

The Importance of Native Trees

Forests are ecosystems with important ecological functions. They:

- serve as a habitat for diverse plants and animals
- provide water security as a base resource in watersheds
- mitigate the harmful effects of greenhouse gas emissions
- provide natural resources that sustain livelihoods

These environmental, economic, and social services of forests prove they are vital to human development. But now, the Philippines may suffer a decline in benefits received from forests.

The 2017 Global Climate Risk Index shows the Philippines is the fourth most vulnerable country in the world, as it is annually hit by an average of 20 typhoons, among other natural hazards. Extreme weather events, landslides, and soil erosion have caused forest loss, siltation of rivers, destructive practices in the seascapes, and depletion of fisheries. The country's endemic flora and fauna has also declined.

The decimation of native trees due to rampant old reforestation practices also exacerbates this problem.

The low appreciation and understanding of ecological functions of native species in policy and programs have led to reforestation activities that use exotic species. For decades, a monoculture or mixed stands of exotic tree species, such as Mahogany, Gmelina, and Mangium, are being introduced to local forests, causing native trees to disappear. This reforestation practice has failed to restore the vegetation of the country's forest ecosystem.



Flower pins designed and produced by Cynthia Bauzon-Arre, our grantee.

Fragmentation also has important implications on wildlife conservation because many species require a minimum area of habitat to maintain viable populations. Often, these species cannot disperse across inhospitable farmland or other “non-habitat” barriers.

Instead, it has contributed indirectly to deforestation, landslides, and the drastic reduction of local biodiversity due to the following:

Most fast-growing exotic species have low wood quality, so high-quality timber from rainforest trees is still harvested.

Exotic tree species cannot support local wildlife species.

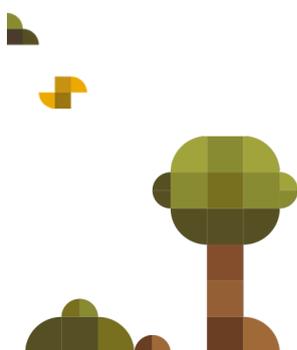
Local farmers are dependent on uncontrollable seed and seedling distribution patterns, hence, they do not protect local mother trees.

Growing exotic trees, mainly in monocultures, supports a management practice of repeated clear-cutting in areas prone to typhoons and landslides.

RAINFORESTATION FARMING IN THE UN DECADE OF ECOSYSTEM RESTORATION

With more than 6,000 endemic species of plants and more than 500 endemic species of animals, the Philippine forests house the world's most diverse species of flora and fauna—but is also one of the world's most threatened biodiversity areas. Infrastructure and mining projects, agricultural expansion, and rapid population growth led to this alarming state.

This begs the question: What is the intent of reforestation programs in the Philippines? If it's to merely plant trees to restore denuded uplands, or to provide lumber for industries, then using any tree species will do. But if reforestation programs are directed toward truly restoring the forest ecosystem, then exotic species should have no place in our forests.



If the belief that fast-growing trees are needed to fast-track reforestation remains, then initiatives to rehabilitate degraded forests and save biodiversity will be in vain.

While trees are important in mitigating climate change, experience shows that rather than planting a great number of exotic trees, native trees are better options because they have higher chances of growth, and have the ability to recruit wildlife. It is about time that more ecological consideration and foresight be put into local reforestation programs.

The local government has primarily focused on conserving and rehabilitating degraded forests. New strategies in reforestation policies and objectives should be considered, where land productivity with the conservation of forest biodiversity and maintenance of local forests' ecosystem functions are combined. One such attempt to do this is called "rainforestation farming (RF)."

RF accomplishes its objective by planting native trees to make local forests sustainable and diversified. Local tree species are also resistant to pest and typhoon damage. With better adaptation to the local setting, they can more likely bring the forest back to its original ecological integrity.

RF also revives the once-dominant vegetation of Philippine rainforests—the dipterocarp and other native trees—which will protect native wildlife from extinction.

The RF strategy includes the planting of the following:

- Sun-demanding tree species, such as Bagalunga (*Melia dubia Cav.*) and Molave (*Vitex parviflora*)
- Premium tree species that require shade, such as Red Lauan (*Shorea negrosensis*) and Yakal (*Shorea astylosa*)
- Fruit trees, such as Lanzones and Durian

As the tree farm gets established, agricultural crops can be incorporated to provide farmers with additional income. These crops can be planted in spaces between trees:

- Root crops, such as Cassava
- Vegetables, like Okra and Eggplant

The interplay between improving farmers' income and the forest's ecological functions shows that the RF strategy provides the most benefits for all stakeholders.

AN APPEAL TO BRING BACK PHILIPPINE NATIVE TREE SPECIES

Often, the economic valuation of the forest ecosystem and its components do not factor in its non-monetary value. Forest restoration should go beyond satisfying human needs in terms of livelihood, wood products, and food security. For example, a tree living for 50 years can:



A mature tree has an estimated ecological value of PhP 5.1 million. The value of its fruits and the other minor products it produces in industrial, medicinal, and beauty applications are still excluded from this figure. Unfortunately, that same tree can be sold for its timber for PhP 6,000 per cubic meter. The unwarranted undervaluation leads to the overexploitation of these limited resources.

Innovative strategies and policy reform allowing sustained growth for forest ecosystems and for the well-being of people must be advocated. Forests must be able to survive abiotic, biotic, and social pressures to be self-sustaining and to generate ecological services.

Forest exploitation is already causing widespread biodiversity loss and degradation in the ecosystem condition. The Philippines—as a signatory to intergovernmental platforms on biodiversity and ecosystem services, such as the Convention of Biological Diversity (CBD) and the Sustainable Development Goals (SDG)—should integrate these platforms in sectoral development plans.

By prioritizing native species in restoration activities, environmental and livelihood benefits would eventually help reduce poverty.

SEVEN GUIDING PRINCIPLES WHEN USING NATIVE SPECIES IN RF

Dr. Mark Ashton of Yale University stresses the growing need for a paradigm shift to use native tree species for their role in biological resilience. He said native species could increase productivity because of their services' value in watershed stabilization, carbon sequestration, ecosystem resilience, and diversification of non-timber forest products.

He provided seven guiding principles to consider when using native species. These build upon each other from basic functional and physical considerations to structural and composition components:

- 1. Site productivity changes across landscapes**
- 2. Disturbances change across landscapes**
- 3. Initial floristic dominates**
- 4. Regeneration guilds are diverse**
- 5. There is a reliance on advanced regeneration with native species**
- 6. There are high numbers of relatively site-restricted species among native trees**
- 7. Stratification processes are important**

With the establishment of a near-to-nature environment using endemic species, the restoration of the following ecological functions will be achieved:

- **Improvement of water retention capacity**
- **Prevention of soil erosion and run-off**
- **Reestablishment of soil fertility**
- **Provision of habitats for the endemic and endangered species**

In 2004, the RF approach also became a key feature in the integrated project to use abaca in the automotive industry, as a replacement for glass fibers in composites. Moreover, RF contributes to the restoration of degraded areas and worn-out plantations to highly diverse forest areas, with an opportunity for an economical and sustainable forest management approach.

■ Reference: Milan, P. P. 2020. *Rainforestation: Paradigm Shift in Forest Restoration in the Philippines*. Makati, Philippines: Forest Foundation Philippines.

For more information:

Forest Foundation Philippines
2F Valderrama Building, 107 Esteban St.,
Legaspi Village, Makati City, Metro
Manila, Philippines 1229

☎ (+63 2) 8891 0595 • (+63 2) 8864 0287
✉ info@forestfoundation.ph
🌐 www.forestfoundation.ph
📱 @forestfoundationph

