THÜNEN

Project *brief*

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Mixed-species plantations as a multi-functionality-tool for landscape restoration

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- **"Rainforestation" approach as a form of mixed-species plantation is being practiced in the Philippines and can restore multiple forest ecosystem services to address forest landscape restoration.**
- **Growth from the mixed-species plantations is comparable with the remaining natural forests and can contribute to less pressure on remaining natural forests.**
- **Species diversity is by far higher than in monocultures and partly comparable with natural forests, making "rainforestation" a suitable tool for landscape connectivity and buffer zone management.**

Background and aims

The Philippines is currently gaining net forest cover partly due to various restoration initiatives being implemented in the country. One is the so called "rainforestation" approach which is a form of mixed-species plantation composed of native tree species with fruit trees that comes close to the previous natural conditions.

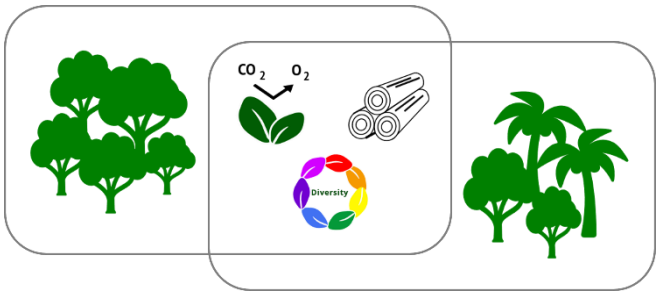
Our study (i) investigated the capability of the "rainforestation" approach to resemble the previously existing natural forest conditions in the areas where it is being implemented and (ii) identified its implications for sustainable forest management and landscape restoration in the Philippines.

Key findings

Existing forest structural indicators such as basal area, carbon stocks and volume of the mixed-species plantations were significantly lower compared to previous natural conditions.

On the contrary, estimated increments of these forest structural indicators are comparable with the remaining natural forests.

Tree species composition of the mixed-species plantations is partly comparable with previous natural forests.



Source: MDPI Environments Volume 7, Issue 3, 2020 Cover Story

Conclusions

Our study indicates that restoration initiatives like the "rainforestation" approach can recover forests considerably in terms of species diversity, carbon stocks and timber volume. Hence, this approach makes it a suitable tool for multipurpose aims especially in the case of forest restoration, landscape connectivity and buffer zone management. Lastly, mixed-species plantations further complement the country's national initiative on forest landscape restoration.

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Further Information

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