

COURSE REPORT

INTRODUCING MELALEUCA OIL AS A NON-TIMBER FOREST PRODUCT

June 17-19, 2020

Samboja, East Kalimantan, Indonesia

An online course co-organized by:

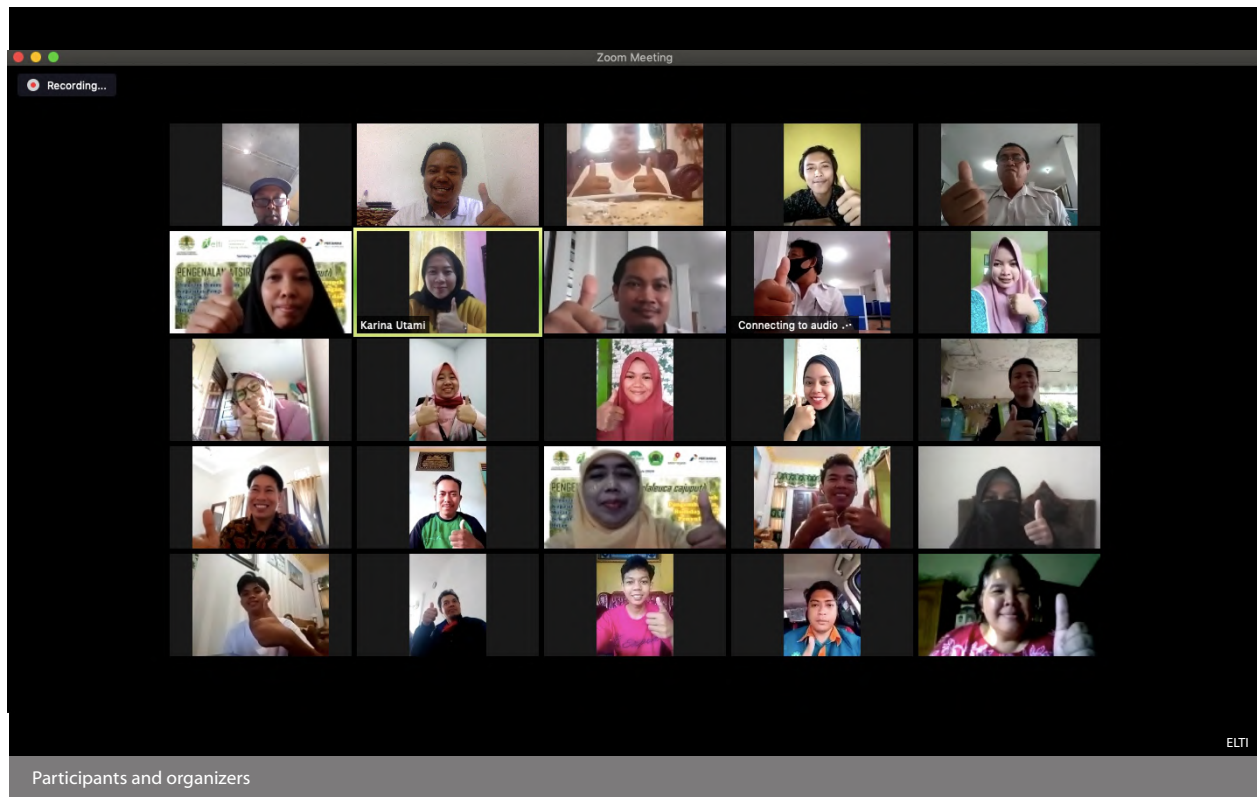
Environmental Leadership & Training Initiative (ELTI),

Tropenbos Indonesia Program (TBI),

Research & Development Institute for Natural Resource Conservation Technology (BALITEK-KSDA),

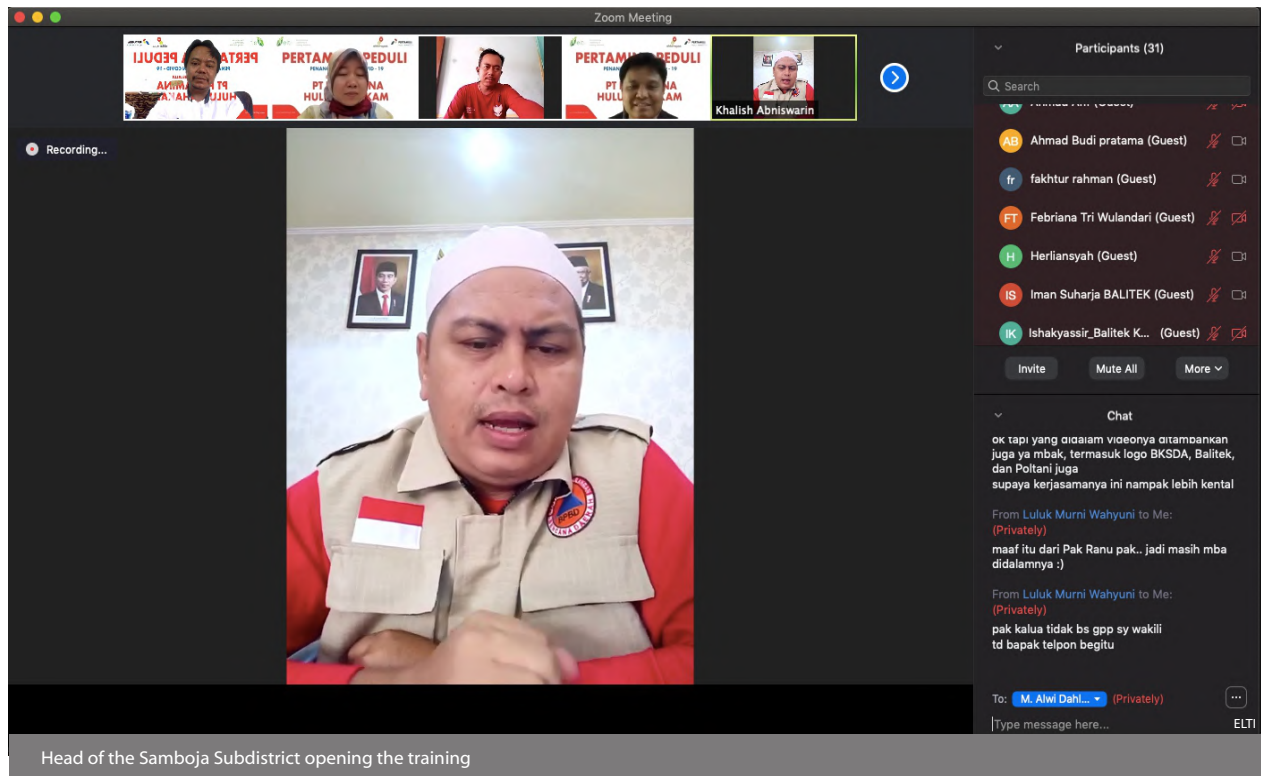
Politeknik Pertanian Negeri Samarinda and

Pertamina Hulu Mahakam



Background : The Sungai Hitam mangrove forest in Samboja, East Kalimantan, is home to a population of proboscis monkeys (*Nasalis larvatus*). The forest, which is dominated by nipa palm (*Nypa fruticans*) and mangrove apple trees (*Sonneratia Caseolaris*), has suffered significant deforestation and degradation in recent years on account of conversion to agriculture and other land uses. As a result, the population of proboscis monkeys has been declining. To reverse this trend, ELTI has been working with local stakeholders to begin

ELTI is an initiative of: **Yale SCHOOL OF THE ENVIRONMENT**



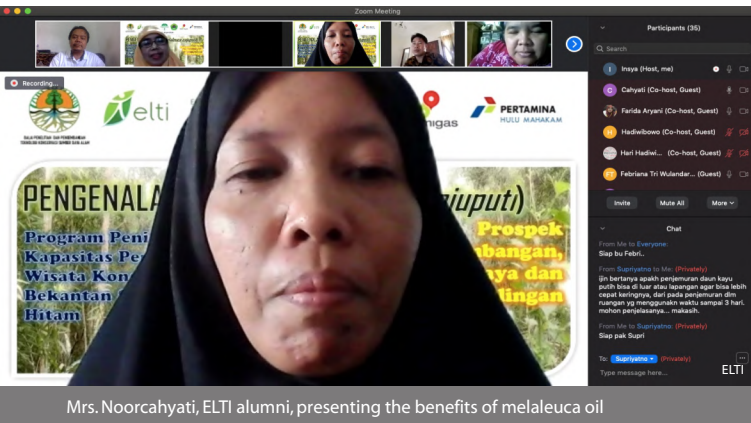
restoring the forest in the area. To maintain local support for this initiative, ELTI has also been working to enhance local livelihoods derived from the forest by helping to develop a nascent ecotourism industry focused on seeing proboscis monkeys in their wild habitat and by helping to develop non-timber forest products (NTFPs). This online course provides participants with an in-depth understanding of how to develop melaleuca oil (or tea tree oil) as a local NTFP. Melaleuca oil is derived by steaming the leaves of *Melaleuca cajuputi*, a native tree species that thrives in the Sungai Hitam mangrove forest. Melaleuca oil is used locally for its medicinal properties and is also used in a range of cosmetics and other household products.

Objectives:

- Introduce and characterize melaleuca oil
- Provide the basic theory behind purifying essential oils
- Outline the advantages and disadvantages of various processing technologies
- Show how to cultivate several types of melaleuca essential oil plants

Course Format:

The delivery and management of the course was facilitated by Dr. Arbainsyah (ELTI Indonesian Program Coordinator), Sulton Affudin (ELTI Research Assistant), and Noorcahyati (ELTI alumni). The three-day course was divided into three thematic modules, each of which was covered during one day of the training.



Mrs. Noorchyati, ELTI alumni, presenting the benefits of melaleuca oil

Module 1:

- Introduction to *Melaleuca cajuputi* and its essential oil
- Benefits of melaleuca oil
- Methods for extracting melaleuca oil from tree leaves
- Factors affecting the yield and quality of melaleuca oil

Module 2:

- The prospect for developing melaleuca oil as a NTFP
- The cultivation of *Melaleuca cajuputi*
- Discussion

Module 3:

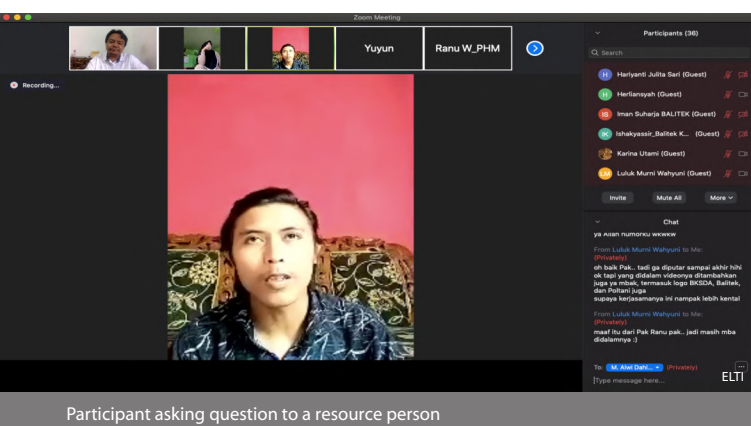
- Refining process of melaleuca oil
- Preparation of melaleuca oil raw materials (Video)
- Determining the quality of melaleuca oil
- Discussion regarding the video of melaleuca oil sampling process



Presentation slide about NTPFs



Presentation slide with botanical information

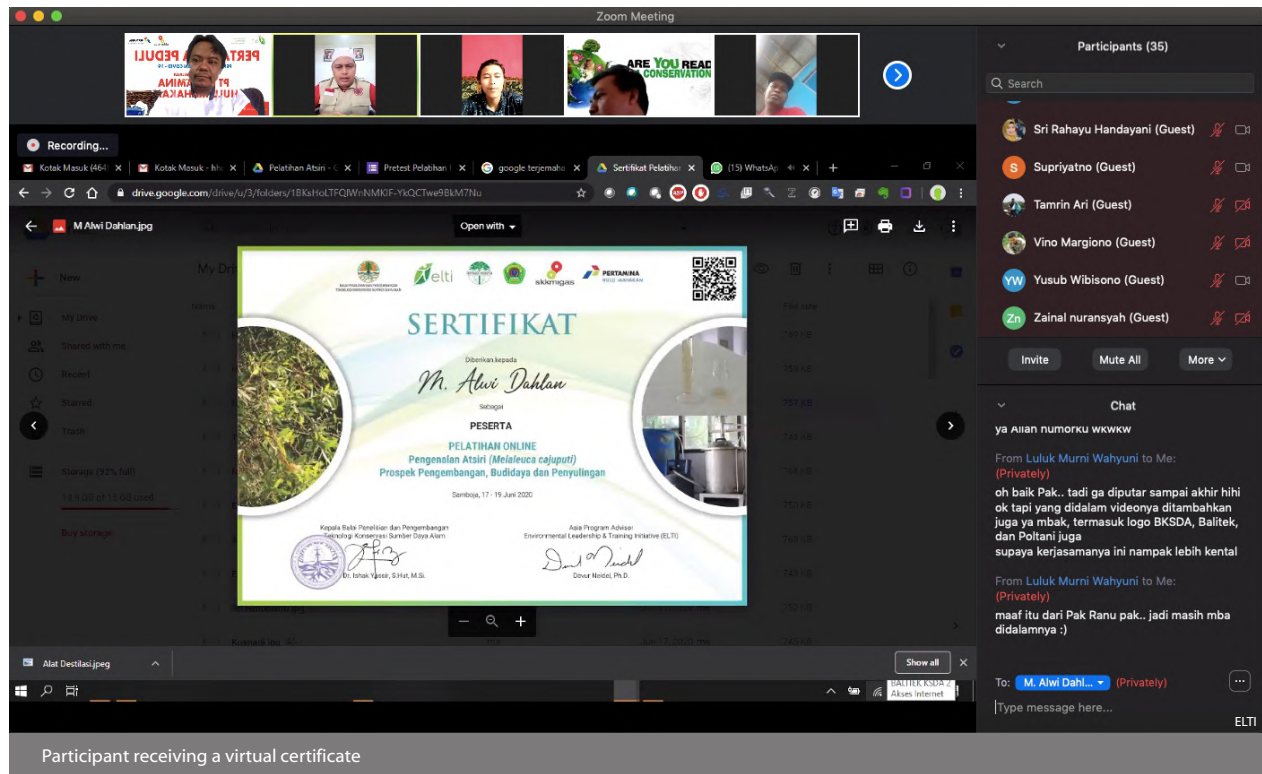


Participant asking question to a resource person

The online course materials included interactive presentations and videos that were made available via a WhatsApp group platform. Live sessions with resource people Farida Aryani (Politeknik Pertanian Negeri Samarinda) and Noorchyati (BALITEK-KSDA) were held on Zoom. A reference booklet, entitled “Introducing *Melaleuca (Melaleuca cajuputi)*: Prospects for Its Development, Cultivation, and Distillation” was also produced and made available to participants.

Course Participants:

A total of 38 participants attended the online training. Participants included representative from government, academia, the private sector, non-profits, and community groups.



Follow-up:

All of the participants were very active throughout the online training. At the end of the training, Pertamina Hulu Mahakam handed over a complete set of distillation equipment to Pokdarwis, the local organization in Samboja spearheading the habitat restoration efforts. A WhatsApp group was established and participants have been actively communicating with each other, as well as with the organizers and resource persons. One of the training participants has also requested assistance from ELTI's Leadership Program to attend a comparative study in another site in East Kalimantan.

This event received the generous support of Arcadia - a charitable fund of Lisbet Rausing and Peter Baldwin - and the Yale Poorvu Center for Teaching and Learning.