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"Solidarity in a competing world — fair use of resources"

Scientific Cooperation to Face International Challenges — Short Rotation Coppice Development for the Provision of Firewood and Hydrothermal Carbonisation of Water Hyacinth for Hydrochar Production in Myanmar

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Abstract

Due to a still growing need for firewood and construction timber, the pressure for utilisation on Myanmars remaining natural forests is steadily increasing. Furthermore, water hyacinth (*Eichhornia crassipes*), one of the most invasive species worldwide, is becoming more and more of a challenge in valuable ecosystems of Myanmar like the Inle-Lake.

The overarching goal of this project therefore is, to build an international network that specifically addresses these challenges, by linking scientists and young researchers of both countries, active in the field of short rotation coppice (for an utilisation as firewood to decrease pressure on natural forests) and hydrothermal carbonisation (as one possible way to gain positive value from fighting water hyacinth, i.e. production of hydrochar for combustion and/or fertiliser for short rotation coppice plantations from the process water).

Together with the Forest Research Institute in Yezin, Myanmar, two short rotation coppice plantations for firewood are established and managed on their local research stations, to gain experience on suitability, growth and yield of two native fast growing tree species (*Gmelina arborea* and Acacia catechu). A test design for the plantations was developed in the first workshop phase, possible sites were visited and preparations for the planting were made. Furthermore, a large sample of water hyacinth was already harvested and transported to Germany, to do basic tests on its suitability for hydrothermal carbonisation in a larger technical scale, together with the company AVA-CO2, Karlsruhe. First results regarding its carbonisation behaviour are promising.

These results will be analysed and discussed in detail with all partners in the remaining two workshop phases.

Beyond BMBF funding, it is planned, to intensify the cooperation in additional joint research and development activities – a sound basis could already be laid in this first phase of the current project. More disciplines, especially GIS and remote sensing, e.g for the monitoring of plantations or to estimate future expansion of water hyacinth shall be included. Additional contacts, e.g. with the University of Forestry, Yezin, could be established as well and future cooperation in terms of curricula development and revision is expected.

Keywords: Firewood, natural forests, water hyacinth

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