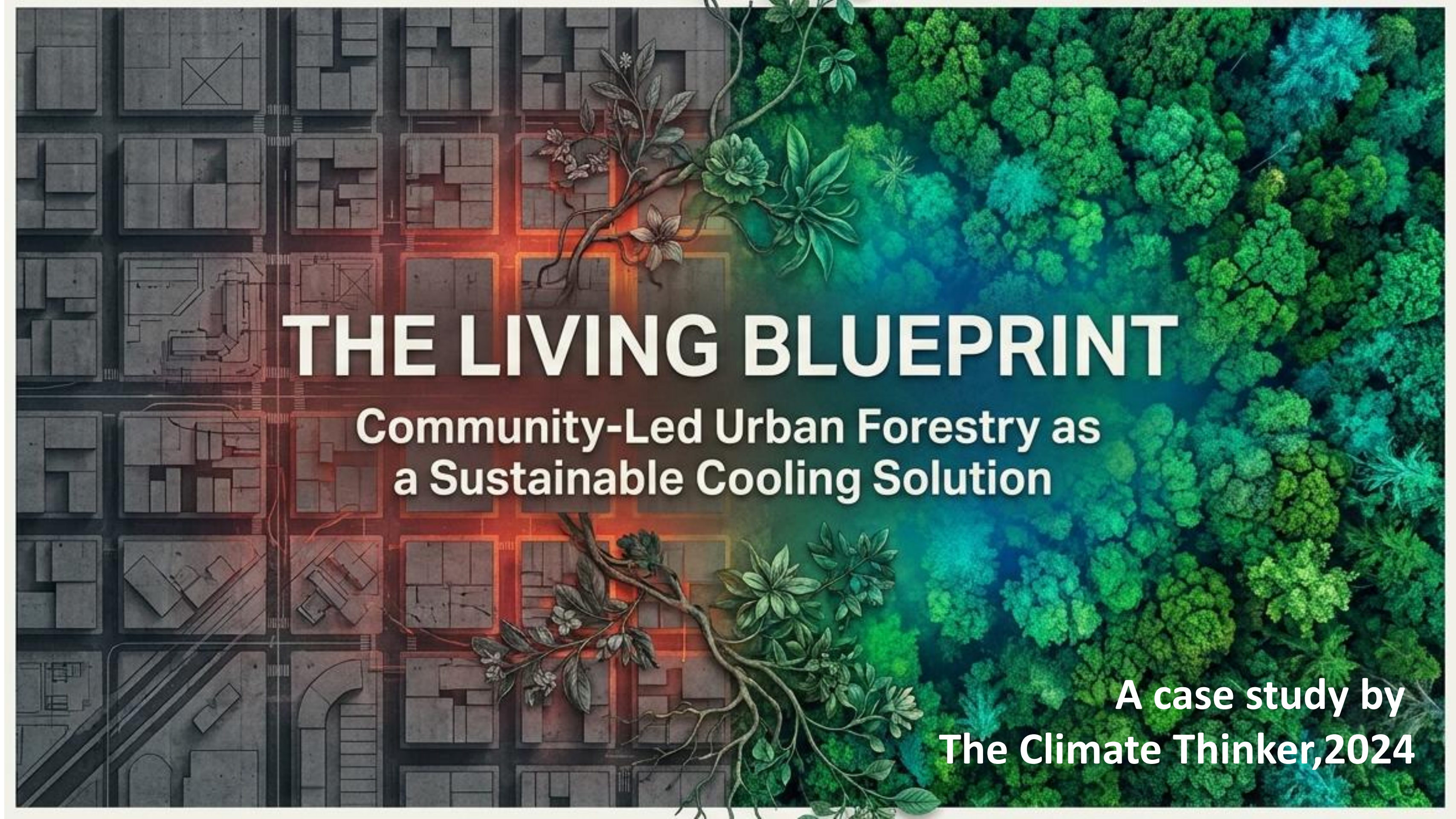
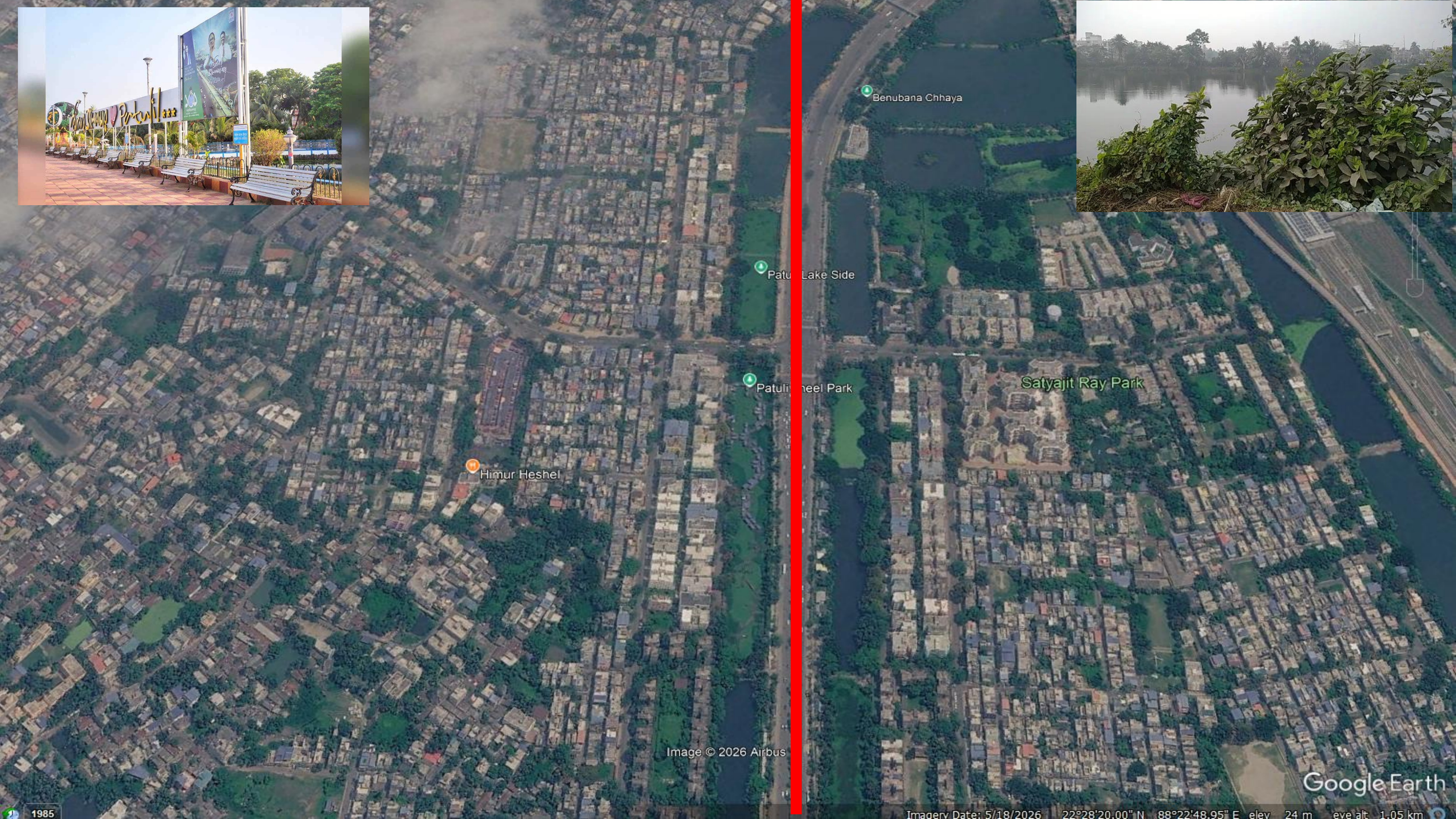




THE LIVING BLUEPRINT

Community-Led Urban Forestry as
a Sustainable Cooling Solution

A case study by
The Climate Thinker, 2024



THE PATULI ANOMALY DEFIES STANDARD URBAN DEGRADATION

3,723 Tonnes

Annual carbon sequestration achieved through community-led social forestry.

Peak AQI

Maintains the highest proportion of 'Good' Air Quality Index days in the city despite transit proximity.

PATULI-BAISHNABGHATA TOWNSHIP

3°C Cooling

Reduction in local micro-climate temperature compared to surrounding urban zones.

While standard urban zones suffer ecological decline, Patuli operates as a thriving urban forest, proving that community ownership is the definitive mechanism for sustainable climate resilience.



Small available spaces along footpaths were transformed into small green patches through plantation initiatives

The average maximum temperature during summer days ranges between 31°C and 33°C



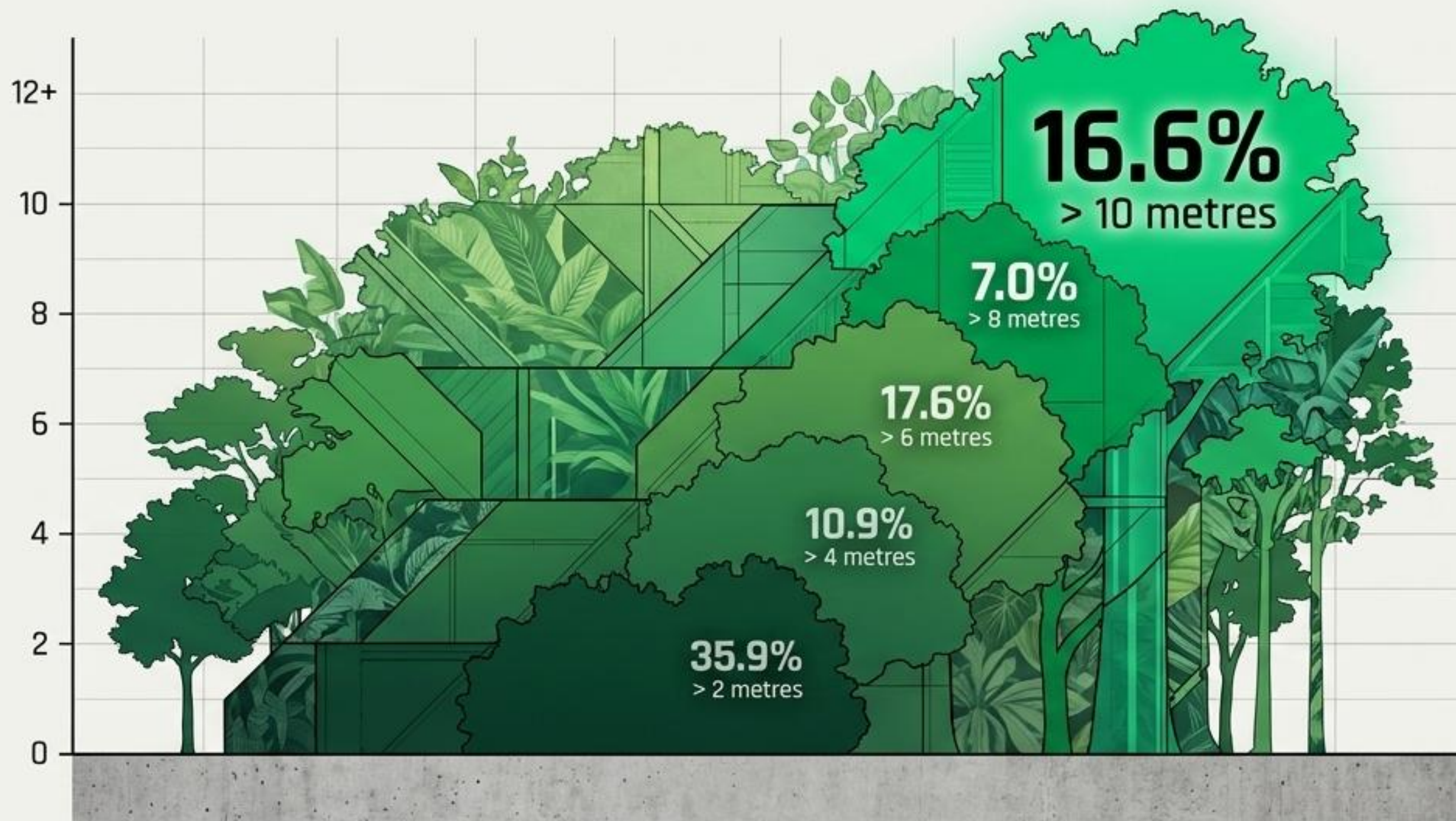
Dividers were planted with native local species, and community members actively supported their maintenance and survival.



Local water bodies were protected through community involvement and sustainable management practices.

STRUCTURAL CANOPY HEIGHT RIVALS ESTABLISHED CONSERVATION ZONES

Canopy Height Distribution in Patuli

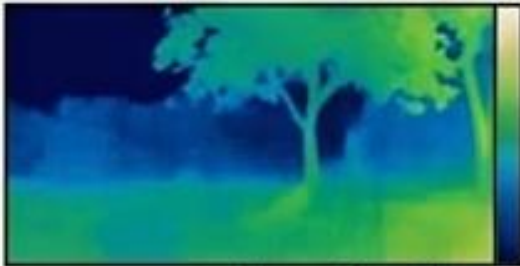
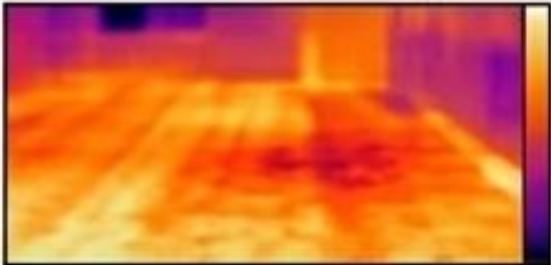


Generating this proportion of large, established canopy is an astonishing architectural feat for a rapidly developing metro city.



A tri-layered plantation system was implemented with ground cover, shrubs, and tree species to enhance green cover and biodiversity.

THE THERMAL SHIELD BLOCKS REGIONAL TEMPERATURE ESCALATION

PATULI-BAISHNABGHATA	STANDARD URBAN BASELINE (GIRISH PARK)
LAND SURFACE TEMPERATURE (1988 - 2021) Stable Temperature 	Rising Temperature 
SHADE IMPACT (THERMAL IMAGING)  22°C under established canopy	 39°C in unshaded concrete zones
RESIDENT THERMAL PERCEPTION 60% 25% Much Cooler Slightly Cooler	40% 20% Slightly Warmer Much Warmer



THE CANOPY YIELDS AN URBAN BIODIVERSITY HOTSPOT



FAUNA

52 resident bird species and **7** winter visitors recorded.



ECONOMIC YIELD

800-1,000 kg of honey and **20-50 metric tonnes** of seasonal fruits harvested annually.



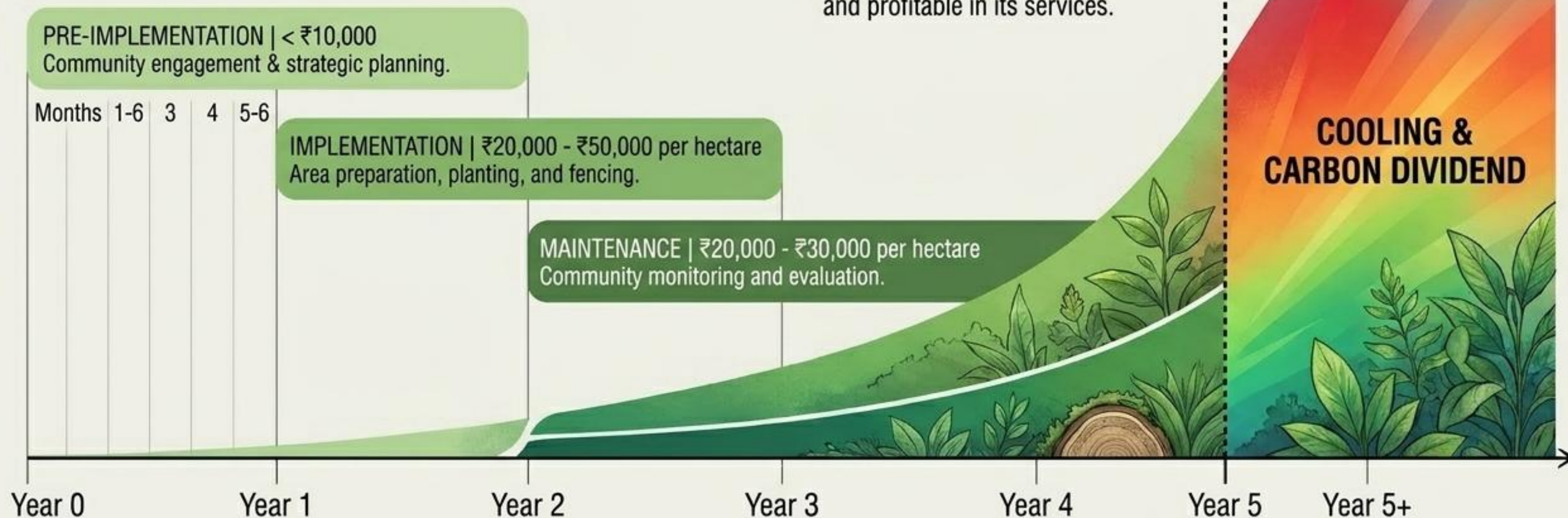
FLORA

95 distinct tree species organically thriving via natural seed dispersal.

LIVELIHOODS: The ecosystem partially sustains **30 local families** through collected wood and renewable resources.

ECOSYSTEM SERVICES DELIVER RAPID TEMPORAL AND FINANCIAL RETURNS

Maximum climate and cooling benefits are achieved within a brief 5-year window, rendering the ecosystem self-sustaining and profitable in its services.



Urban Forests for Cooler Tomorrow

“Connect | Collaborate | Create Impact” : theclimatethinker.org

Download urban forestry Guide Book

Practical insights and resources for sustainable action

Access here:

<https://drive.google.com/file/d/1yggmcl6lhpXMaDUiPzwNmBlfl1AgkQlZ/view>

THANK YOU