



Bogota's urban trees, green areas and gardening Master Plan (2019 -2030)

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OBJETIVES AND METHODOLOGY

Secondary information

- Normative Review
- Review of Planning Instruments (Matrices of comparative analysis).
- Analysis of geo-referenced census (urban trees, green areas and gardening)
- Characterization of green infrastructure

Primary information

Design and application of perception survey of state, administration and services offered by Green infrastructure.
Sample (648 polls)

Definition of the baseline

- Identify gaps and potentialities of the administrative and regulatory framework that regulates the management of trees and urban green areas .
- Establish the current status of green coverage management in the urban area of Bogotá.
- Know the perception of the Bogota citizenship about the current state of the green coverage of the city, as well as the effectiveness of its management by the district administration and about the prioritization of the desirable environmental benefits that it should offer to the city

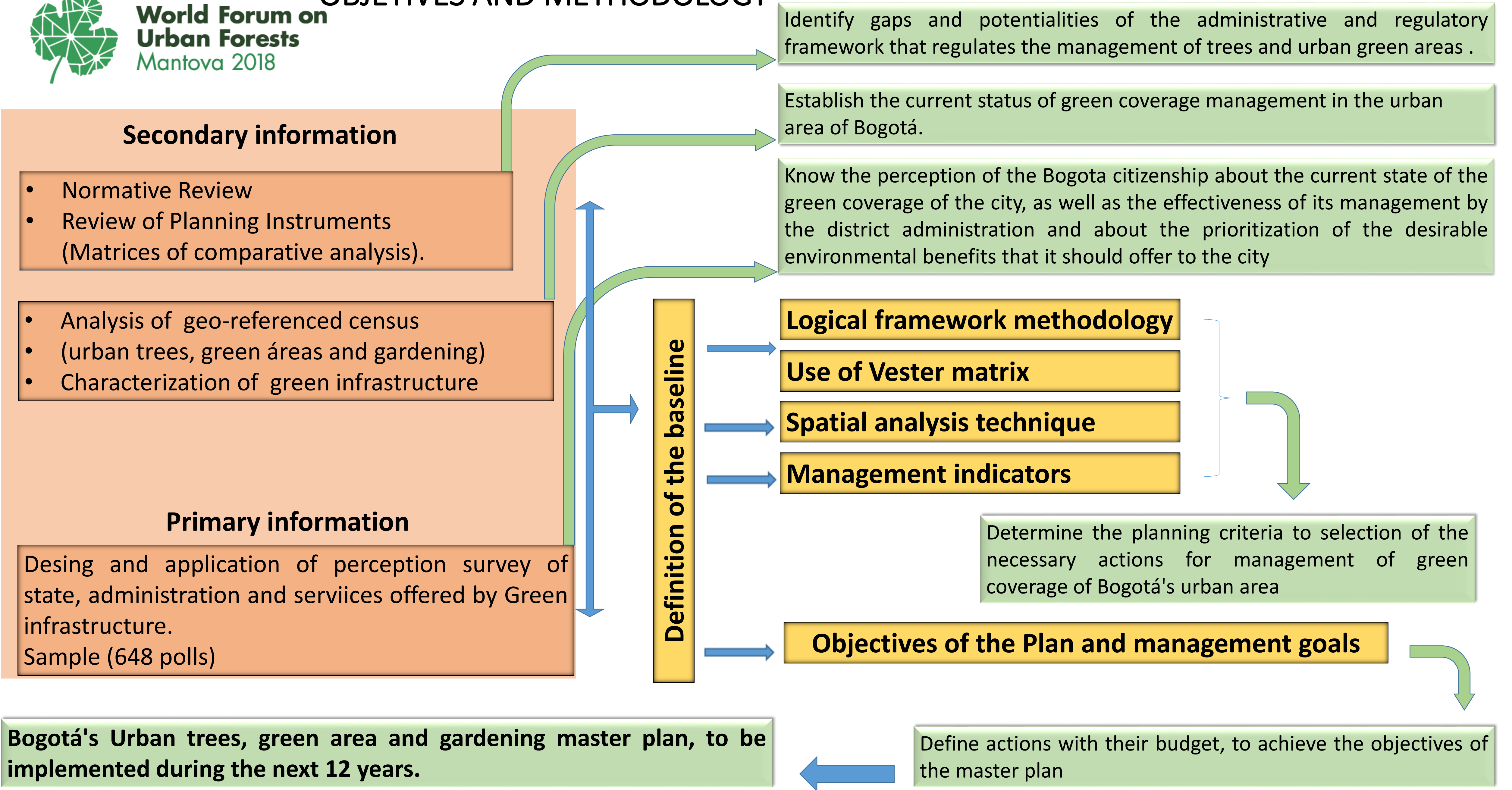
- Logical framework methodology**
- Use of Vester matrix**
- Spatial analysis technique**
- Management indicators**

Determine the planning criteria to selection of the necessary actions for management of green coverage of Bogotá's urban area

Objectives of the Plan and management goals

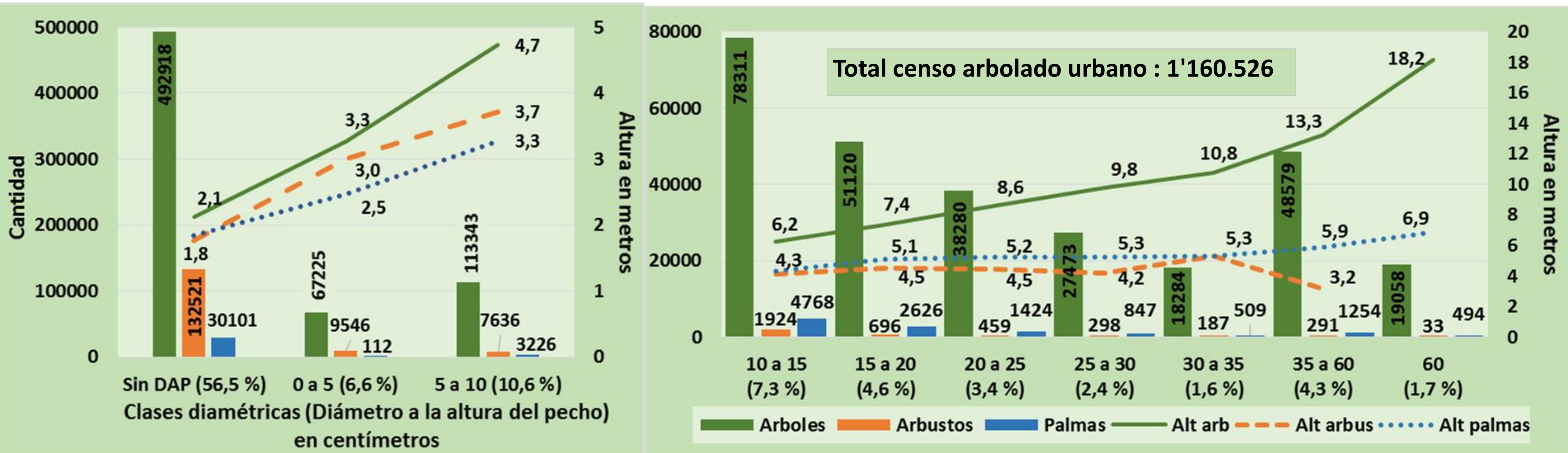
Bogotá's Urban trees, green area and gardening master plan, to be implemented during the next 12 years.

Define actions with their budget, to achieve the objectives of the master plan





Bogotá's urban trees structure.



TREES
82,26%
Average height 4,7 m

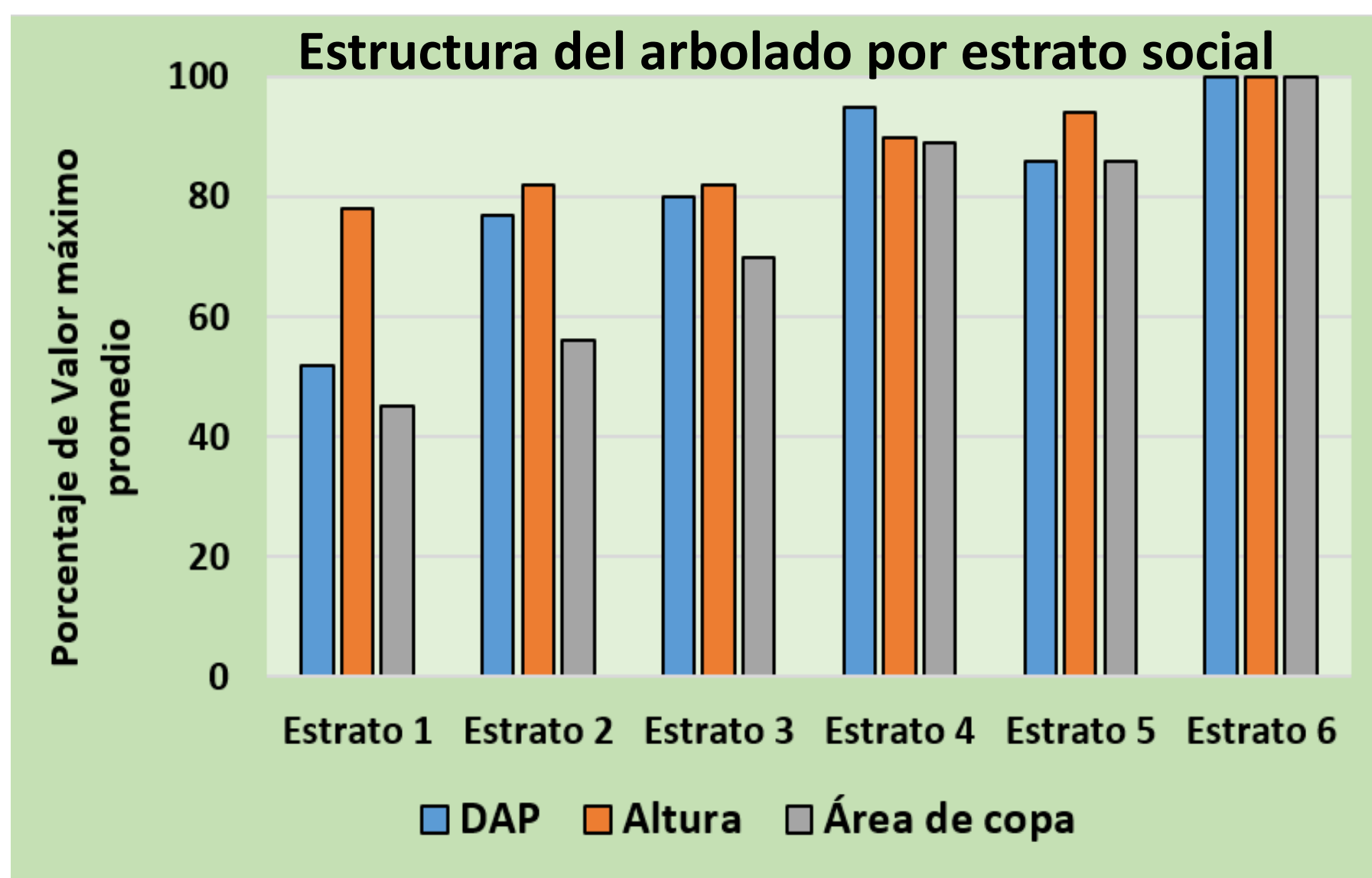
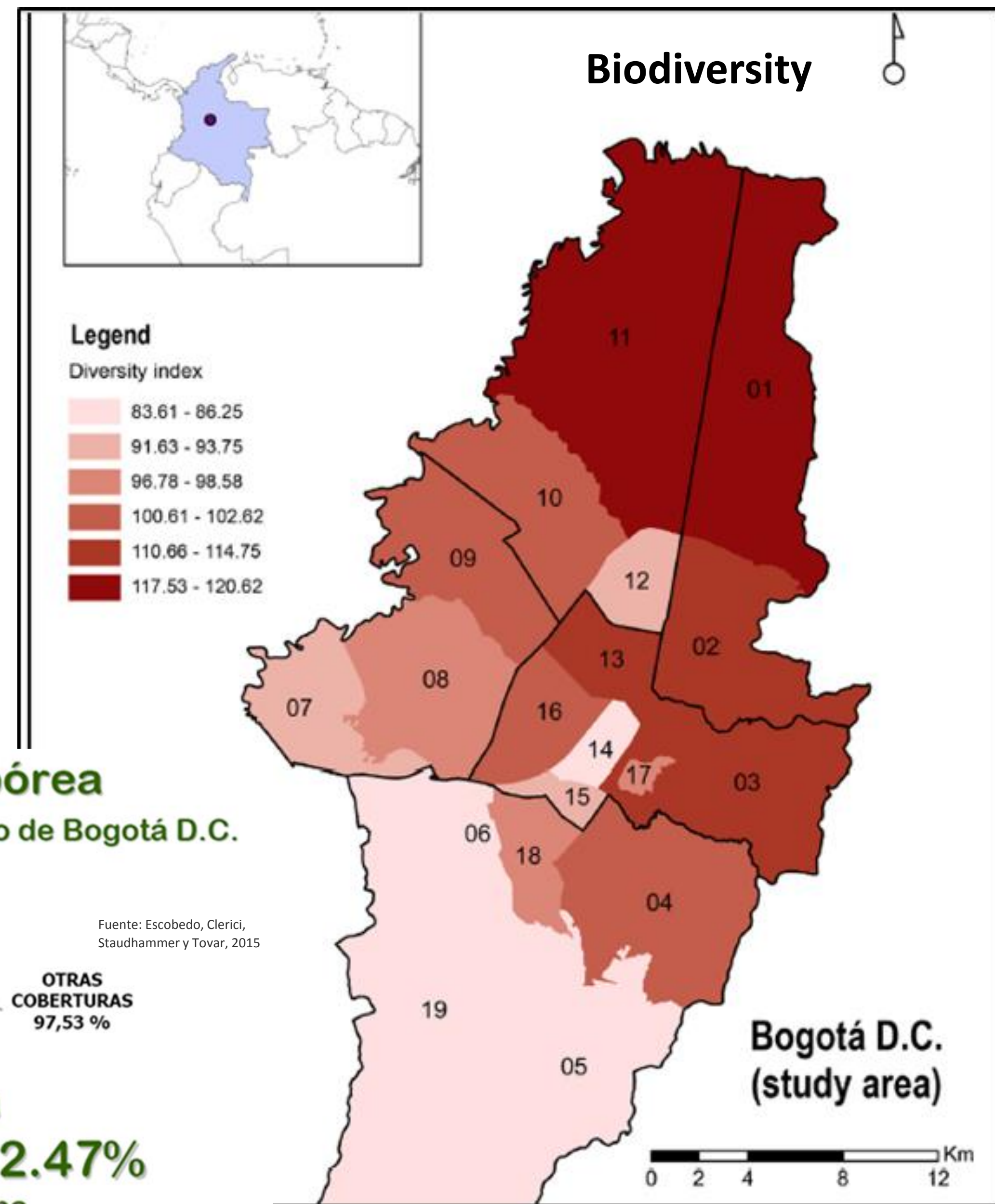
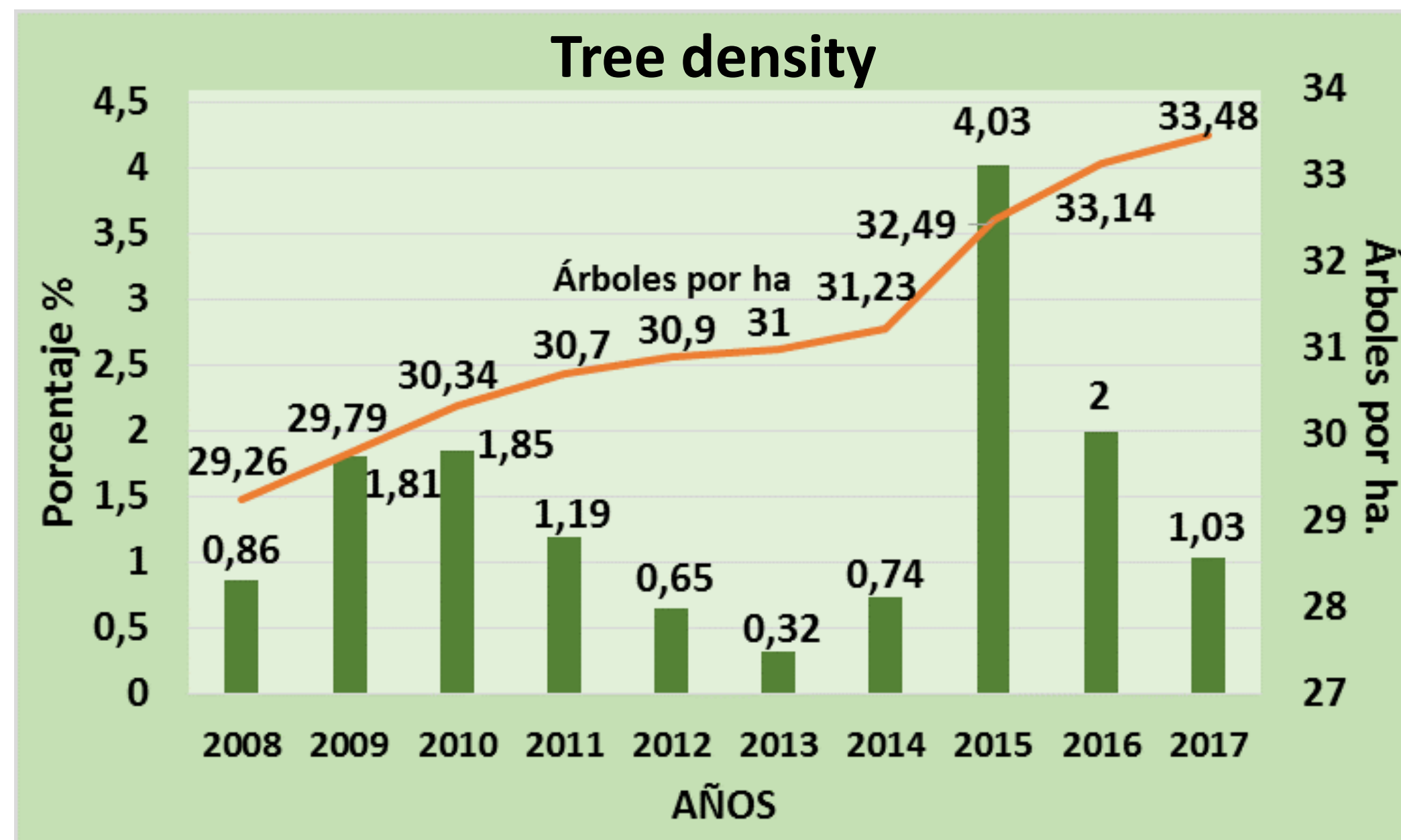
BUSH
13,23%
Average height 1,95 m

PALMS
3,94%
Average height 2,74 m



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Bogotá's urban trees structure.

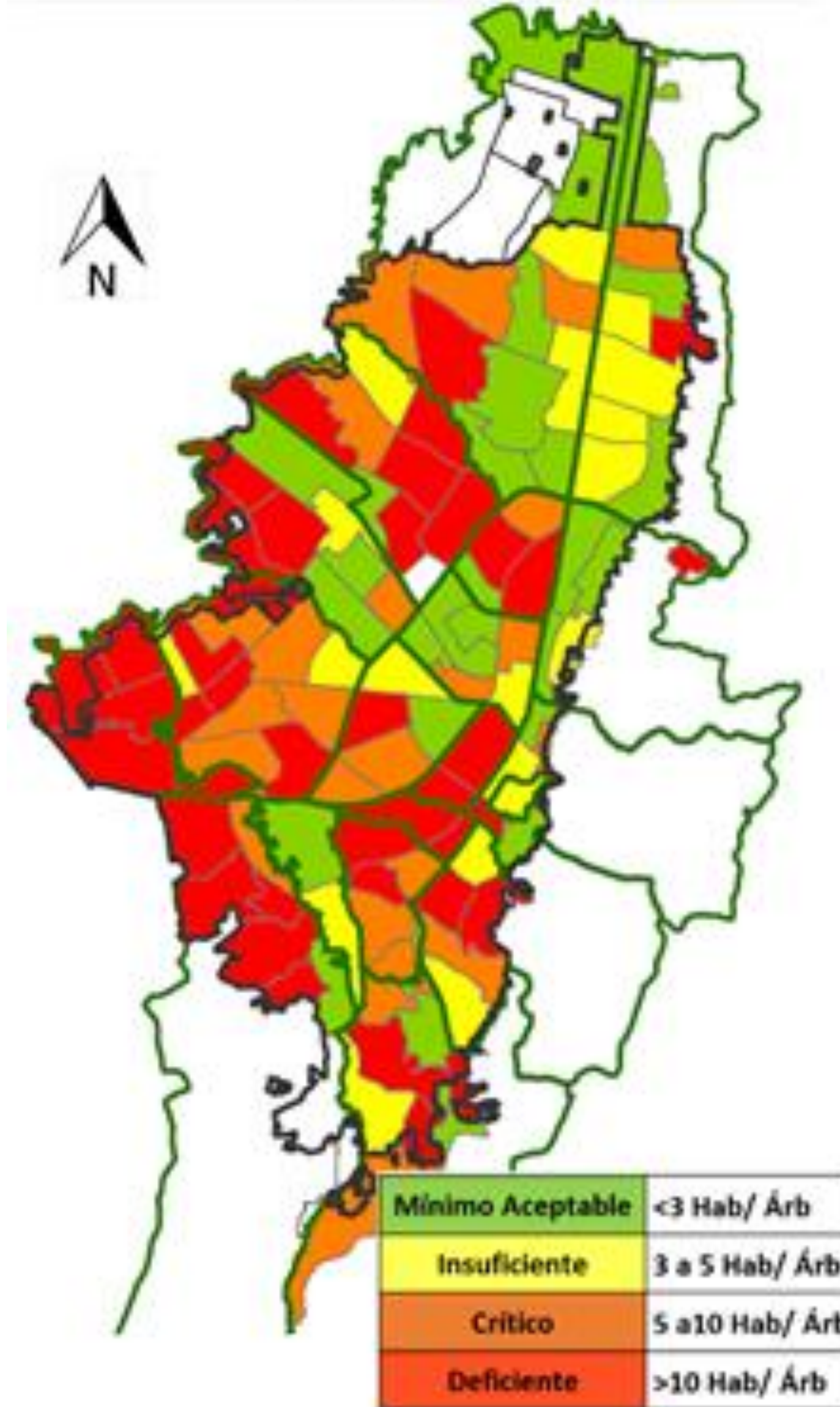


Fuente: SIA -SIGAU

Fuente: Clerici, Escobedo y Tovar -2015

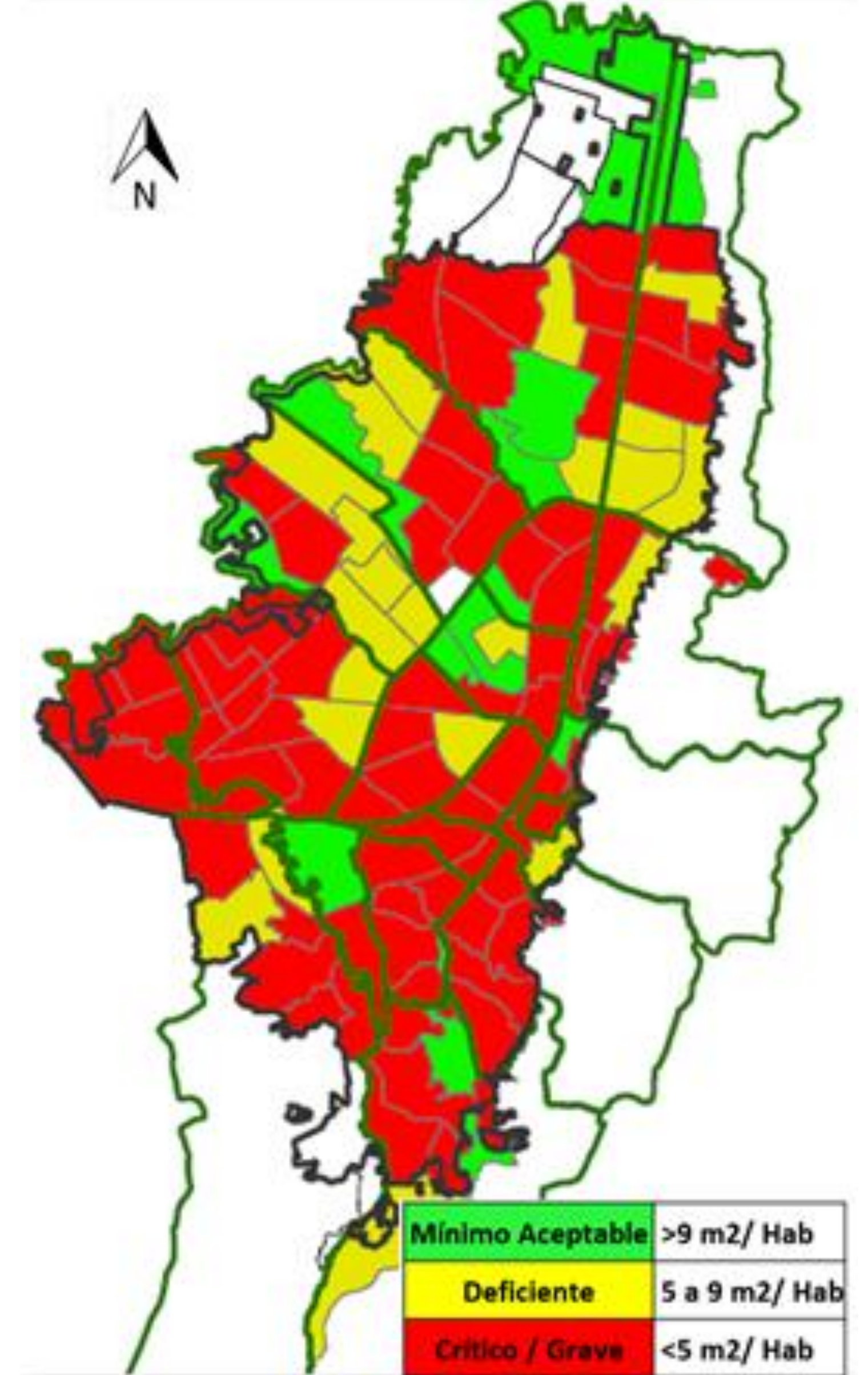


Number of inhabitants per tree, in
the urban area of Bogotá D.C.



Fuente: Sistema de Gestión del Arbolado
Urbano – SIGAU

Green area per inhabitant, in the
urban area of Bogotá D.C.

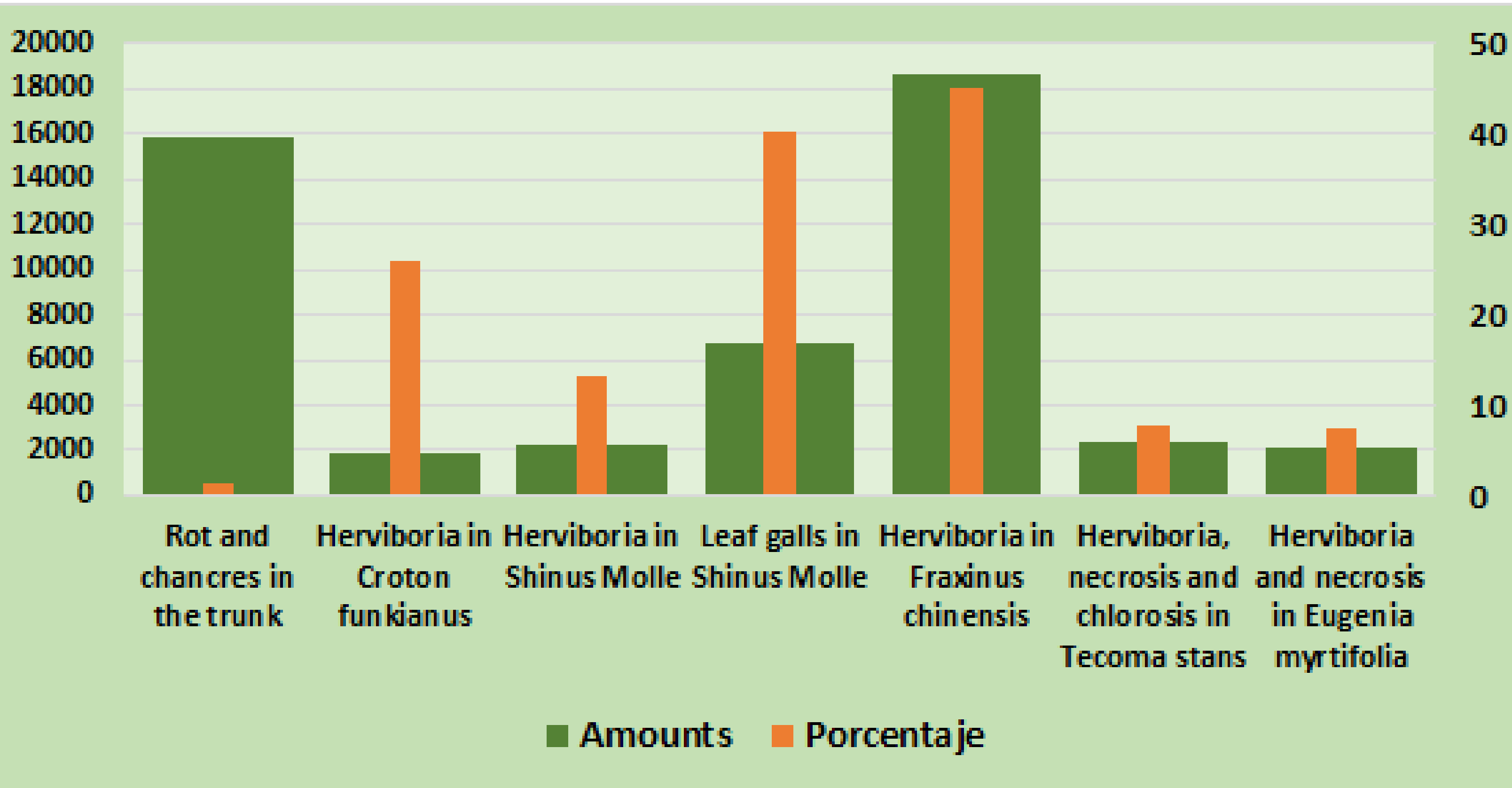
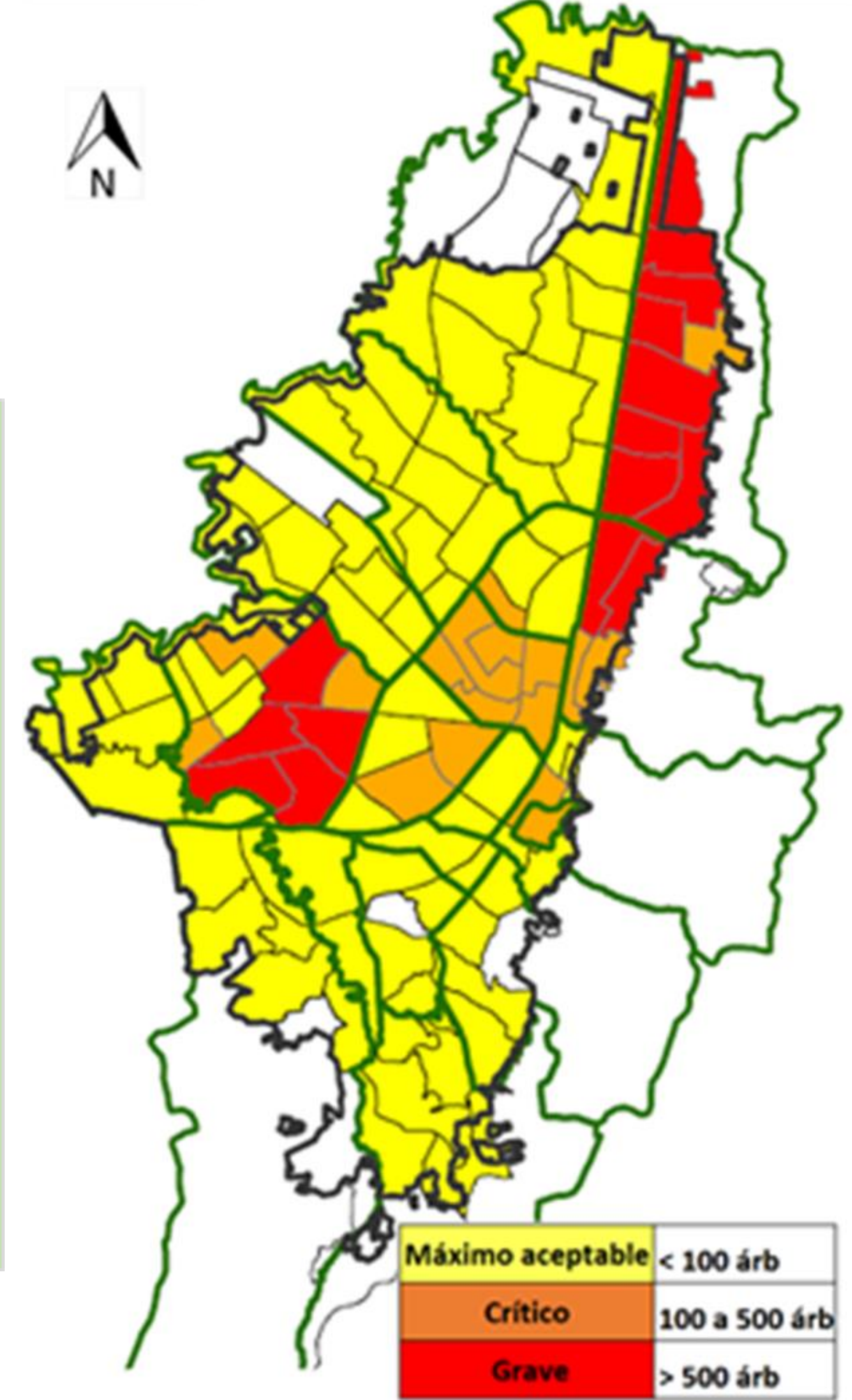


Fuente: DADEP

Spatial Analysis Technique



Sanitary status of the Bogotá's urban trees



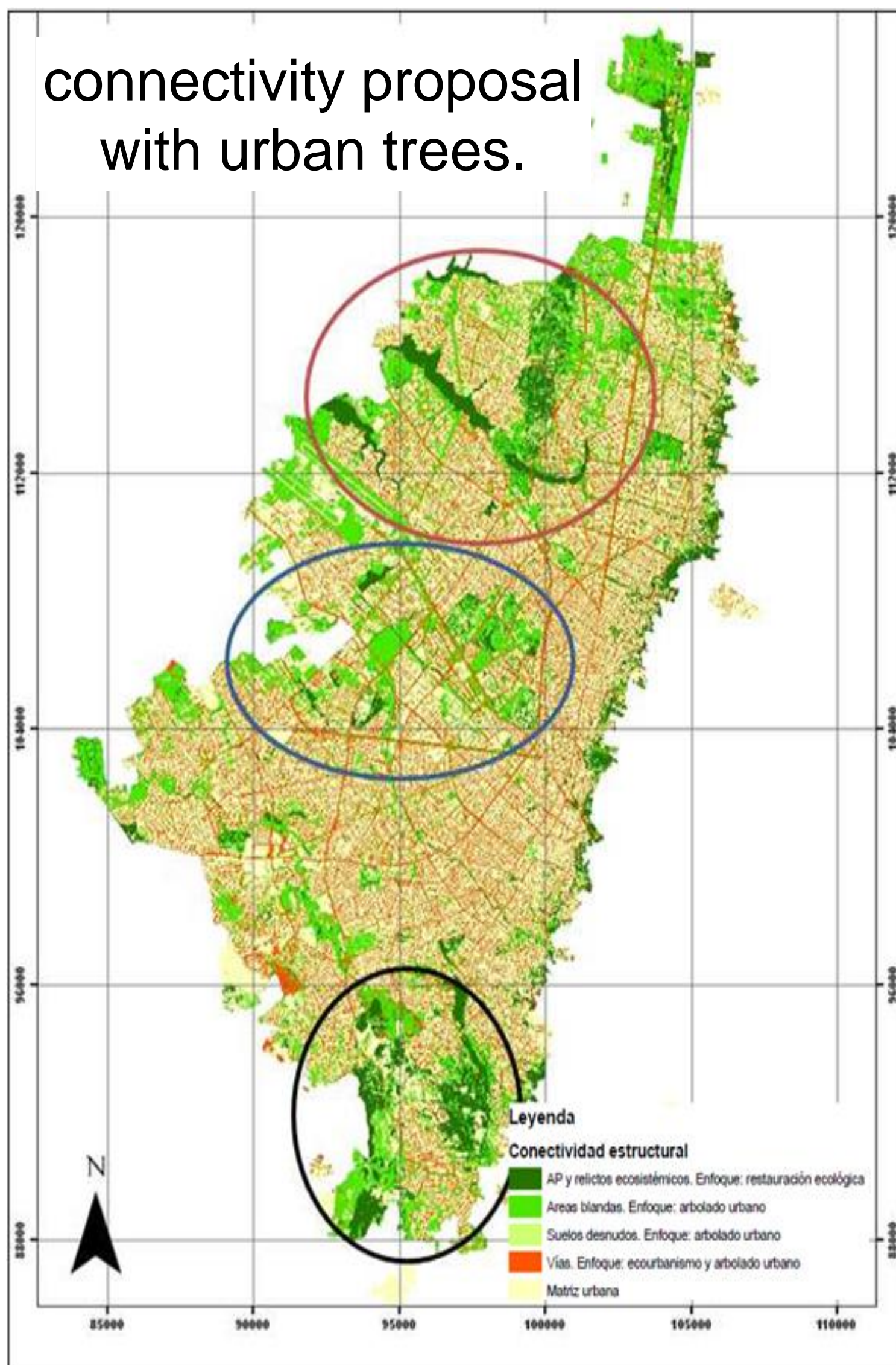
Fuente: Sistema de Gestión del Arbolado Urbano - SIGAU

Fuente: SIGAU

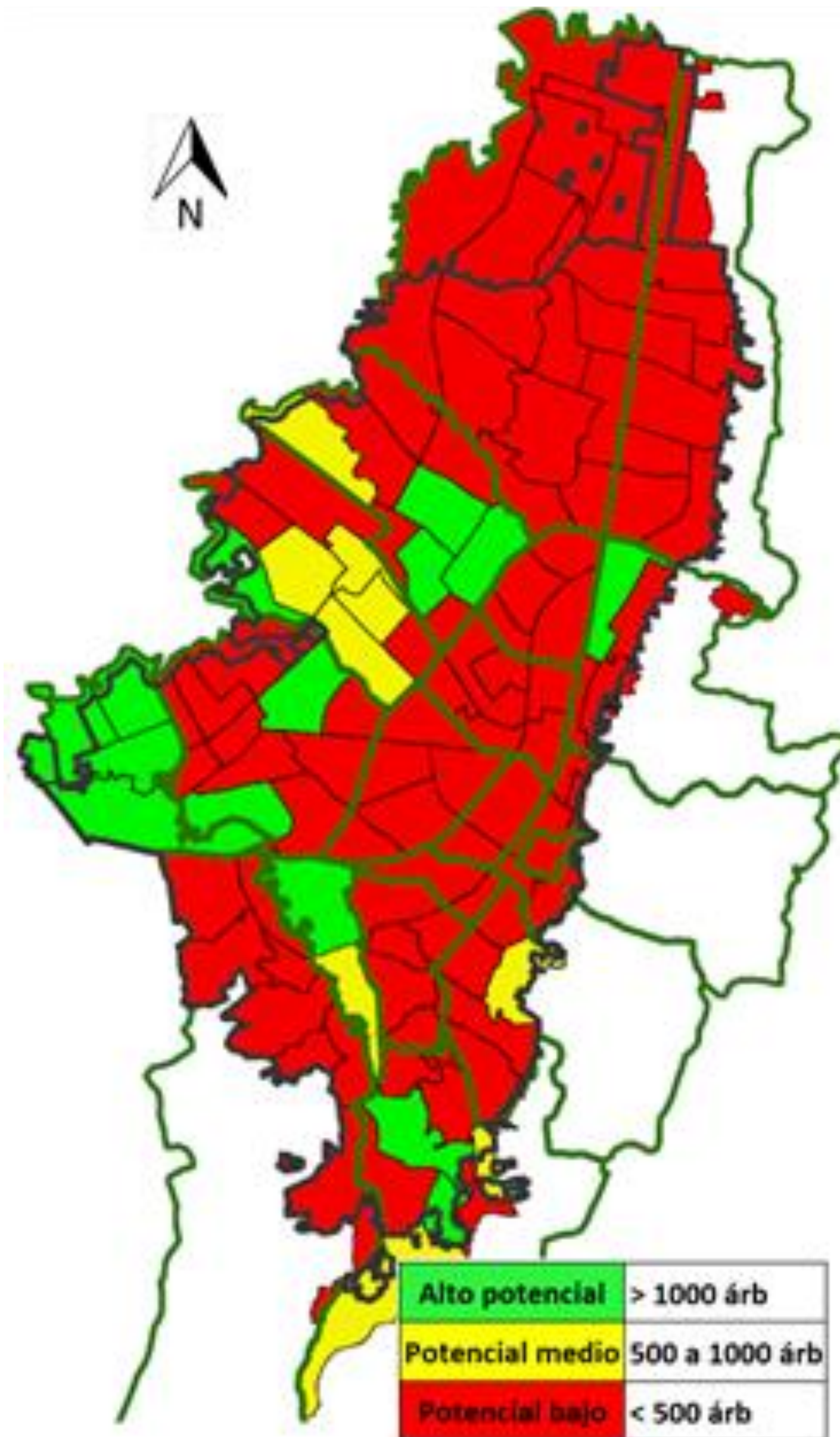


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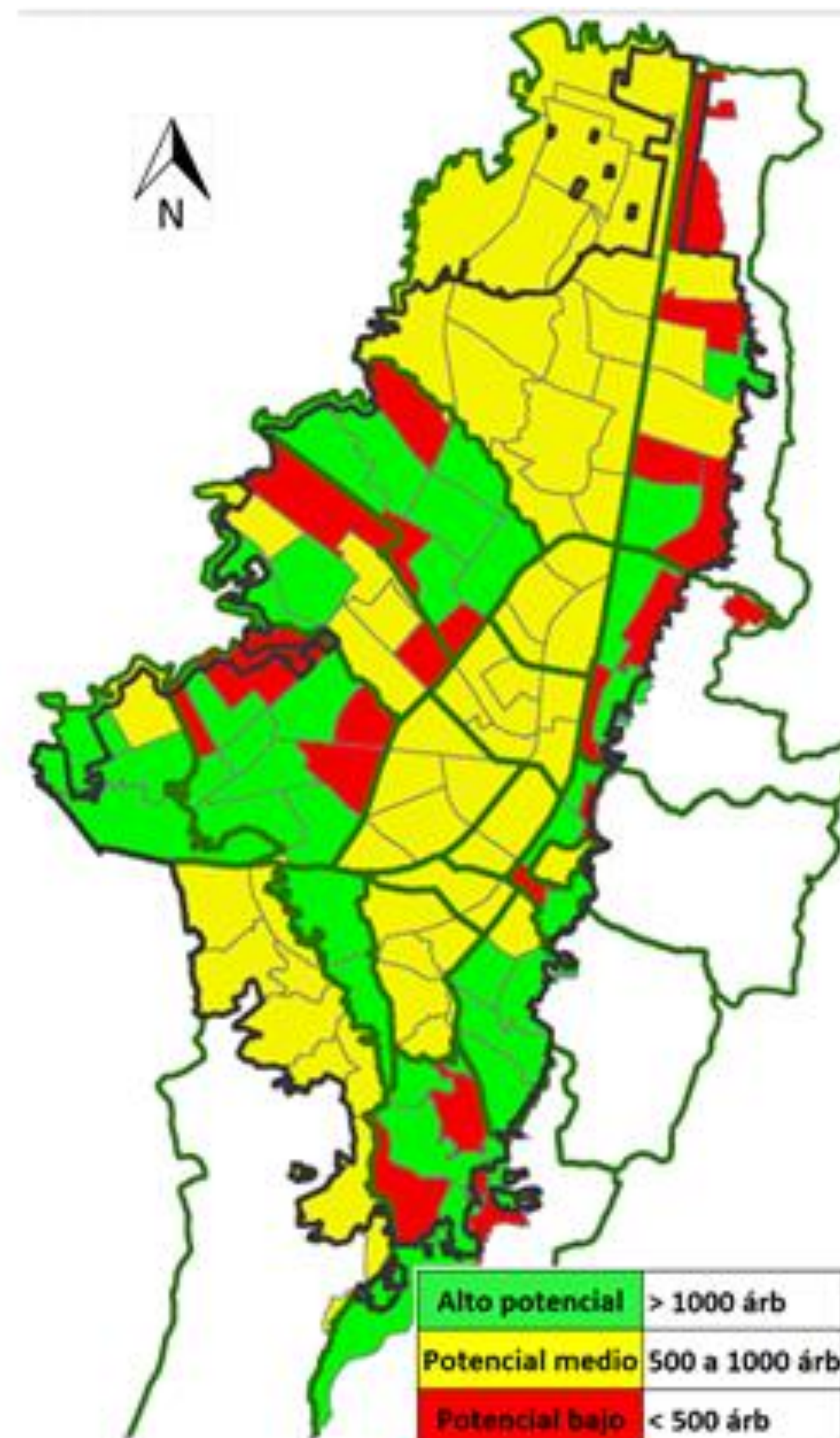
connectivity proposal
with urban trees.



Potential for planting trees in
scenarios 1 and 2 (Green areas)

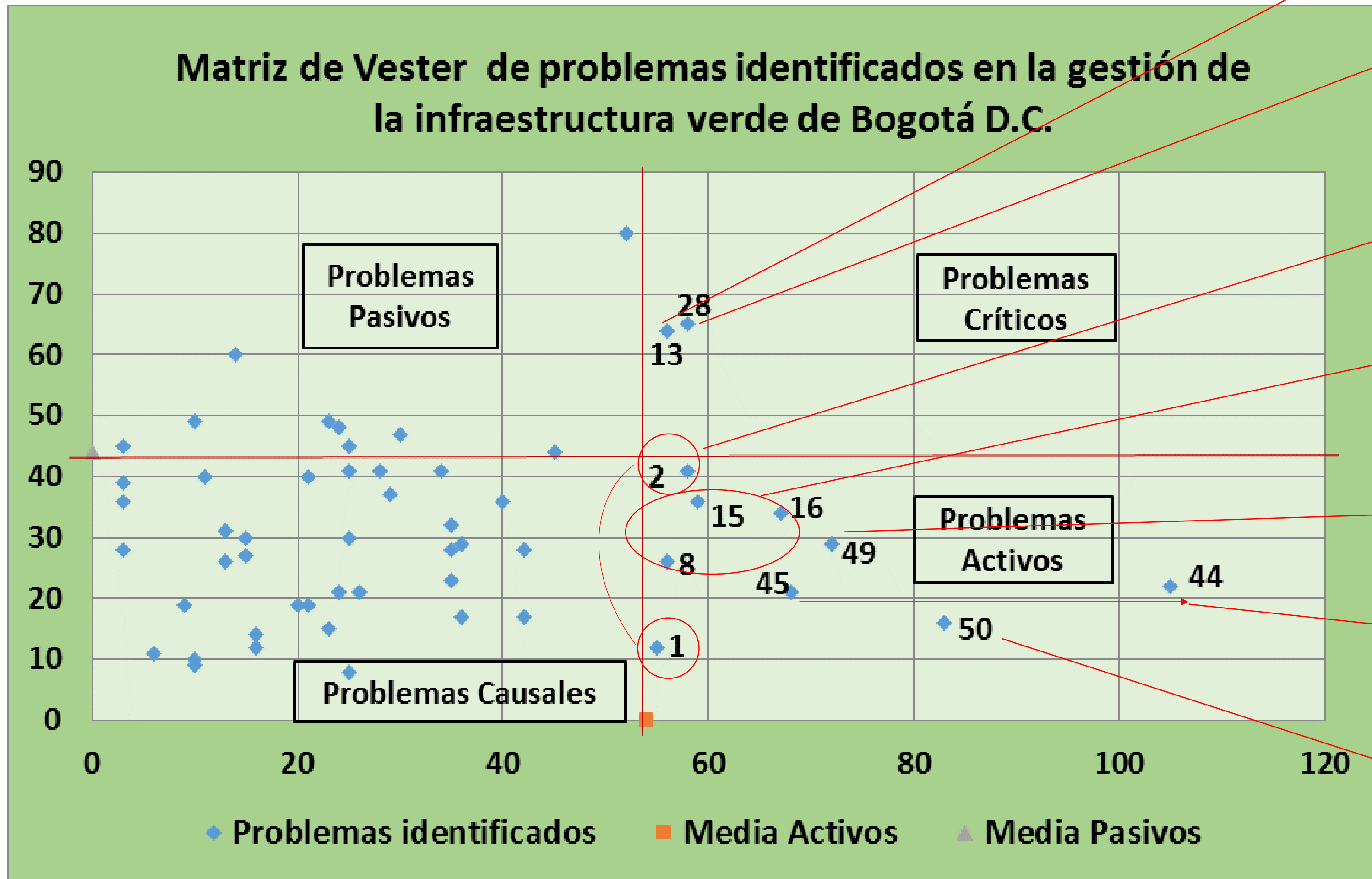


Potential for planting trees in
scenario 3 (Paved areas)



5. Bogota's urban trees, green areas and gardening Master Plan.

• Identification and analysis of problems



Elaboración: Propia.

Disarticulation and fragmentation of the elements of the system of protected areas and the main ecological structure

Detriment of environmental services offered by green coverage that enhance the effects of climate change

Undefined of the city's growth model

Deficit of environmental determinants in the different instruments of planning and land use

Low social appropriation of trees and urban green areas

Low institutional capacity for the evaluation and technical management of urban trees and green areas

Lack of technical knowledge and research in relation to plant coverage in the urban area of Bogotá



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City growth model

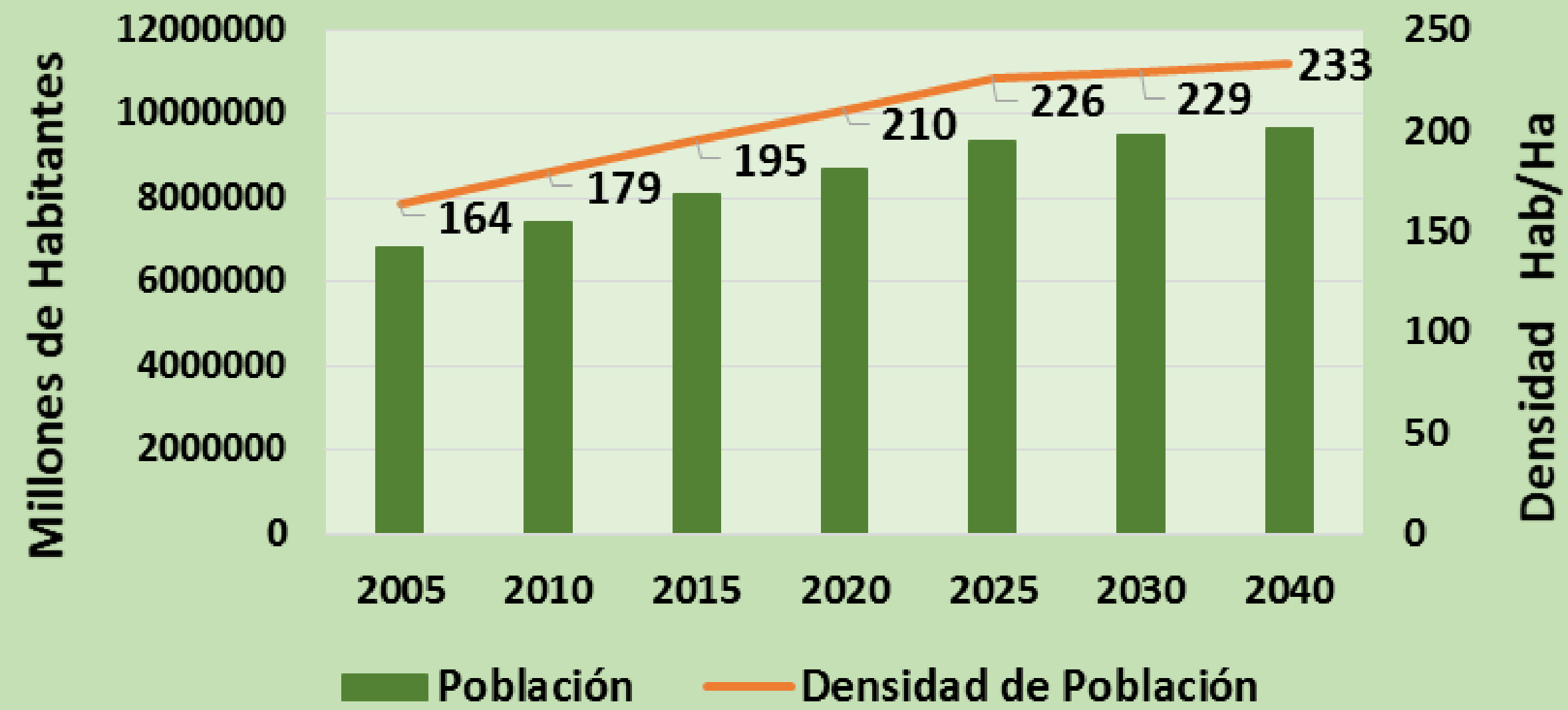
Expanded center



Traditional center



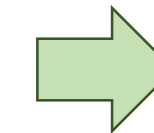
Population projections and density of inhabitants per hectare in the urban area of Bogotá.



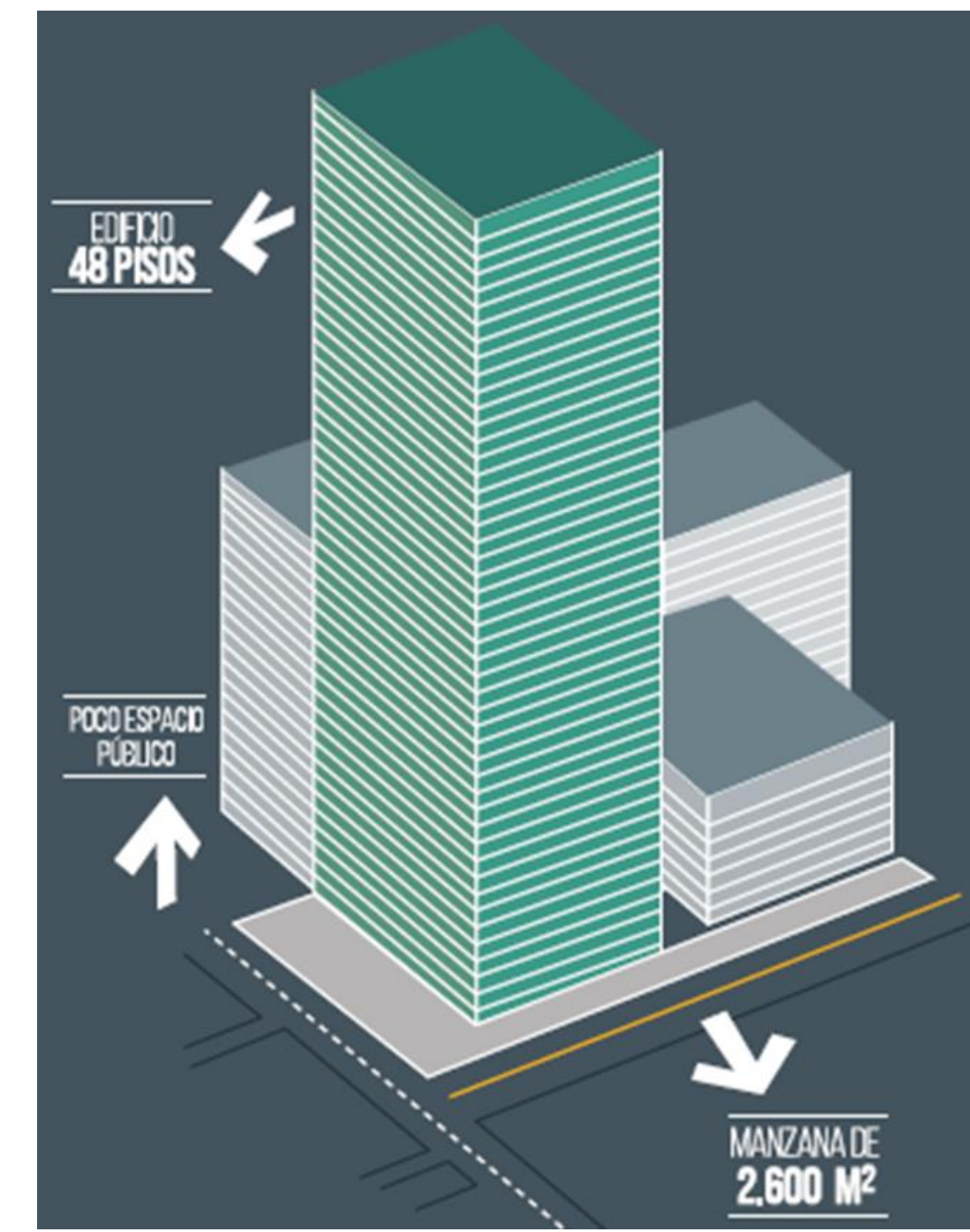
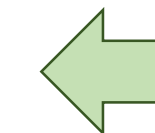
Fuente: SDP – Programa Centro Ampliado



BEFORE



AFTER



• Master plan objectives

GENERAL

SPECIFIC OBJECTIVES

GOAL

Undefinition of the city's growth model

STRENGTHEN THE BOGOTA'S ENVIRONMENTAL POLICE

- Order growth based on conservation of the main ecological structure
- Avoid the conurbation
- Make Bogota an environmentally resilient city

LEGALIZATION OF THE LAND USE PLAN

Deficit of environmental determinants in the different instruments of planning and land use

TO STRENGTHEN THE TOOLS FOR THE BOGOTA'S URBAN ENVIRONMENTAL MANAGEMENT

- Increase inter-institutional coordination for the management of green infrastructure.
- Reconvert 20% of hard areas in green areas
- Increase the quality of the urban landscape of Bogotá D.C.

APPLY THE DISTRICT ECOURBANISM AND SUSTAINABLE CONSTRUCTION POLICY

Disarticulation and fragmentation of the system of protected areas and the main ecological structure

AVOID THE ECOLOGICAL DETERIORATION OF PROTECTED AREAS IN THE URBAN AREA OF BOGOTÁ

- Increase the area of the main ecological structure
- Consolidate the biological and ecological corridors
- Strengthen the conservation and proper management of fauna and flora in urban areas

RENATURALIZE 5% OF WATER MARGINS TO INCREASE THE CONNECTIVITY OF THE MAIN ECOLOGICAL STRUCTURE

• Determinación de objetivos

GENERAL

ESPECÍFICOS

META

Detriment of environmental services offered by green coverage that enhance the effects of climate change

INCREASE THE GREEN COVERAGE OF THE PUBLIC SPACE WITH THEIR MAINTENANCE

- Increase urban trees in public areas
- Increase biomass production
- Increase the green area to 4.2 m² per inhabitant

- INCREASE 50% CO₂ SEQUESTRATION 6
- INCREASE THE ARBOREAL DENSITY TO 36,2 ARB / Ha
- 100% MAINTENANCE OF URBAN TREES AND 3000 Ha OF GREEN ZONES 9
- CONVERT 20% OF HARD AREAS IN GREEN AREAS
- RECOVER 847.46 Ha OF GREEN AREAS DEGRADED
- INCREASE TO 110000 m² THE GARDEN AREAS IN PUBLIC SPACE 3

Low institutional capacity for the evaluation and technical management of urban trees and green areas

INCREASE INSTITUTIONAL CAPACITY FOR THE MANAGEMENT OF GREEN INFRASTRUCTURE

- Strengthen inter-institutional coordination
- Permanently update the Geo-referenced System for the management of urban trees SIGAU
- Prevent the risk caused by urban trees
- Establish permanent financing mechanisms for the management of green infrastructure

- EXCLUSIVE WORKING GROUP IN EACH ENTITY 4
- INTEGRATED PERMANENTLY INFORMATION SYSTEMS 3
- REDUCE THE RISK OF SUDDEN FALL OF TREES TO LESS THAN 0.1% OF THE URBAN FOREST INVENTORY 8
- PERMANENTLY GUARANTEE THE MINIMUM BUDGET FOR THE IMPLEMENTATION OF THE PLAN 4

• Determinación de objetivos

GENERAL

ESPECÍFICOS

META

Low social appropriation of trees and urban green areas

INCREASE THE ENVIRONMENTAL CULTURE OF THE BOGOTA'S CITIZENSHIP

- Generate socialization processes with co-responsibility
- Increase citizen participation
- Increase dissemination on the management of Bogotá's green infrastructure

AWARENESS THE CITIZENSHIP OF BOGOTA FOR THE MANAGEMENT AND PROTECTION OF THE TREES AND URBAN GREEN ZONES

4

KEEP CITIZENSHIP INFORMED OF THE IMPLEMENTATION OF THE PLAN

2

Lack of technical knowledge and research in relation to plant coverage in the urban area of Bogotá

DEFINE THE RESEARCH LINE REQUIRED BY BOGOTÁ

- Define the research line that in green infrastructure requires Bogotá D.C

ESTABLISH A SHORT-TERM RESEARCH LINE, WHICH CAN BE CARRIED OUT WITH THE EXISTING INFORMATION

6

ESTABLISH THE MEDIUM-TERM INVESTIGATION LINE THAT REQUIRES ADDITIONAL INFORMATION, TIME AND FINANCING

9

ESTABLISH THEMATIC RESEARCH, DEVELOPED IN PILOT ZONES IN THE URBAN AREA OF BOGOTÁ

5

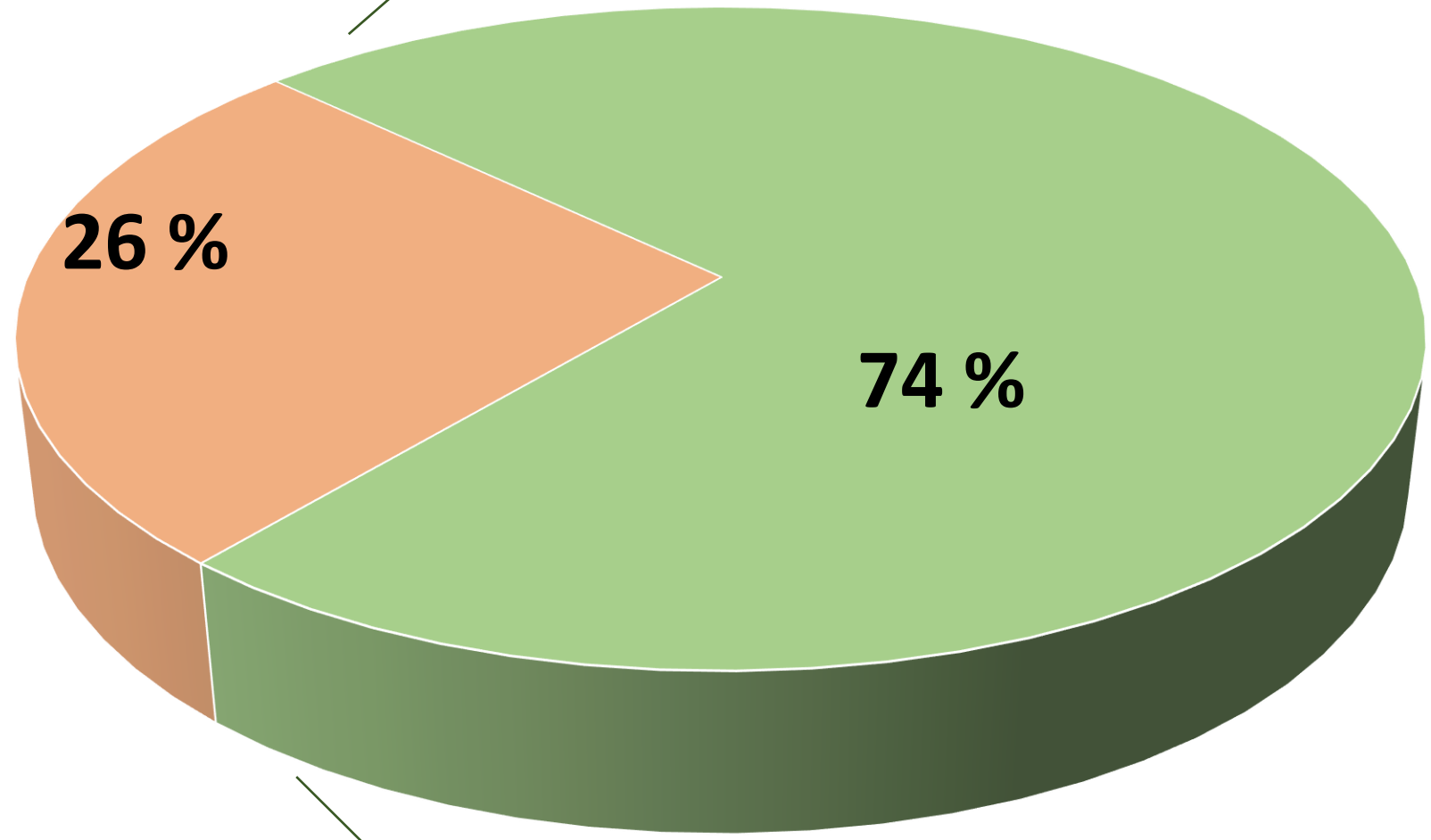
ESTIMATED BUDGET OF THE MASTER PLAN OF URBAN FORESTRY, GREEN ZONES AND GARDENING OF BOGOTÁ
3 Billones 237 mil millones de pesos

CONTENT OF THE PLAN

- 7 MAIN PROBLEMS
- 19 GOALS
- 73 PROYECTS

Deficit of environmental determinants in the different instruments of planning and land use

U\$ 300'428,571



Management of the detriment of environmental services offered by green coverage that enhance the effects of climate change. 90,1%

U\$ 770'819.336

Avoid ecological deterioration and fragmentation of protected areas located in urban areas of Bogotá due to anthropogenic causes 5,7%

U\$ 49'186.430

Increase in institutional capacity 3,5%

U\$ 30'053.074

Increase of the environmental culture of the Bogota citizens. 0,3%

U\$ 2'482.142

Definition of the research lines that the city requires in green infrastructure, 0,4%

U\$ 3'085.714

\$ Calculated budget