



PRESERVE

RUPAL BAID | SHILPA SHASHIDHARAN | VAIBHAV SHARMA | VEERA VISHODHANA

MENTORS



EXTERNAL MENTOR

Mr. Emani Kumar

Deputy Secretary General, ICLEI
Executive Director, ICLEI South Asia

INTERNAL MENTORS

Dr. Mahesh Rajasekar

Chair, Urban Resilience,
National Institute of Urban Affairs
(NIUA).

Ms. Uditi Agarwal

Urban Planner,
National Institute of Urban Affairs
(NIUA).

CURRENT SCENARIO...

- ❖ Between 1900 and 2018, the average temperatures of India **rose by 0.7°C**.
- ❖ Country's average temperature is **expected to rise by 4.4°C** by the end of the year 2100.
- ❖ Target to **achieve 33% of green cover** from existing 24%.
- ❖ Urban spaces **declining in their carbon sink** capacity.
- ❖ **Lack of general awareness** about environment and related activities.
- ❖ **Responsibility of environmental protection** is thought to be of the government's alone.



THE BIGGER IDEA

- An interactive digital tool to help locate the green cover in the city.
- Shared responsibility for maintenance and planning of green infrastructure.
- Bringing various stakeholders dealing with urban environment (at city level) onto a single platform.
- To streamline data and thereby taking evidence-based policy for creating sustainable cities.



"Nature provides key benefits for resilience and can be the foundation for sustainability. It cleans the air and water, it provides food, beauty and serenity for people. The "green" realm provides immense benefits to societies, cities, and their citizens. Perspectives and solutions for creating cities that are resilient, sustainable, liveable and just for everyone"



GREEN COVER

- Pavement tree plantations
- Parks
- Urban forestry
- Urban Farming
- Blue-green corridors

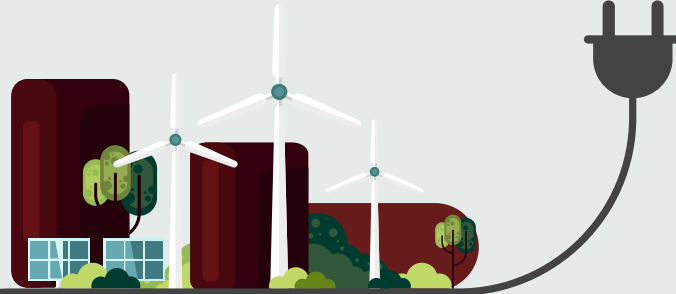
THE PROJECT

PHASE 3

One-Go platform for activities, events and maintenance of Green spaces in the City [all stakeholders on-board] + SCB

PHASE 2

Actionable outcomes from the mapping + Classification of attributes for different green spaces.



PHASE I

Mapping of green and open spaces using Master Plan and GIS data + Geotagging of trees



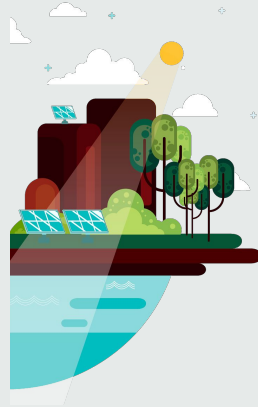
THE PROJECT COMPONENTS

An interactive open street map view for green spaces, trees and open spaces available for afforestation

TREE GEOTAGGING



GREEN SPACE MAPPING



STAKEHOLDER SPACE






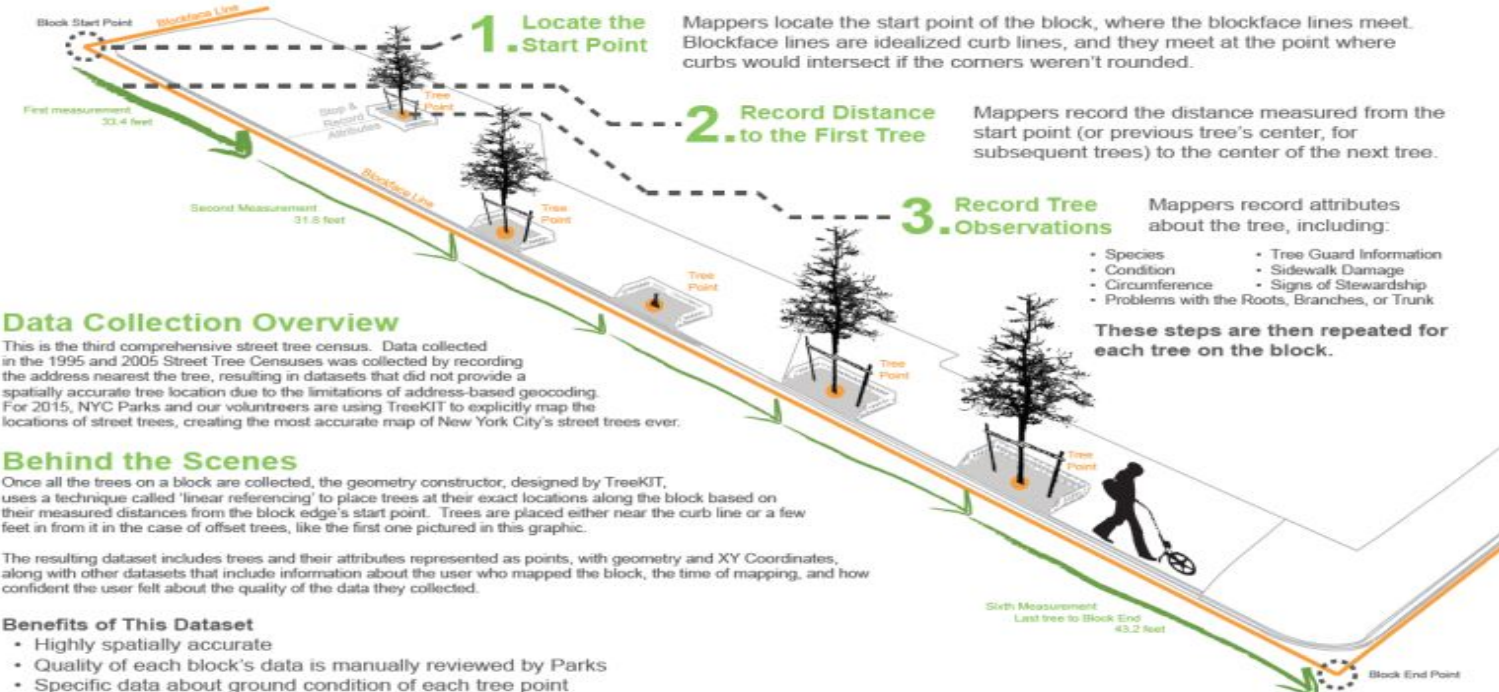
TREE GEOTAGGING

1. Green Corridors
2. Planned afforestation
3. Tree Maintenance
4. Tree diversity
5. Eco services mapping

- Mobile application development (in-line with NYC Tree-corder app)

Data Collection Overview





- 1. Locate the Start Point**
Mappers locate the start point of the block, where the blockface lines meet. Blockface lines are idealized curb lines, and they meet at the point where curbs would intersect if the corners weren't rounded.
- 2. Record Distance to the First Tree**
Mappers record the distance measured from the start point (or previous tree's center, for subsequent trees) to the center of the next tree.
- 3. Record Tree Observations**
Mappers record attributes about the tree, including:
 - Species
 - Condition
 - Circumference
 - Problems with the Roots, Branches, or Trunk
 - Tree Guard Information
 - Sidewalk Damage
 - Signs of Stewardship

These steps are then repeated for each tree on the block.

Data Collection Overview
This is the third comprehensive street tree census. Data collected in the 1995 and 2005 Street Tree Censuses was collected by recording the address nearest the tree, resulting in datasets that did not provide a spatially accurate tree location due to the limitations of address-based geocoding. For 2015, NYC Parks and our volunteereers are using TreeKIT to explicitly map the locations of street trees, creating the most accurate map of New York City's street trees ever.

Behind the Scenes
Once all the trees on a block are collected, the geometry constructor, designed by TreeKIT, uses a technique called 'linear referencing' to place trees at their exact locations along the block based on their measured distances from the block edge's start point. Trees are placed either near the curb line or a few feet in from it in the case of offset trees, like the first one pictured in this graphic.

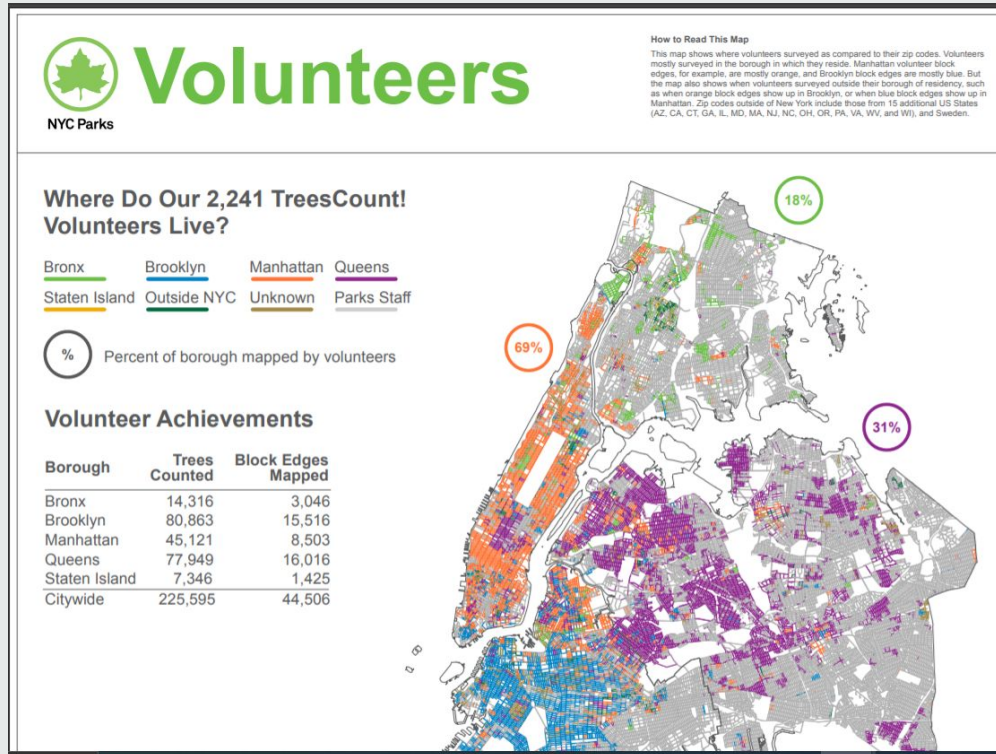
The resulting dataset includes trees and their attributes represented as points, with geometry and XY Coordinates, along with other datasets that include information about the user who mapped the block, the time of mapping, and how confident the user felt about the quality of the data they collected.

Benefits of This Dataset

- Highly spatially accurate
- Quality of each block's data is manually reviewed by Parks
- Specific data about ground condition of each tree point
- Tree attributes are coded and level of confidence in species identification is captured
- All measurements, observations, and choices made by mapper available in the data

nyc.gov/parks/treescount

Mapping Exercise



- Collaborating with NGOs, Citizen Volunteers and Institutions for Treecorder mapping [Ward level]
- A tree diversity/species AI based tool to be trained using Machine Learning to identify different varieties of trees.

<http://media.nycgovparks.org/images/web/TreesCount/Index.html>

Digital Output

Citywide Statistics

692,892

Trees on Map

26,133

Activities Reported

6,962

Trees Favored

233

Tree Species on Map

London Planetree ▶

Most Common Species

85,450 trees, 12% of trees on the map

Recent Tree Care Activities

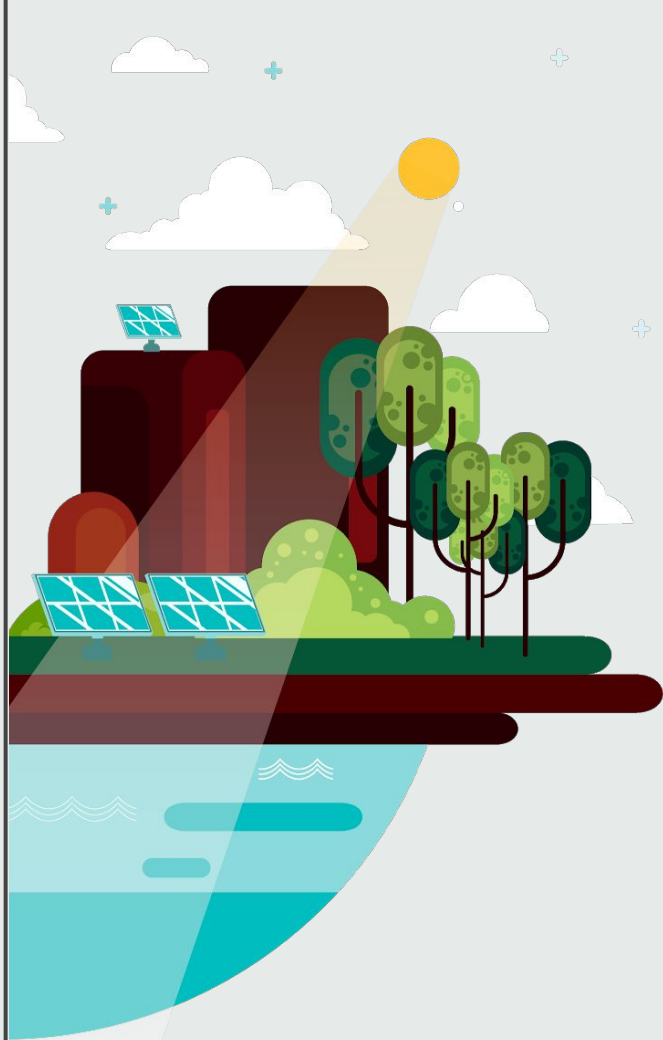
Aug 17, 2020

The [Japanese Pagoda Tree](#) near 2715 Tilden Avenue was weeded, was landscaped/had flowers planted around, was cleared of litter/waste, had soil managed, was watered, and was mulched.



Tree Census in use



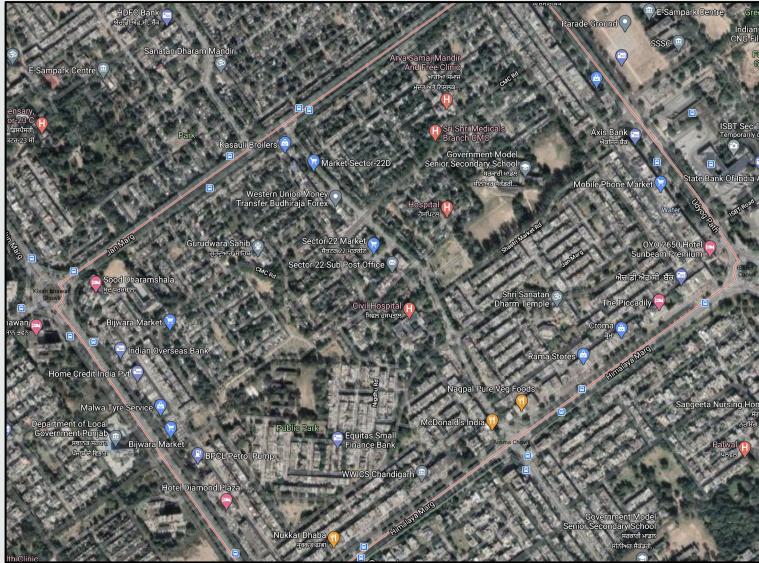


GREEN SPACE MAPPING

1. Amenities
2. Ownership
3. USP of the space
4. Events (Attend + Create)

MAPPING GREEN SPACES

- Customised Map Shapefiles for Green Spaces across the city

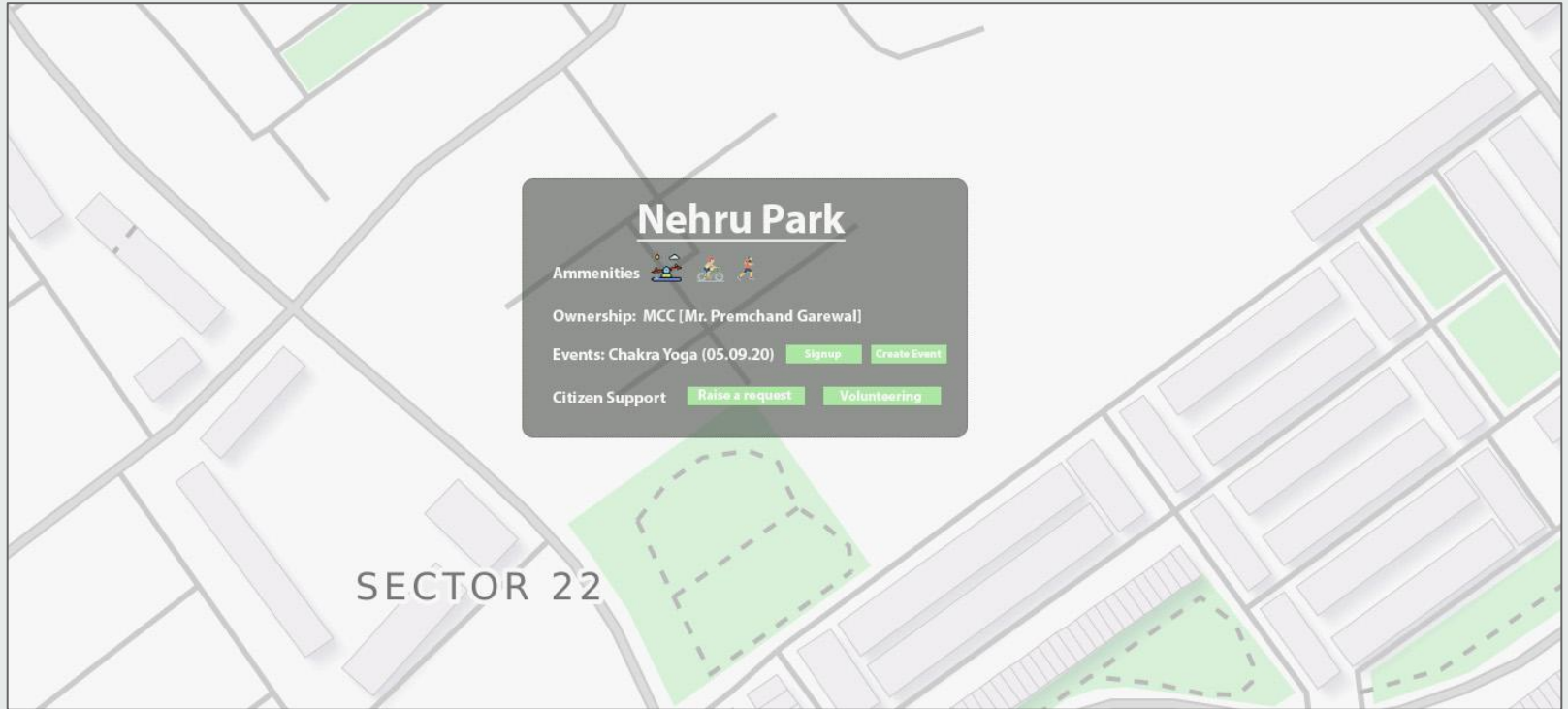


Non-Customised layouts over Google Map interface



Customised Map Creation [CHD Green Spaces]

The OUTPUT



Amenities - Walking track, green gym, child friendly, restrooms, drinking water etc.



STAKEHOLDER SPACE

1. Events and activities by citizens, ULBs, NGOs, RWAs etc.
2. Awareness generation
3. Community hubs & clubs

STAKEHOLDER SYNERGY

Find a Volunteer Opportunity



Upcoming Volunteer Events

From planting flowers to growing natural areas, browse our list of upcoming volunteer events to find all opportunities in parks where you can help out.

[Find a volunteer event](#)

Get Email Updates

We'll let you know when new opportunities become available. Sign up for our volunteer newsletter to receive monthly updates about volunteer events and programs.

Email Address

[Subscribe](#)

Join a Volunteer Program

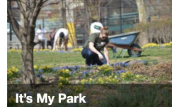
We need your help growing and sustaining a greener New York City. Join our teams and local community groups helping out with our on-going greening projects:



NYC Parks Stewardship

Help restore natural areas, plant and care for trees, and monitor wildlife in our parklands. Find events and learn how you can grow as a Parks volunteer.

[Become an NYC Parks Steward](#)



It's My Park

Each year, hundreds of neighbors meet in their local parks to help us plant flowers, paint benches, weed, and rake leaves.

[Find out how you can join It's My Park](#)



Request a Volunteer Project for Your Group

We're always looking for a helping hand. Find out how your group can team up with NYC Parks to lead a volunteer project.

[Request a Volunteer Project](#)



Join GreenThumb

Join GreenThumb and the 20,000 community gardeners who tend to more than 550 gardens across the city.

[Learn More About GreenThumb](#)

Get Involved with a Partner Organization

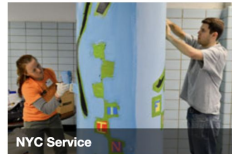
Find out about local groups that are helping us care and build stronger, better, and more beautiful community parks.



Partnerships for Parks

Partnerships for Parks leads volunteer programs for New Yorkers who want to make their neighborhood parks thrive. Partnerships for Parks is a public-private partnership led by NYC Parks and the [City Parks Foundation](#).

[Learn more about Partnerships for Parks](#)



NYC Service

Everybody has something to offer. Visit NYC Service to see the latest list of volunteer opportunities throughout the five boroughs.

[Learn more about NYC Service](#)



Other Partner Organizations

Team up with local conservancies, local park groups, and other partner organizations working with us to help care for your neighborhood parks and communities in need.

[Find a partner organization](#)

- Create and Collaborate with citizens for various green events.
- Forum for citizens to reach out for partnerships and publicity.
- Forum for corporates and businesses to collaborate with local groups as CSR.

COMMUNITY HUBS

| Parks | Facilities | Events | Programs | Kids | Permits | Trees | Opportunities | About |
|---|------------|--------|----------|------|---|-------|---------------|-------|
| Facility Permits Special Events Permits Tennis Permits | | | | | More Permits Field and Court Permit Requests Farmers Markets Permits Filming & Photography Tree Work Permits Research Permits Construction Permits Boating & Marinas Metal Detector Permits Permit Rules and Fee Schedules More Permits and Services ▶ | | | |

BeFitNYC

NYC's source for free and low-cost fitness activities

[BeFitNYC Home](#) [About](#) [Keeping Fit](#)



Find fitness programs, courts and fields, and sports leagues near you:

Don't know where to start? Try searching for the [Bronx](#), [Brooklyn](#), [Manhattan](#), [Queens](#), or [Staten Island](#) or one of our popular [interest areas](#) to find fun and healthy fitness activities.

Featured Fitness Opportunities

Senior Splash



Senior Splash offers adults a stress-free, quieter time to socialize swim, stretch, and enjoy the benefits of water in NYC Parks' outdoor pools.

[Learn More About Senior Splash](#)

Featured League

Brooklyn Road Runners Club

in Brooklyn

Weekday and weekend runs in Prospect Park. Please check website for meeting times and locations of runs.

[Learn More About Brooklyn Road Runners Club](#)

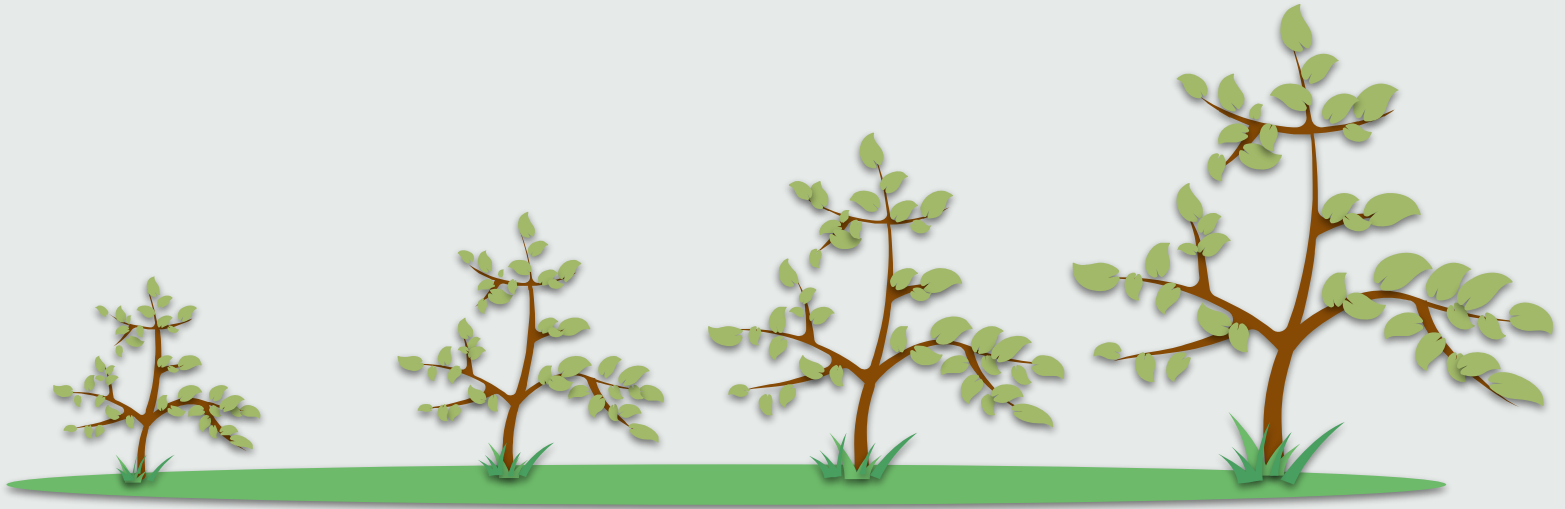
- Hassle Free permissions for activities in and around the green spaces.
- Knowledge sharing workshops and green skill courses.
- Promoting Citizen Fitness Activities & Events along with local Green Clubs.

KEY STAKEHOLDERS



-  Citizens
-  NGOs
-  ULBs
-  Environment or forest departments
-  Research/Educational institutions
-  Knowledge experts
-  Corporates & Local Businesses
-  Private nurseries

Timeline



Aug - Sep

**Investigation
phase**

Oct - Dec

**Development
and execution
phase**

Dec - Jan

**First output
received**

Jan - Feb

**Review and
expansion
proposal**

TENTATIVE COSTING

 ₹4,30,000



MARKETING/OUTREACH/SURVEYS

₹50K-2L



DESIGN & DEVELOPMENT

₹30K-1.5L



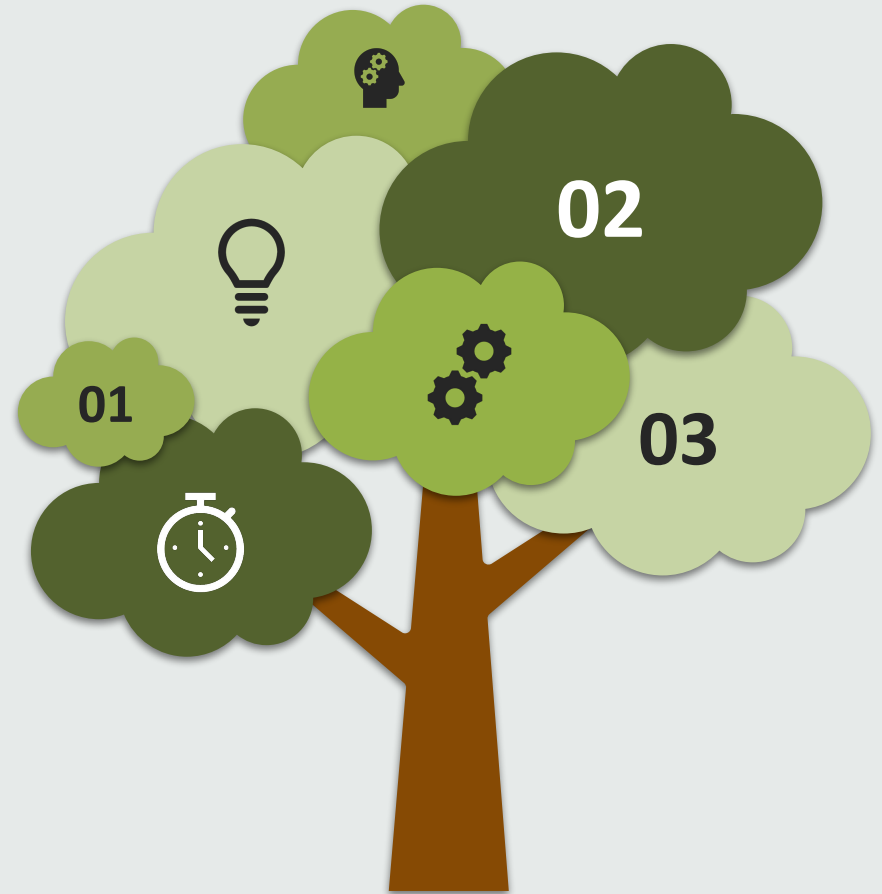
CAMPAIGNS (URBAN FOREST MODELS, MARATHONS ETC.) ₹50K



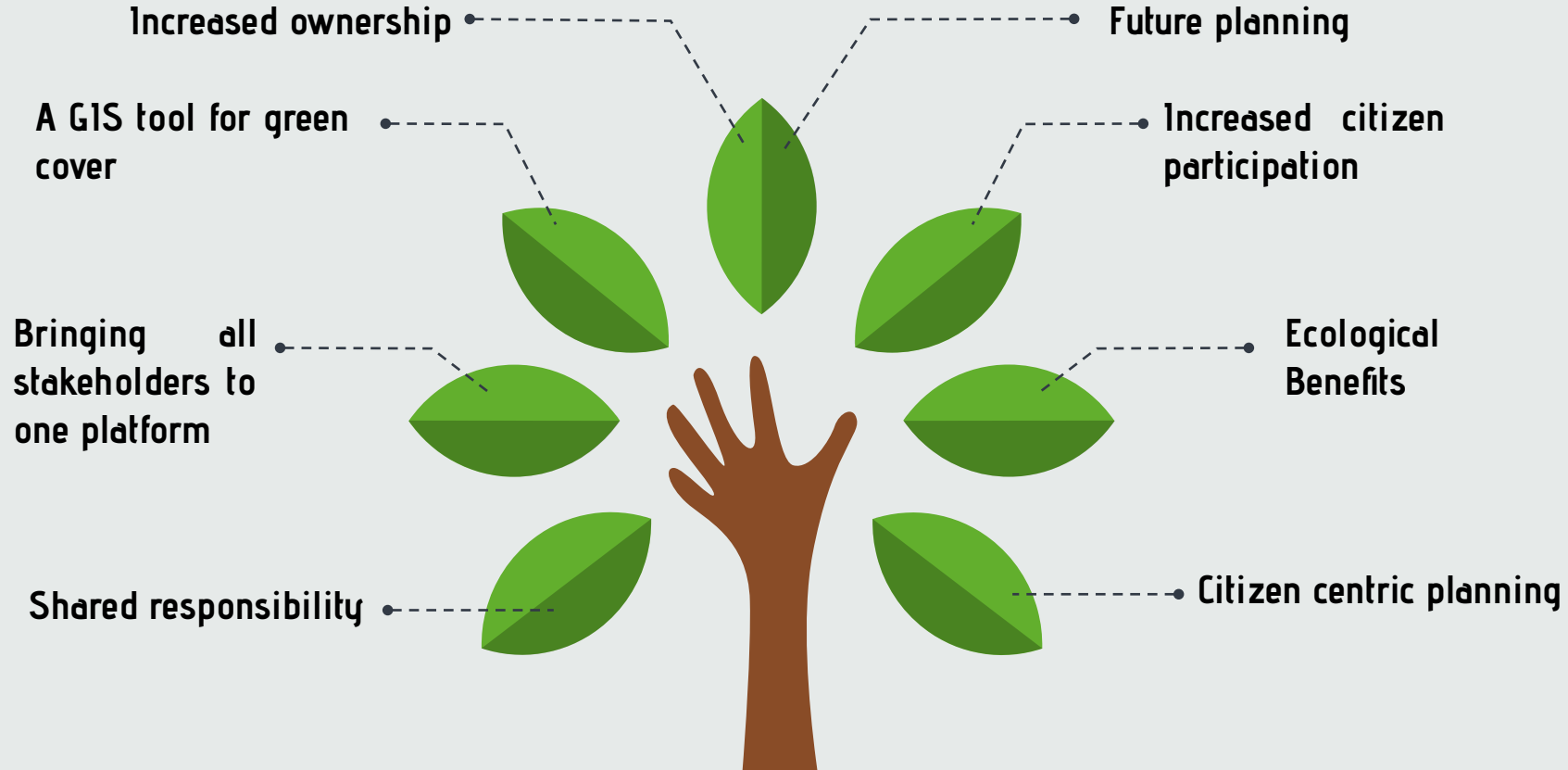
INCENTIVES & BENEFITS + MISC ₹30K

CONCERNS

- **COVID-19 Constraints**
- **Trained Volunteer Support**
- **Gathering ownership data from govt. departments/bodies.**
- **Ecosystem services mapping**
- **Mapping sensitive/private places**

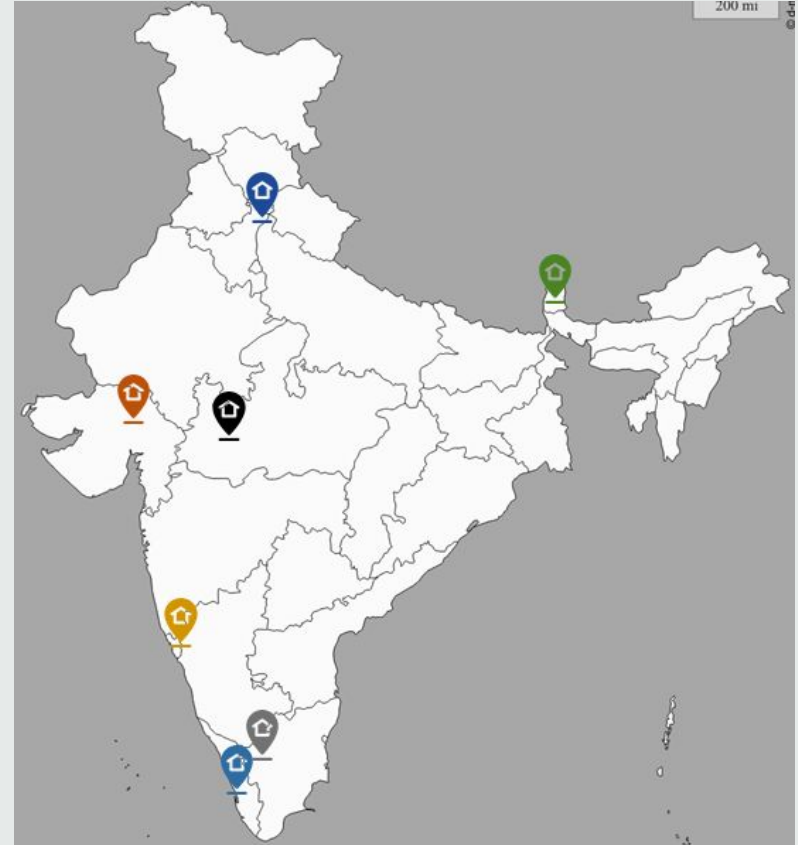


NOT JUST “SMART CITIES” BUT “SUSTAINABLE SMART CITIES”



Selected Cities

- 📍 Panaji (Goa)
- 📍 Chandigarh (Chandigarh)
- 📍 Kochi (Kerala)
- 📍 Coimbatore (Tamilnadu)
- 📍 Indore (Madhya Pradesh)
- 📍 Gandhinagar (Gujarat)
- 📍 Gangtok (Sikkim)



INITIATING INDIA'S FIRST GREEN BRAND

