

horizons



Playing the palm plantation game

Researchers at ETH Zurich want to use board games to help cultivate oil palm trees more sustainably. The goal is to find a balance between environmental impact and economic efficiency.

By Atlant Bieri

The spread of oil palm plantations is one of the main reasons for the loss of rainforests in South America, Africa and Asia. But a world without palm oil is unthinkable. It is the most important lipid used in the food industry and is also an ingredient of many creams and beauty products. Now an international team of researchers under the auspices of ETH Zurich hopes at the very least to make the production of palm oil more eco-friendly.

In order to achieve this, they're resorting to unusual means. They're using board games in the regions affected to try and show farmers, landowners, companies and politicians just what consequences can arise if they don't take care of their natural resources. The project is called 'Oil Palm Adaptive Landscapes' (OPAL, see 'The science of development cooperation'). It began in May this year and is expected to last for six years. It is focussed on three countries: Indonesia, Cameroon and Columbia. "Indonesia is the biggest palm oil producer in the world, but the plantations in the other two countries are also growing rapidly today", says the project head, Jaboury Ghazoul, who is an ecologist at ETH Zurich.

In the first phase of their project, the researchers measure the environmental parameters of the rainforest: the loss of biodiversity, the availability of groundwater and its carbon storage capacity. Using this data, the researchers enter their second phase, designing a simple board game to reflect reality.

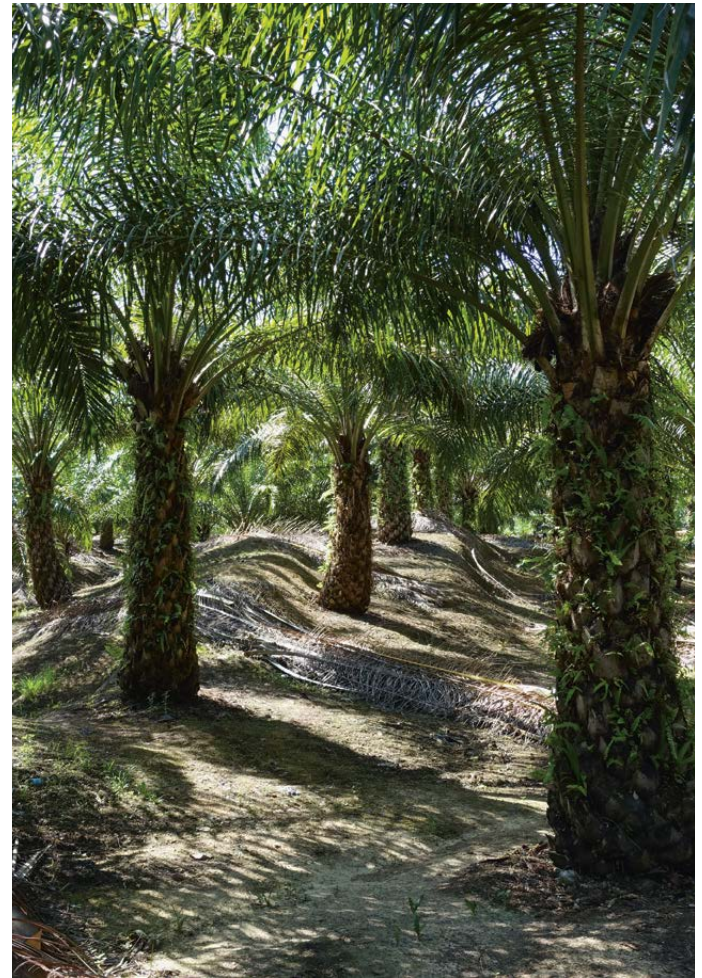
Interest groups around one table

On the board, the jungle stands next to the oil palm plantation. Both are traversed by waterways and irrigation channels, and they are divided up into different plots of

land. Each of the different interest groups will be invited to several rounds of the game. Every participant will be given a playing piece along with money and land, and can cultivate the natural resources of rainforest, water and biodiversity.

"Using such a game, we can run through processes in minutes that in real life take years", says Ghazoul. The researchers will make a note of all the moves and their impact. They will then pass this information to the interest groups, along with the participants' own feedback. "Knowledge transfer in these countries isn't simple. A board game is an ideal form of communication for it", says Ghazoul.

The researchers also want to compare the mechanisms in the three countries - Indonesia, Cameroon and Columbia - in order to be able to recommend universally valid measures for managing oil palm cultivation. The Director of the Palm Oil Research Center at the Technical University of Malaysia, Sune Balle Hansen, thinks that the board game is a good idea: "If this game includes people from the value chain, then it could truly lead to a collaboration that might improve the sustainability of palm oil production".



To cultivate oil palms, huge areas of rainforest are cleared and groundwater reserves are overused. Photo: Jaboury Ghazoul

In the past, such games have proven their worth several times. In the 1990s in Senegal, for example, farmers and irrigation planners decided on the course of an irrigation channel after using a board game devised by the French research institute CIRAD.

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The science of development cooperation

The 'Oil Palm Adaptive Landscapes' project, OPAL, is one of the first Swiss programmes for research on global issues for development (the 'r4d-Programm'). The Swiss Agency for Development and Cooperation (SDC) and the SNSF are together supporting research on food security, public health, ecosystems, work and social conflicts. Between 2012 and 2022, almost CHF 100 million will flow into transnational research projects with developing countries. ff