Socio-economic importance of *Borassus aethiopum* Mart. parklands to household of the Dallol Maouri of Gaya, Niger

Djibrim Abdoulaye[1], Martin Wiehle[2], Larwanou Mahamane[1]

[1]Faculty of Agronomy, Abdou Moumouni University / Niamey/ Niger, Rural Engineering, Waters and Forests, Niger
[2]University of Kassel, Tropenzentrum & Organic Plant Production and Agroecosystems Research in the Tropics and Subtropics (OPATS), Germany

Introduction & Methods

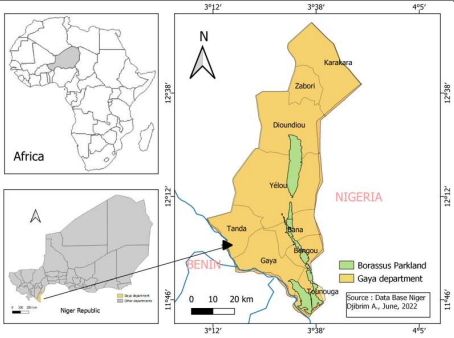

Figure 1. Location of the Dallol Maouri *Borassus* Parkland Department of Gaya

The Dallol Maouri *Borassus* parkland – an agroforestry system consisting largely of *Borassus aethiopum* Mart. (Arecaceae) – is the largest in Niger, located in the department of Gaya. It covers an area of approximately 30,000 ha (Fig. 1) and is dominated by intercropped millet, rice, sorghum and cowpea fields.

Over the millennia, forest has been converted into this type of parkland which serves multiple uses for humans, livestock and wild game. In the last couple of decades, the use has partly exceeded its natural carrying capacity. Thus it is important to study the status and potential threat of this parklands. Through the formula (n=N/(1+N(e2)), with n=sample size, N=population size, e=5% margin of error at 95% confidence level, a total of 234 households were identified and interviewed in 13 villages.

Results & Discussion

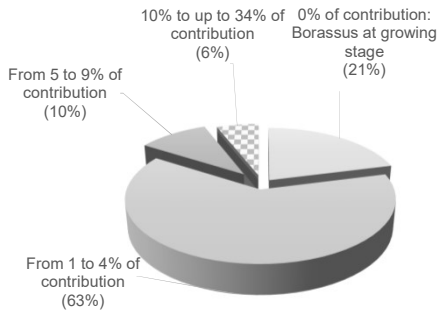

Figure 2. Contribution of *Borassus* to family agricutural income

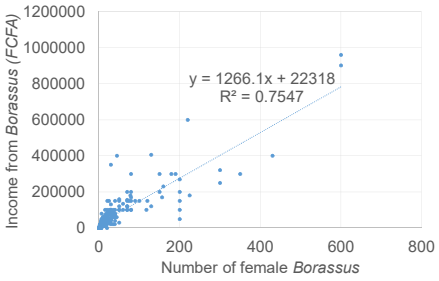

Figure 3. Correlation between income and number of female *Borassus*

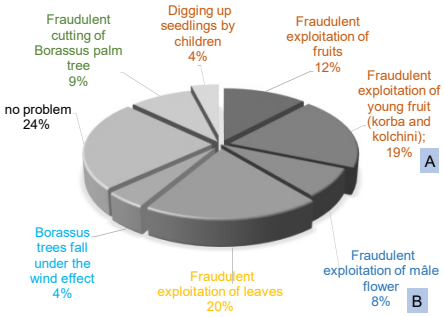

Figure 4: Different threats of *Borassus*

Uses and economic aspects: The hypocotyl, an edible young shoot, resulting from the germination of the seed, generates significant income (Table 1) and contributes a lot to the total agricultural income of households (Fig. 2). **However, processing the fruit pulp before planting the seed – contrary to the local practice in the area – would help increase income.**

Table1: Descriptives statistics about the Annual income from *Borassus* and the family total annual income

	Surface of field with *Borassus* (ha)	Number of female *Borassus*	Income from saling fruit (*FCFA*)	Income from saling hypocotyl (miritchi) (FCFA)	Total income from *Borassus* (FCFA)	Total family agricultural income (FCFA)
	n = 234					
Average	5	43	8 036	68 382	76 419	3 227 046
Median	4	15	0	40 000	40 000	2 714 063
Mode	2	30	0	0	30 000	#N/A
Standard Deviation	5	80	35 049	107 692	116 761	2 149 575
Minimum	0,25	0	0	0	0	258 075
Maximum	54	600	350 000	900 000	960 000	12 152 725
Sum	1 125	9 999	1 880 500	16 001 500	17 882 000	755 128 744

Threats to *Borassus* trees: The relation between the number of female *Borassus* and the income from *Borassus* is not highly correlated (R^2= 0.7) (Fig 3.). This situation is explained by some cases of thievery. It traduct also, with other practices as mentioned by the interviewees (Fig 4.) the pressure on the population of *Borassus*.

For construction and sale **(prohibited practice)** except with justified authorization

For human consumption and/or sale

A & B for feeding animals, usually cattle and/or sale **(prohibited practice)**

To tie bundles of millet (very common practice in the area and for the manufacture of chairs and sieves with the rachis **(prohibited practice)**

The Local Management Structures collect them, split them into slats and sell them on the markets created for this purpose.

Conclusion

It appears that *Borassus* plays an important role in the family agricultural income but some human practices (trunk cuttings, use of male flower, green petiole harvest) and wind abrasion, threatens the sustainable exploitation in certain localities. Thus, adopted management strategies should be in place to enable the long-term survival of these stands and continuous income earning strategy for rural people.

Contact: djibrim22@yahoo.fr

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