Mega Pine Plantations in the Argentinian Patagonia: Territorial Invasion, Fires And Water Scarcity

The Argentinian government continues to subsidize industrial tree plantations, now as a policy against climate change as well. With 1.3 million hectares currently planted, most of which are pine plantations, the aim is to reach 2 million hectares in 2030. From dispossession and land appropriation, to deforestation and more forest fires, pine trees are devastating territories and communities.

March 2021 was hell for communities in the Andean region of the Argentinian Patagonia. Voracious fires raged across the territory, four people were killed, and hundreds of families lost their homes and livelihoods. From December of that same year, a similar situation is happening again. The region, located in the western part of Neuquén, Río Negro and Chubut provinces, lies on the Andes mountain range and borders Chile. Since 1970, the state's policy has been to **replace native forest with fast-growing exotic pine plantations.** The invasive nature of industrial plantations and their uncontrolled spread were not taken into account.

These monocultures were a pretext for the dispossession and appropriation of indigenous Mapuche community lands (1). A case that has gained relevance in recent months is that of businessman Rolando Rocco's pine plantations, near the town of El Bolsón, Río Negro. Since September 2021, the *lof* (Mapuche community) of Quemquemtreu has been working to recover their ancestral territory. Their action has been met with extreme violence: not only did the government establish an unyielding police blockade; but on November 21, **two young men from the community were attacked with firearms: one of them died and the other was seriously injured.** Two men associated with the plantations were arrested for this crime (2). The young Mapuche who was murdered was 29-year-old Pedro Elías Garay Cayicol. In that same place in 1993, Mapuche elder Lucinda Quintupuray was killed for refusing to sell her land; and later her son was killed. These crimes were never investigated (3).

"The so-called Forest Plan stripped several Mapuche families of their territory," says Mirta Ñancunao of the Mapuche Community of Las Huaytekas in Río Negro. "Those of us who still remain in the territory have clear evidence and experience related to the imposition, subjugation, abuses, dispossession, forced displacement, judicial processes, habitat modification, alteration of ecosystems and water sources, and loss of spaces to graze animals and to collect *lawen* [Mapuche medicine], fruits and firewood," she says. And she observes that 50 years later, they survive as "intruders" on small plots in a forest invaded with pine trees, and in legal conflicts too.

Despite these impacts, **the Argentinian government continues to subsidize industrial plantations, not only with the argument of alleged economic development, but also as a policy against climate change.** With 1.3 million hectares currently planted—of which 100,000 are in Patagonia—the aim is to reach 2 million hectares in 2030 (4).

Planting Pests

Pine trees replace native forest in a process that is virtually irreversible, due to the magnitude with which they reproduce, the speed with which they grow, and their regrowth after forest fires. Pine trees extinguish the biodiversity in the region: they inhibit the growth of other plants due to the substances that they secrete and which dry out the soil. The ongoing invasion can be observed in numerous parts of the Andean-Patagonian forest. Seeds carried by the wind germinate even among tall plants, and in many cases, specimens have been found growing tens of kilometers away from the original plantation (5).

Pine Trees and Forest Fires

Fire spreads five times faster in pine plantations than in native forest, and thirty times faster than in steppe shrubs. Pine seeds resist fire and germinate very well after a fire. Each fire creates more fuel mass and leads to more voracious fires.

Climate change also causes more droughts, heat and extreme winds. In this context, continuing with the massive plantation program is equivalent to multiplying scenarios for upcoming catastrophes.

Pine Trees and Water

Several mountain cities in the Argentinian Patagonian have been surrounded by the ill-named “communal forests,” which are actually ponderosa pine plantations. For the most part, they have been planted with the argument that they would help to fix slopes and reduce the pressure on native forests, as well as supposedly generate a regional industry without relying on timber from the northern part of the country.

Meanwhile, in the last two decades, small springs of water that locals use have disappeared. Such is the case in the city of Esquel, in Chubut, where the community first thought this could be a consequence of climate change. They later noticed that **the water sources were drying up as the plantations grew.**

A growing number of investigations, and even more social and territorial problems, warn us about the enormous water consumption of exotic species (such as pine) as compared to native forest or steppe shrubs and pastures. A review of more than 500 river basins worldwide warned about the drastic decrease in water flow where there are plantations, especially in dry areas. With pine plantations, the flow of rivers decreased 40%; with eucalyptus plantations, 75% on average. It also showed that the enormous demand for soil nutrients alters the chemical quality of both surface water and groundwater (6).

To anticipate what might happen on the Argentinian side of the mountain range if the Forest Plan continues, it is appropriate to look at the impacts on the other side of the Andes, in the Gulu Mapu, where pine and eucalyptus plantations have grown to cover 3 million hectares.

In the south-central Chile, in the Gulu Mapu (Mapuche territory), researches and local communities alike warn that pine and eucalyptus monocultures contribute more to the reduction in river flows than climate change does. Imposed during Pinochet’s dictatorship, these plantations have currently reached a level of invasion that is impossible to stop.

Mapuche and peasant communities in southern Chile—surrounded by industrial-scale plantations when they are not invaded or expelled by them—were the first to suffer the impacts of this model.

“...The great scourge we face today is that of the forestry companies, which mercilessly destroy natural life with their exotic plantations in our Mapu. Thousands of hectares of pine and eucalyptus trees, which extinguish all native flora and fauna, are also irremediably drying up our nearest water sources,” said Rumian Lemuy from the community of Williche Kiyemtuain in 2012 (7).

Plantations have completely transformed the landscape of southern Chile and are the main cause of conflict today; the government’s only response has been to militarize the region and declare a state of siege. In early November 2021, two Mapuche community members were killed by State forces (8).

Effects on the Chubut River

The Chubut river is born from numerous streams in the mountain range, and it runs through the Argentinian province of the same name from west to east, to the Argentine sea. The springs are on the border between the forest and the steppe, a 350-kilometer strip of land. In this region, the Italian group of the Benetton clothing brand, alone, has planted more than ten thousand hectares of ponderosa pine, and it continues to plant more.

A recent study in that region showed that the transpiration of adult pine trees reached 73% of the total water flow; meanwhile in the shrub steppe it was only 10%. “All rainfall in the semi-arid Patagonia is evaporated through pine plantations, resulting in zero deep drainage and zero groundwater recharge,” the study concludes (9). These data show that if massive planting of pine trees continues in the headwaters of the basin, the flow of the Chubut River will decrease even more, due to decreased rainfall.

Why so Much Ponderosa Pine?

In the Andean Patagonia, 87% of the plantations are ponderosa pine, and in Chubut province the figure reaches 96%. Sawmills do not want ponderosa trees because they are over-abundant, and their wood is not valued in carpentry, nor is it good for posts, columns or firewood. So why is there so much ponderosa pine?

Ponderosa pine grows twice as fast in Patagonia as it does in North America where it is native. Seedlings are 100% viable even in dry years, which makes it possible to collect the state subsidy at the end of the first year of the project. Oregon pine on the other hand, with wood comparable to native cypress, does not withstand drought well—which means that it must be replanted for four years in order to complete the plantation. Only after that can the individual planting receive the subsidy. Therefore, **the motivation is to get money in as little time as possible.** This incentivizes massive plantations without even considering the end use of their wood.

But there are also other reasons. As has occurred in Chile, Uruguay and northern Argentina, **after pine plantations, come pulp mills and the water contamination effects they cause**—an issue generally silenced so as not to spark social resistance. Spokespeople from the industry emphatically state that cellulose pulp mills are excluded from the Patagonia Forest Plan. However, that was their stated purpose since the plantations began in the 1970s; the factories would be located on the Chubut River, near El Maitén (10). In a 2016 article published in the newspaper La Nación, they explain that the objective of the Tierras del Sur—Benetton Group company is precisely that: “When the time comes, they will produce much better quality wood than that from the NEA (Northeast of Argentina), more suitable for pulp fiber” (11). With the Chubut River and at least one captive municipality on hand (such as Maitén, where the majority of the urban *ejido* [public land] is owned by Benetton, which also has the support of the political power), it is not hard to foresee what could

happen in the coming decades, or who will be the first to be harmed by contaminated water.

Biological, Academic and Institutional Invasions

Replacing native vegetation with industrial plantations has multiple impacts, whose magnitude is impossible to visualize if not taken as a whole, or if their mutual interactions are not considered. Yet, neither academia nor different State departments communicate with each other to agree on goals that would not have regrettable impacts later. Even within State agencies, divergent views are rarely, if ever, openly debated. Thus, the policies on forests, protected areas, waterways, and public lands end up being defined independently from one another, by officials who are obeying the pressures of economic interests first and foremost.

The continuity of the Forest Plan was guaranteed by training "resources": the name given to graduates of the Forest Engineering department of the National University of Patagonia. Human resources for forest resources. The Andean Patagonian Forest Research and Extension Center (CIEFAP, by its Spanish acronym) and the Forest Engineering department, with the support of the German agency GTZ and its operators in provincial governments, imposed the current forestry model of plantations and the necessary favorable legislation. Something similar occurred with the "pine-ocracy" in the province of Neuquén. This forestry "development," imposed on a mega-scale, is just another form of land invasion and extractivism.

What To Do?

It is highly irresponsible to continue to promote plantations, even outside of forests in the intermediate area toward the steppe. The worst thing we can do is to "naturalize" this artificial landscape and not see everything that follows from it: more drought; accumulation of fuel for increasingly devastating fires; and the contamination of rivers by pulp mills in the near future.

As has been rightly said, **the issue is not the pine trees, the issue is the scale and dimension of the mega pine plantations.**

The planting of these pests must be stopped. The plantations that are truly necessary should follow only after prior and informed consultation with potentially affected residents (Art. 169 ILO) and the respective environmental impact study. The forestry policy must be integrated into a broader territorial policy which, first and foremost, should cease to expel people from the land, and should cease to criminalize communities that are recovering part of their ancestral territory.

The expansion of plantations is concerning to not a few Mapuche communities, as expressed in the Parliament for Water and the Chubut River, in El Maitén, in early 2020: "When we lack *kizungenewün* (the ability to decide for oneself), we suffer the consequences of the imposition of this capitalist extractive system. This is how pine plantations are imposed; and they cause droughts, destroy native trees, propagate easily and are highly flammable" (12).

It is urgent to stop the out-of-control proliferation of pine trees in many areas. Individual, neighborhood and collective actions are important to stop the propagation in areas that have not been invaded, or to recover other areas that have. (This brochure suggests simple actions to remove small pine trees or to dry standing specimens). Gatherings to halt the invasion, recover specific sites and promote recolonization with native specimens are of enormous educational importance. A proposed ordnance was recently presented in Esquel to gradually replace the ill-named "communal [pine] forests" that surround the city with native trees. A *rukatún* (community collective work party for

the common good) is always an opportunity to create solidarity, community and awareness—of what belongs to everybody, of the commons and of mutual interdependence—and everything that creativity and love of the land suggests.

Aguayala, Argentina
Collective for research, dissemination and action on water as a common good, in Abya Yala, with special reference to the Andean-Patagonian region. It is composed of neighbors, Mapuche community members, scientists, employees or former employees of the forest sector, assembly activists, communicators and artists. Based in Esquel and the 42nd Parallel Region.

*This article summarizes the content of the publication "**Bienvenidos a Pinolandia***
Agua, pinos, y territorio Efectos (hídricos) de la pinificación del territorio" Access the full publication here*. There you may expand the information and find complete bibliographic references.*

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