

The Treasure Hunt for Bio-Ethanol

Four students and a mentor from Aalto University's Sustainable Global Technologies (SGT) Studio course travelled to Kenya, working with Egerton University in Kenya and Häme University of Applied Sciences (HAMK) from Finland to understand the production and consumption of bioethanol as a cooking fuel in Kenya. Aalto students' focal point was to understand the reasons behind a lack of bioethanol consumption from the perspective of the local people.

Currently, rural areas of Kenya predominantly use charcoal and firewood as cooking fuel. Using bioethanol as an alternative cooking fuel has benefits such as reduced carbon emissions and improved health from better indoor air quality. Their project involved examining the use of invasive plants such as the water hyacinth in the production of bioethanol. Water hyacinth disturbs marine life and biodiversity as it dominates the area wherever it moves in the lake. This plant is used as a raw material for craftsmen who make tables, chairs, papers, and a company that produces bioethanol.

Some insights the students learned while visiting a leader of the fishermen were that despite the health damage of water hyacinth, many people do not want it completely eradicated as their livelihood depends on it. However, contradictions arose as some mentioned they are aware of other resources that can be used in their work, as water hyacinth is seasonal. In addition, they do not fear that it will not be around any longer because it has existed for so long.

The team also discovered that a challenge of bioethanol as a cooking fuel is energy output; it is too low to cook hard foods like corn. Moreover, no regulations on harvesting water hyacinth exist. In addition, the students learned that a mindset change is the greatest challenge and barrier to bioethanol consumption. Most have not heard about it, but those who have, appeared indifferent on switching to bioethanol and one of them said "well, maybe if there were live demonstrations to show me how to use a bioethanol-fuelled stove, I might. But I've been using firewood and coal for so long now and I'm used to it. I can't really say with certainty what is motivational enough."

Upon returning to Finland, one of the team members said "if we didn't go to Kenya, we would have gotten it all wrong. There's only so much one can do trying to make deductions and assumptions behind a screen. When you see how different their lives and conditions are, you understand the problem is much greater and the solution more complex." And now that they are back with qualitative data, they have an action plan in place to compile their findings and analysis. It is only five weeks away from their report!



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