

# THE TREE PERCEPTIONS IN A SAHELIAN CONTEXT

ANR « FUTURE SAHEL »

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Presentation at Stockholm Resilience Center



# INTRODUCTION

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# Context

- **Observation** : populations mainly focused on pastoralism or agro-pastoralism.
- **Objective** : understand the "traditional" place of ESS products from trees to increase socio-environmental resilience.

What are the uses of trees as providers of resources and vectors of ecosystem services (medicinal, cosmetics, food, fodder, etc.)?



# Hypothesis

- in the Sahel, populations are dependent on woody species in their daily lives ?
- characterise the socio-ecosystem : populations have different use of space ?
- does isolation increase the pressure on the "tree" resource ?



CONTRASTED AREAS ?

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# Where it tack place

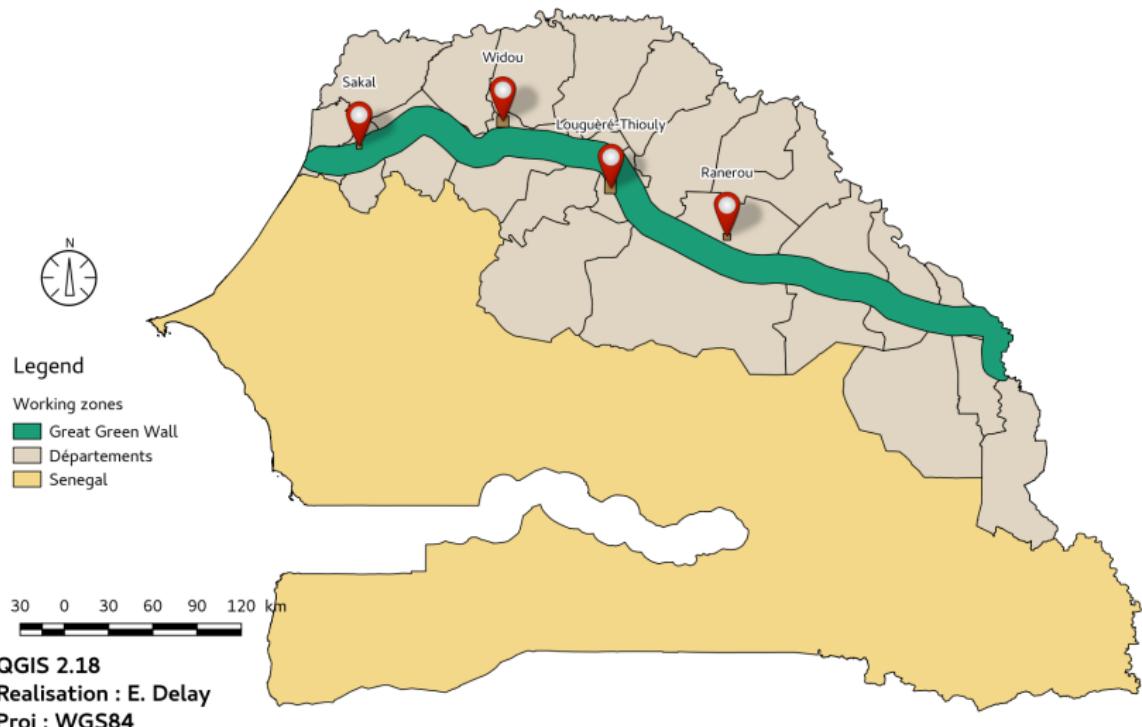


Figure: study area

# Focus on : vegetation

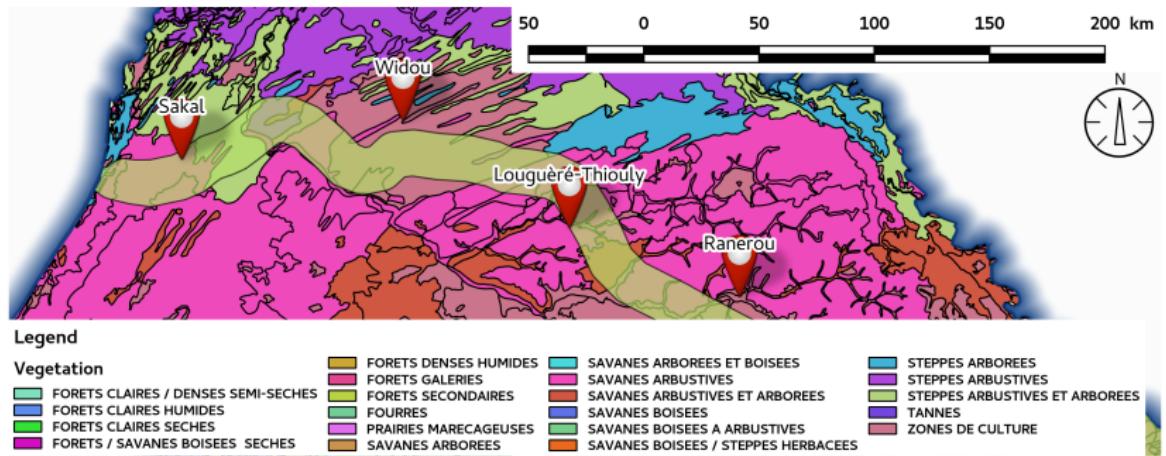


Figure: Vegetation map

# Focus on : soil

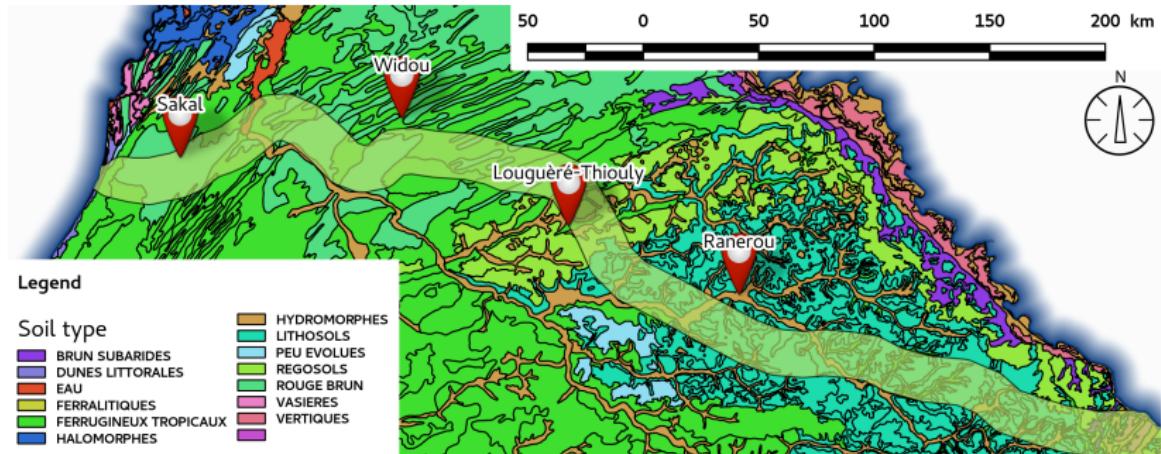


Figure: Vegetation map

# Focus on : population

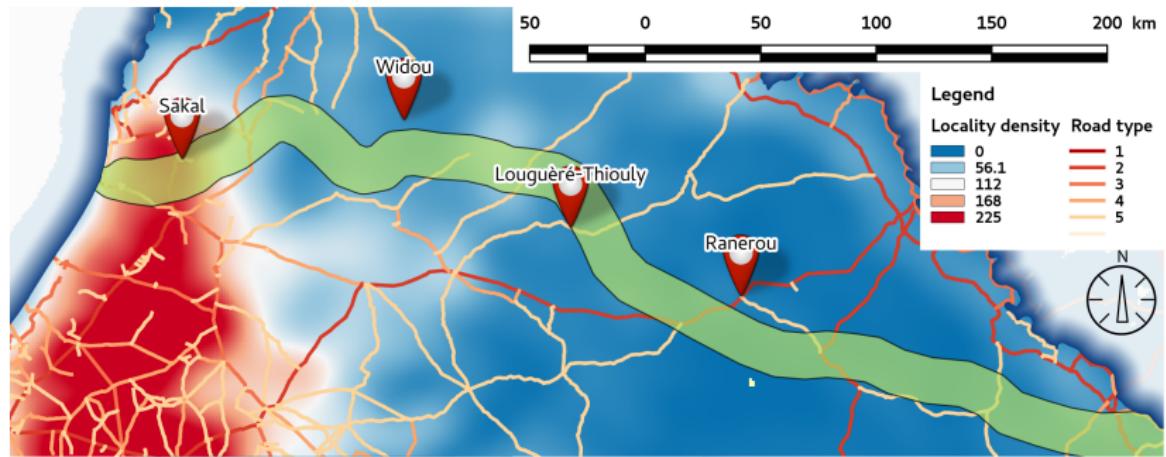


Figure: Population map

# Focus on : water

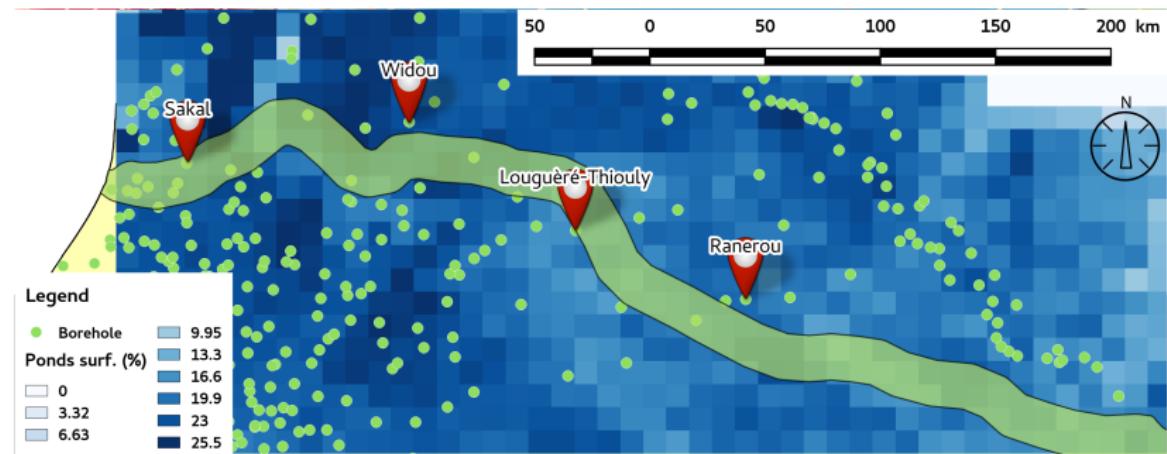


Figure: water map

# Focus on : agriculture

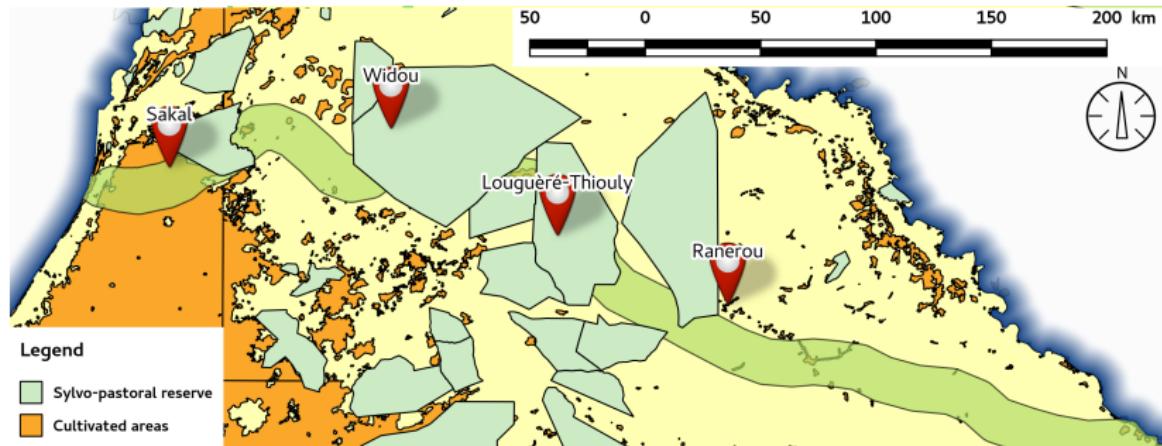


Figure: agricultural map

## METHODOLOGY - ETHNOBOTANICAL ENTRY

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# Ethnobotanical interviews

Structured semi-structured interviews with stakeholders (individual and focus groups) in order to understand the problems and realities of the field, to identify the essential elements to be taken into account.

Know/understand the uses, the rising strategies, the seasonality, the methods of valorisations.



# The questionnaire approach

A specific questionnaire is used to quantify the information already obtained during the interviews.

Completion of 30 questionnaires per site (a total of 120 questionnaires for all sites).



## METHODOLOGY – CONTRIBUTIONS OF LANDSCAPE ECOLOGY

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# The landscape ecology approach 1/3

A work inspired by the work proposed by Sinare *et al.* (2016)

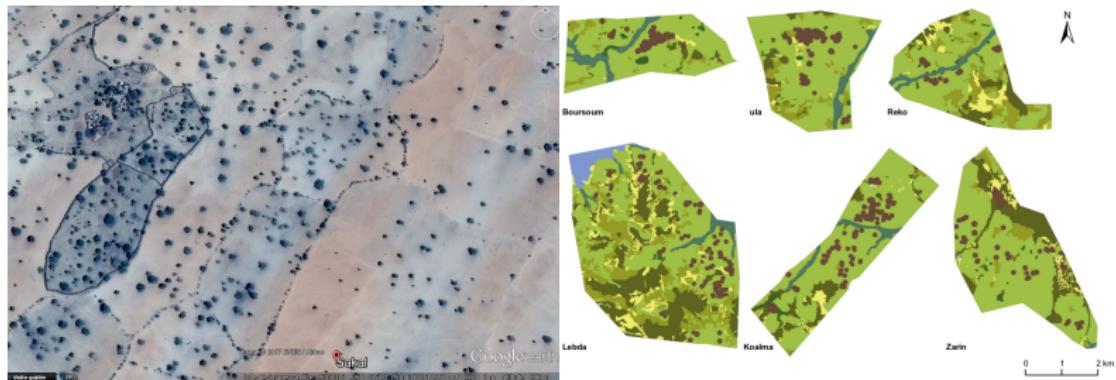


Figure: Screenshot Google-earth and maps from Sinare *et al.* (2016)

# Landscape ecology in workshop 2/3



(a)



(b)



(c)



(d)

# Landscape ecology in workshop 3/3



(e)



(f)



(g)



(h)

## METHODOLOGY - THE PARTICIPATORY APPROACH

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# Workshop

Workshops with objective to highlight stockholders importance of trees in each structure of the landscape.

- bring space structure out (orientation + mark in the living space),
- identify the spatial units in the region,
- quantify the use of the trees in these units.



# Workshop quantification

Quantify the use of the trees in these units using mind maps and glass beads.



## FIRSTS RESULTS

## Result 1 : identification of the living space

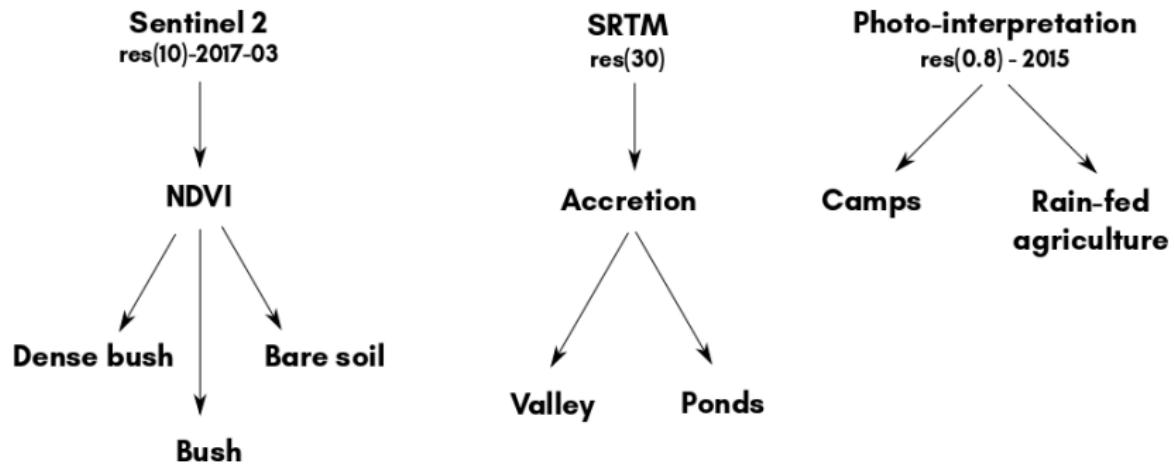


(i)

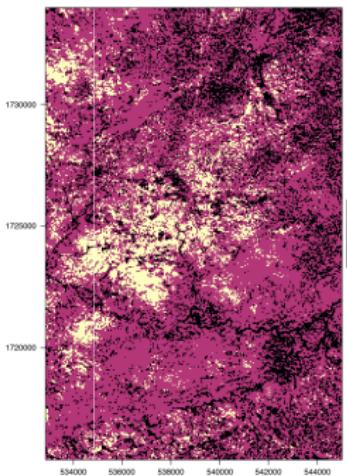


(j)

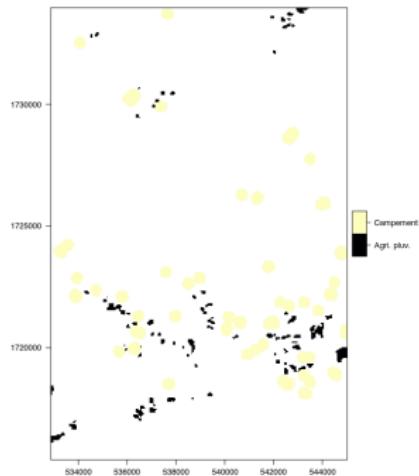
## Result 2 : patches classification



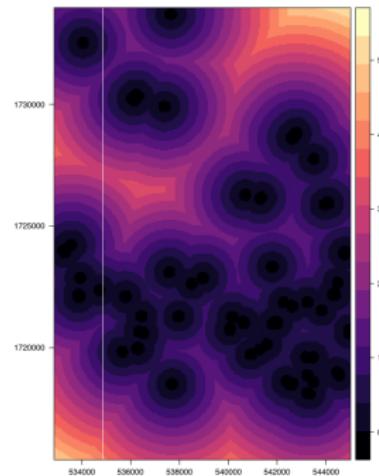
## Result 2 : patches classification



(k)



(l)



(m)

# Result 3 : Quantification

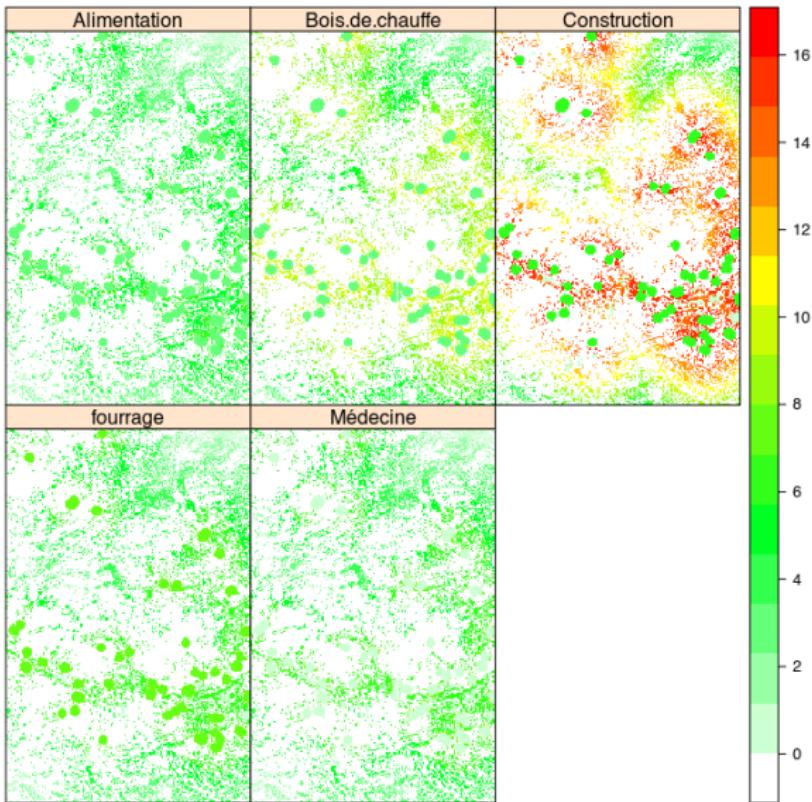


# Result 3 : Quantification

## Services éco-systémiques pondérés en fonction des unités spatiales



# Result 4 : spatiale quantification



## Result 4 : spatiale quantification

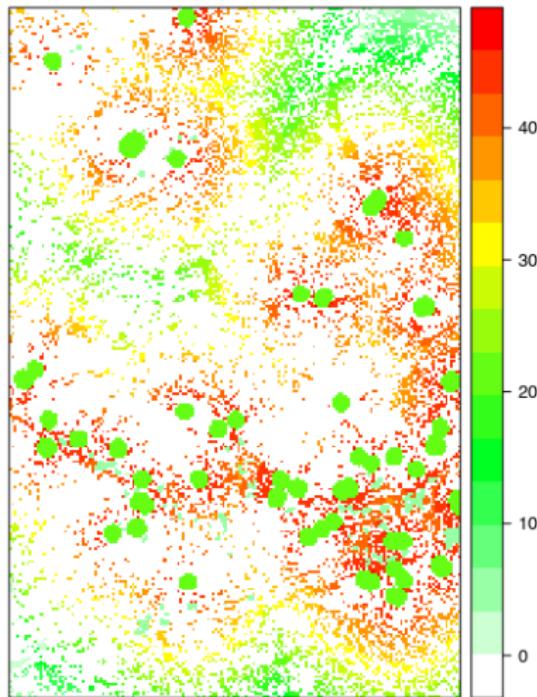


Figure: Sum of trees uses

# CONCLUSION

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# From trees to ComMod

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An interdisciplinary approach:

- ethnobotanical investigation makes it possible to identify socio-spatial practices,
- landscape ecology, allow spatial identification of places contribution for those practices
- The formalisation of practices and the identification of place leads to the formalisation of behavioural models and therefore to a prospective approach validated by the actors.

# Thank you for your attention



github



You can find this presentation on [github](#)