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INTRODUCTION



- Increasing degradation of biodiversity, Species extinction, Loss of their habitat.
- Purpose of protected areas creation (
- Accelerating biodiversity loss, and losses in protected areas.

State of Forestry in Benin (1978 to 2010)

85% loss of forest area
30% of vegetation cover lost

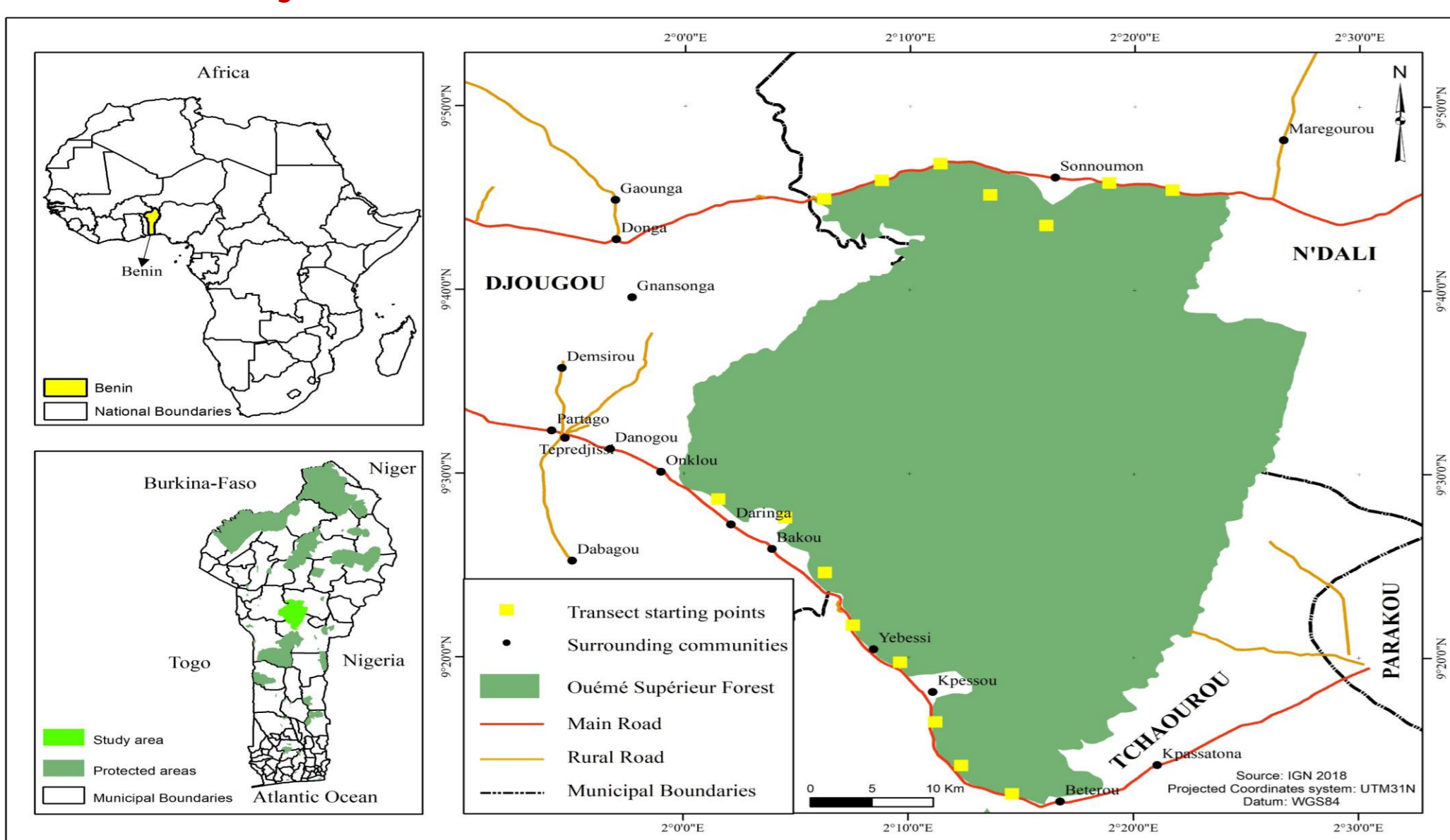
The classified forest of Ouémé Supérieur in northern Benin; one of the largest reserves in the country, is not immune from anthropogenic pressures.

Research objective

- Identify and analyze the anthropogenic factors of degradation of natural formations of the classified forest of Ouémé Supérieur

METHOD

Study area

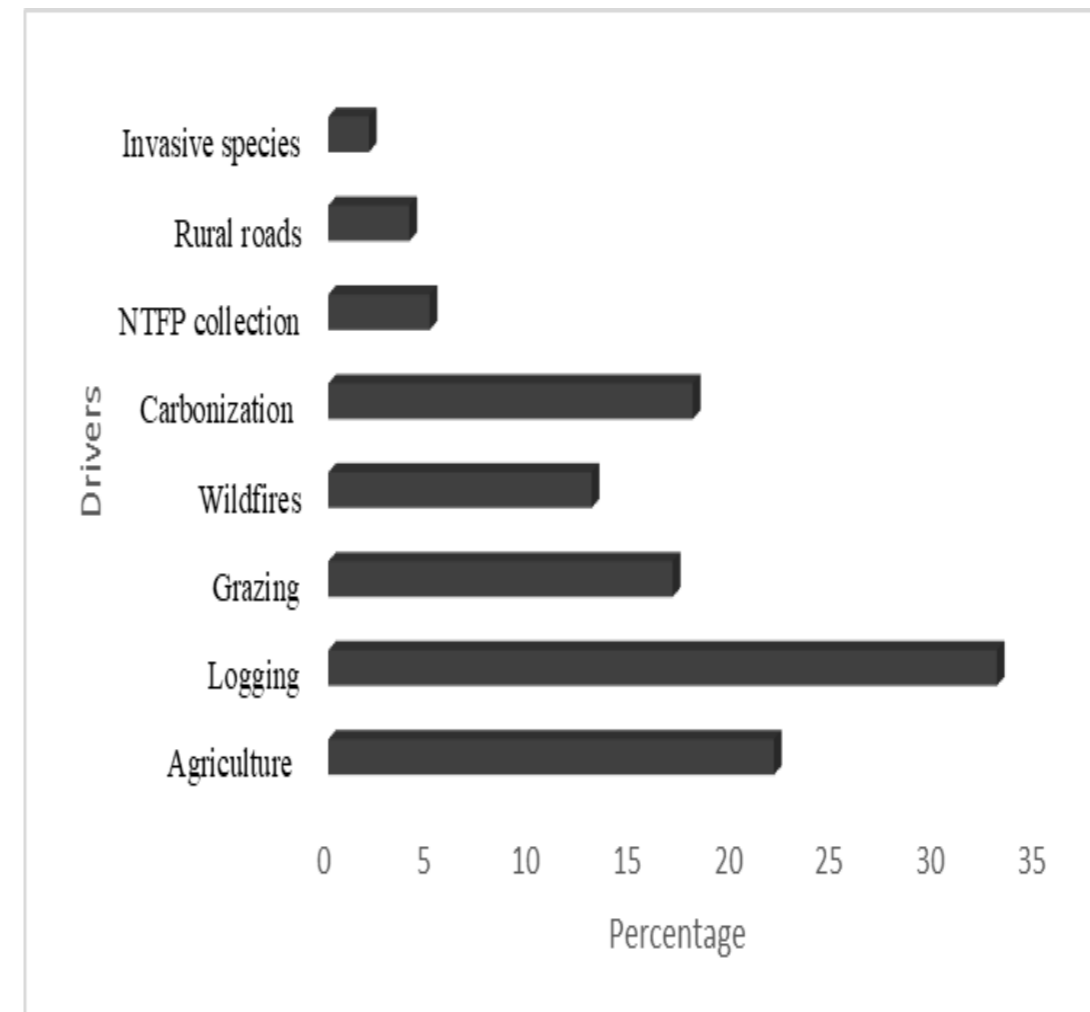


Data collection and Analysis

- Typology of forest disturbance indicators built based on literature and formal interviews with local authorities and forestry administration officers.
- Data collected by Line Transect (1000 m) Technique and 300 plots of 500 m² each.
- PCA analysis on Presence Absence Data & Khi square test to show the dependence between disturbances.
- Single-variable logistic regression to identify if the distance of penetration influences the presence of each driver

RESULTS

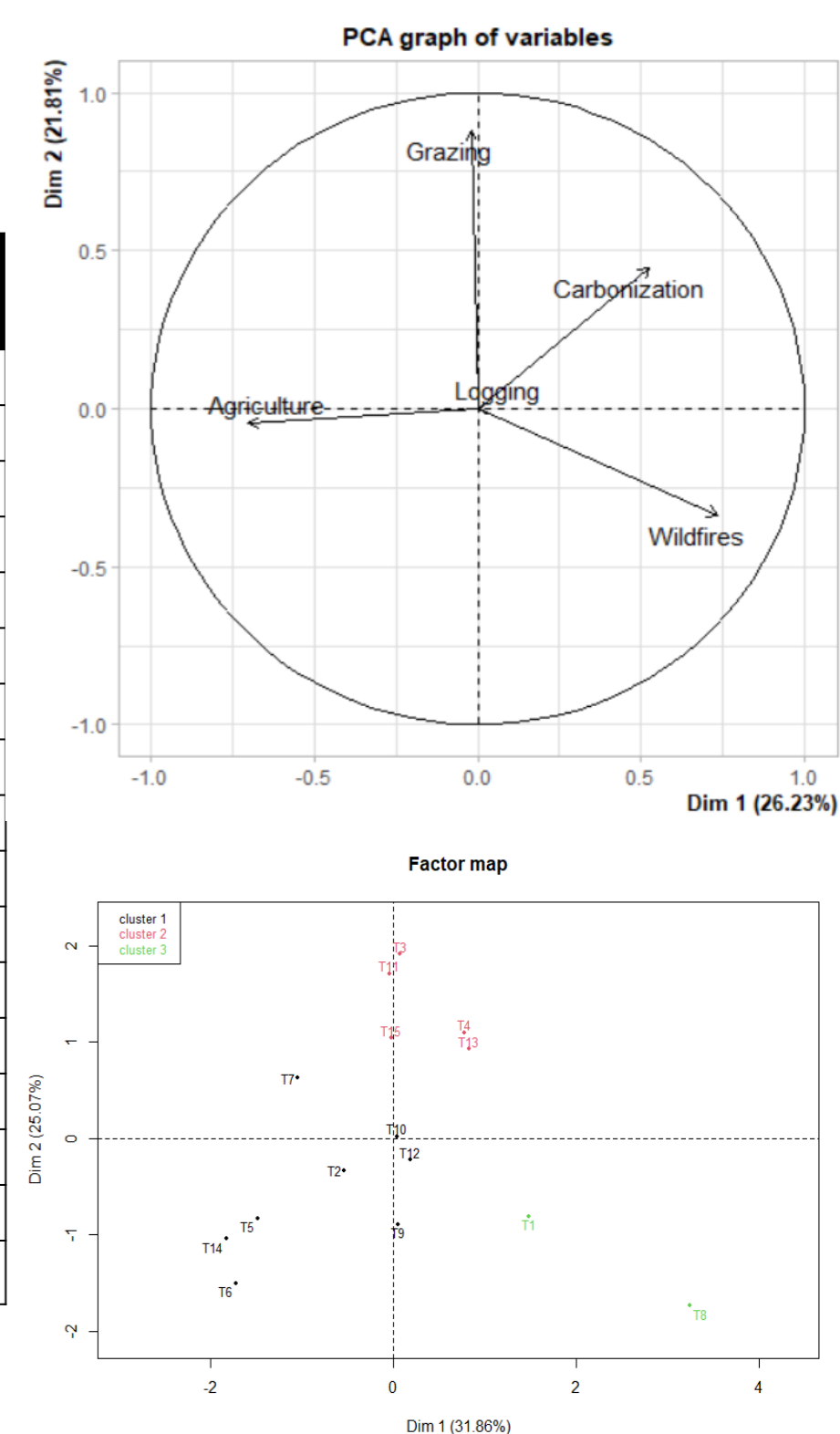
Main anthropogenic disturbances in the classified forest of Ouémé Supérieur. Results are derived from the data of the local community survey of the forest.



Credit: Carlo SODALO 2023, data collection

Number of plots affected by disturbances within each transect.

| | Logging | Agriculture | Grazing | Carbonization | Wildfires |
|-------|---------|-------------|---------|---------------|-----------|
| T1 | 20 | 0 | 6 | 3 | 12 |
| T2 | 20 | 17 | 6 | 4 | 4 |
| T3 | 20 | 18 | 15 | 10 | 2 |
| T4 | 20 | 7 | 8 | 12 | 0 |
| T5 | 20 | 19 | 4 | 0 | 2 |
| T6 | 20 | 20 | 0 | 0 | 1 |
| T7 | 20 | 10 | 10 | 0 | 0 |
| T8 | 20 | 0 | 1 | 11 | 18 |
| T9 | 20 | 0 | 2 | 1 | 3 |
| T10 | 20 | 1 | 7 | 1 | 3 |
| T11 | 20 | 0 | 15 | 1 | 1 |
| T12 | 20 | 14 | 9 | 3 | 9 |
| T13 | 20 | 0 | 10 | 6 | 3 |
| T14 | 20 | 20 | 2 | 0 | 0 |
| T15 | 20 | 5 | 10 | 5 | 0 |
| Total | 300 | 131 | 105 | 57 | 58 |
| % | 100 | 43.67 | 35 | 19 | 19.33 |



- There is no significant relation between the distance of forest penetration and the presence of each disturbance according to the result of logistic regression ($p > 0.05$).

χ^2 test for association of types of disturbances in the Ouémé Supérieur classified forest. The basic data are taken from the surveys carried out in 300 plots of 500m² within the classified forest of Ouémé Supérieur.

| | Agriculture | Carbonization | Wildfires | Grazing |
|---------------|-------------|---------------|-----------|---------|
| Loggings | 4,81 * | 115,32 ** | 112,85 ** | 27 ** |
| Agriculture | - | 3,05 NS | 15,41 ** | 0,48 NS |
| Carbonization | - | - | 4,96 * | 2,42 NS |
| Wildfires | - | - | - | 3,72 NS |

NS = Non-Significant ; * = p -value < 0,05 ; ** = p -value < 0,0001

CONCLUSION

Anthropogenic pressures are abundant, and they are unevenly distributed in the classified forest of the Ouémé Supérieur. Cuts and agriculture are the most prominent in the study area. Reforestation efforts must be undertaken in order to restore degraded areas. The transhumance corridors within this plant formation must be strictly respected at the risk of seeing forest relics disappear.

ACKNOWLEDGEMENTS



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