

Introducing Successional Agroforestry for Cocoa Production in the Heart of Borneo

Successional Agroforestry: Improving Livelihoods and Conserving Nature

One of FORCLIME's objectives is to promote nature conservation and sustainable development in the Heart of Borneo (HoB). To achieve this, the programme introduced and conducted field tests to improve cocoa production in the region through a farming system of multiple crops, called successional agroforestry.

Indonesia is one of the largest cocoa producers in the world with smallholders heavily involved in production. In many tropical countries cocoa production has contributed to deforestation and biodiversity loss, and in Indonesia cocoa is also grown with the widespread use of mineral fertilizers and pesticides.

Successional agroforestry is a farming practice that follows the natural succession principle by incorporating a variety of species. In successional agroforestry the mixture of tree species include timber and fruit trees grown side by side with the cocoa crop.



Incorporating many different species in the production system will improve biodiversity. Though cocoa agro-forests cannot match the biodiversity levels of primary forests, the overall level of biodiversity in cocoa agro-forests is shown to be higher than in other agricultural landscapes. The large variety of plant species will help improve the livelihoods of communities by diversifying their income opportunities.

Successional Agroforestry and Climate Change

Successional agroforestry in cocoa production can contribute to nature conservation and climate change mitigation by providing alternative incomes rather than livelihoods based on deforestation and/or forest degradation. It also helps mitigate climate change by functioning as a net carbon sink since it can be used to rehabilitate degraded agricultural lands. The reforested land will then help improve habitat connectivity for wildlife. In addition, by applying successional agroforestry practices, mineral fertilizers and pesticides will no longer be needed, which means a significant reduction in both production and environmental costs.

With favorable world market prospects for cocoa, together with the objective of all international companies involved in cocoa production in Indonesia to achieve fully certified (mostly UTZ or Rainforest Alliance certified) cocoa production by 2020, and the government's intention to become the world's largest cocoa producer, then the development of successional agroforestry for cocoa production in the HoB is seen to be a win-win situation that supports both nature conservation and climate change mitigation and economic development.

Strategy

Introducing a successional agroforestry system requires support from the various parties that have the authority and needed resources. FORCLIME aims to improve/facilitate communities' access to technology, resources and capital by building capacities among all involved stakeholders – beginning with the cocoa farmers and businesses up to government agencies – to create the positive framework conditions.

Our Partners

FORCLIME is working together with the Directorate General of Forest Protection and Nature Conservation (PHKA) Ministry of Forestry at the national level. On a regional government level, partners include all relevant government institutions (provincial and district level) including forestry and plantation services, and the District Chiefs Offices of Kapuas Hulu and Malinau districts. The program also partners with district farmer groups and consultants with expertise in successional agroforestry.

Our Activities

FORCLIME facilitates and supports various successional agroforestry activities for cocoa production in HoB with activities such as:

- Introducing successional agroforestry as a cultivation system for cocoa plantations through workshops and field training (establishing demonstration plots) to District Government and farmer representatives in Malinau and Kapuas Hulu district.
- Baseline studies of cocoa production potential in the district in order to get an overview of smallholder cocoa plantation conditions and people's interest in producing cocoa.
- Support training on improving the production and quality of cocoa in Jember for representatives from the Plantation Service in Malinau District and Forestry and Plantation Service in Kapuas Hulu District.
- Identification of commercial potentials of complementary crops for diversified agroforestry systems (black pepper, fruits, vanilla, etc.).

FORCLIME Programme

The Forests and Climate Change Programme (FORCLIME) is jointly implemented by the Indonesian Ministry of Forestry, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and KfW Entwicklungsbank (KfW).

The technical cooperation module supported by GIZ has three components:

Component I: Policy Advice, Strategy Development and Institution Building

Component II: Implementation of Strategic Plans for Sustainable Forest Management

Component III: Nature Conservation and Sustainable Development in the Heart of Borneo Area.

Achievements

The growth of cocoa plants in 15 established demonstration plots has shown good progress. More than 500 farmers and staff of local institutions have been intensively trained on the successional agroforestry system. Previously, when using monoculture practices, young cocoa plants showed many signs of stress and disease due to high exposure to sunlight and weeds. Producers and advisers moved to a high input production system, applying high levels of fertilizers and agrochemicals. The introduction of an agroforestry system increasingly leads to a lower input production system and a change of management practices, which include soil management and pruning.

Originally the District Plantation Service provided subsidies for production, primarily through the use of agrochemicals and fertilizer. Now parts of the district subsidies are used for building fermentation boxes and drying equipment.



Next Steps

- Follow-up of established plots in 2011/12, and further expansion of successional agroforestry plots by preparing best management practices.
- Develop lessons learnt from the established plots and identify barriers/obstacles/problems.
- Advanced training of technicians and farmers on successional agroforestry and commercial potentialities on Non-Timber Forest Products (NTFP) in agroforestry systems.
- Identifying strategic partners (private organizations, Cocoa Sustainability Partnership Indonesia, traders, processors, industries) to strengthen the overall goals and sustainability.
- Systematize experiences and best practices towards advancing the further concept and diversifying as a potential base for spatial planning, environmental protection services and carbon stock improvement/REDD development.

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