

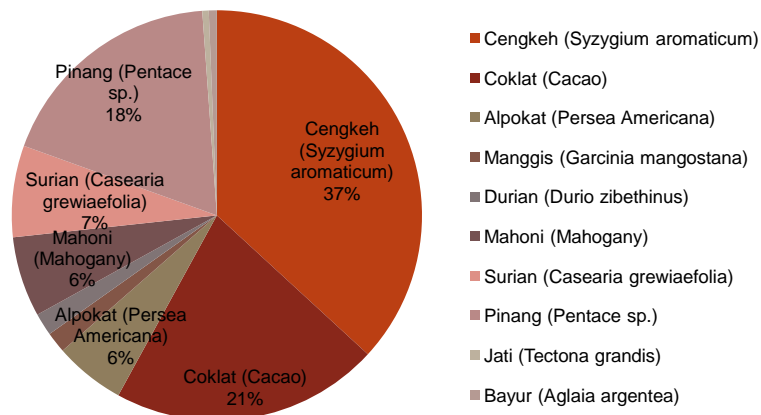
Carbon Stock Estimation of *Syzygium aromaticum*

(A Preliminary Analysis)

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Why Clove Tree (*Syzygium aromaticum*)?

Species Composition Per Plot



Clove = 70% of yearly income

The Clove Garden



The Degraded Land



Carbon Estimation Method

- Sampling Plot
- Full Observation

Individual tree Carbon content

$$C_t = 0.11 * \rho * DBH^{2.62} * 0.46 \quad (\text{Ketterings et. al. 2001})$$

- Wood density?
- DBH?

DBH?

- DBH = Diameter at Breast Height

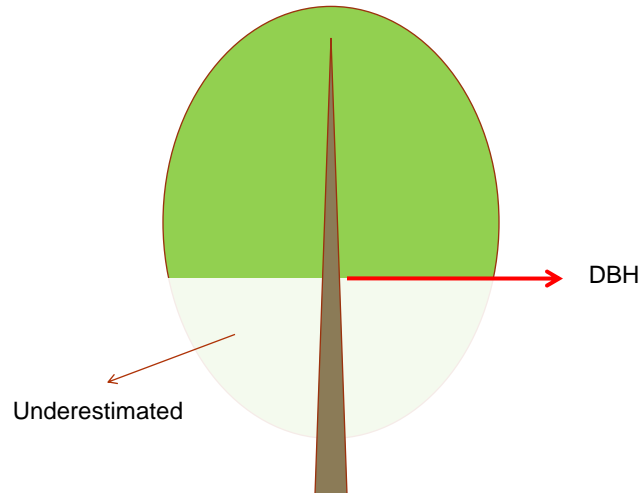


5 years old



40 years old

The Possible Bias of Estimation



Specific Allometry Function is Required



Destructive Sampling

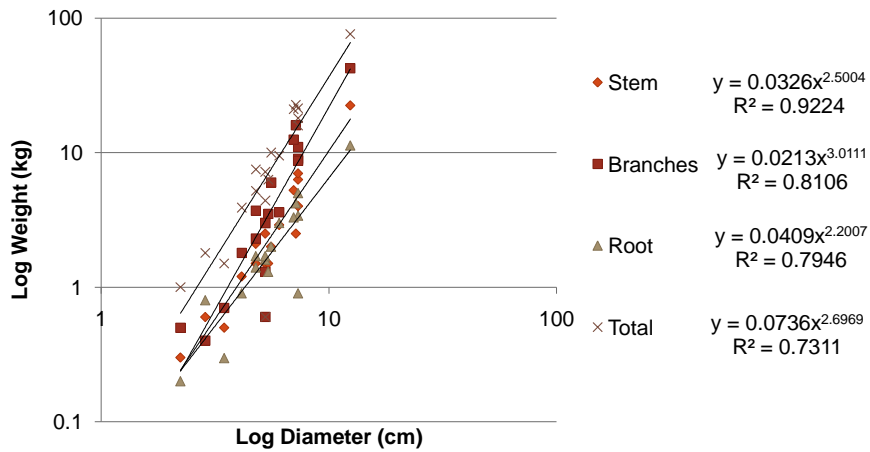


The Activity



Diameter-Weight Correlation

(Exclude The Leaves Weight)



Dying Tree Sampling



Sumatra Disease Symptom

Ongoing Progress

- Dry weight measurement of clove
- Wood density calculation of clove
- Allometry assessment for other species
- Carbon sequestration prediction using SEI-FS (Spatially Explicit Individual-based Forest Simulator)
- Cost-benefit estimation of tree products (fruit yields, wood, etc)

About SEI-FS

A Spatially Explicit Individual-based Forest Simulator

