

Diversification of Coffee Plantations by adding Spices are helping upland farmers in Ermera and Liquiçá.

The new unpredictable climate events have put under stress the traditional coping mechanisms of rural communities in Timor-Leste. It is important to update the community resilience and offer alternative economic activities in support of the subsistence agriculture.

The promotion of sustainable multi-tier (multilayer) agro-forestry systems has been one of the keys to success in the agro-forestry intervention promoted by GCCA-TL inside Loes watershed. Farmers in highland areas are working hard in the production of high quality seedling of clove, pepper and also fruit trees with good market prices. They want to improve existing small coffee plantations and create more profitable and resilient systems.

GCCA-TL is promoting since 2014 the development of sustainable multi-tier cropping systems in existing coffee plantations by diversification with spices and fruit trees aiming eliminate dependence of small mountain farmers on a single crop of coffee, increase biodiversity and protect highland areas.

In December 2014 Mr. Alfredo Rodrigues, his family and a group of other neighbours had install an agro-forestry nursery in their village (pictures a, b, c, d) with GCCA-TL technical and material support. Mr. Alfredo, chief of the nursery's group and also a teacher in the village's school, had since the beginning the plan to improve his Robusta coffee plantation by diversifying it with clove, pepper, rambutan and also silver oak trees produced in the nursery.



a) A technician from Camões, I.P., GCCA-TL program, demonstrating the technique of propagating pepper by cuttings to Mr. Alfredo and the community (May 2015).



b) Mr. Alfredo's family members propagating pepper in the nursery (May 2015).



c) Pepper seedlings growing in the agro-forestry nursery with other species (August 2015).



d) Clove seedlings with 7 months (plants line in the middle), propagated by seed in december 2014, showing it healthy development (August 2015).

His plans were finally put in practise at the end of 2015 when he and his family planted hundreds of trees inside his existing 2.0 ha coffee plantation following all the technical recommendations from program's technicians.

A year and a half after planting their trees, they show a high survival rate and have a very good development, for example, pepper vines produce already the first pepper curls. His success and his family pride were verified by the GCCA-TL technical team during the last visits (pictures e, f, g, h) made in this year, 2017.

His effective intercropping and efficient use of the land available is a model for Timorese technicians and other farmers around the village of Leotela in Liquiçá municipality. Other farmers have started following Mr. Alfredo and his family's example. Plus, Mr. Alfredo is always available to share his experience and knowledge with his neighbours and other farmers.



e) A technician from Camões, I. P., GCCA-TL program, proudly sharing Mr. Alfredo's happiness for the good Pepper development under shade (June 2017).



f) Clove tree planted in December 2015 has already exceeded Mr. Alfredo's height (June 2017).



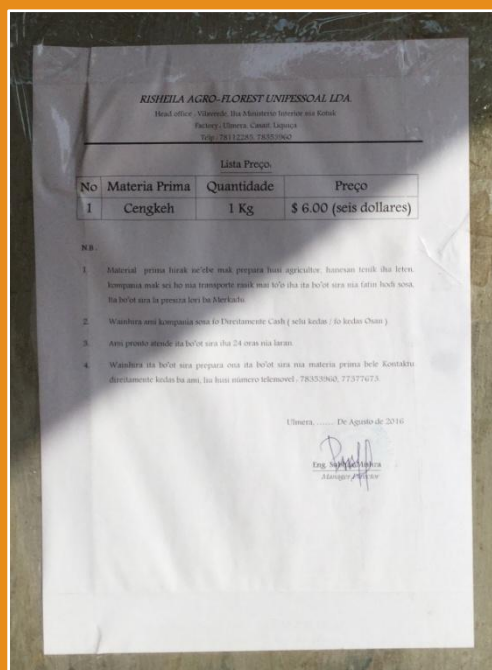
g) In the center of the picture and from the top to down, a Clove tree followed by a Rambutan and in the lower part an Silk oak tree, all planted in December 2015 (June 2017).



h) Mr. Alfredo has planted, in the end of 2015, pepper vines in almost every single shade or fruit tree inside his plantation, now he start seeing the results (June 2017).

This success story is being replicated in other villages inside the Loes Watershed. Clove and Pepper are commodities with good market demand by export companies that buy spices in the country (picture i) and, for example, current market prices per kilo for the dry pepper and clove are higher than the coffee prices.

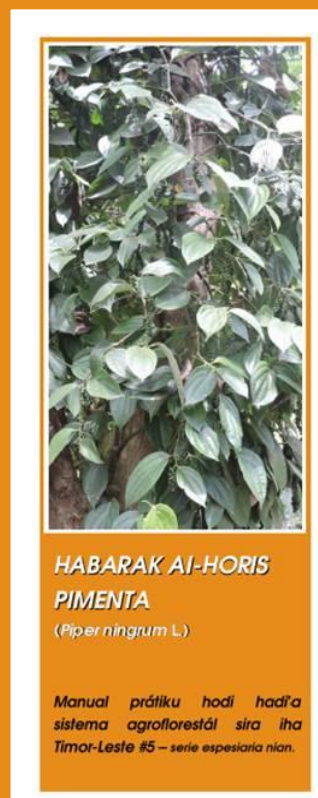
The GCCA-TL program in coordination with the Ministry of Agriculture and Fisheries (MAF) of Timor-Leste is strongly promoting this type of agro-forestry systems by increasing the number of community nurseries, producing and distributing technical leaflets (pictures j and k) for farmers and extension workers and supporting the National Directorate of Coffee and Industrial Plantations in the production of Spices seedlings in the MAF's Central Nursery In Fatuquero, Ermera.



i) Public announcement posted in the communities to advertise the demand for dried cloves for purchase (August 2016).



j) Technical leaflet with information on how to propagate, to plant and process Clove (available for download at www.gccatl.eu).



k) Technical leaflet with information on how to propagate, to plant and process pepper (available for download at www.gccatl.eu).

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