



Agroforestry and Anti-erosion Practices of Soils Conservation in Sudanian Zone (Benin)

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Introduction

In the Sudanese zone of Benin, soil degradation is one of the main threats to agricultural development on which the population depends for their food and nutritional security. Faced with this situation, this study proposed to identify agroforestry and anti-erosion practices for soil conservation in the commune of Ouaké, to diagnose and prioritize these practices in terms of soil conservation for agriculture more productive

Materials and methods

Site: The study was carried out in the commune of Ouaké in the northwest of Benin

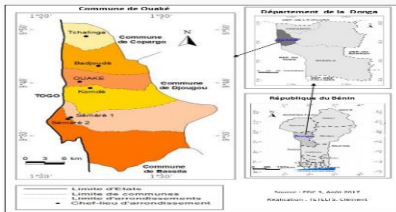


Figure 1: Study zone

Data collection: Structured and semi-structured interviews with 215 farmers spread over 22 villages, Direct observations and measurement in the field.

Data processing and analysis: Excel spreadsheet, SWOT tool, R Software

Results

08 agroforestries and 05 anti-érosives practices has been identify in the commune of Ouake

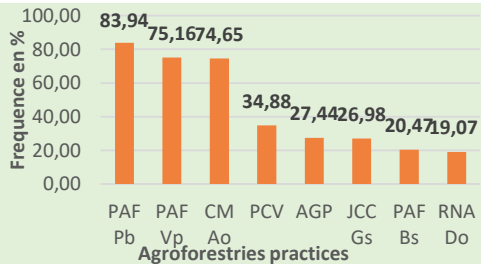


Figure 2: Frequences of agroforestries practices of soil conservation

PAFPb : Parcs agroforestiers à *Parkia biglobosa* ; **PAFVp**: Parcs agroforestiers à *Vitellaria paradoxa* ; **PAFBs**: Parcs agroforestiers à *Blighia sapida* ; **JAGs** : Jachères améliorées de *Gliricidia sepium* ;

RNA Do : Régénérations naturelles assistées de *Daniellia oliveri* ; **PM Ao**: Plantations d'*Anacardium occidentale* avec les cultures intercalaires ; **AGP** : Agropastoralismes ; **PCV** : Plantations de démarcation.

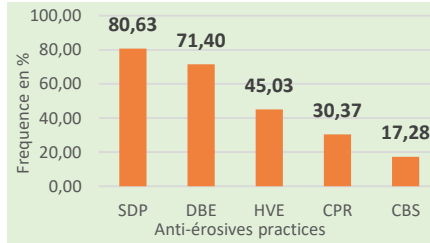
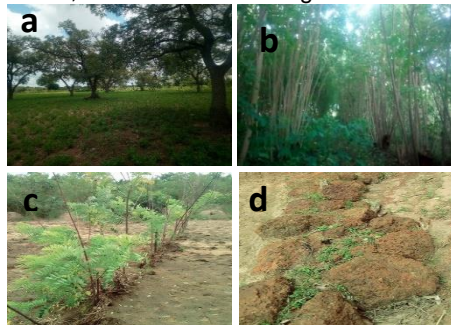


Figure 3: Frequences of anti-érosives practices of soil conservation
CPR : Stone bunds ; **HVE** : Anti-erosive living hedges ; **SDP** : Furrows in perpendicular direction to the slope ; **FBS**: Channels at the upper borders of fields ; **DAE** : Water blocking Bunds



a : PAF Pb b : JA Gs c : HVE d : CPR

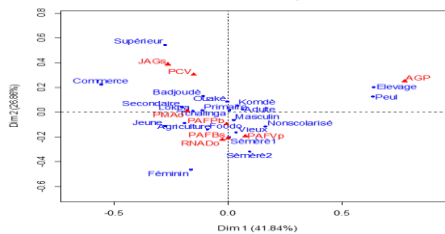


Figure 4 : Distribution of agroforestry practices in the factorial plan

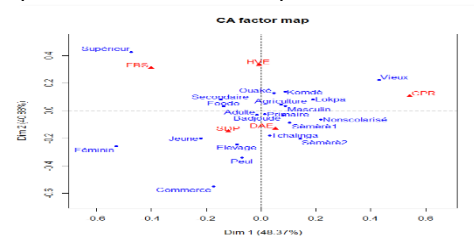


Figure 5: Distribution of anti-érosives practices in the factorial plan

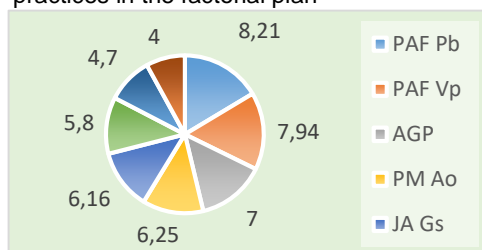


Figure 6: Average scores for agroforestry practices

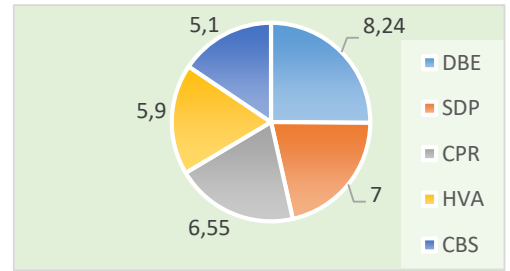


Figure 7 : Average scores for anti-erosion practices

Tableau 1: Prioritization of agroforestry practices of soil conservation based on SWOTs

PAACS	Fertilisation	Anti-érosion	Biodiversité	Humidité	Valeur économique	Bois
PAF Pb	+	+	+	+	++	+
PAF Vp	+	+	+	+	++	++
AGP	++	+	+	-	++	--
PM Ao	+	+	+	+	++	-
JA Gs	++	+	-	+	-	-
PAF Bs	-	+	+	+	-	+
PCV	-	+	+	-	-	++
RNA Do	+	-	-	-	+	+

++: Too high +: High -: Low --: Too low

Tableau 2: Prioritization of anti-erosive practices of soil conservation based on SWOTs

PAAC S	Anti-érosion	Soil moiture	Soil Fertilization	Biodiver
SDP	++	+	-	--
DBE	+	+	-	--
CPR	++	+	+	--
HVA	++	+	+	+
CBS	+	-	+	-

++: Too high +: High -: Low --: Too low

Conclusion

The practices identified are not efficient and sufficient but they have the strengths and assets which need to be maximized. So, we must:

- Encourage these practices, for agriculture ensuring food security,
- Sensibilise and trained the farmers,
- Initiate projects to press agroforestry and anti-erosion practices of soils conservation (AAPSC)
- Performe and create new AAPSC