

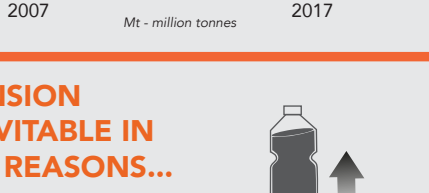
OIL PALM AND ECOSYSTEM SERVICES UNDER DIFFERENT LANDSCAPE MANAGEMENT SCENARIOS

Indonesia is the **principal producer and exporter of palm oil** to global markets.

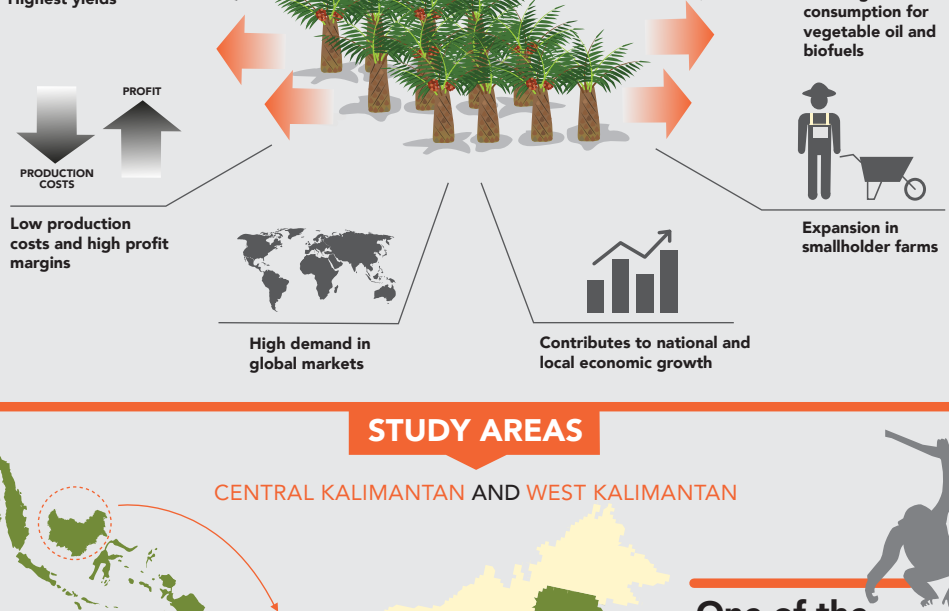
In 2015, oil palm plantations accounted **6%** of Indonesia's total area.



Its **palm oil production doubled** between 2007 and 2017 from **18 million tons (Mt)** to **36 Mt** and met about **54%** of the total global production.



FUTURE EXPANSION OF OIL PALM IS INEVITABLE IN INDONESIA FOR THE REASONS...



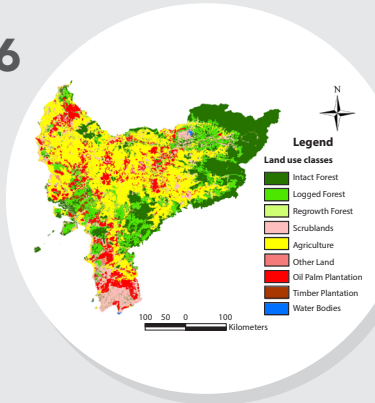
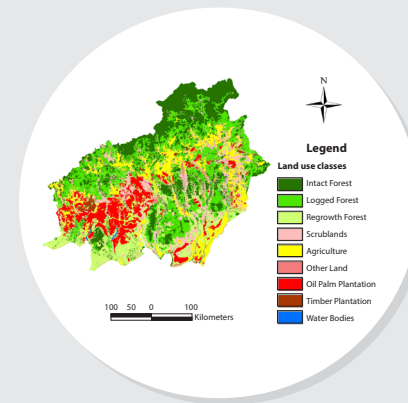
STUDY AREAS

CENTRAL KALIMANTAN AND WEST KALIMANTAN



CENTRAL KALIMANTAN

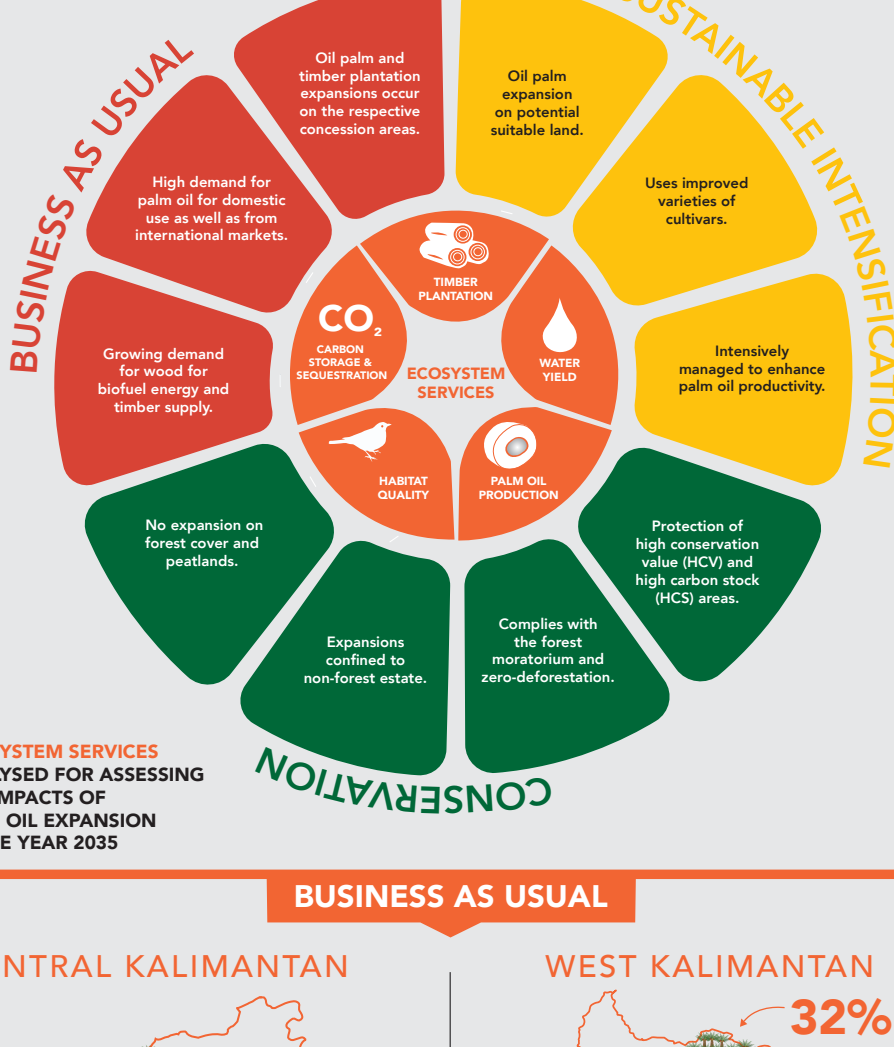
WEST KALIMANTAN



LAND-USE MAP OF CENTRAL KALIMANTAN IN 2016

LAND-USE MAP OF WEST KALIMANTAN IN 2016

FUTURE OIL PALM SCENARIOS

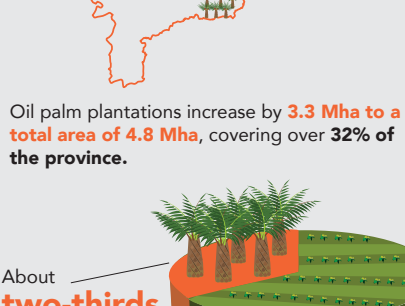


ECOSYSTEM SERVICES ANALYSED FOR ASSESSING THE IMPACTS OF PALM OIL EXPANSION IN THE YEAR 2035

BUSINESS AS USUAL

CENTRAL KALIMANTAN

WEST KALIMANTAN



About **two-thirds** (1.2 Mha) of oil palm expansion **occurs across forest cover**.

About **two-thirds** or 2.0 Mha of oil palm expansion **occurs across agriculture areas**.

CONSERVATION

CENTRAL KALIMANTAN

WEST KALIMANTAN



Over **13.7 Mha** of land is excluded from the future expansion of oil palm and timber plantations.

Over **9.63 Mha** of land is excluded from the future expansion of oil palm and timber plantations.

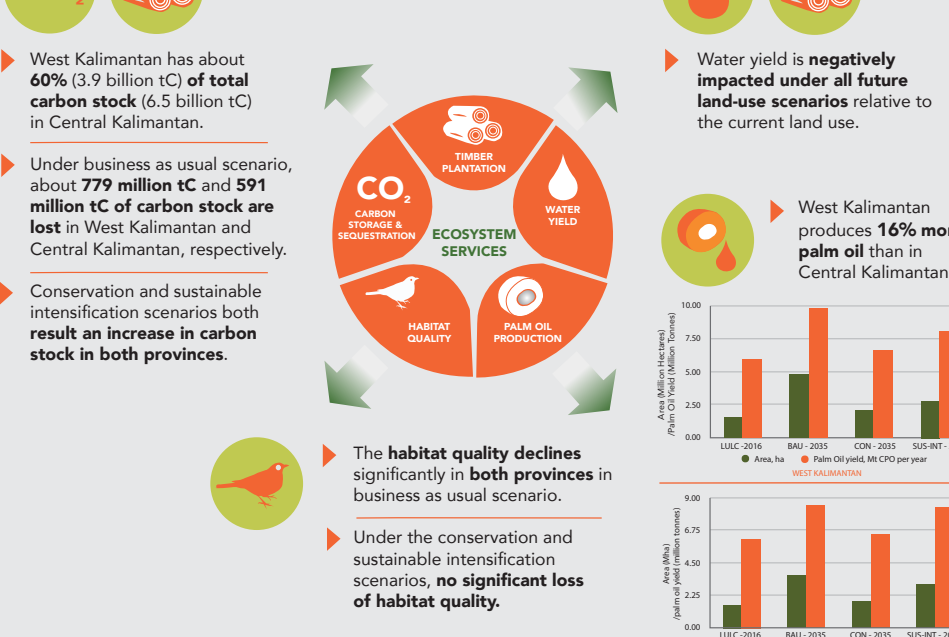
SUSTAINABLE INTENSIFICATION

CENTRAL KALIMANTAN

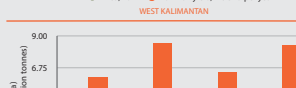
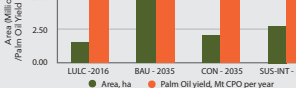
WEST KALIMANTAN



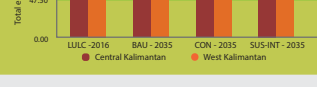
KEY FINDINGS



West Kalimantan produces **16% more palm oil** than in Central Kalimantan.



ECOSYSTEM SERVICES

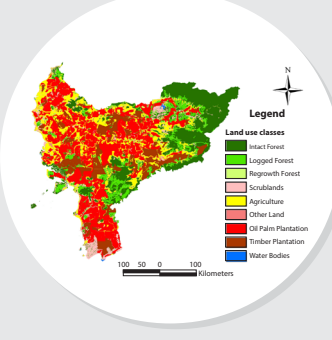
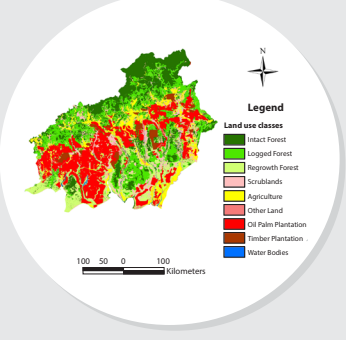


Total values of ecosystem services (TEV) **decline** under future land-use scenarios.

Conservation scenario yields the **highest TEV** in both provinces.

BUSINESS AS USUAL SCENARIO

2035



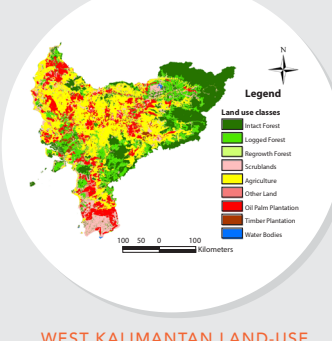
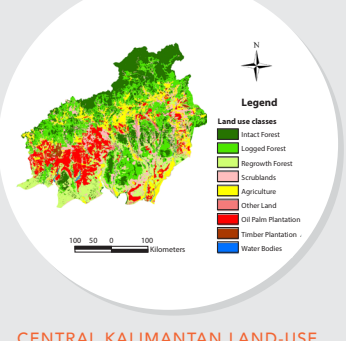
CENTRAL KALIMANTAN LAND-USE MAP FOR THE BUSINESS AS USUAL SCENARIO IN 2035

WEST KALIMANTAN LAND-USE MAP FOR THE BUSINESS AS USUAL SCENARIO IN 2035

Business as usual scenario results detrimental impacts on ecosystem services due to an intensive expansion of oil palm plantation on the areas of old-growth forest and regrowth forest.

CONSERVATION SCENARIO

2035



CENTRAL KALIMANTAN LAND-USE MAP FOR CONSERVATION SCENARIO IN 2035

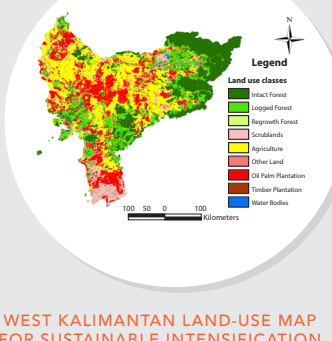
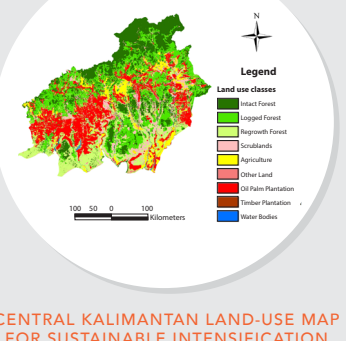
WEST KALIMANTAN LAND-USE MAP FOR CONSERVATION SCENARIO IN 2035

Conservation scenario enhances carbon stock and maintains a stable habitat quality relative to the land use (2016) with the lowest intensity of oil palm expansion.

Conservation scenario generates the highest total economic values (TEV) of ecosystem services among the three future land-use scenarios in both study areas.

SUSTAINABLE INTENSIFICATION SCENARIO

2035



CENTRAL KALIMANTAN LAND-USE MAP FOR SUSTAINABLE INTENSIFICATION SCENARIO IN 2035

WEST KALIMANTAN LAND-USE MAP FOR SUSTAINABLE INTENSIFICATION SCENARIO IN 2035

Sustainable intensification scenario generates a positive impact on carbon stock and water yield, whereas habitat quality deteriorates slightly in the study areas.

Sustainable intensification scenario offers a compromise solution for future expansion of oil palm by ensuring a supply of ecosystem services comparable to conservation scenario, and without significantly affecting palm oil yields.

A detailed study at a local level (household or village) that evaluates the economic values of key ecosystem services and their trade-offs or synergies is recommended to better understand the impacts of oil palm expansion on the local community and the environment.

Reference

Sharma SK, Baral H, Laumonier Y, Okarda B, Komarudin H, Purnomo H and Pacheco P. 2018. An analysis of multiple ecosystem services under future oil palm expansion scenarios in Central and West Kalimantan, Indonesia. Occasional Paper 187. Bogor, Indonesia: CIFOR. <https://www.cifor.org/pid/6953>



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