

CARTOGRAFÍAS DE RESTAURACIÓN. RE-FOREST: BUSCANDO MÁS ALLÁ DEL CATÁLOGO DE MATERIALES

RESTORATION CARTOGRAPHIES.
RE-FOREST: SEARCHING BEYOND
THE MATERIAL CATALOG

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→ Como arquitectos y diseñadores que establecemos un diálogo en permanente evolución con el medio ambiente, es fundamental que reconozcamos las repercusiones de nuestro trabajo y cómo afecta a los bosques. Nuestro papel trasciende el mero diseño y la construcción: exige un alineamiento con los esfuerzos de restauración ecológica, en una búsqueda por equilibrar —si ello es posible— el entorno construido con los territorios forestales y las comunidades que impacta nuestro trabajo.

La profesión debe reconocer su influencia en los ecosistemas y que los procesos extractivos de la economía global suelen conducir a la degradación de los bosques. La interrogante que surge es si este impacto puede mitigarse alineando las iniciativas de los proyectos de diseño con los trabajos de restauración que se llevan a cabo. ¿Puede un enfoque más holístico como este fomentar prácticas sostenibles que coexistan con los biomas forestales y apoyen a las comunidades que viven en ellos?

A raíz del crecimiento capitalista desenfadado (la idea del crecimiento permanente en un planeta con recursos limitados), la profesión enfrenta una paradoja. Los bosques, comúnmente explotados por sus recursos, son más que productores de materias primas. La investigación en curso busca estrategias para mejorar económicamente a las comunidades integradas a los ecosistemas forestales, sobre todo en el estado de São Paulo, en Brasil. Indaga en el conocimiento acumulado por las comunidades originarias y en las prácticas de recolectores y pequeños agricultores con el propósito de inspirar proyectos que se puedan integrar a los restos del bosque Atlántico, actualmente una pálida sombra de su formación original. Este enfoque, consistente en que los esfuerzos de restauración estén dirigidos por la comunidad, presenta un modelo para apoyar la recuperación de los bosques, fomentando a su vez la estabilidad económica. Dicho modelo destaca el valor de aprender de quienes han cultivado el bosque durante miles de años, integrando la agrosilvicultura no solo como método, sino también como modo fundamental de vida. Estas prácticas resisten los patrones destructivos de la agricultura a gran escala y el monocultivo, asegurando la protección del bioma mediante una combinación de agricultura tradicional y estrategias de preservación de los bosques.

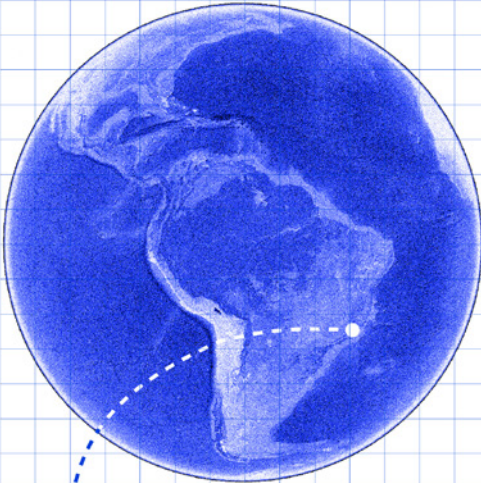
→ As architects and designers in the evolving dialogue with the environment, a recognition of the impacts of how our work affects forests is paramount. Our role transcends beyond mere design and construction; it calls for an alignment with ecological restoration efforts, in a search to balance — if possible — the built environment with the forest territories and the communities our work impacts.

The profession must acknowledge its influence on ecosystems, with the global economy's extractive processes often leading to the degradation of forests. The question arises whether this impact can be mitigated by aligning design project initiatives with ongoing restoration work. Can such a more holistic approach encourage sustainable practices that coexist with forest biomes and support the communities therein?

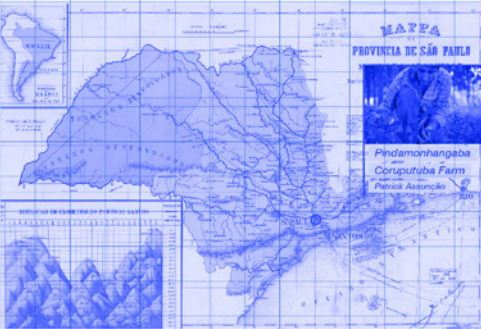
In the wake of rampant capitalistic growth — the idea of permanent growth within a planet with limited resources — the profession faces a paradox. Forests, commonly exploited for their resources, are more than commodities producers. The ongoing research seeks out strategies to economically uplift communities integrated with forest ecosystems, particularly within São Paulo's state, in Brazil. It looks to indigenous knowledge and the practices of harvesters and small farmers to inspire projects that are integrated into the remnants of the Atlantic Forest — now a shadow of its original formation. This approach to community-led restoration efforts presents a blueprint for supporting forest recovery while fostering economic stability. It emphasizes the value of learning from those who have cultivated the forest for thousands of years, integrating agroforestry not just as a method, but as a fundamental way of life. These practices resist destructive large agricultural and monoculture patterns, ensuring the biome's protection through a combination of traditional agriculture and forest preservation strategies.

RESTORATION CARTOGRAPHIES

RE-FOREST: SEARCHING
BEYOND THE MATERIAL
CATALOG



**F A Z E N D A
C O R U P U T U B A**
VALE DO PARAÍBA



The coffee culture cycle in the Vale do Paraíba was decisive for the region's massive deforestation. During the world economic crisis of 1929, large farms were divided, resulting in a region with small properties. With the expansion of the eucalyptus plantations in the 60s, many landowners replaced traditional agriculture with eucalyptus monoculture, displacing traditional communities, who lack legal recognition and do not have titles of their lands.

El ciclo de cultivo del café en el valle del Paraíba determinó la deforestación masiva de la región. Durante la crisis económica mundial de 1929, las grandes haciendas se dividieron, dando lugar a una región compuesta por pequeñas propiedades. En los sesenta, con la expansión de las plantaciones de eucalipto, muchos terratenientes sustituyeron la agricultura tradicional por el monocultivo de eucalipto (desplazando a comunidades tradicionales que carecen de reconocimiento legal y no tienen títulos de propiedad de sus tierras).

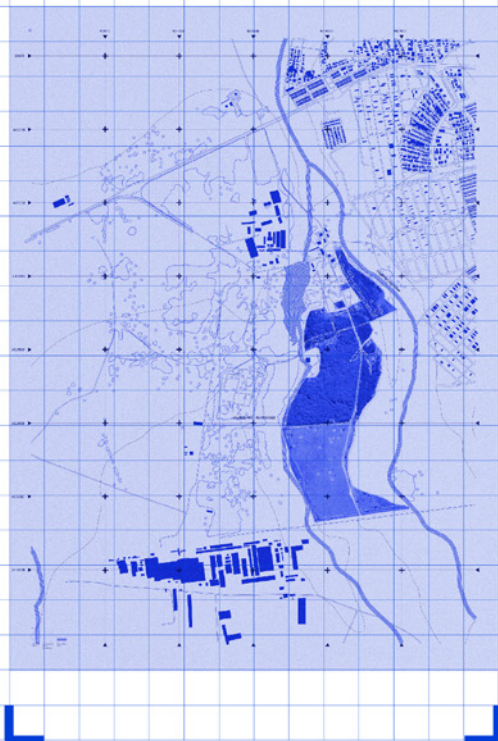
A principios de la primera década del presente siglo, Patrick volvió a la hacienda para plantar eucaliptos, pero a partir de 2008 invirtió en el monocultivo de guanandi (*Calophyllum brasiliense*), una madera dura nativa utilizada en la reforestación. Con el apoyo de investigadores agroforestales,

PATRICK ASSUNÇÃO



In the early 2000s, Patrick returned to the farm to plant eucalyptus, but from 2008 onwards, he invested in the monoculture of guanandi (*Calophyllum brasiliense*), a native hardwood used for reforestation. With the support of agroforestry researchers, Patrick created short-cycle planting areas with medium-cycle ones, to have other sources of income within the guanandi 20-year growth wait.

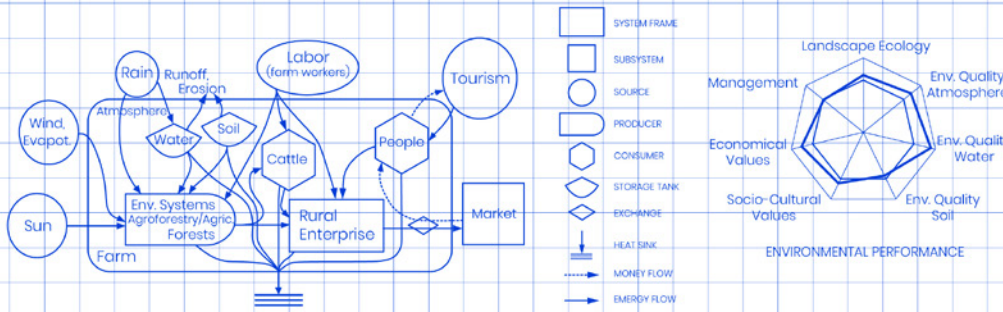
OVERVIEW MAP



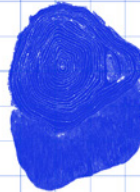
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RURAL ENTERPRISE LAYOUT



The 200-hectare farm was inherited from Patrick Assunção's great-grandfather, Cícero da Silva Prado. The economic crisis of the 1970s led to the decline of the paper mill factory, which initially used rice as the source and later, eucalyptus. The factory was then sold to a pulp company that also used eucalyptus as the main source.

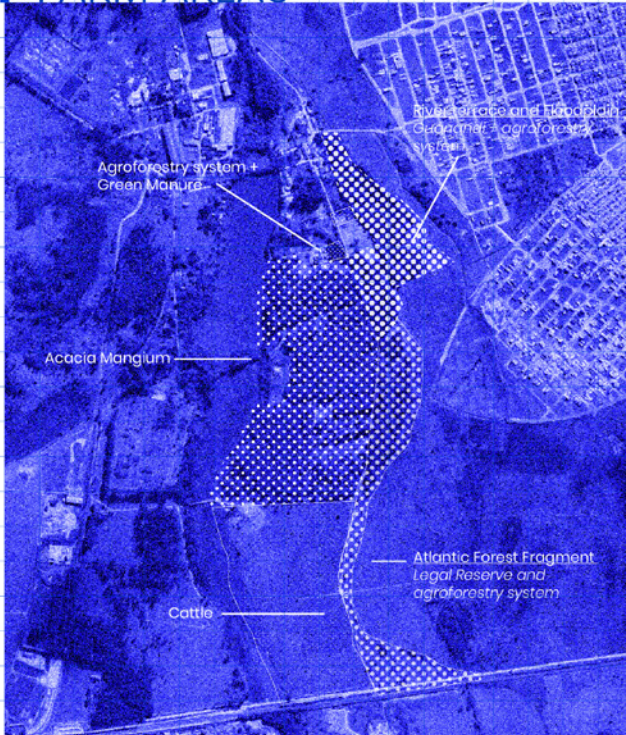


PLANT LIST:

- Oryza sativa*
- Campomanesia phaea*
- Euterpe edulis*
- Prunus avium*
- Curcuma longa*
- Musa sp.*
- Calophyllum brasiliense*
- Acacia mangium*



FARM AREAS



One of the farm's original architectural structure.

Patrick creó zonas de plantación de ciclo corto junto con otras de ciclo medio para así tener otras fuentes de ingresos mientras espera el ciclo de crecimiento del guanandí, de 20 años.

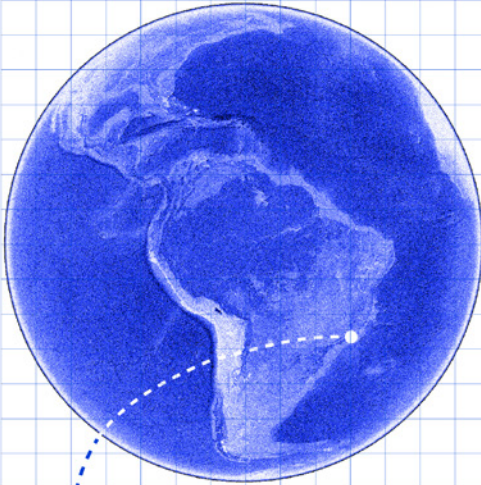
La hacienda de 200 hectáreas fue una herencia del bisabuelo de Patrick Assunção, Cícero da Silva Prado. La crisis económica de los setenta provocó el declive del molino de papel, que inicialmente utilizaba arroz como materia prima y, más tarde, eucalipto. Posteriormente, el establecimiento fue vendido a una empresa de celulosa que también utilizaba el eucalipto como fuente principal.

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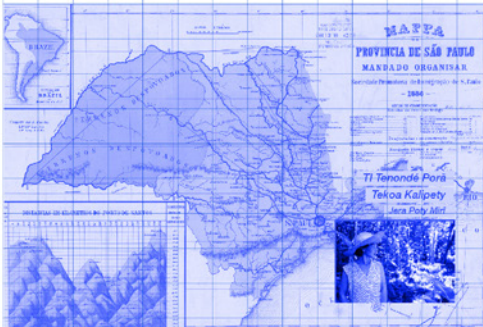
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RESTORATION CARTOGRAPHIES

RE-FOREST: SEARCHING BEYOND THE MATERIAL CATALOG



TEKOA KALIPETY TERRA INDÍGENA TENONDÉPORÁ

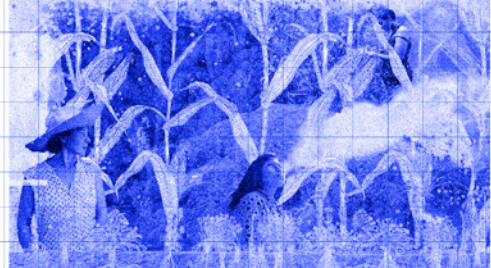


The forest finds support for its recovery in the Guarani Mbya, who have inhabited the Atlantic Forest for thousands of years and develop their collective way of living—*nhandereko*— in balance with the forest. Their history was marked by territorial expropriation and denial of their right to land over the centuries. Surviving groups were deeply affected by extractives, economic cycles and the destruction of the Atlantic Forest.

El bosque encuentra apoyo para su recuperación en los mbya guaraníes, que han habitado el bosque Atlántico desde hace miles de años y desarrollaron su modo de vida colectivo (*Nhandereko*) en equilibrio con el bosque. Su historia ha estado marcada por la expropiación territorial y la negación de su derecho a la tierra a lo largo de los siglos. Los grupos supervivientes se han visto profundamente afectados por las actividades extractivas, los ciclos económicos y la destrucción del bosque Atlántico.

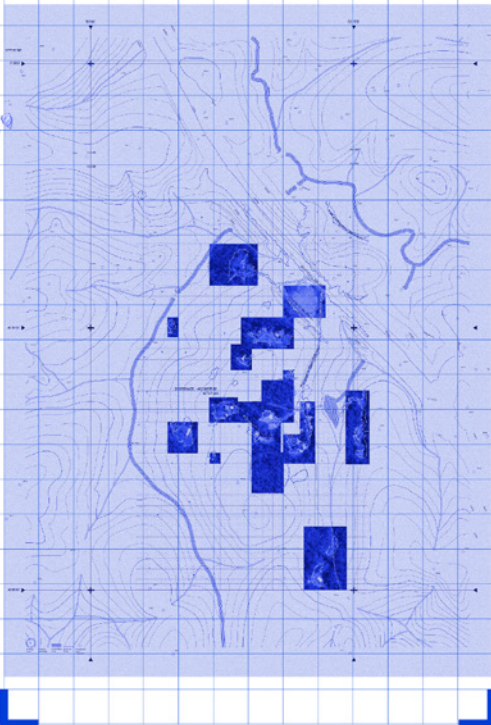
Jera Poty Miri es una de las principales responsables de la recuperación de las zonas cultivadas. Además, ha liderado esfuerzos por investigar especies e intercambiar semillas con otras comunidades. Esto ha influido positivamente en otras aldeas guaraníes y en los agricultores orgánicos de la región. Los guaraníes no siembran para vender sus productos, sino para su subsistencia

JERA POTY MIRI



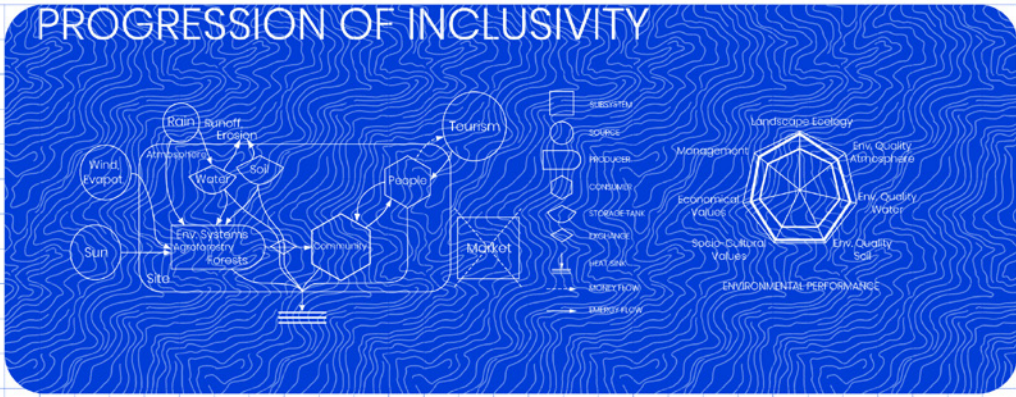
Jera Poty Miri is one of the main people responsible for the recovery of the cultivated areas, as well as leading the effort to research species and exchange seeds with other communities. This positively influenced other Guarani villages, and organic farmers in the region. The Guarani do not plant to sell their products, but for their subsistence and to strengthen their own culture. *Mborayvu*, or generosity, which is the foundation of collective life, is also part of their ethnic values. Children and the youth participate in the whole process, to ensure that knowledge is perpetuated. We don't have to live with more than we need. So, for us, selling breaks this

OVERVIEW MAP



The forest finds support for its recovery in the Guarani Mbyá, who have inhabited the Atlantic Forest for thousands of years and develop their collective way of living — *Nhandereko* — in balance with the forest. Their history was marked by territorial expropriation and denial of their right to land over the centuries. Surviving groups were deeply affected by extractives, economic cycles, and the destruction of the Atlantic Forest.

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PLANT LIST:

- Zea mays*
- Manihot esculenta*
- Colocasia esculenta*
- Ananas comosus*
- Phaseolus vulgaris*
- Ipomoea batatas*
- Citrus lanatus*
- Musa paradisiaca*
- Cucurbita*
- Arachis hypogaea*

EUCALYPTUS PLANTATION

The region still has a large presence of *Eucalyptus spp.* trees, which are mostly used in the pulp industry and as a monoculture system, degrading the soil.

ENVIRONMENT WORKING THE LAND

SOIL RECOVERY

Crops of root plant capable of fixing nutrients were introduced in the recovery process: the crotalaria (*Crotalaria ochroleuca*), the forage turnip (*Raphanus sativus*), and the jack bean (*Canavalia ensiformis*).

y para fortalecer su propia cultura. El *mborayvu*, o generosidad, es la base de la vida colectiva y forma parte de sus valores étnicos. Los niños y los jóvenes participan en todo el proceso para garantizar que se perpetúe el conocimiento. "No tenemos que vivir con más de lo que necesitamos. Así es que, para nosotros, vender rompe esta regla".

En el proceso de recuperación se introdujeron cultivos de plantas radicales capaces de fijar nutrientes: la crotalaria (*Crotalaria ochroleuca*), el rábano forrajero (*Raphanus sativus*) y el frijol machete (*Canavalia ensiformis*).

En la región sigue habiendo una gran presencia de árboles de la especie *Eucalyptus*, que se utilizan sobre todo en la industria de la celulosa y como sistema de monocultivo, degradando el suelo.

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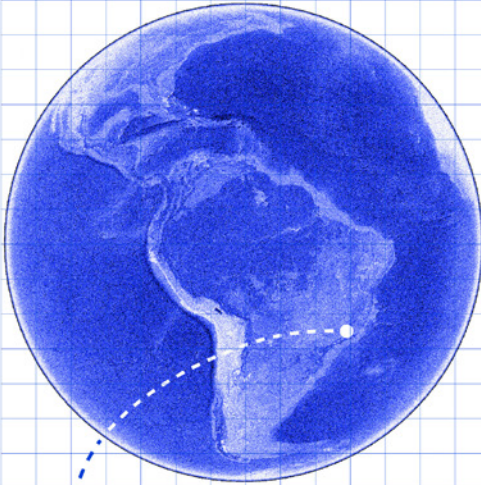
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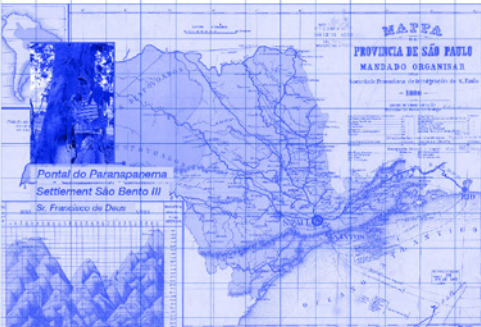
RESTORATION CARTOGRAPHIES

ROSANELA FARM

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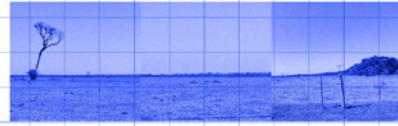
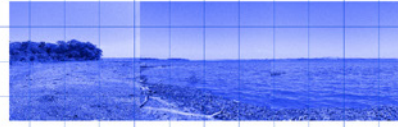
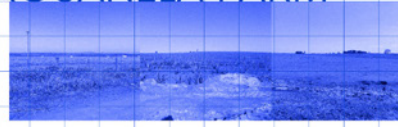
PONTAL DO PARANAPANEMA



Pontal do Paranapanema contains the largest remnants of the Atlantic Forest in Brazil, which was fragmented and lost due to large-scale agriculture and cattle ranching. Beginning in the 1990s, people from the landless rural workers' movement occupied the region increasing human density. The movement questions the distribution of land and opposes the paradigm based on agricultural exports, defending food production by family farming.

Pontal do Paranapanema contiene los mayores restos de bosque Atlántico de Brasil, un ecosistema perdido que se fragmentó a causa de la agricultura y la ganadería a gran escala. A partir de los noventa, personas pertenecientes al *Movimiento de los trabajadores rurales sin tierra* ocuparon la región, aumentando la densidad humana. El movimiento cuestiona la distribución de la tierra, se opone al paradigma basado en las exportaciones agrícolas y defiende la producción de alimentos mediante la agricultura familiar.

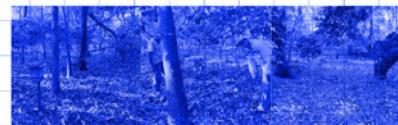
Recolección: Cosechar semillas de las zonas seleccionadas en el momento adecuado utilizando métodos manuales o mecánicos. Limpiar y clasificar las semillas, descartando las dañadas.



NURSERIES



SETTLEMENTS



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Collection: Harvest seeds from selected areas at the right time using manual or mechanical methods. Clean and sort seeds, discarding damaged ones. Extraction: Manually or mechanically separate seeds from fruits or pods, sometimes using fermentation.

FARM SETTLERS

OVERVIEW MAP

MORRO DO DIABO PARK

Collection: Harvest seeds from selected areas at the right time using manual or mechanical methods. Clean and sort seeds, discarding damaged ones.

Extraction: Manually or mechanically separate seeds from fruits or pods, sometimes using fermentation.

Drying: Air dry or use controlled environments to properly dry seeds.

Storage: Store seeds in cool, dry conditions for short-term or controlled environments for long-term. Conduct germination tests and health checks to ensure viability.

Distribution: Package and distribute seeds to nurseries and reforestation projects.

RURAL ENTERPRISE LAYOUT

Extracción: Separar manual o mecánicamente las semillas de los frutos o las vainas, a veces mediante fermentación.

Secado: Secar al aire o usar ambientes controlados para secar adecuadamente las semillas.

Almacenamiento: Guardar las semillas en condiciones frescas y secas en el corto plazo o en entornos controlados a largo plazo. Realizar pruebas de germinación y controles de salud para garantizar la viabilidad.

Distribución: Empaquetar y distribuir las semillas en viveros y proyectos de reforestación.

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El Gran São Paulo, reconocido como el mayor centro económico e industrial del hemisferio sur, se encuentra en una región que alguna vez estuvo ocupada por la selva tropical. El bosque Atlántico de Brasil es uno de los ecosistemas más amenazados y biodiversos del mundo. Solo queda aproximadamente el 12,4 por ciento de su formación original, en un paisaje altamente fragmentado. A medida que la región experimenta una transición desde una economía centrada en la industria hacia otra centrada en los servicios, las iniciativas de restauración que se llevan a cabo en los fragmentos del bosque de vuelven cada vez más relevantes. Proponen modelos en los cuales el apoyo económico a las comunidades y la conservación de los bosques no son mutuamente excluyentes, sino interdependientes. Estos modelos destacan la importancia de la tenencia segura de la tierra como paso previo tanto para la integridad ecológica como para la soberanía comunitaria, promoviendo enfoques integradores que entrelazan la sabiduría ancestral con el conocimiento científico.

La disciplina arquitectónica está llamada a repensar el acto de diseñar y construir, abogando por la conservación del patrimonio cultural, el bienestar comunitario y la gestión ecológica, fomentando una arquitectura que reconozca y encarne la esencia de los contextos cercanos (o erróneamente percibidos como lejanos) que impacta. **m**

Greater São Paulo is recognized as the largest economic and industrial hub in the Southern Hemisphere, and it is in a region that was once occupied by a tropical rainforest. Brazil's Atlantic Forest is among the world's most endangered yet biodiverse ecosystems. Only about 12.4 percent of its original formation remains in a highly fragmented landscape. As the region transitions from an industrial-centric to a service-centric economy, the restoration initiatives happening in forest fragments become increasingly relevant. They propose models where economic support for communities and forest conservation are not mutually exclusive, but interdependent. Such models highlight the importance of land security as the stepping stone for both ecological integrity and community sovereignty, promoting inclusive approaches that intertwine ancestral wisdom with scientific knowledge.

The architectural discipline is called to rethink the act of designing and building, advocating for the preservation of cultural heritage, communal well-being, and ecological stewardship, fostering an architecture that acknowledges and embodies the essence of its near – or mistakenly perceived as far – impacted contexts. **m**