



AFRICAN FORUM
ON URBAN FORESTS

2nd African Forum On Urban Forests

Green Horizons: Shaping the Future Resilience of African Cities through Urban Forests

18 March 2025 - 21 March 2025



in partnership with:



Willingness to pay for ecotourism in Maradi and Tibiri-Gobir cities in Niger based on green spaces valorisation

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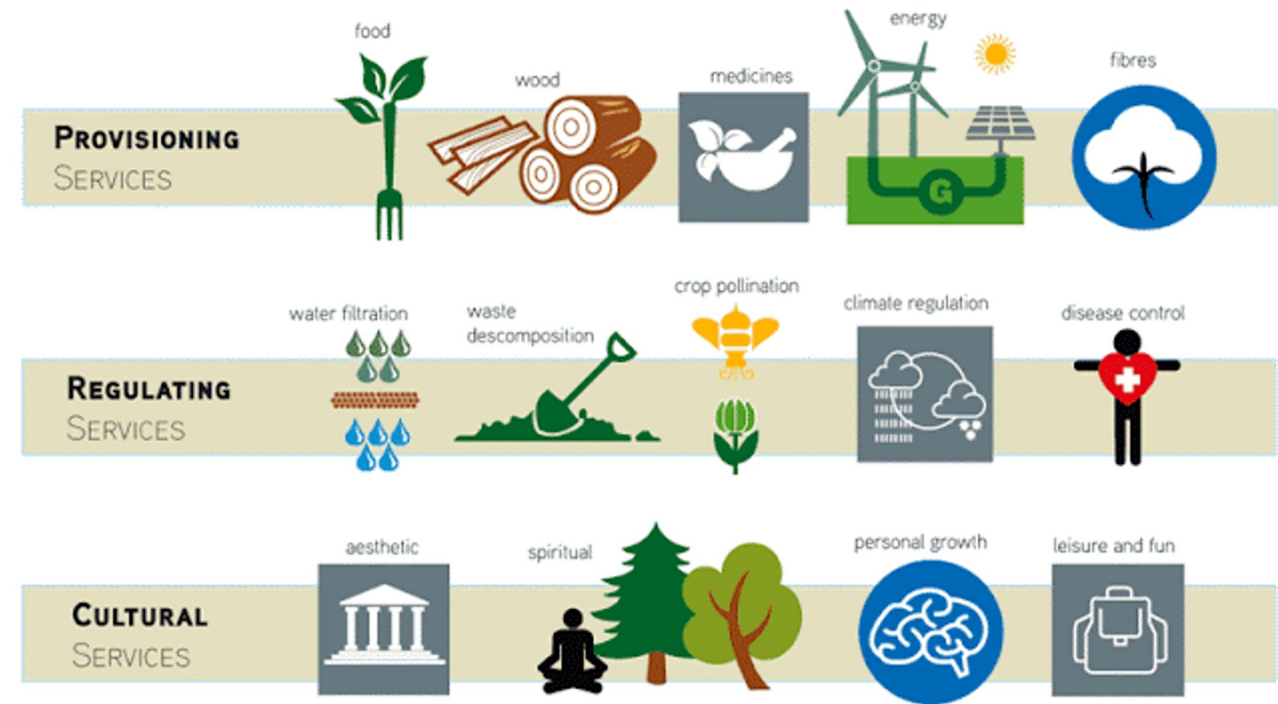


Context

Many studies showed the importance of Urban forests (Eg. Khanal P, Straka T, 2021)

They provide many ecosystem services. (Ex. Chen, W.Y; Jim, C 2008)

WHAT DO WE GET FROM **ECOSYSTEMS**?

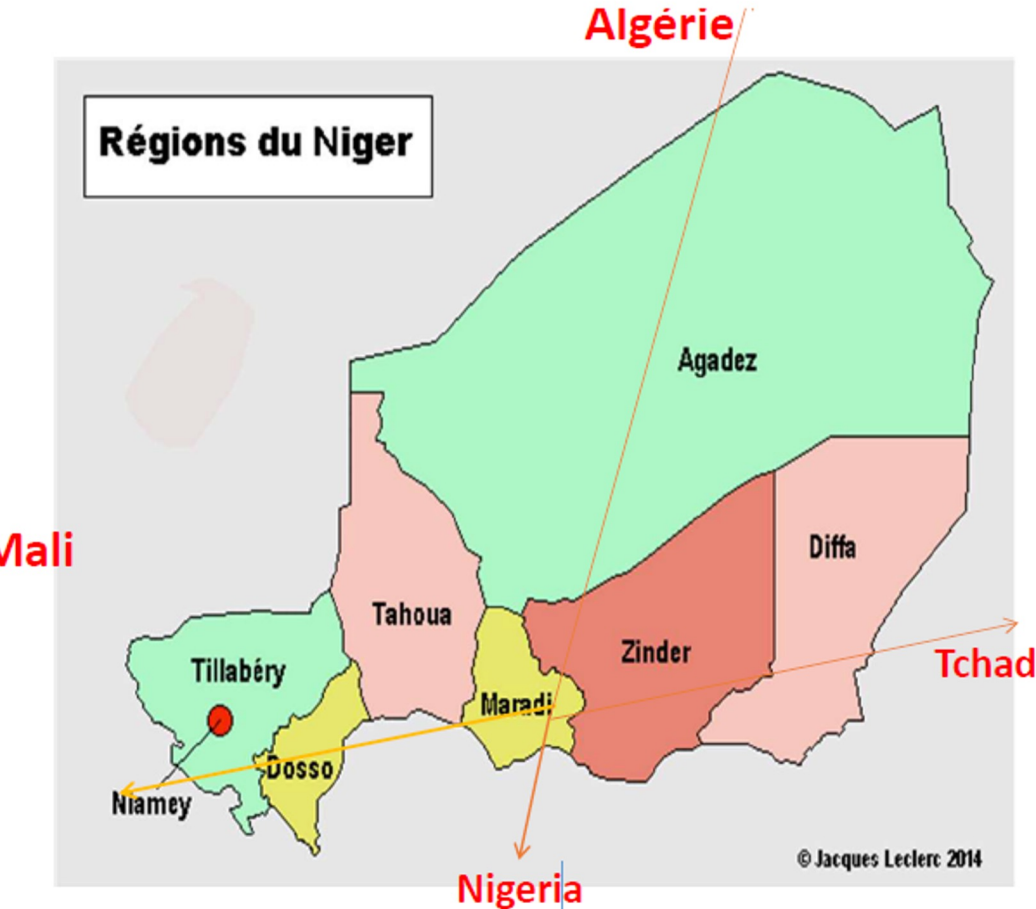


These ecosystems are threatened by urbanization and demography



Context

Particular in Maradi agglomeration



Central position

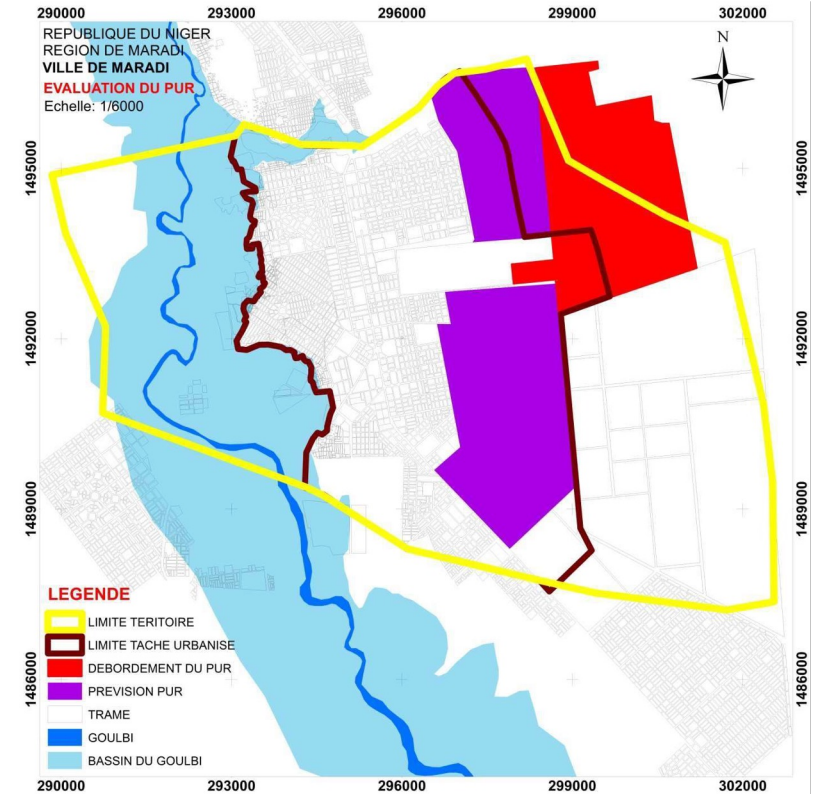
- West: 944km
- East: 861 km
- North: 1072 km
- South: 45 km

Urbanization (8,1%)

Pop Growth: 3.9%

Land use: 100%

Great need of space, best source of incomes



Context

In the framework of “Project ViVRE” Green cities for the benefit of the Great Green Wall

- > Climathon at Maradi in 2023.
- > Green spaces identified



- Regreening: Solution to the problem water flood in Maradi
- Existing green spaces: urbanized; polluted; fragmented (no concertation)

Objective: How citizens perceived the value of these spaces?



Materials and method

4 Communes (3 in Maradi and 1 in Tibiri-Gobir)
432 households were surveyed, 15 city districts,

$$n = \frac{t^2 \cdot N}{(t^2) + (2e)^2(N-1)}$$

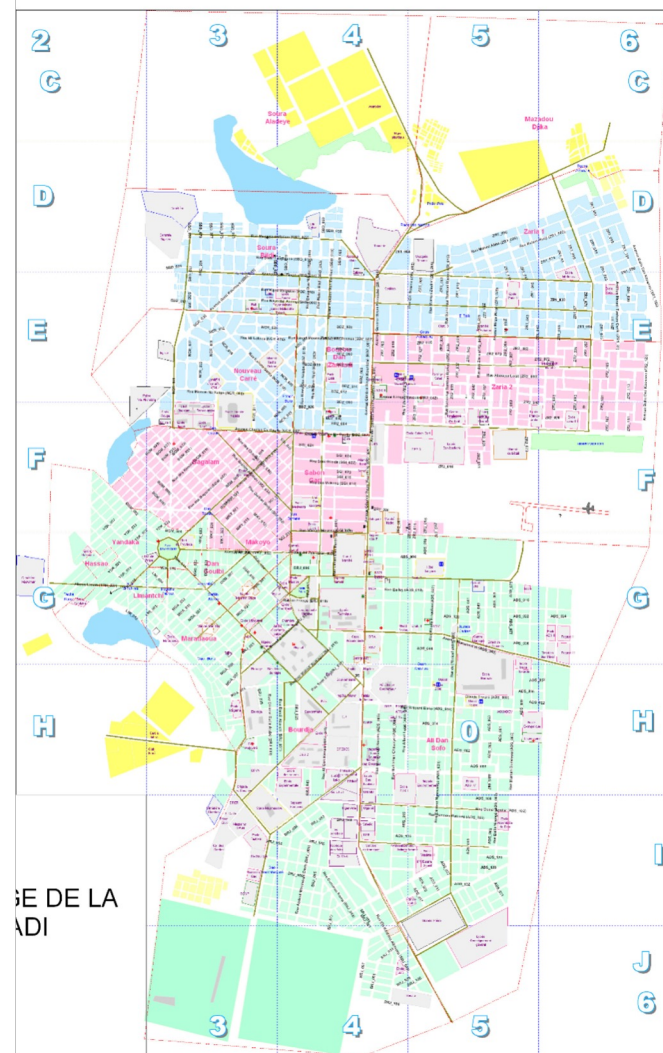
Existence of green spaces in the district

Usefulness of green spaces

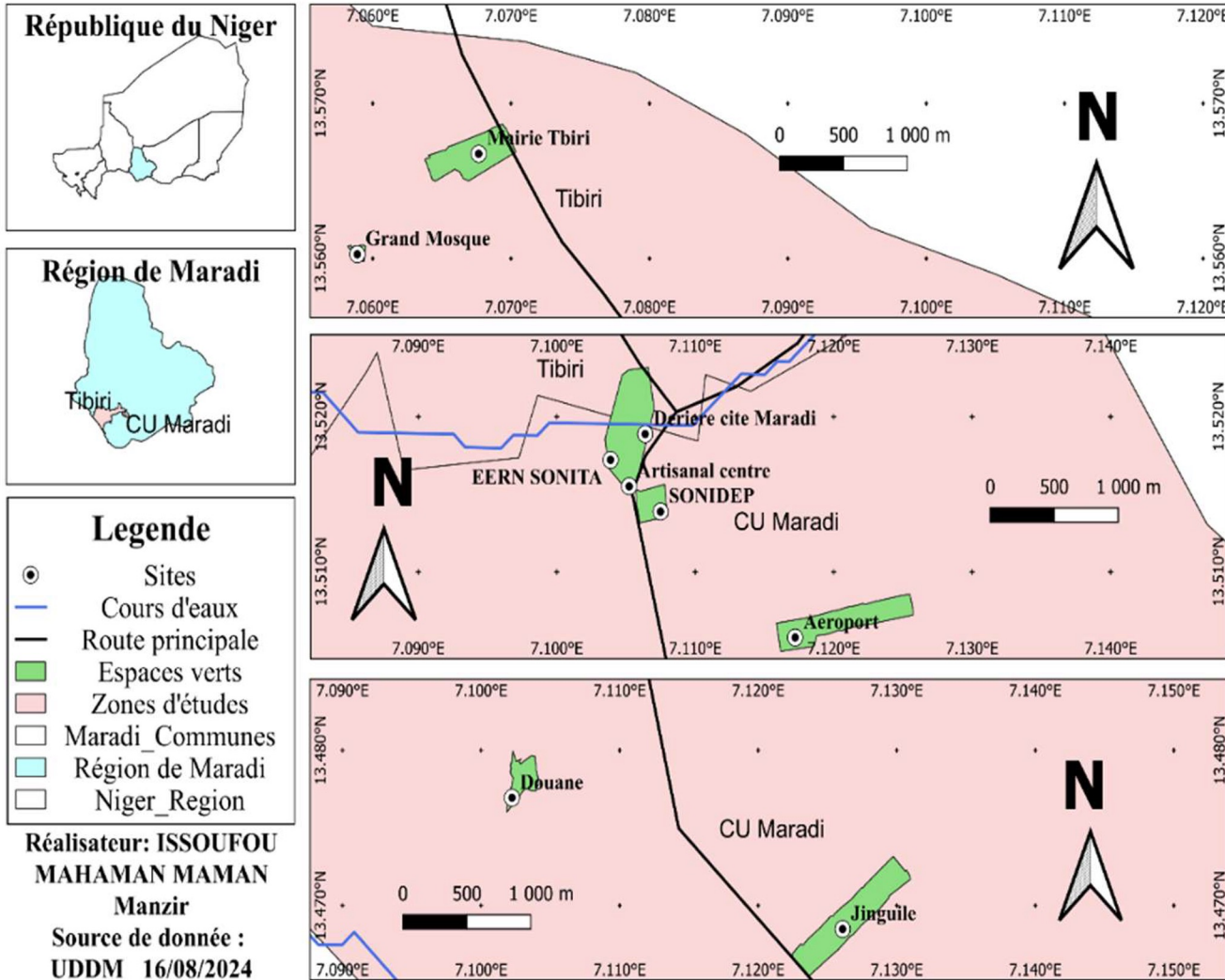
Usefulness of having green spaces

How much they are willing to pay to have one

Tree species they would like to have



Results and discussion



Identification of green spaces

9 green spaces in the two cities

- Sonidep: 5,1337 ha
- Bois Sékou Touré: 17.5317 ha
- Jinguile: 21.5626 ha
- Maradi Kolliya: 22.6498 ha
- Douane: 5.2542 ha
- Mairie: 15.2275 ha
- Mosquée: 1.064 ha

Results and discussion

Family	Species	Nbe individual	Percentage
Meliaceae	<i>Azadirachta indica</i>	494	94,82
Balanitaceae	<i>Balanites aegyptiaca</i>	9	1,73
Mimosaceae	<i>Acacia nilotica</i>	15	2,88
Rhamnaceae	<i>Ziziphys spina-christi</i>	3	0,58
Total	Total	521	100

Density is higher at Tibiri, then at Douane.

Characteristics of végétation

Azadiracchta most dominant (Moussa et al., 2020).

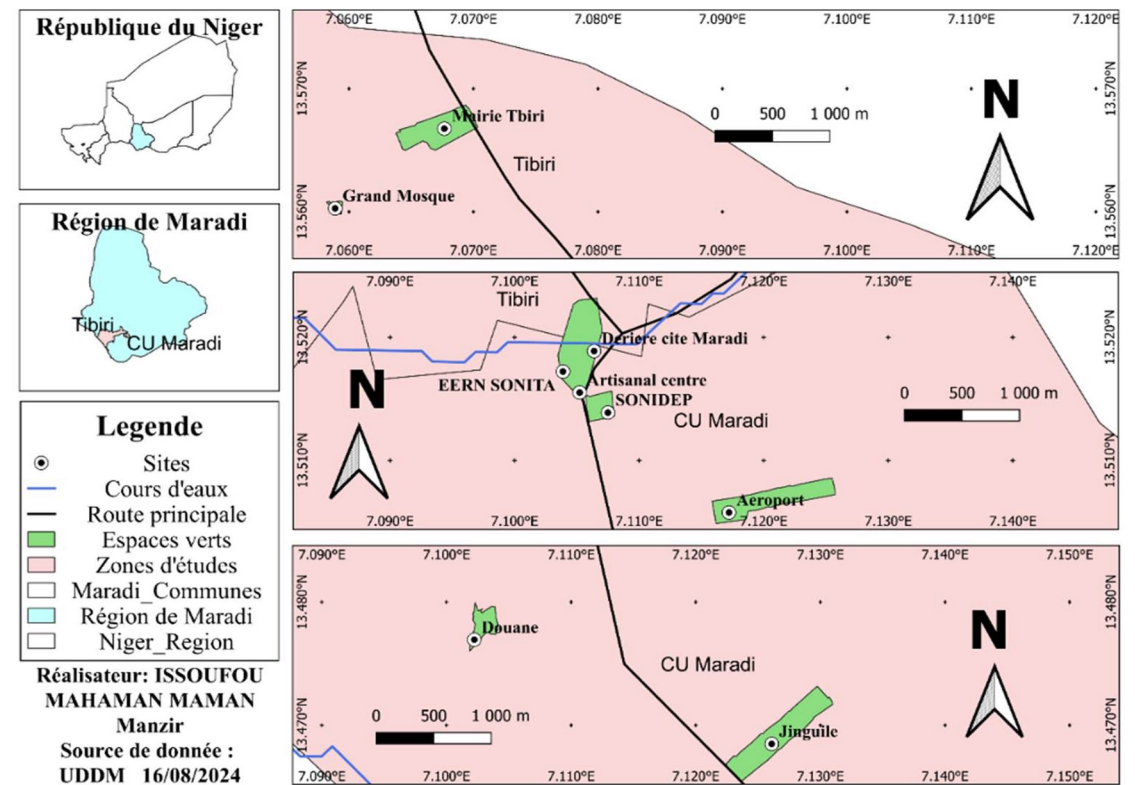
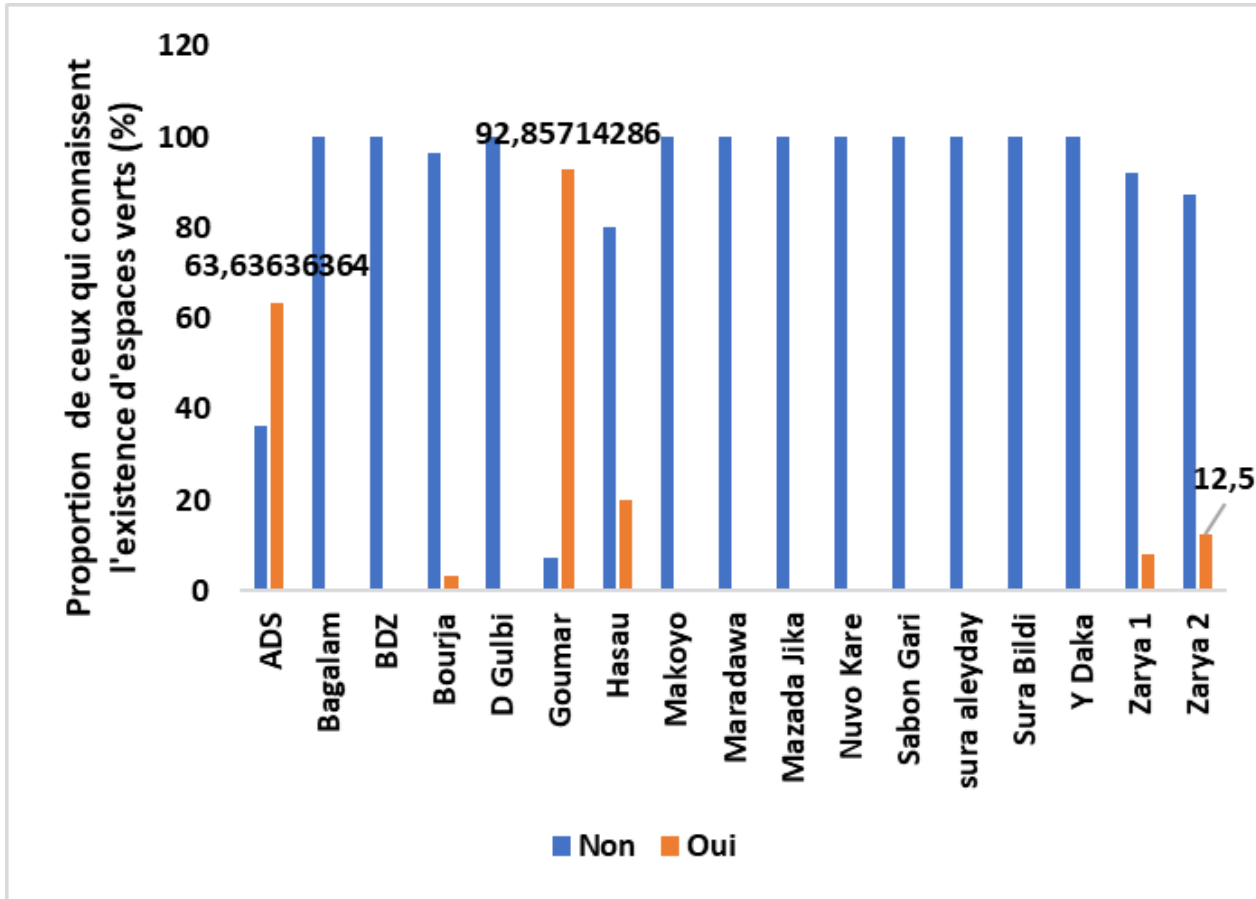
Artificial plantation and this specie is most adapted in the context of Sahel

Green space	Basal area (m ² /ha)	Density (ind/ha)	Recovery (%)
Jinguilé	2,020±0,52	74±20,67	22,441±5,90
Douane	4,307±1,07	132 ± 16	44,620±11,74
Sékou Touré	1,515±0,30	74±24,66	28,664±4,60
Mairie T, G	1,699±0,78	70±50	23,133±6,50
Mosquée T, G	8,913	652	24,790



Results and discussion

Awareness concerning the existence of green spaces



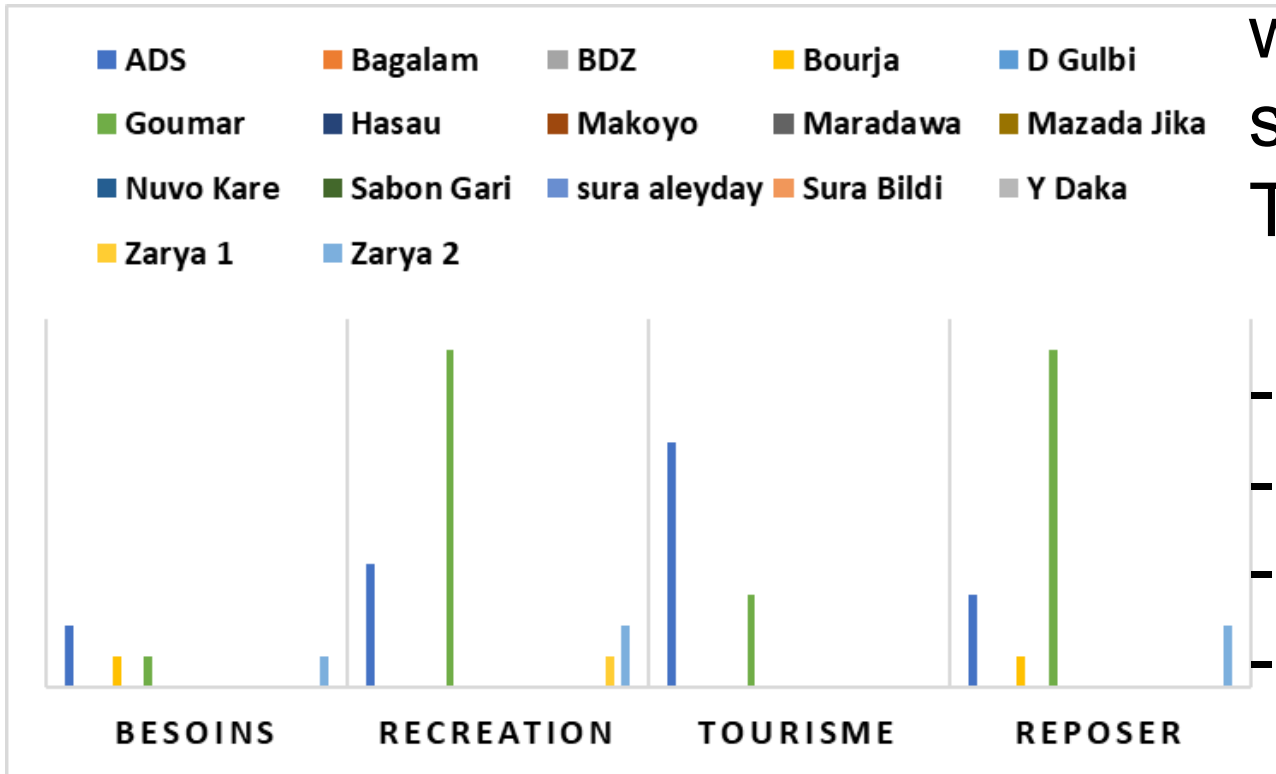
Correlation between the district of residence and the existence of green spaces



Results and discussion

who visit the green spaces and why?

53% and 46% respectively of those who knows the existence of green spaces respectively in Maradi and Tibiri Gobir have visited them.

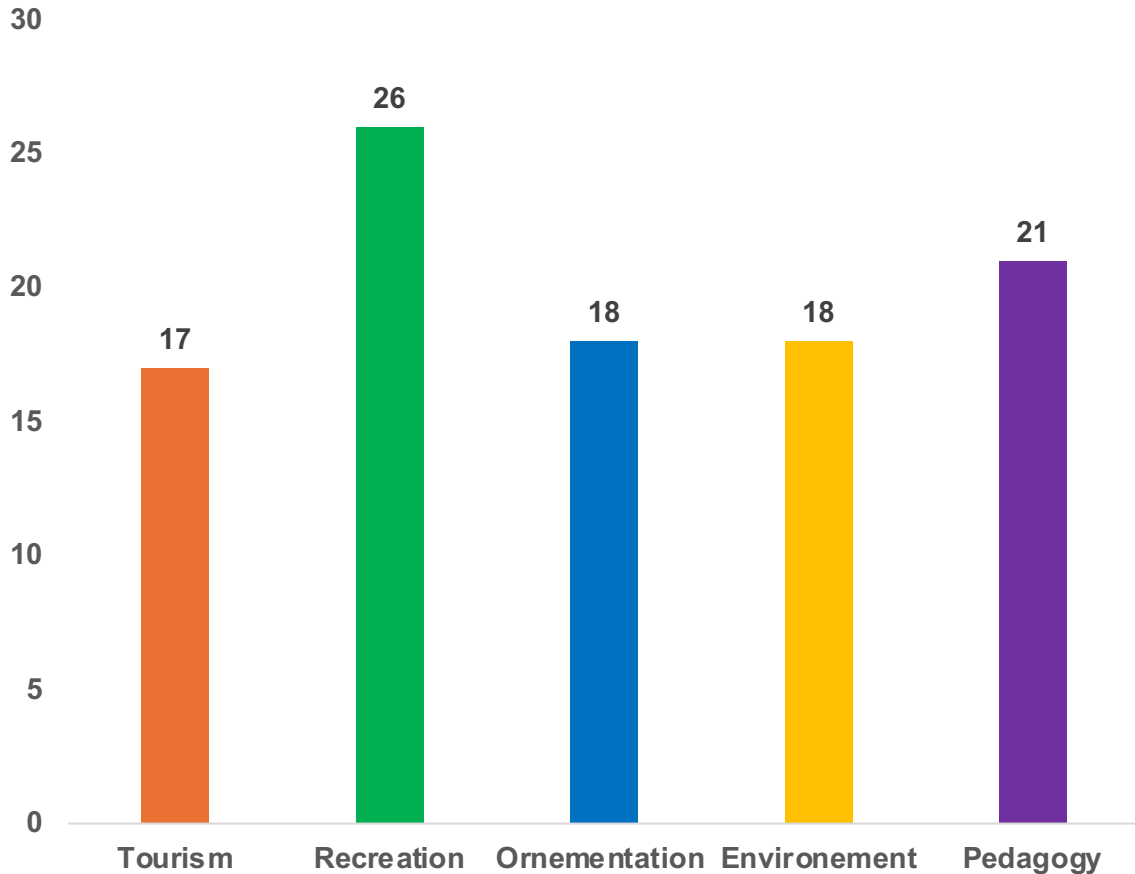


- Recreation
- Resting
- Tourism
- Anectodically for defecation



Results and discussion

Utility of green spaces where they do not exist



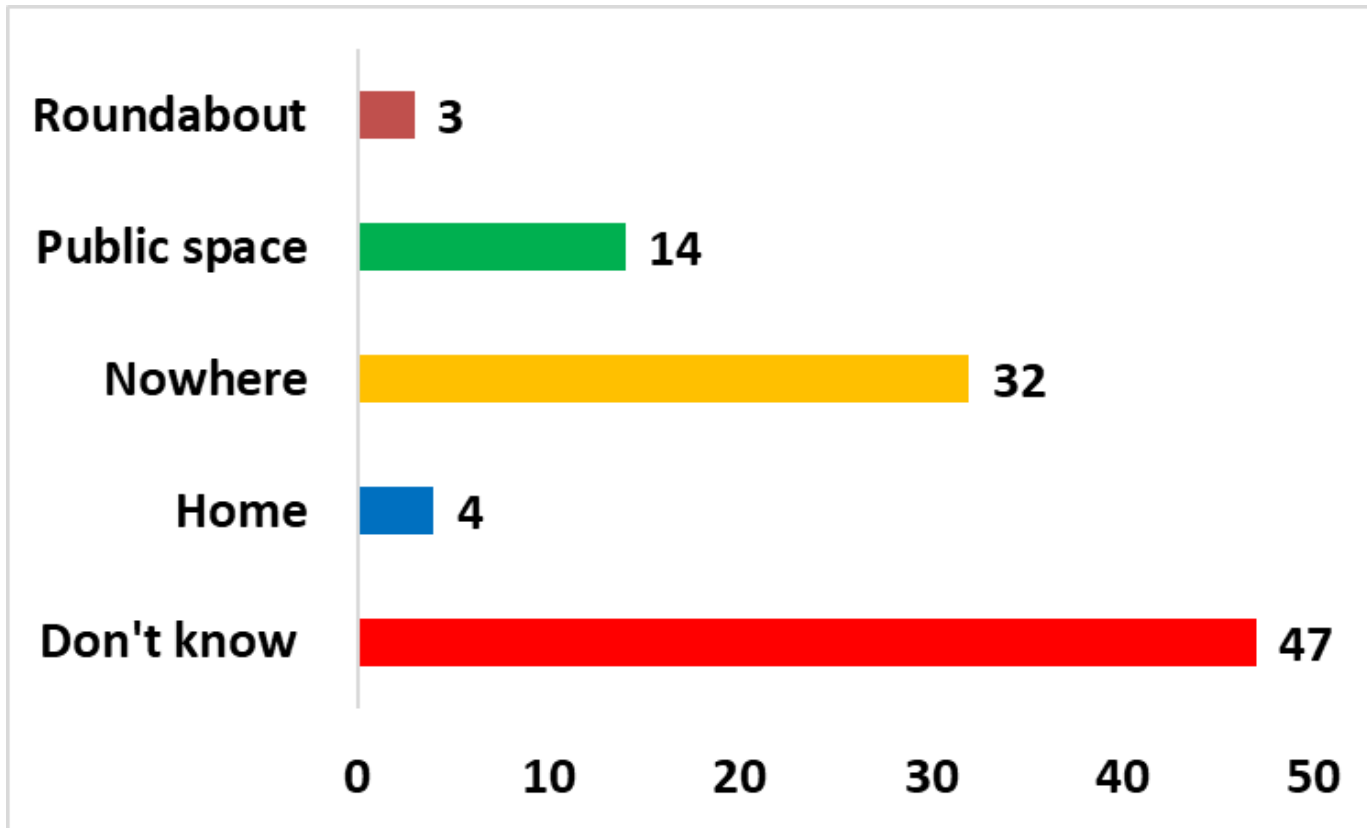
60% of those who do not have green spaces in their district consider that it is important to have one.

- Recreation
- Pedagogy (learning, students)
- Ornementation
- Environmental protection
- Tourism



Results and discussion

Where to create new green spaces in the city?



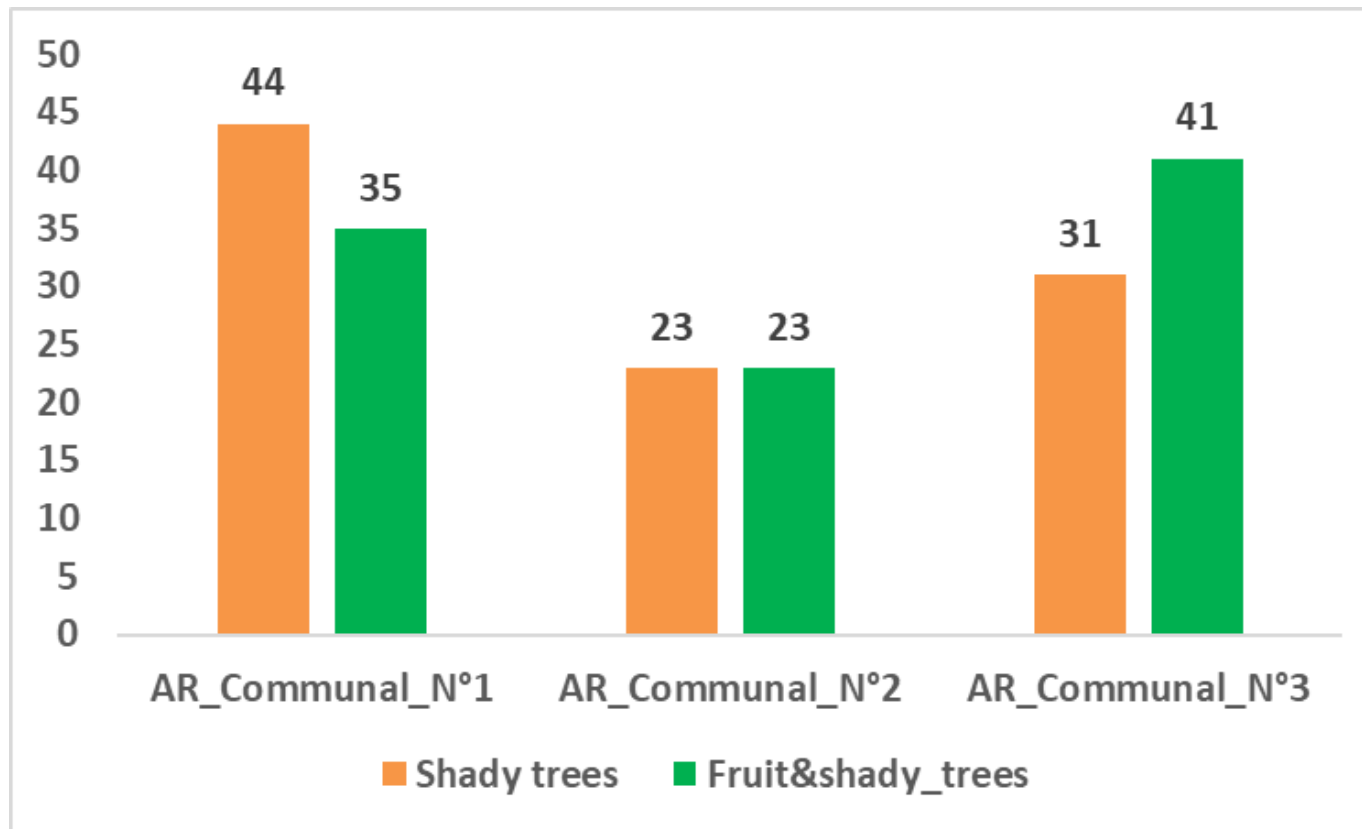
There is no place, owned by the municipality to create green spaces.

Nevertheless >> many private plots (empty) (Dia Hantchi et al; 2022)



Results and discussion

Which king of trees to plant in these new green spaces?



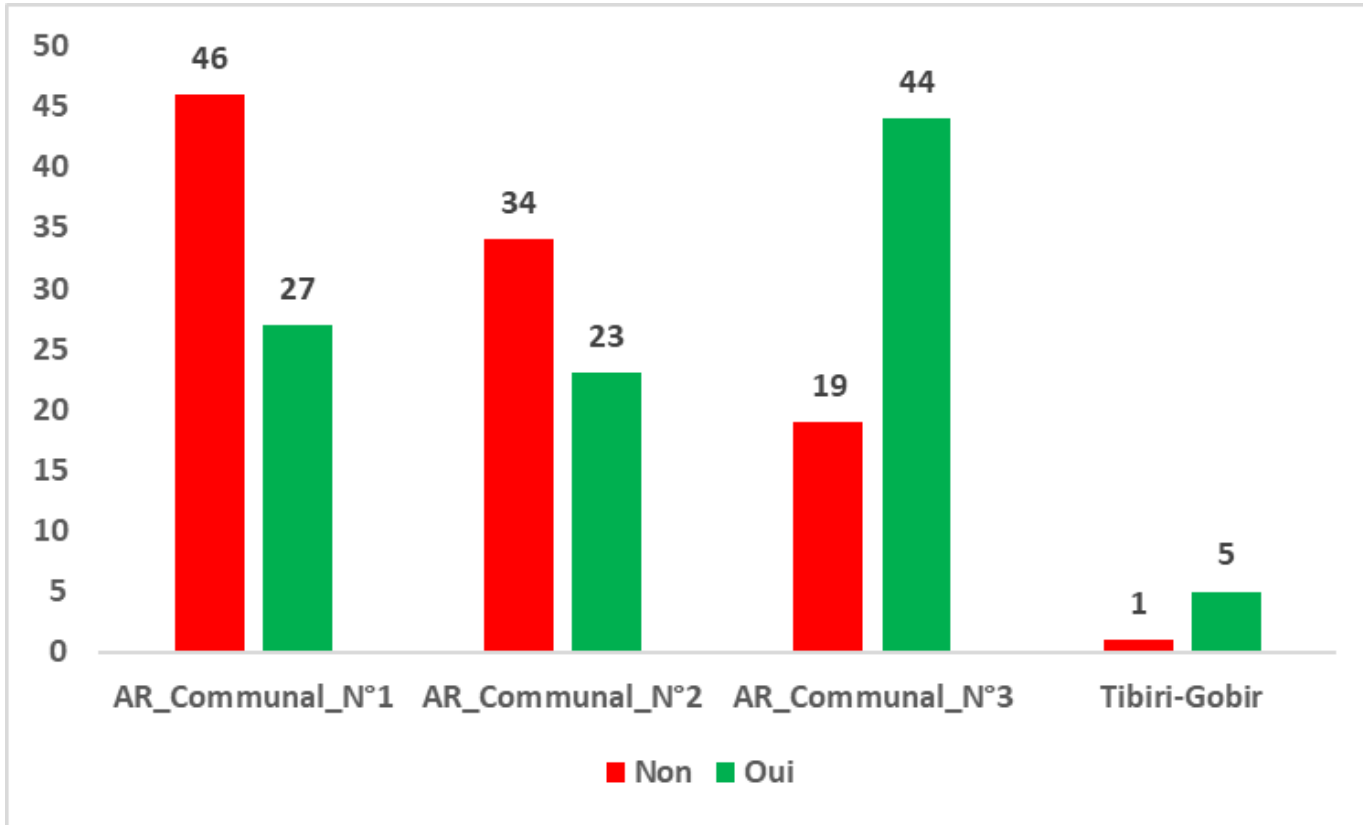
89% propose fruit trees and 59% shady trees.

- Fruit trees are: Mango, Guava, Banana, Orange, lemon; Moringa
- Shady trees are: Az Indica; exotic trees like Terminalia Catappa; and disappeared indigenous trees (Cediya, Gamji)



Results and discussion

How much people are willing to pay for green spaces?

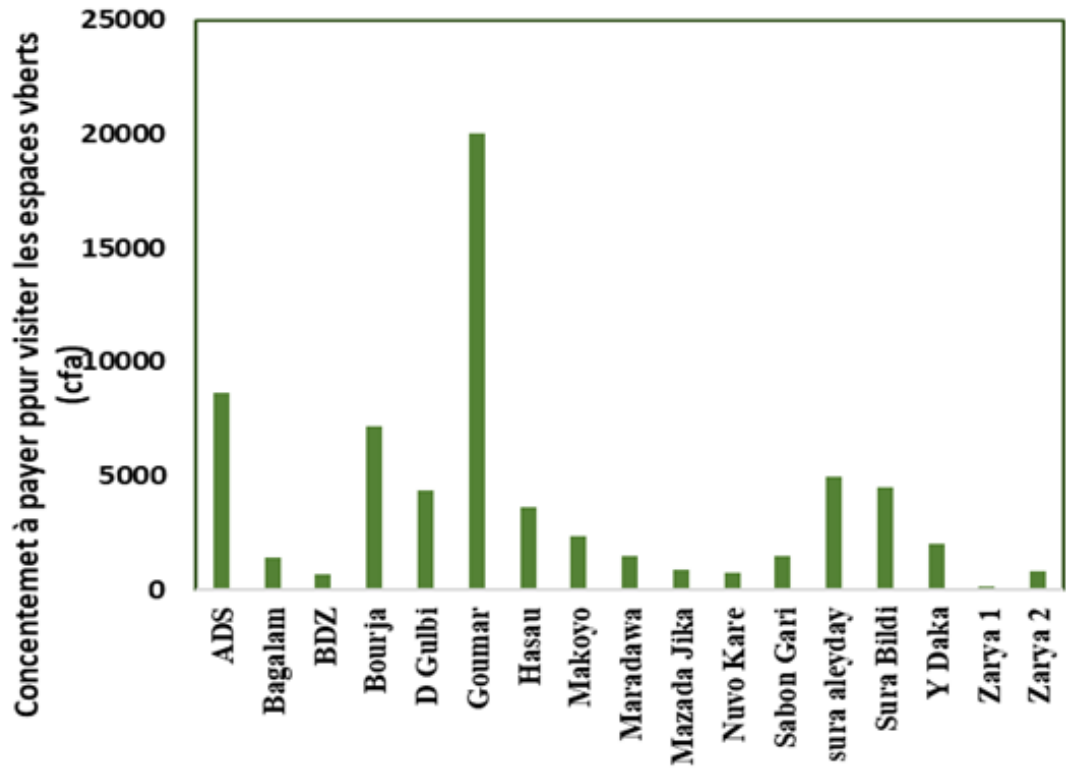


56% are willing to pay to have access to green spaces; 44% not

Where the project could be viable are District3 and Tibiri-Gobir

Results and discussion

How much people are willing to pay for green spaces?



The 56% are willing to pay 2700±5500 of to have access to green spaces.

Variability according to area of residents. Tibiri-Gobir are willing to pay until 20000 where the residents of Bouzou Dan Zambadi (Maradi) are willing to pay only 675

Conclusion

In the masterplan green spaces are but to financial resources scarcity, the land use of all these spaced have changed

People are ready to pay to have access to green spaces but local authority do not consider this preoccupation

The Jingile Green space is divided into lots after this study

New green spaces have to be planed in some intermediate cities who owned sufficient land



Acknowledgements

All the students who participate to the data collection

Mansir

Zeynab

Ummal Héri

Mariama

FAO for funding to attend this conference



Thank You.

