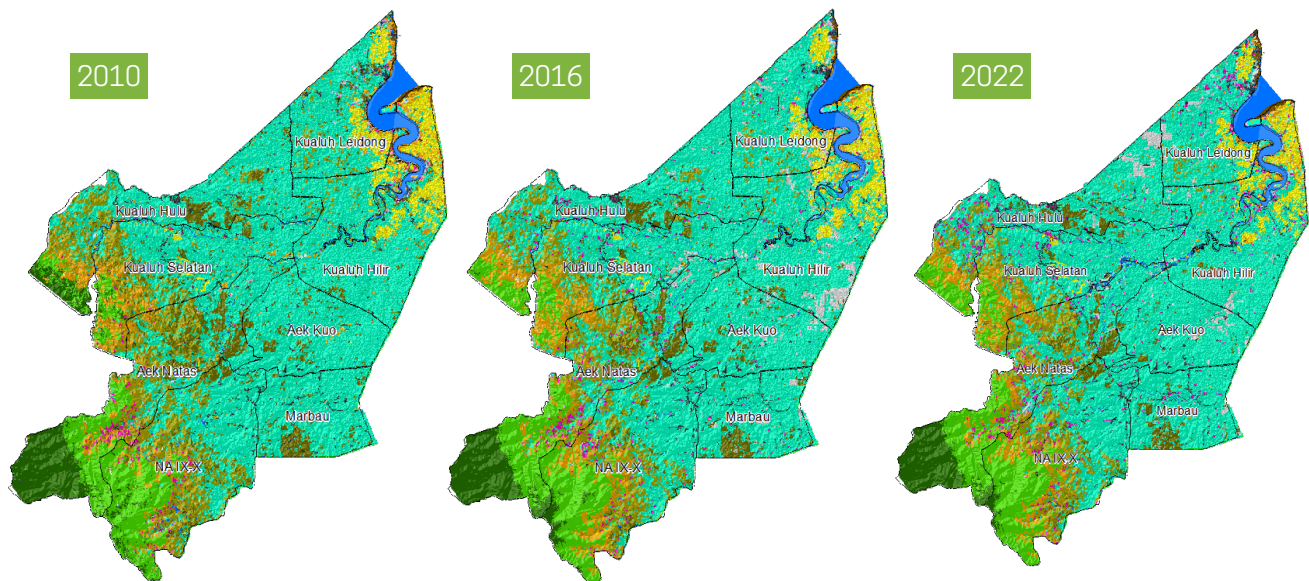
350 sample points were collecting from field, and the remaining were interpreted through high-resolution satellite imagery

The result is the area of commodity, especially oil palm for 2010 - 2022



Based on matrix analysis of oil palm area, it was identified that there are 92% of the oil palm cover was filled of 15 years old plantation (less productive) and the remaining 8% was identified as productive oil palms which <10 years old. Most of the less productive plants are in plantation areas, so we need had intervention to oil palm rejuvenation

Land cover change dynamic

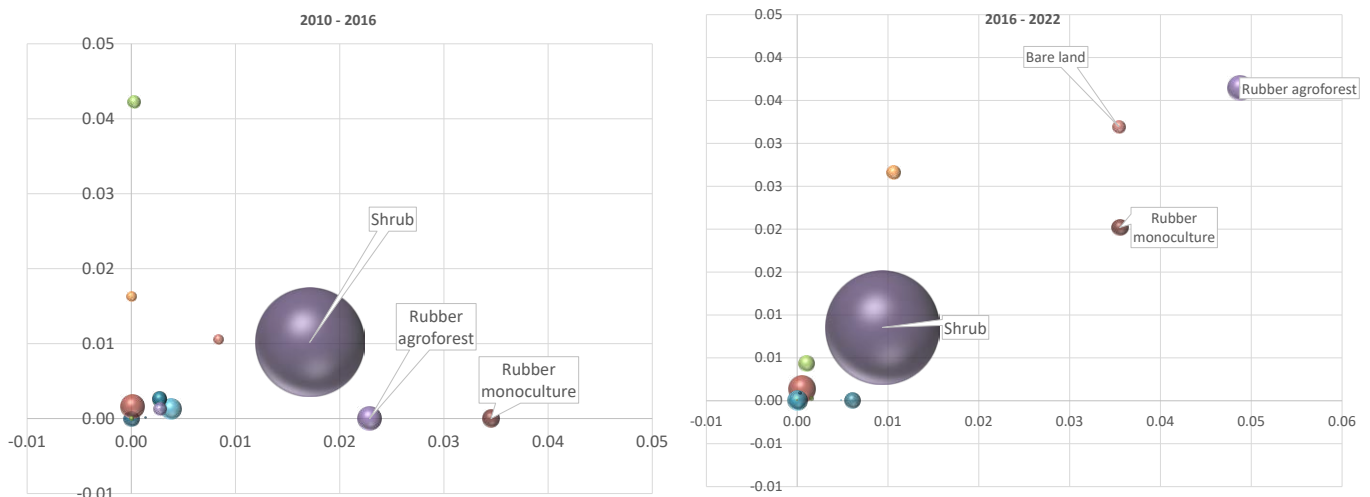


Picture 2. Land cover 2010 - 2022

Land cover change pattern was analysed starting from 2010 – 2022. In the period 2010 – 2016 there was a land change from shrub to oil palm plantation as the largest index, followed by the change from rubber either monoculture or agroforest to oil palm plantation (shown in picture 3).

In the period 2016 - 2022 there was a land use change again from rubber both from monoculture and agroforest to oil palm plantation, in several locations it was occurred in open land which identified as oil palm plantation rejuvenate.

Land Cover Change



Picture 3. Land cover change from other commodities to Oil Palm

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World Agroforestry (ICRAF) Indonesia Program

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