

TERMS OF REFERENCE
STUDY PROPOSAL FOR 2023

A SYNTHESIS STUDY OF CARBON SEQUESTER POTENTIAL OF OIL PALM PLANTATIONS

A. BACKGROUND

There is an urgent need to reduce global greenhouse gas (GHG) emission to address the global concerns of global warming and climate change. United Nations scientists have indicated that the world has to cut GHG emissions to reach net zero by 2050. Net zero means cutting GHG emission to as close to zero as possible, with any remaining emissions re-absorbed from the atmosphere.

Many extensive research has been conducted on the carbon sequestration potential of oil palm plantation. Oil palm as tree carries out photosynthesis, which absorb the CO₂ and release O₂. Hence oil palm has carbon sequestration potential with large range of value based on various variables including among others, soil types, biomass calculation and emission factors. In view of these, there is continued debate on the carbon sequestration potential of oil palm plantations and its impacts on the environment.

Thus, it is important to have scientific evidence on the sequestration potential of oil palm plantations to support the claim that cultivation of oil palm plantations contribute to reduction of carbon emission. It is necessary to establish an average value of carbon sequestration potential of oil palm plantation based on scientific evidence to counter the negative allegations against palm oil as carbon source and to compare the carbon sequestration of oil palm vis-à-vis major vegetable oil crops namely soybean, rapeseed, and sunflower.

B. PROBLEM STATEMENT

Extensive research has been conducted on the carbon sequestration potential of oil palm plantation. However, the findings are dependent on various variables including, among others, soil types, biomass calculation, and emission factors. In view of these, there is continued debate on the carbon sequestration potential of oil palm plantations and its impacts on the environment. Thus, it is important to have scientific evidence on the sequestration potential of oil palm plantations to support the claim that cultivation of oil palm plantations contribute to reduction of carbon emission.

C. OBJECTIVE

The objectives of the study are to establish an average value of carbon sequestration potential of oil palm plantation based on scientific evidence to counter the negative allegations against palm oil as carbon source and to compare the carbon sequestration of oil palm vis-à-vis major vegetable oil crops namely soybean, rapeseed, and sunflower.

D. EXPECTED BENEFIT

A synthesis report of the carbon sequestration potential of oil palm plantations and the comparison with carbon sequestration potential of other major vegetable oil crops will provide the scientific evidence that demonstrate the oil palm cultivations contribute to reduction of carbon emission.

E. SCOPE OF WORK

The scope of work covers comprehensive and extensive review and assessment of available research findings as well as to propose and recommend an average value of carbon sequestration potential of oil palm plantations and the comparison with other major vegetable oil crops namely rapeseed, soybean, and sunflower.

F. OUTPUTS

The expected outputs are as follows:

1. A synthesis report of the comprehensive and extensive review and assessment of available research findings of carbon sequestration potential of oil palm plantation and major vegetable oil crops namely rapeseed, soybean, and sunflower.
2. Recommendation on average value of carbon sequestration potential of oil palm plantation and major vegetable oil crops namely rapeseed, soybean, and sunflower.
3. Dissemination of the findings of the study subjected to the recommendation and approval from the Council of Palm Oil Producing Countries (CPOPC).

G. PROJECT DURATION AND TIMELINE

The study is expected to be carried out in four (4) months in 2023 based on the following table:

Activities	2023			
	Month 1	Month 2	Month 3	Month 4
Literature Review and assessment				
Data collection and analysis				
Final Report submission				

H. BUDGET

The proposed budget for the study is USD10,000.

I. IMPLEMENTER

The implementer(s) of relevant knowledge and experience from research institutions or individual researcher will be appointed based on the recommendation of the members of the Scientific Committee of CPOPC.