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Weeds become raw materials -

Max Planck Institute for Chemical Energy Conversion launches joint sustainability project with Ethiopian University

MPI Director Prof. Walter Leitner and his department at the Max Planck Institute for Chemical Energy Conversion focus on the topic of "green chemistry". Their research is concerned with, for example, the manufacture of chemical products without using fossil resources. Together with Addis Ababa University in Ethiopia, the MPI CEC has launched a new project to produce sustainable chemical products from "weeds".

Leitner, an honorary member of the Chemical Society of Ethiopia, initiated the collaboration together with Prof. Yonas Chebude, head of the Faculty of Chemistry in Addis Ababa. "We are planning mutual research visits for doctoral students and technical staff at both institutes in order to establish contacts and create a scientific and intercultural exchange," said Leitner.

Prof. Chebude and his team are conducting intensive research in Ethiopia on the conversion of biomass into chemically usable products. They are currently focused on the plant *Vernonia galamensis* - normally thought of as a "weed". This plant, which can only grow along the equator, is promising for industrial production. This is because an oil can be extracted from it that is 40% "epoxidized". The moleculescontained therein are naturally reactive and can therefore be used much more easily as an industrial raw material than other vegetable oils. Their research group is now trying to produce "green" chemical products - such as biodegradable plastics or adhesives - from the oil. This requires catalysts that will be developed jointly as part of this project.

There is currently no commercial cultivation of the plant, but there is already a high demand for the oil. "If one can prove that sustainable products can be produced from the supposed weeds, this would not only be progress in the field of green chemistry but also a lucrative export product for Ethiopia," says Chebude.

The project is supported by a private donation from Mrs. E. Junesch and will initially run for one year. "Supporting this promising project is a matter close to my heart. If sustainable products can be made from *Vernonia galamensis*, this would greatly benefit Ethiopia, because research and production would take place locally," says Junesch.