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## **Colombia wants to plant 180 million trees: Is it a realistic goal?**

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At the end of January this year, Colombian President Iván Duque announced at the World Economic Forum held in Davos, Switzerland, that the country's goal is to plant 180 million trees by 2022. This is based on the restoration of more than 300,000 hectares (741,316 acres) of degraded land.

Days later, the Ministry of the Environment said that a campaign called Great National Day: *#PorqueSembrarNosUne* (*#BecausePlantingUnitesUs*), commonly known as Sembratón, would be held on March 21 and 22. During those days, more than five million trees would be planted throughout the national territory.

Due to the COVID-19 pandemic, the campaign was postponed; however, once the health crisis is over, the national government has all the intention to go forward with it. Experts clarify that the plantation of seedlings is only the first step of the ecological restoration process which will have to be monitored for years.

The following are some of the questions experts have regarding the country's ambitious challenge.

### **Where will the 180 million trees come from?**

Richard Romero, supervisor of the Sembratón campaign, says that the trees will be obtained from nurseries of the Colombian Agriculture and Livestock Institute (ICA), the National Natural Parks System of Colombia, the Regional Autonomous Corporations (CAR) and private companies like hydroelectric companies—entities that are obliged to make environmental compensations by planting trees.

"We should also talk to ranchers to get them involved. Extensive livestock farming causes big problems because it damages protected forests. You have to consider all of that," Romero said.

He claims that there is enough plant material in Colombian nurseries to achieve the 180 million trees goal. However, some experts who have been working on restoration in the country for many years are not so sure of this.

Francisco Torres, a forestry engineer and researcher at Natura Foundation, claims that there are between 2,600 and 3,000 species of trees in Colombia; however, there are no more than 15 or 20 native species in commercial nurseries. Similarly, he doubts that government institutions and private companies have sufficient capacity to supply that enormous quantity of trees.

“If we are going to plant 180 million trees, we may end up planting 60 or 70% of exotic species like pines which do not contribute anything to the restoration and recovery of ecosystems. We would be leaving aside many important species. With the current supply of nurseries, we are not going to have the 180 million trees available to plant,” he states.



**Guadua or bamboo forest in Colombia. Photo: Rhett Butler**

Mauricio Aguilar, a researcher at the Humboldt Institute and an expert in restoration, has concerns about the Sembratón plan. To begin with, he says that instead of trees, they will plant seedlings. These seedlings will not necessarily grow into trees, Aguilar points out. He also shares the concern of forestry engineer Torres about the possible use of invasive and exotic species like pines and eucalyptus, instead of using native ones.

On the other hand, Romero, the supervisor of the Sembratón, confirmed to Mongabay that they will, in fact, use native species to reach their goal.

Aguilar has another concern: will the country have a way to supply this great demand for trees? The researcher claims there are many nurseries dedicated to the production of native species but the challenge lies in the genetic quality of the plants. To ensure good genetic quality, they should avoid transporting the trees between different regions of the country.

“Whether nurseries will have 180 million seedlings is still in the air. There will also be transportation costs that will need to be taken into consideration. Moreover, who will plant the seedlings? The people planting them will not only need to know how to properly open a hole but also how to find an adequate microenvironmental condition. It’s not that easy. It requires people who know the process or else we will have to teach them. In addition, these plants will need compost, soil and care,” continues Aguilar.

Uncertainty surrounds the Sembratón and the list of questions continues to grow, for example, how will Colombians know what was planted?

The project supervisor, Richard Romero, says that this will be the task for the National Environmental System (SINA), which has jurisdiction in all regions. “We also have the help of the Municipal Unit for Agricultural Technical Assistance (Umata), the CARs and the regional and municipal secretariats.” For him, the greatest risk is that people who want to plant a

tree could, for example, buy a pine in a nursery and plant it on their farm. He does not believe, however, that this could happen under large institutions supervision, especially private companies.



Plantations in rural Villavicencio. Photo: Rhett Butler

Romero claims that they will send a directory with the telephones of all SINA entities to educational institutions—another of the main actors that the government is betting on—so that they can contact them directly. According to him, there is a great alliance with the education sector because, for him, children will end up taking care, protecting and preserving what they are planting today.

The risk is not only people planting exotic species, but also creating large plantations or monocultures of a native species—given the shortage of native species in nurseries. Romero claims that companies have specialized people to carry out the plantation and that companies that require to make environmental compensations have these plantation projects very well planned.

There is still a question about whether other people who participate in the Sembratón sessions will have adequate training.

### **Who will monitor the trees?**

The Ministry of the Environment has a dedicated area for the Sembratón campaign on its website. They have a [tree “counter”](#) figure that allows Colombians to know exactly how many trees are being planted and where. The objective is to keep track of how close or far the country is from achieving its goal of planting 180 million trees between 2018 and 2022.

Richard Romero claims that the monitoring work is not a task that should be conducted by the Ministry of Environment since they are only in charge of formulating policies. Monitoring will fall mainly on the Regional Autonomous Corporations (CAR).

“They are the executing arms. By law, they have to carry out these restoration processes. By having a tree counter, the Ministry made these processes transparent; otherwise, it is very

difficult to know, the veracity of what is said is being planted in the region of Vichada, for example,” he said.

Romero says that the tree counter will help supervise the project but that it is also important to know that in these processes it is normal for there to be a percentage of mortality in the trees, although the objective is to replace the dead ones with new trees.

The Ministry of Environment has high expectations in the role large companies will play, especially energy producers. “The worst thing that could happen to them, concerning their reputation, is lying about what they are planting or the trees dying on their watch. Besides, since they are private companies, those losses are not an option.”

The CARs will not only have to monitor the plantation process but, when asking Richard Romero, supervisor of the Sembratón and the one in charge of monitoring the trees that die, he assured that it was also CAR’s responsibility. However, there is no certainty that these institutions can fulfill the task due to the limited resources and personnel they have for the large areas of land that are part of their jurisdictions.

### **It is not an easy task.**

José Ignacio Barrera, a biologist and coordinator of the master’s program in ecological restoration at the Universidad Javeriana, says that only after six or eight months one can know if a planted tree will survive. “As ecologists, we are concerned that these projects are not made with an ecosystem vision but only with a tree in mind. You have to think about which areas require priority restoration and what will be planted in the areas already identified. Something so big can have many risks,” he said.

Furthermore, according to Professor Barrera, the monitoring should be done initially every three to six months. After the second year every six months or every year and, then every two or five years.

### **Where will the trees be planted?**

According to Romero, there is a whole task of identifying the areas for restoration that not only involves the national government but local authorities, CARs and, regional and cities environmental secretariats, etc.

Some of the areas that need these processes the most are those that have been affected by illicit crops, livestock, agricultural crops and fires. “Restoration is something that the Ministry with the help of CARs has been doing for a long time but haven’t advertised it. Planting 180 million trees is not something new for us. We want to generate parallel activities like the Sembratón so that people see the importance not only of restoring but also of preserving forests, which is our objective,” Romero said.





Rain in the Colombian Amazon. Photo: Rhett Butler

Romero also says that talking about planting trees reaches more people as, “It is a symbol that people understand. It is not an improvised project that was born in Davos [at the World Economic Forum].”

Romero comments that many of the planting activities are part of the National Restoration Plan 2015 and are activities in which the National Natural Parks System or CARs participate. However, some experts don’t understand it that way.

“It is independent, the plan is formulated in stages and was approved in 2015. The Sembratón is something additional, I have not seen it in the plan. The positive thing about it is that it makes the issue visible, it includes the community, it unites the people as it is a national objective. The last thing we want is for it to be a frustration for everyone,” says Francisco Torres of the Natura Foundation.

The National Restoration Plan, despite its importance, has no supervisor.

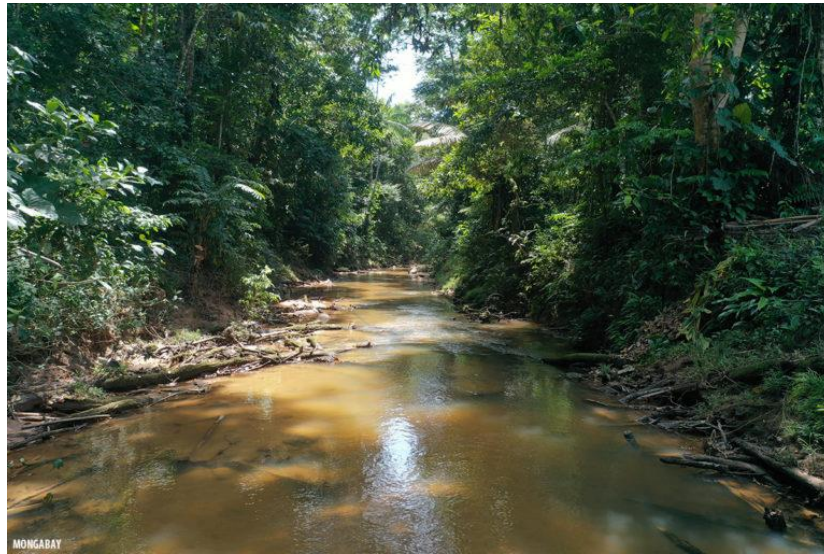
“The ministry does not have an office or a restoration plan manager, so there are two or three professionals who work in good faith, but who also have other tasks in their hands. If the ministry does not set up a technical team and helps corporations propose projects, budgets, strategies and audits, the progress will only be seen in isolated cases,” Torres says.

Speaking specifically about the areas that will have priority in planting, Richard Romero claims that the idea is to plant trees in all of the Colombian ecosystems, although he does not mention specific areas.

This is also worrisome since Francisco Torres points out that it is very important to have the sites very well identified. “The idea is to plant in areas that are going to be used for conservation and that are going to be looked after in the long term,” Torres said. “We don’t want trees to be planted today, to take a picture tomorrow and the next day have someone replace them to grow potatoes.”

It is not enough just to plant a tree. For seedlings to survive they require fertilizers and water in the drier times, costs that add to the value of each plant in the nurseries. A native

plant that is produced commercially can cost between 3,000 and 7,000 pesos (equivalent to \$0.76 to 1.77). If an average cost of 5000 pesos (\$1.27) per seedling is assumed, this would mean an expense of 900 billion pesos (about \$220 million), not counting the price of fertilizers and water.



River in the Colombian Amazon. Photo: Rhett Butler

Where will the money come from to buy the trees? The supervisor of the Sembratón has said that many plants will come from nurseries of institutions like ICA, the National Natural Parks System of Colombia, CARs—there are 34 but only 10 have their own nurseries—educational institutions and private companies.

Even so, the experts are clear that the provisions of these places will not be sufficient and that it will be hard for commercial nurseries to have the supply to satisfy the great demand.

Romero states that if the areas and processes are well defined, many international cooperation resources will surely follow. This is also taking into account the launch of the ‘Champions for 1 Trillion Trees’ platform, a 2030 goal set by the countries who attended the World Economic Forum. “If we buy time this year, by 2021 we will already know where the difficulties are, how to face them and what to do to improve,” affirms Romero.

### **What is the ecological restoration process?**

Restoration experts mention that many factors must be taken into account. Mauricio Aguilar from the Humboldt Institute explains that ecological restoration focuses on native species. A frequent mistake, according to the expert, is that mature forest species are often planted in a juvenile state in areas with a lot of direct light; this causes the tree to grow too slow or die.

Aguilar emphasizes that the first thing to do in a restoration process is to improve the terrain, list the invasive species and establish an order. “There are pioneer species that grow in direct light, often withstand drought or heavy rain conditions and when they grow they generate a microclimate that favors the growth of other species.”



Always covered in clouds, Galilea is one of the few remaining relics of the cloud forest in Colombia. Photo: Cortolima

José Ignacio Barrera of the Javeriana University claims that it is vital to make a good evaluation of the state of the places where restoration is planned. From there, the treatment required for the site is defined. “In an ecological restoration we try to mimic nature, it is not planted in a very orderly way but in the style of what nature itself generates when it is not assisted,” he says.

Barrera adds that you should not only think about the vegetation but also about the fauna, soil and how species interact. “You have to know the state of the soil, how degraded it is, if you have to apply nutrients or not, what species of plants can tolerate the conditions and where to plant them so that they can protect themselves. Notes should be taken of the seedlings when planted, how they are responding, how much they are growing and whether they died or not. Then make some adaptive measures if required.”

The coronavirus pandemic paused the planting of five million trees that were planned for the weekend of March 21 and 22, one of the largest planting days within the target of 180 million trees in four years. Researchers working in ecological restoration still hope to have more clarity on how the government will achieve that goal.

“We want the Sembratón campaign to happen but it must be planned very well. They have to properly produce the seedlings and not just ‘plant to meet a goal’ and in six years lose everything for lack of monitoring. If that happens, that would be a great environmental failure for the country and for all the people who participate in the activities,” concludes the forestry engineer Francisco Torres of the Natura Foundation.

Source: <https://news.mongabay.com/2020/04/colombia-wants-to-plant-180-million-trees-is-it-a-realistic-goal/>