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Featuring

SEANAPE News



Philippine congress highlights...

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INAFE member-institutions formalize commitment to SEANAFE and INAFE

Representatives of member-institutions of the Indonesian Network for Agroforestry Education (INAFE) signed a Memorandum of Agreement formalizing their institutional commitments to SEANAFE and INAFE during the 3rd INAFE General Meeting on 5-6 May 2009 in Lampung University, Bandar Lampung. Participants also agreed to:

- Invite five universities as new members—Sumatra Utara University, Nonmensen University, Jambi University, Sebelas Maret University, and Tanjungpura University;
- Approve the INAFE Charter;
- Amend the membership policy to accept applications from education and research institutions; national and local government agencies; nongovernmental organizations; business/private sector; and community organizations;
- Approve the annual membership fee collection schedule; and
- Approve plans for 2009-2011.

During the meeting, Dr. Christine Wulandari was elected as INAFE Chair from 2009 to 2011, succeeding Dr. Suhardi. •

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Increased income and absorbed carbon found in *Litsea glutinosa*-cassava agroforestry model

Absorbed CO₂ in the *Litsea glutinosa*-cassava agroforestry model varied from 25 to 84 tons per hectare, and provides profit to small farmers, ranging from US\$487-1 624 (VND 9 to 30 million) per hectare, representing 20 percent of the total product value of *Litsea* and Cassava. This was the major finding of the recently completed research project of the Vietnam Network for Agroforestry Education (VNAFE) on “CO₂ sequestration estimation for the *Litsea*-Cassava agroforestry model in Mang Yang District, Gia Lai Province in the Central Highlands of Vietnam.”

The research constructed a *Litsea*-cassava agroforestry model to estimate the biomass and CO₂ sequestration potential of *Litsea glutinosa*, and defined the amount of absorbed CO₂ and environmental values of the *Litsea*-cassava agroforestry model. *Litsea* is an indigenous, multipurpose, broadleaved species found mostly in the semi-deciduous forests of Central Highlands of Vietnam. Most of its biomass (stem, bark, leaves, and branches) can be used or sold to produce different products. *Litsea* is usually planted in agroforestry models together with annual crops such as cassava, rice, and coffee.

The research found that:

1. *Litsea* should be harvested after 10 years, instead of the usual practice of 4-6 years, to obtain the highest productivity;
2. Strong growth occurred when *Litsea* were 4-6 years old;
3. Stored carbon and CO₂ sequestration potential of the *Litsea*-cassava agroforestry model could be estimated by calculating the:
 - a. Rate (%) of stored carbon compared to the dry biomass of the four components of the tree— leaves (48.7%), stem (47.7%), branches (47.6%), and bark (45.4%)—with carbon per hectare calculated based on tree density;



A research by VNAFE estimates the *Litsea glutinosa*-cassava agroforestry model's potential in sequestering and absorbing CO₂ and determines its other environmental values.

- b. Carbon stored in the mean tree: $C/tree = f(Dg)$, with carbon per hectare calculated based on tree density; and
- c. Carbon stored per hectare: $C/ha = f(\text{No of shoots/stump}, N/ha, Dg)$.

4. Two to three *Litsea* shoots must be left per stump in the second and third periods of the *Litsea*-cassava agroforestry model to produce the highest amount of biomass and optimal CO₂ absorption at 3-84 t which increases as the model becomes older.

Results also showed that calculations based on rate of stored carbon are accurate yet expensive; and those based on carbon stored in the mean tree have a relative error of 3.2 percent. Calculations based on carbon stored per hectare gave a relative error of 2.7 percent.

The research was conducted by a team of faculty members and students from the Tay Nguyen University (TNU), in partnership with the staff of the People's Committee and Department of Agricultural and Rural Development of Mang Yang District. The team was led by Dr. Bao Huy, Head of TNU's Department of Forest Resources and Environment Management and VNAFE Chair. The Swedish International Development Cooperation Agency (Sida) through SEANAPE-funded the project. For more details of the research results, visit <http://www.socialforestry.org.vn>. •Bao Huy/baohuy.frem@gmail.com



Conducting stem analysis and getting samples from *Litsea glutinosa* trees to measure fresh biomass and carbon pools.



Sampling of *Litsea* bark (left) and stem (right) to analyze carbon pools.



Transporting *Litsea* tree components (leaves, stem, and bark) in Mang Yang district, Gia lai province, Vietnam.



Determining the weight of fresh biomass of *Litsea glutinosa* from its bark (left), leaves (middle), and branches (right).