



MEDIA RELEASE

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New sources of income in the Philippines thanks to tannin extraction

The extraction of tannins has the potential to create new, sustainable income opportunities for the people of the Philippines. In a four-year project, researchers from Switzerland and the Philippines identified coconut husks as a promising source of large quantities of tannin. A pilot plant for the extraction of tannins was also built.

Around 25 million people live in the Philippine highlands, most of whom depend on the forest for their livelihoods. However, they earn very little from selling the produce – mainly bananas and coconuts – and trading in timber, with the result that many families live below the poverty line. In order to create new, sustainable income opportunities for these people, researchers from BFH-AHB and BFH-HAFL, working with partners in the Philippines, launched the Research for Development project Pinoy Tannin (Pinoy = Filipino in the local slang). The aim of the project was to develop a scientific, technological, social and economic basis on which to establish a sustainable and environmentally friendly value chain for the extraction of tannin. After four years, the project came to an end. In addition to identifying six promising sources of tannin, a pilot plant for the hot-water extraction of tannins was also set up locally.

Coconut husks as a source of tannin

Tannins are natural tanning agents used in the production of leather. They can also replace fossil-based chemicals as a bio-based wood adhesive or ecological wood preservative. Currently, all tannins used in the Philippines (about 1,000 tonnes/year) are imported from South Africa or Brazil. There are abundant sources of tannin in the Philippines, in the form of coconut husks, for example. This has been confirmed in the research conducted by the project team. Given that coconut husks are an agricultural waste product obtained in large quantities, the extraction of tannin from this waste could represent a new source of income for coconut farmers – one of the poorest population groups in the Philippines.

Pilot extraction plant was built

Another success achieved by the project was the construction of a pilot plant for the extraction of tannins. A first version of the plant was built during the second year of the project. To further increase production output and energy efficiency, the researchers developed a second version, which is similar in design to an industrial extraction plant. It comprises three containers with a capacity of 100 litres each, which allow the multi-stage processing of the biomass. Moreover, the plant has an electric heating control and a hot-air evaporation chamber that is able to rapidly concentrate the resulting extract. Despite these improvements, the project team came to the realisation that low-cost production is currently not possible due, above all, to the price of energy in the Philippines. So, the next step following completion of the project is for the Filipino researchers to look for technical solutions to cut costs even further.

More information

[Pinoy Tannin project page](#)

[Institute for Materials and Wood Technology IWH](#)

[HAFL Hugo P. Cecchini Institute – International Cooperation and Development](#)



Bern University of Applied Sciences
Architecture, Wood and Civil Engineering
Communication

Solothurnstrasse 102
2504 Biel

Tel. +41 31 848 50 12

mediendienst.ahb@bfh.ch
bfh.ch/ahb

Contacts

Sauro Bianchi, Project Manager, Institute for Materials and Wood Technology (IWH), Bern University of Applied Sciences (BFH), sauro.bianchi@bfh.ch, +41 32 344 02 79

Mélanie Feurer, Project Manager HAFL, HAFL Hugo P. Cecchini Institute, Bern University of Applied Sciences (BFH), melanie.feurer@bfh.ch, +41 31 910 29 33

Anna-Sophie Herbst, Communication Specialist, Department of Architecture, Wood and Civil Engineering, Bern University of Applied Sciences (BFH), anna-sophie.herbst@bfh.ch, Tel. +41 31 848 50 12