

Statement of soil salinity in Burkina Faso



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INTRODUCTION

Burkina Faso, a Sahelian country, is located in the heart of West Africa in the Niger loop between 9 ° 20 and 15 ° 05 North latitude, 5 ° 30 West longitude and 2 ° 20 East longitude. Agriculture which is the main activity of the country is affected by continuous soil degradation. Among the forms of degradation, we have the salinity of the soils which cause a problem of crop development. The objective of this study is to establish an inventory of soil salinity in Burkina Faso. It is the result of FAO technical support for the production of national soil salinity maps in order to produce the global soil salinity map. It constitutes a decision support tool for the authorities for the implementation of development programs and projects.

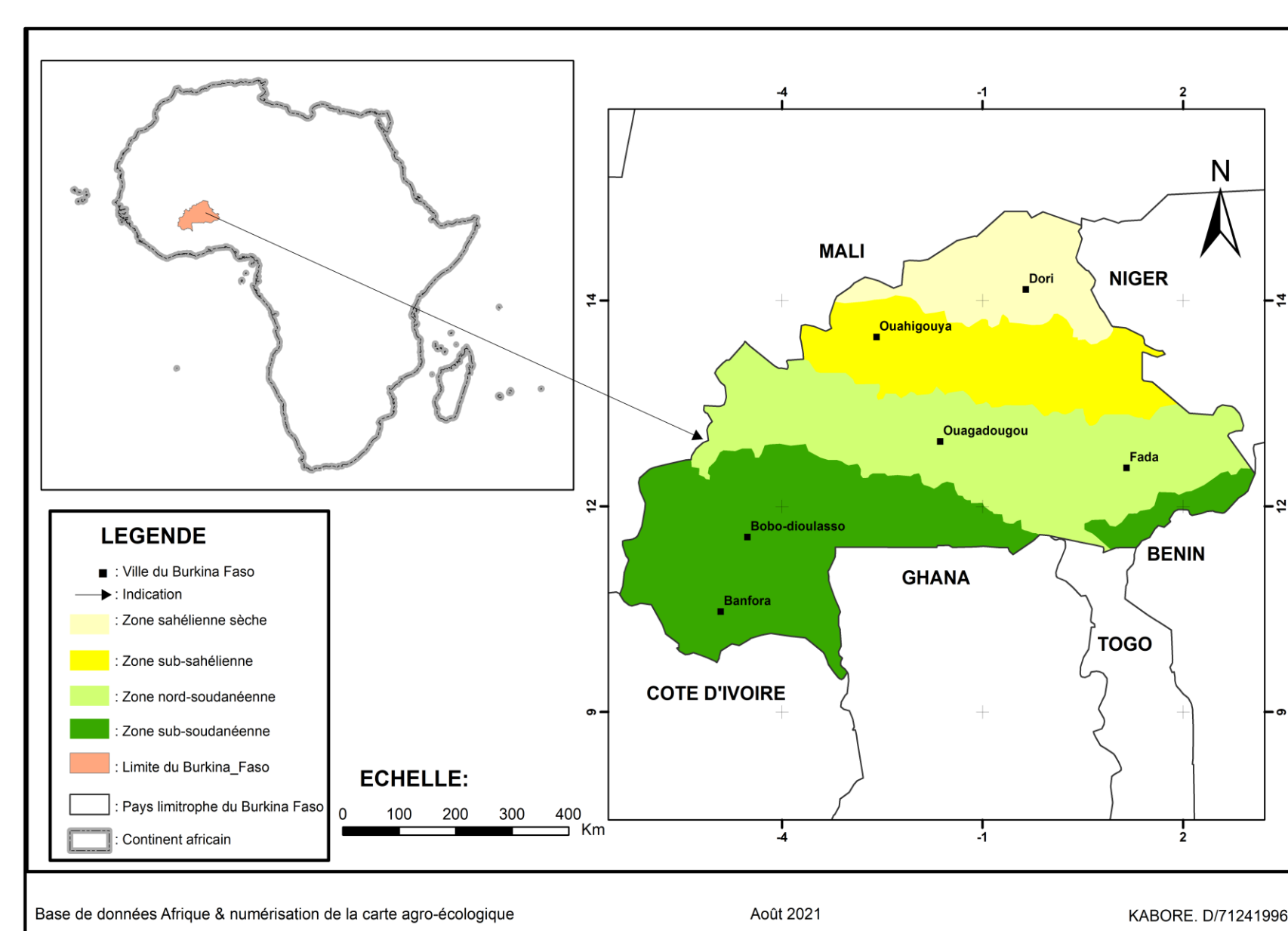


Fig 1. Location and spatial distribution of agro-ecological zones in Burkina Faso

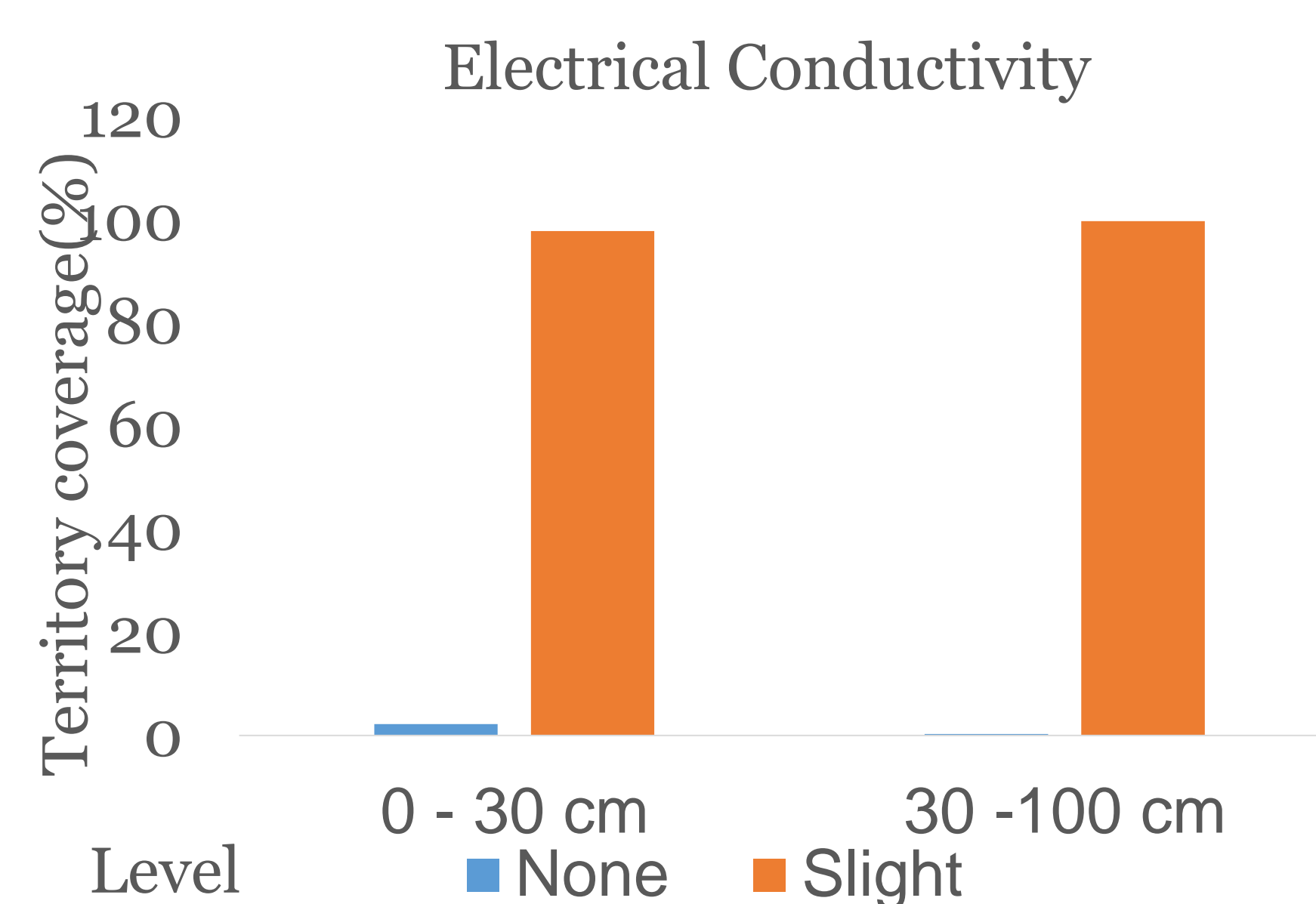
METHODOLOGY

Concerning our study, we adopted the FAO methodology used to produce the world map of soil salinity. It required the use of data on climatic parameters, salinity parameters (pH, CEC, ESP), topographic parameters and soil types. All of these data were integrated into free software such as: R, Qgis, Saga and Ilwis for the generation of data on the salinity of soils in Burkina. These data were subsequently reclassified according to soil salinity classes according to the FAO standard. It concerns the first thirty centimeters of depth and thirty to one hundred centimeters of depth of soil.

RESULTS

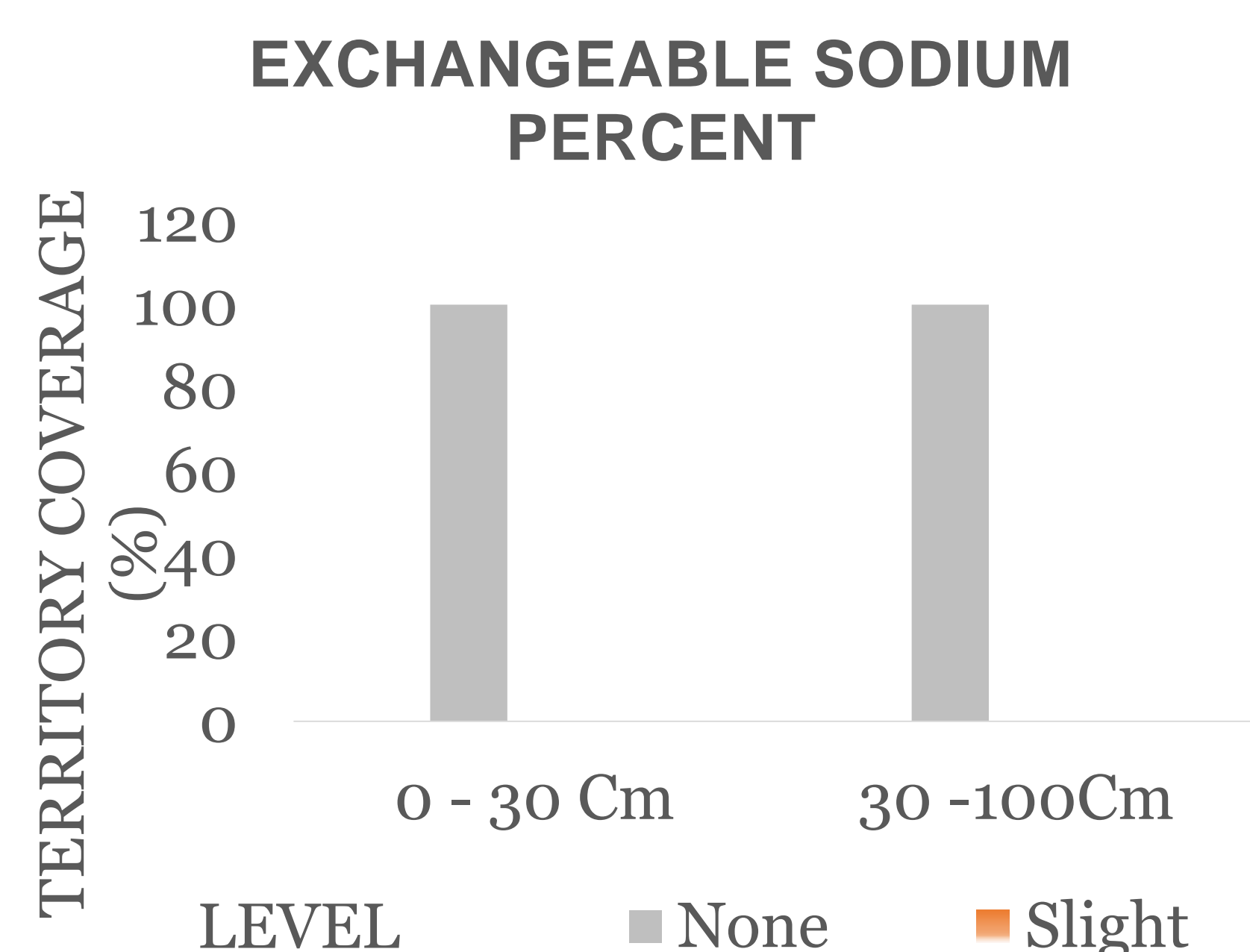
The main results of the study on the inventory of soil salinity in Burkina Faso are:

- ❖ The majority of soils in Burkina Faso have very low electrical conductivity. More than 97% of soils have an electrical conductivity between 0.75 and 2 dS / m against 2% of the territory with electrical conductivity less than 0.75 dS/m tending to none (cf. Graph1).



Graph 1. Electrical conductivity

- ❖ Burkina Faso's soils have very low exchangeable sodium. Almost 99% of Burkina's soils have an exchangeable sodium rate of between 15 and 30% therefore none against 1% of the territory with an ESP of between 15 and 30% (Cf.Graph.2).



Graph 2. Exchangeable Sodium of Percent

- ❖ Burkina's soils are mostly acidic. The results of studies show more than 90% of soils have pH between 4.5 and 6 (Cf.Fig.2).

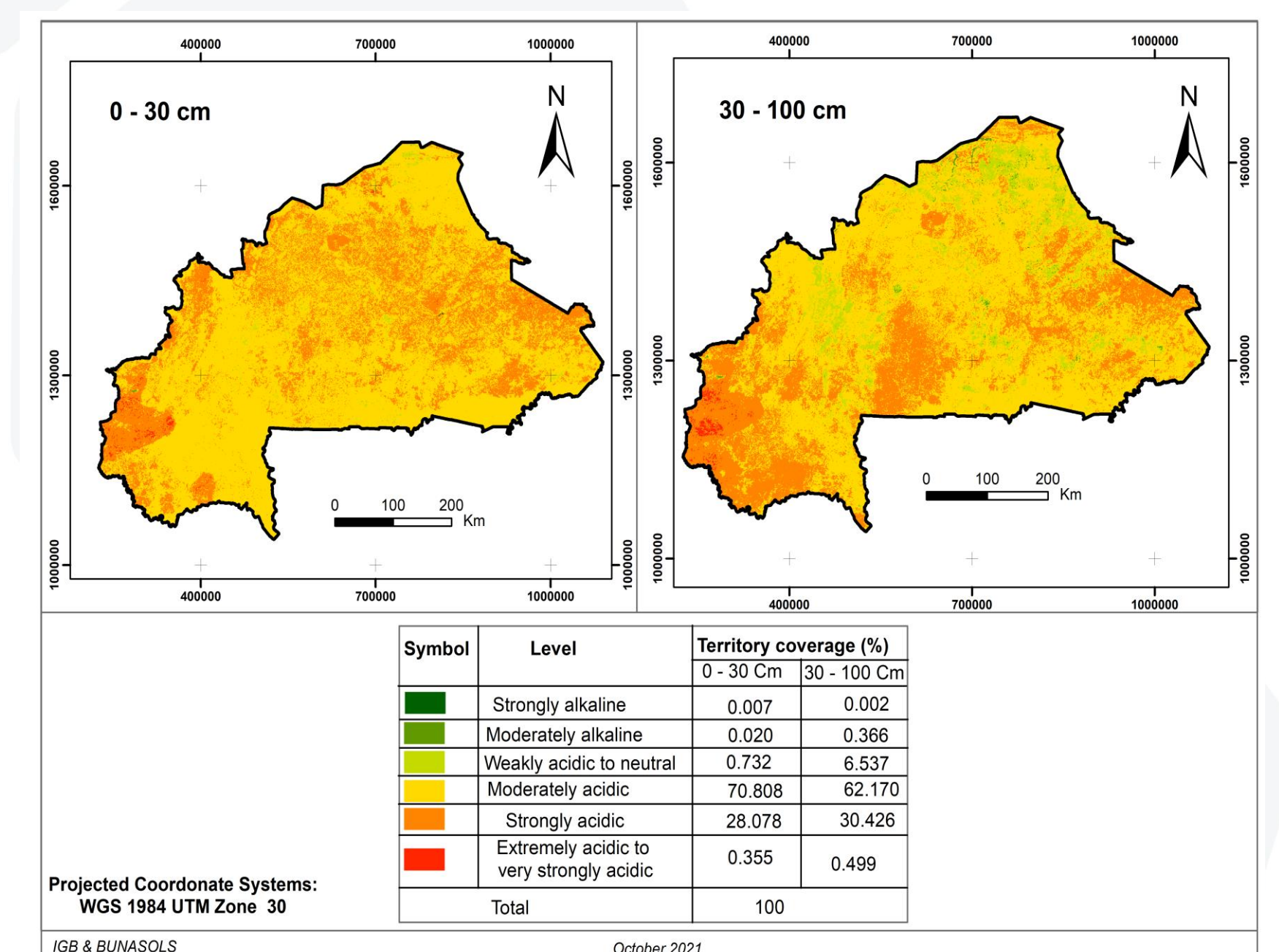


Fig 2. Spatial distribution of soil acidity in Burkina Faso.

- ❖ The results of the study show that about 95% of the soils of Burkina have zero salinity against nearly 4% of the territory for a slight salinity (Cf.Table 1).

Table 1. level of salinity of soils in Burkina

Level	Pourcentage	
	0 – 30 cm	30 – 100 cm
Moderate Salinity	0.006	0.001
None	95.278	94.617
Slight Salinity	4.708	5.375
Slight Sodicty	0.008	0.007
Total	100	

CONCLUSIONS

It emerges from this study, the existence of areas in Burkina Faso affected by salinity. It would therefore be necessary for other studies to be interested in it in order to propose corrective measures.