

Agroforestry in SFRM

- Basic Concept & Practices in SI -

24 September 2019
Forest Sector Technical Working Group

Agenda

1. What is Agroforestry?
2. Benefits of Agroforestry
3. Agroforestry Policies in Solomon Islands
4. Agroforestry Experiments in Solomon Islands
5. Example of AF in the JICA Project's Pilot Communities

1. What is Agroforestry

■ Definition

➤ World Agroforestry Center (ICRAF)

- Agroforestry is defined as 'agriculture with trees'.
- Agroforestry is the interaction of agriculture and trees, including the agricultural use of trees.

➤ FAO

- Agroforestry is a collective name for land-use systems and technologies where woody perennials (trees, shrubs, palms, bamboos, etc.) are deliberately used in the same land-management units as agricultural crops and/or animals, in some form of spatial arrangement or temporal sequence.

1. What is Agroforestry

■ Definition

➤ Solomon Islands' Definition

Agroforestry is a collective name for land-use systems and technologies where woody perennials (trees, shrubs, palms, bamboos, etc.) are deliberately used on the same land-management units as agricultural crops and/or animals, in some form of spatial arrangement or temporal sequence. In forestry systems there are both ecological and economical interactions between the different components. Agroforestry can also be defined as a dynamic, ecologically based, natural resource management system that, through the integration of trees on farms and in the agricultural landscape, diversifies and sustains production for increased social, economic and environmental benefits for land users at all levels. In particular, forestry is crucial to smallholder farmers and other rural people because it can enhance their food supply, income and health. Agroforestry systems are multifunctional systems that can provide a wide range of economic, sociocultural, and environmental benefits.

1. What is Agroforestry? (cont')

■ Types

➤ Agrisilvicultural system

- Combination of crops and trees
- E.g. Alley cropping, Homegarden

➤ Silvopastoral system

- Combination of forestry and livestock

➤ Aquasilviculture system

- Combination of forestry and aquaculture



2. Benefits of Agroforestry

- Improvement of soil-fertility through nitrogen fixation or build-up of organic matter
- Improvement of water infiltration into the soil
- Provision of long, medium, and short-term revenue
- Creation better microclimate through provision of shade and performance of windbreak by trees and shrubs
- Provision of multi products such as food, fodder, fuelwood and timber for both domestic use and commercial purposes
- Suppression of weed growth

3. Agroforestry Policies in SI

■ National Development Strategies 2016-2035

- NDS Objective One: The productive and resource sectors (agriculture, livestock, agro-forestry, aquaculture, ,,,, forestry and reforestation,,,,) need reinvigorating to increase value added and export earning to achieve sustained growth.

■ Draft National Forestry Policy

- Draft National Forestry Policy under discussion at the cabinet includes agroforestry

■ Four-year short-term policy

- Four-year short-term policy indicates promotion of AF as a rehabilitation mechanism

4. Agroforestry Experiments & Practices in SI

■ ACIAR

- Provide technical support to communities, including thinning operation, seedling production, and high-value timber production.
- Support facilities and equipment for soil test and wood quality test
- Challenges:
 - Lack of knowledge about forest operations such as thinning
 - Lack of access to markets of timber

4. Agroforestry Experiments & Practices in SI

■ ACIAR & RTC

- Experimental plots of AF in Tabaka RTC in collaboration with ACIAR.
- It originally aimed at obtaining short and long-term revenue from crops and timber.
- The AF system was intercropping of potato, cassava, cabbage and pineapple in rows of teak or fluggea or mahogany.
- The crops were cultivated for the first three years before tree crown would be closed.
- Initially it included vegetables that would be sold at high price, however, purchasing seeds was a problem.



(Munda)



4. Agroforestry Experiments & Practices in SI (cont')

■ SPC

Choiseul Integrated Climate Change Programme (CHICCAP)

- Aimed at enhancement of resilience of food security against climate change
- Designed AF models and implement trials
 - Contour-based improved AF
 - Demonstration goat farming and introduction of more suitable chicken and pig varieties
 - Assessment of feasibility establishing virgin coconut oil production and honey farming
- Challenges
 - Land tenure
 - Weakness of cultivation techniques and market access
 - Lack of women's participation by village head decision

4. Agroforestry Experiments & Practices in SI (cont')

■ UNDP-SWoCK

- AF for improve soil productivity which degraded due to shifting cultivation.
- MoA provided technical and material support such as tools and seedlings.

Model Farmer of
AF supported by
SWoCK (Malaita)



4. Agroforestry Experiments & Practices in SI

■ Guadalcanal (Individual farmer)

- Originally, pineapples were planted for income generation, however, in order to secure long-term revenue, tree species such as teak and mahogany were planted in 2014.
- Planting pineapples between the rows of trees reduced workload of weeding.



5. Example of Agroforestry in the JICA Project's Pilot Communities

- Falake Pilot Site (Malaita)



Betel nut & Cassava



Betel nut & Potato & Papaya



Betel nut & Cocoa

5. Example of Agroforestry in the JICA Project's Pilot Communities

■ Falake Pilot Site (Malaita)



Kava plantation near Tamboo site



Vitex planted beside Kava plantation

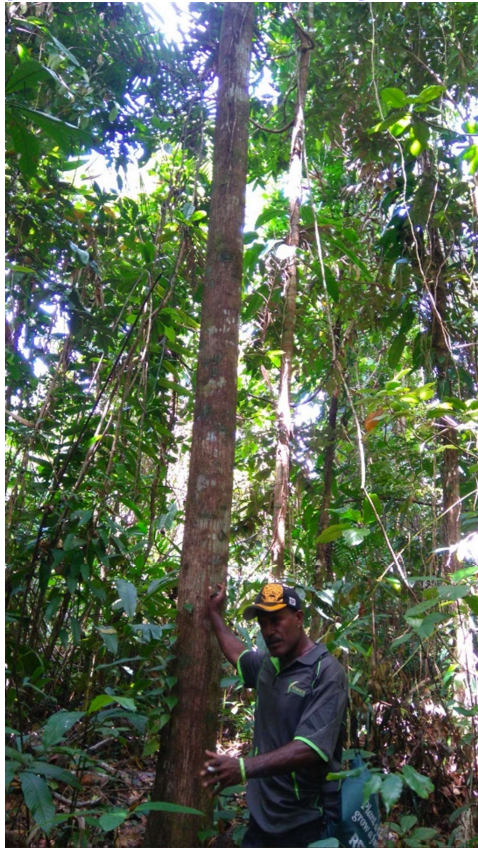
5. Example of Agroforestry in the JICA Project's Pilot Communities

■ Falake Pilot Site (Malaita)

- Practices of "AF", integrated planting trees and crops, are limited.
- Some community members are interested in "AF" planting trees mixed with crops to improve efficiency of management work for tree plantation as well as crops.
- Some community members do not want to plant trees and crops together because they worry that crop yields may reduce.

5. Example of Agroforestry in the JICA Project's Pilot Communities

■ Komuniboli Pilot Site (Guadalcanal)



Mahogany plantation



A kind of
AF beside
compound



Garden
inside
forest

5. Example of Agroforestry in the JICA Project's Pilot Communities

■ Komuniboli Pilot Site (Guadalcanal)

- Some community members are interested in AF.
- It may be difficult to introduce AF in the existing plantation since distance between trees and trees is narrow.
- A community member is interested in AF because teak plantations occupy land.

Thank You