

## WHY IS TROPICAL FOREST RESTORATION IMPORTANT?

According to the UN Decade on Ecosystem Restoration<sup>1</sup>, forest restoration involves returning trees to former forest land and improving the condition of degraded forests.<sup>2</sup>

Restoring tropical forests can have a significant impact on stabilising Earth's climate. Restored forests act as an invaluable carbon sink, absorbing substantial amounts of carbon dioxide from the atmosphere and helping to mitigate climate change. Intact tropical forests currently absorb a net 7.6 billion metric tonnes of CO<sub>2</sub> per year, 1.5 times more carbon than the entire United States emits annually.<sup>3</sup> But they are under acute threat, with deforestation releasing vast amounts of carbon dioxide, exacerbating global warming.

Tropical forests provide vital services that benefit everyone. They play a crucial role in regulating the water cycle, ensuring that rain comes at the right time of year. Forests purify the air we breathe and the water we drink, while also acting as a natural shield against soil erosion. Preserving tropical forests guarantees the continuity of these essential services, which are fundamental for food production, the provision of fresh water, and overall human well-being.

Some 1.25 billion people – about one-fifth of global population – live within or near forests that provide their livelihoods through sustainable forestry, agriculture, and ecotourism.<sup>4</sup> By supporting the restoration of forests, F4F therefore not only contributes to ecosystem restoration, but also directly

contributes to the economic prosperity of local communities, fostering sustainable development, and helping reducing poverty.

## WHAT IS THE OBJECTIVE OF FOREST RESTORATION?

Forest restoration adopts strategies of adaptive management that encompass other dimensions, such as social, political, or economic conditions of each context. On this basis, restoration can pursue three different objectives:

- **Ecological restoration:** restoring the ecosystem to a state similar to the reference ecosystem (pre-disturbed condition).
- **Rehabilitation:** returning the ecosystem to a state similar to the pre-disturbed state. The resultant ecosystem is self-sustaining and provides some of the ecosystem services.
- **Reclamation:** no similarity to the pre-disturbed ecosystem. The resultant ecosystem can provide socially relevant ecosystem services.

At F4F, our restoration projects primarily target ecological restoration and rehabilitation.

<sup>1</sup> The UN Decade on Ecosystem Restoration is a joint initiative from the UN Environment Program (UNEP) and the Food and Agriculture Organization of the United Nations (FAO) calling for the protection and revival of ecosystems all around the world for the benefits of people and nature. The Decade runs from 2021 – 2030, giving us ten years to build a global restoration movement and a sustainable future.

<sup>2</sup> <https://www.decadeonrestoration.org/types-ecosystem-restoration/forests>

<sup>3</sup> <https://www.wri.org/insights/forests-absorb-twice-much-carbon-they-emit-each-year>

<sup>4</sup> <https://www.worldwildlife.org/threats/deforestation-and-forest-degradation>

## WHAT FORMS OF FOREST RESTORATION EXIST?

There are two general restoration strategies: Passive and Active:

- **Active restoration:** active restoration involves management techniques such as planting seeds or seedlings to start forest growth. This means an intended native mixed species planting approach is followed to help the forest growth in a particular direction.
- **Passive restoration:** a type of ecological restoration that involves allowing natural succession to occur in an ecosystem after removing a source of disturbance.<sup>5</sup>

There are two general types of interventions:

- **Reforestation:** reintroduction of forest species on deforested forest lands.
- **Afforestation:** introduction of forest species on non-forest lands.

At F4F, our restoration projects apply both active and passive restoration depending on the site characteristics. Our focus is on reintroducing native and highly valued forest species. Climatic conditions and the quality of the soil (level of nutrients and organic matter) soil largely determine the restoration potential of each area. F4F carefully evaluates and validates the technical design proposed by each project developer.

## WHAT ARE THE RESTORATION METHODS?

In terms of active planting techniques, two approaches are typically applied:

- **Nucleation:** forest trees are planted in concentric clusters. Natural ecosystems inspire this method to create denser and more diverse forests in a shorter time.<sup>6</sup>
- **Traditional planting:** trees are planted following an established pattern with fixed spacing between planted seedlings.

At F4F, our restoration projects apply both approaches, depending on the site conditions and needs.

## WHY IS F4F STARTING WITH RESTORATION PROJECTS IN COLOMBIA?

Colombia is home to 10% of the Amazon rainforest, which due to its location and ecological structure plays a crucial role in contributing to the stabilization of the global climate. Besides the Amazon, the country also hosts dry forests and mangrove forests. The country is one of the most biodiverse countries in the world (by hectare), and is estimated to be home to as much as 10% of all the Earth's plant and animal species.<sup>7</sup>

Colombia committed to restoring around 30% of its ecosystems (terrestrial, marine, and coastal areas), representing about 60 million hectares a of the national surface.<sup>8</sup> On this basis, Colombia committed to planting 180 million trees by 2022, 160 million more by 2026, and another 160 million by 2030. F4F is directly supporting these habitat restoration efforts.

F4F is restoring forests both in the Colombian Amazon region, as well as other forest ecosystems. Please refer to the project site map on the home page to see where our restoration activities are being implemented.

<sup>5</sup> <https://www.nature.com/scitable/knowledge/library/restoration-ecology-13339059/>

<sup>6</sup> Corbin, Jeffrey D., and Karen D. Holl. "Applied Nucleation as a Forest Restoration Strategy." *Forest Ecology and Management* 265 (February 2012): 37–46. <https://doi.org/10.1016/j.foreco.2011.10.013>

<sup>7</sup> <https://www.cbd.int/countries/profile/?country=co>

<sup>8</sup> <https://www.elespectador.com/ambiente/bibo/saber-donde-restaurar-clave-para-recuperar-los-bosques-del-pais/>