POLICY BRIEF

Agroforestry in Southeast Asia:
bridging the forestry–agriculture divide for sustainable development

AWG-SF
ASEAN Working Group on Social Forestry

Schweizerische Eidgenossenschaft
Confédération suisse
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Swiss Agency for Development and Cooperation SDC

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Prepared by World Agroforestry Centre Southeast Asia Regional Program
in collaboration with the ASEAN Working Group on Social Forestry

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List of acronyms and abbreviations

AMS	ASEAN Member State
ASEAN	Association of Southeast Asian Nations
ASFCC	ASEAN-Swiss Partnership on Social Forestry and Climate Change
AWG-SF	ASEAN Working Group on Social Forestry

The national leaders who adopted the 17 Sustainable Development Goals and subsequently signed the Paris Climate Accord agreed to an integrated approach across many now-separate policy domains. Partial solutions that cause larger problems elsewhere are no longer acceptable. In the land-use sector, the separate histories and institutions for agriculture and forestry work against integration. Agroforestry can help as integrating concept to bridge the sectors in a unified landscape perspective.

ASEAN Member States have an opportunity to use the SDGs, climate-policy articulation and the new strategic thrust of ASEAN's Food, Agriculture and Forestry sector to create a more level playing field. By integrating agriculture and forestry as land uses, focus can shift to function over form in achieving multifunctional tree cover, and helping adaptation, mitigation and ecosystem services.

No.	Key findings	Policy implications
1	'Forests' and 'forestry' are treated differently from 'farmers' and 'agriculture' in laws, regulations, institutions, education and many aspects of governance. They are often seen as opposites and competitors.	The operational definition of 'forest' is important for policy concepts such as deforestation, reforestation and agroforestation, zero-deforestation pledges, REDD+ and the Sustainable Development Goals' indicators.
2	In Southeast Asia, 77% of agricultural land has at least 10%, and 47% at least 30%, tree cover. If ecological criteria, rather than institutional ones, prevail then these parts of the landscape could be considered 'forest'.	Trees are a normal part of agricultural, peri-urban and urban landscapes, providing many public benefits. These trees need the support of policies in parallel to that received by trees in forests.
3	Agroforestry as a bridge between agriculture and forestry has evolved from a plot-level technology to embrace a landscape-wide analysis of the forest–agriculture interface and its transitions. A more holistic 'agriculture+forestry' concept in harmonised policies is now emerging as a more viable option.	A few countries have created agroforestry policies that do not delineate sharply between forests and agroforests nor agroforests and agriculture but rather are based on the actual public and private functions, costs and benefits associated with various types of tree cover.
4	The integration of trees and agroforestry in agricultural landscapes can contribute to multiple Sustainable Development Goals.	Achieving the Sustainable Development Goals requires a focus on function rather than form. A coherent agriculture+forestry approach to landscapes and in harmonised policies offers an opportunity to bridging existing divides.

1. Forests and forestry are treated differently compared to farmers and agriculture

In the laws, regulations, institutions, education and the many other aspects of governance, agricultural use of land to provide local and marketable goods and services is treated very differently from forests, even when it produces the same or similar goods and services. This 'institutional divide' has a long history. In Europe, the concept of 'forest' arose as an area beyond the reach of villagers, reserved for hunting, the extraction of timber for ships for the navy, or other interests of the State. Forests and farms were often seen as opposites and competitors. This tradition was also reflected by education and science about forestry and agriculture going separate ways, enforcing a difference in culture and mindset that persists all over the world.

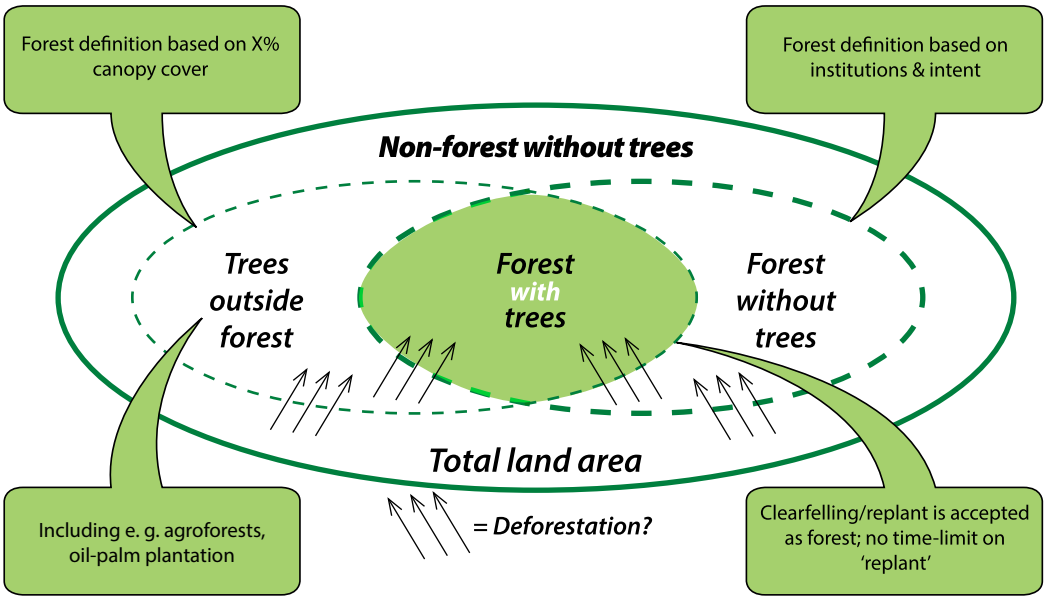

Figure 1. Forest concepts based on tree cover interact with those based on institutions (van Noordwijk and Minang 2009)

In the climate-change debate, forests and agriculture are treated as separate topics, although relations between the two are increasingly seen as a necessary focus of policy. When it comes to policy formulation, however, it proves to be remarkably difficult to come up with an operational definition of 'forest'. The widely followed Food and Agriculture Organisation definition (FAO 2000 2015) effectively states that land with sufficient trees can be called a 'forest' as long as it is not agriculture or an urban settlement. Effectively, there is an a priori, institutional distinction in our landscapes between the land that is considered to be 'forest' and that which is not, largely based on history. Thinking in terms of 'tree cover' can tell a different story through the functions it provides.

2. Tree cover on agricultural land in Southeast Asia

In satellite imagery, trees and tree cover can be distinguished from other vegetation. A summary graph of the fraction of agricultural land (not included in what countries have registered as 'forest' in the international databases that the FAO maintains) that contains various degrees of tree cover (Figure 2), shows that a substantial share of agriculture has enough 'tree cover' to qualify as 'forest'. In Southeast Asia, 77% of agricultural land has at least 10%, and 47% at least 30%, tree cover; these parts of the landscape could be considered 'forest' if ecological criteria, rather than

institutional ones, prevailed (Zomer et al 2014). Tree cover in Southeast Asia is relatively high, but normal in relation to rainfall (Figure 2). Agricultural lands in Central America have higher tree cover. Tree cover outside the forest is dynamic, with considerable increases as well as decreases when assessed over a ten-year period (Figure 3).

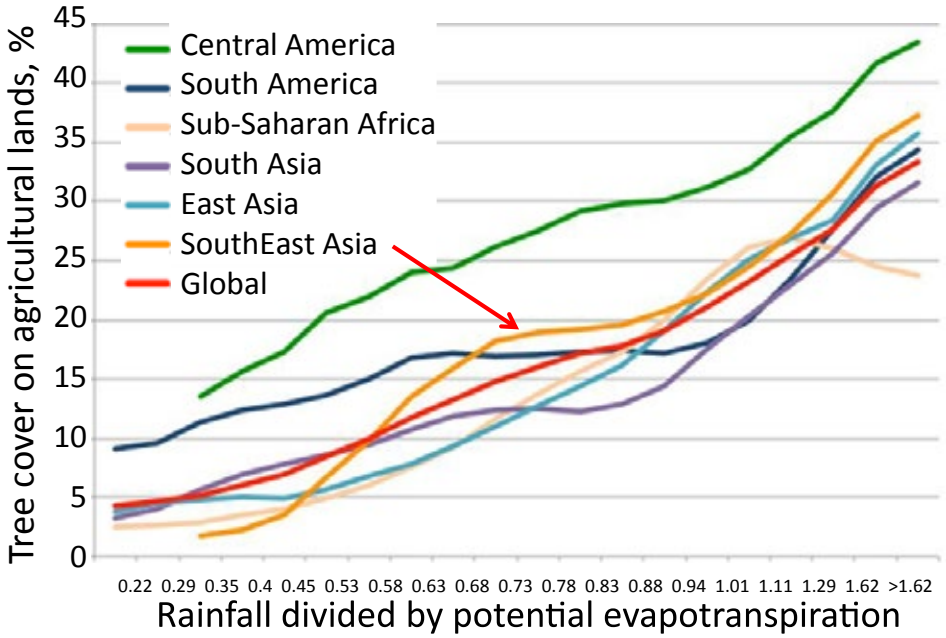

Figure 2. Tree cover on agricultural lands as a function of rainfall (Zomer et al 2014)

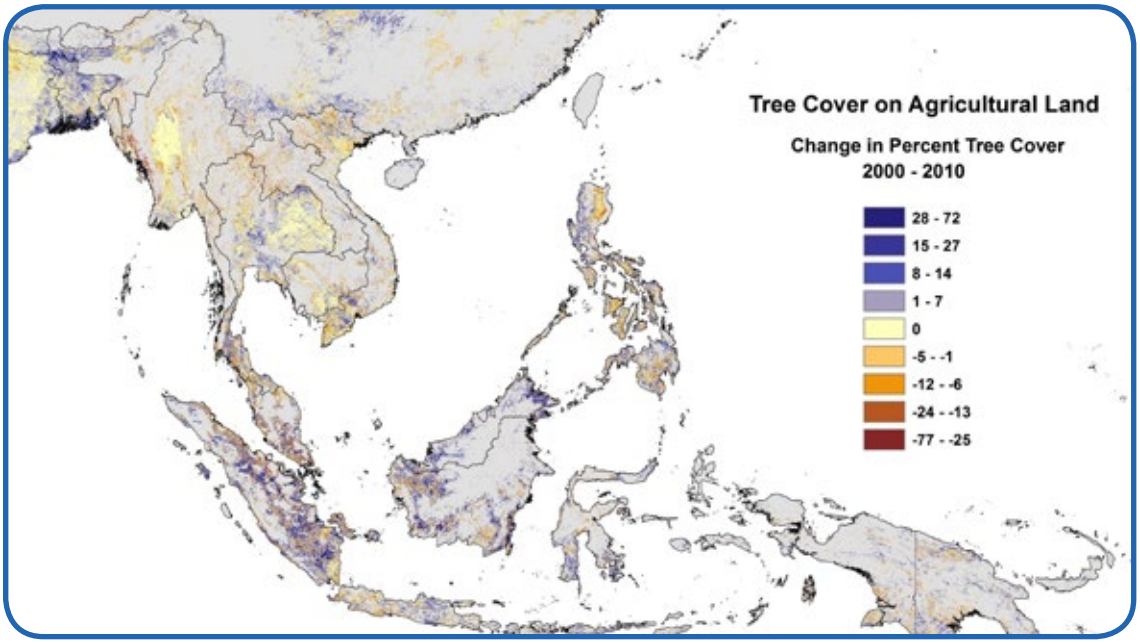

Figure 3. Change in tree cover on agricultural (non-forest) land in Southeast Asia (Zomer et al 2016)

3. Agroforestry as a bridge between 'forest' and 'agriculture'

The concept of agroforestry (Figure 4) has evolved from the plot-level integration of trees, crops and livestock—such as 'taungya' in Myanmar and 'tumpang sari' in Indonesia—into a wide range of systems that are worthy of greater promotion, capacity development and research.

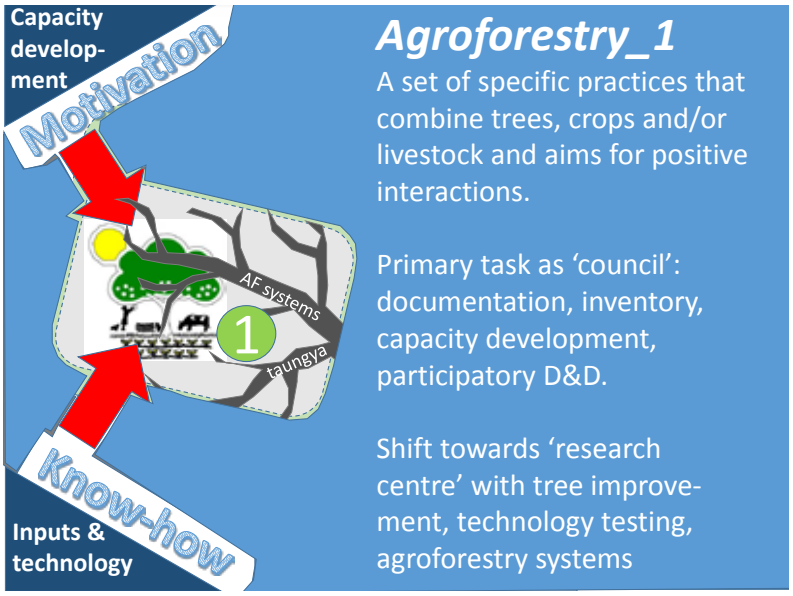

Figure 4. Initial agroforestry concept as a technology

The agroforestry concept now embraces a landscape-level approach (Figure 5) that includes 'trees on farms' and 'farming in the forest', where issues such as rights (access to forests, land-use classifications and planning) and markets (investment, demand for products, incentives) are important entry points for policies aimed at optimising development.

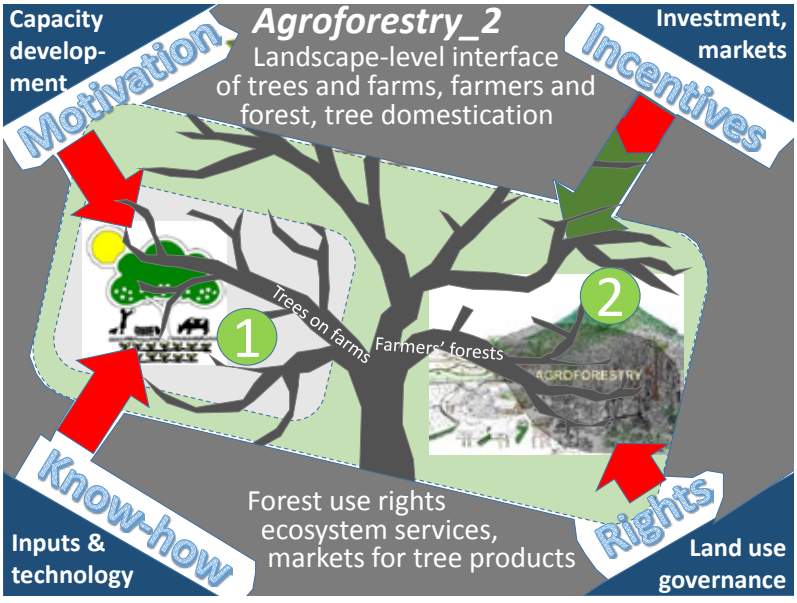

Figure 5. Agroforestry embraced and helped shape the landscape approach in the mid 1990's

The third stage in this evolution calls for a further integration of 'agro+forestry' (Figure 6), harmonising policies so that they operate across the full gradient of trees–farmers–forests interaction and support a large number of the Sustainable Development Goals.

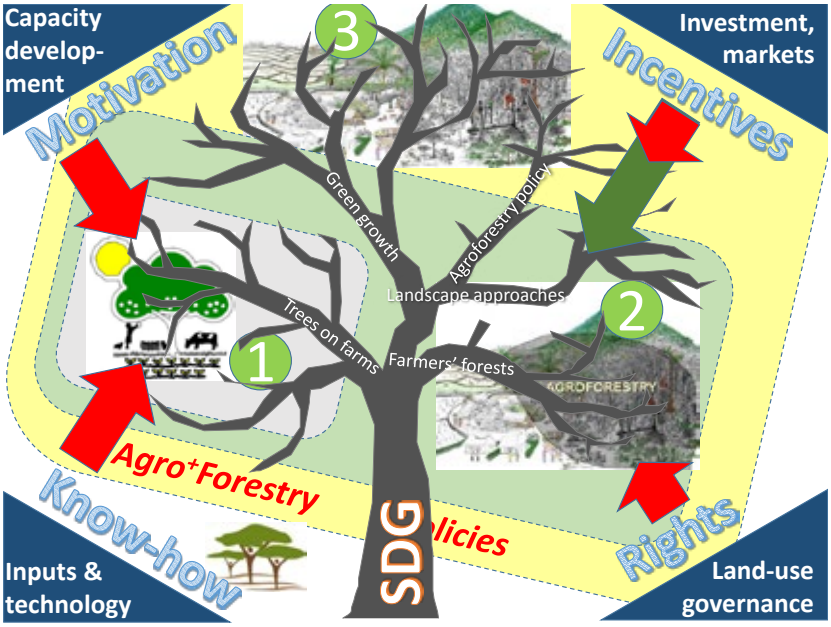

Figure 6. Agro-plus-forestry as policy domain

Agroforestry can thus form a bridge between agriculture and forestry and provide an holistic land-use approach to the Goals that supports their ultimate aim of a sustainable world economy (Figure 7); it provides an impetus to policy-makers to act by creating an overarching structure that helps reorient public-private interactions to form landscape-wide partnerships that can achieve the dual aims of environmental health and economic growth. The ambition to be 'climate smart' is inherent in agroforestry and provides fuel for the necessary changes.

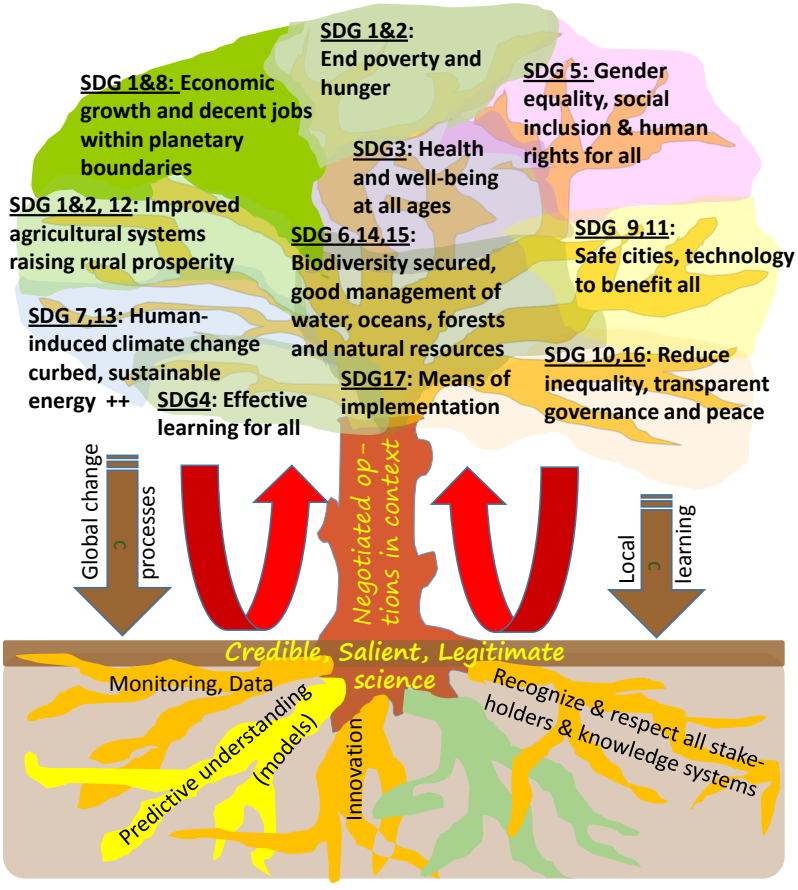

Figure 7. SDGs Tree

4. Agroforestry as a synergising concept to achieve the Sustainable Development Goals

In a recent policy brief (van Noordwijk et al 2015), we summarised four ways by which agroforestry can help achieve the Goals.

1. Agroforestry as a land-use system in-between forests and open-field agriculture can—with appropriate combinations of trees, crops and livestock—provide a range of goods, benefits and services simultaneously: nutritious food, renewable energy, clean water and biodiversity.
2. Agroforestry is an efficient, multifunctional land use that, technically speaking, can obtain land equivalent ratios above 1, which is a measure of success in 'sustainable intensification' that helps close yield gaps.
3. Agroforestry can be an effective institutional response to contested resource access, which can foster gender and social equity and act as a source of community empowerment.
4. Agroforestry as an integrative culture across multifunctional landscapes can create synergy between the various Goals and help break out of institutional silos.

Way forward

The existing agriculture–forestry gap has a long history. Given the path dependency of current institutional divides, debate alone will not lead to change. Change will require leadership at the top that insists on function rather than form: real progress to sustainably develop rural areas where poverty is persistent will require new ways of combining rights, incentives, know-how (technology, inputs) and motivation (human capacity) that the agroforestry concept can support. Without disrespect for past sectoral achievements, 'new deals' in the landscape will be needed to achieve the ambitions expressed in the Sustainable Development Goals and the agreement to address climate change.

Recommendation

Within existing plans for ASEAN's Food, Agriculture and Forestry sector, there is ample opportunity to use the framework of the Goals and the Paris Climate Agreement, to adopt policies on agroforestry to support the integration and management of agriculture and forestry as land uses with multifunctional tree cover. Specific steps may depend on the institutional history and current relations between agriculture and forestry in the various ASEAN Member States.

Further reading

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ASEAN Working Group on Social Forestry (AWG-SF) is government-initiated network that aims to strengthen social forestry in Southeast Asia through the sharing of information and knowledge. AWG-SF established by the Association of Southeast Asian Nations (ASEAN) Senior Officials on Forestry (ASOF) in August 2005, linking government forestry policy makers directly with the civil society organizations, research organizations, academia, private sector, and all of whom share a vision of promoting social forestry policy and practices in ASEAN.

The **ASEAN-Swiss Partnership on Social Forestry and Climate Change (ASFCC)** is a Partnership Programme of ASEAN that aims to contribute to the ASEAN Mandate and Policy Framework through support for the ASEAN Working Group on Social Forestry and the ASEAN Multi sectoral Framework on Climate Change towards Food Security.