Adaptive and evolving smallholder livelihoods in Eastern Amazonian floodplain forests



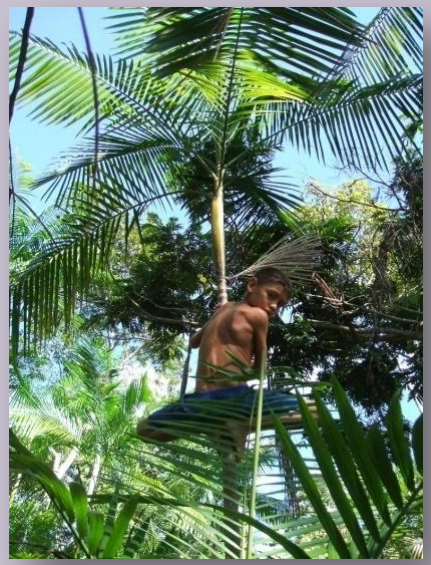
Jamie Cotta CIFOR, ICRAF, U. Of Copenhagen, *jcotta@cgiar.org*

(XXIII IUFRO World Congress 2010, Seoul)

Research Objectives

This study examines relationship between forestry, agroforestry, agriculture and other income-generating activities and smallholder livelihoods.

Detailed socioeconomic surveys tracked smallholder activities over a 1-year period, in 2008, and this study evaluated, in particular, **the importance of two palm species** (*Euterpe oleracea* and *Mauritia flexuosa*) for cash and subsistence income.



Açaí



Buriti

Study Area

Land cover

Predominantly secondary forest (*Boom and bust economic history for industries such as timber and sugar cane).*

Floodplain areas: Oligarchic palm forests

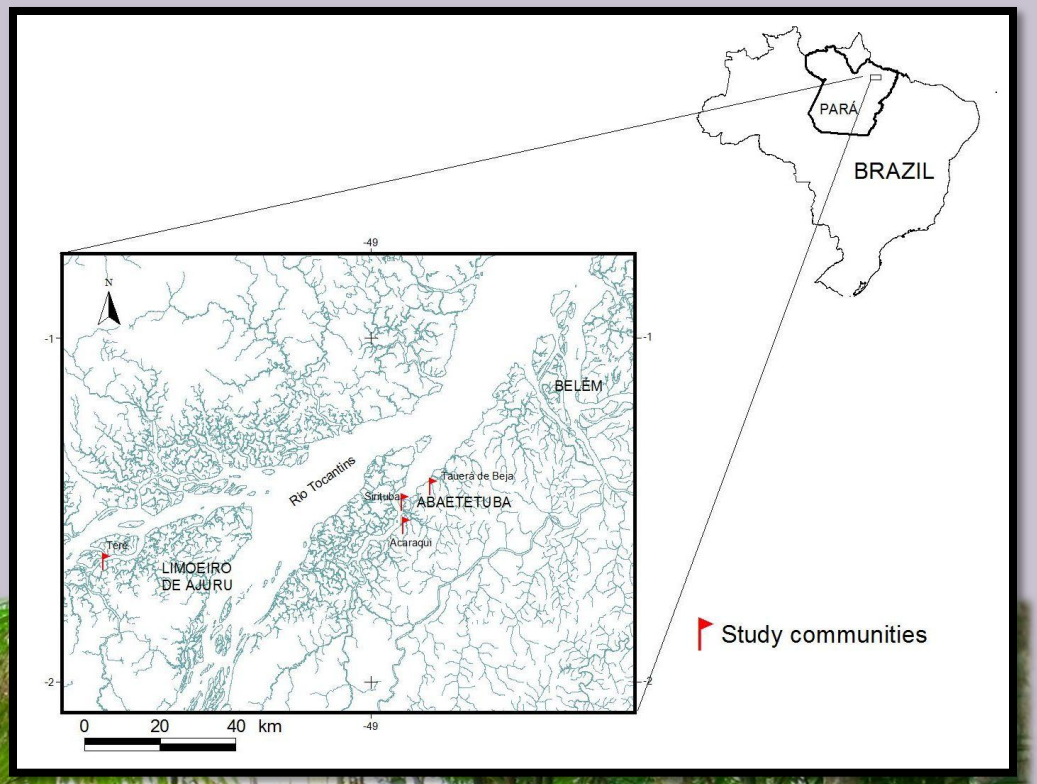
Major activities: small-scale agriculture, fishing, and forest product extraction.

Flooded forests in Pará State, Brazilian Amazon

4 communities surveyed
(138 households after attrition)

Climate

Super humid
Age annual temp: 27 º C,
Avg annual rainfall: 2000 mm



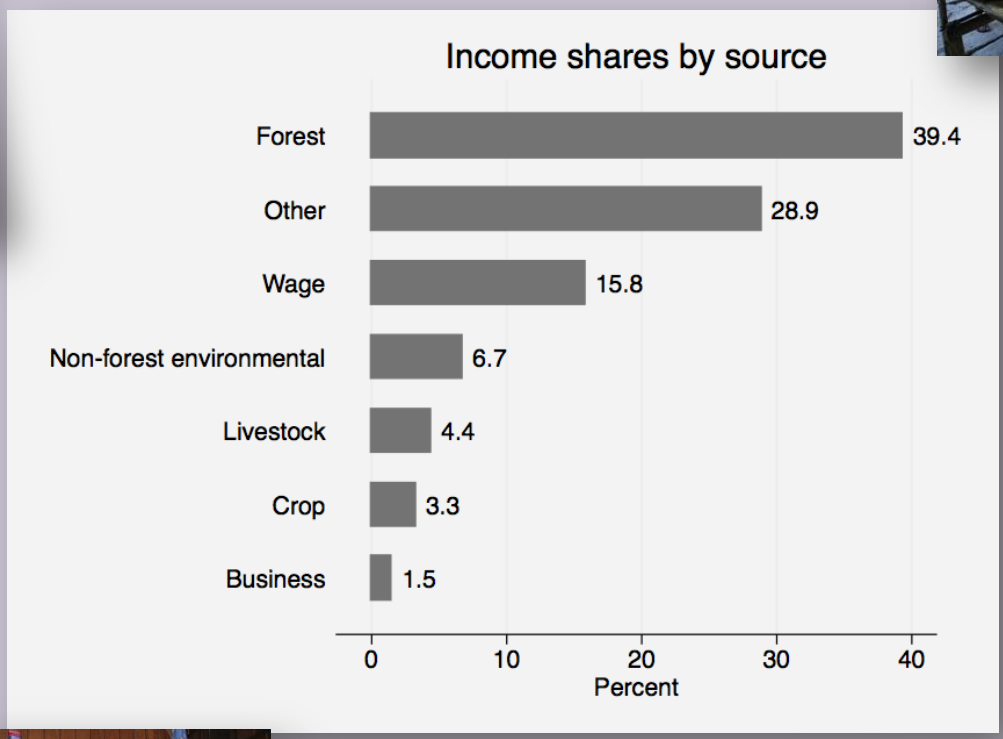
Results: Income profile











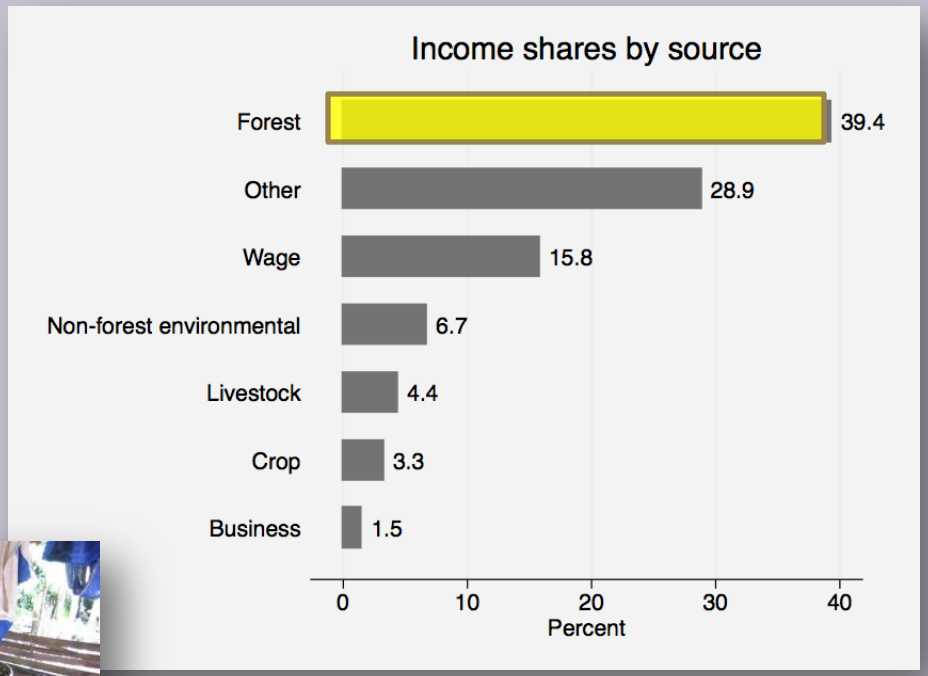


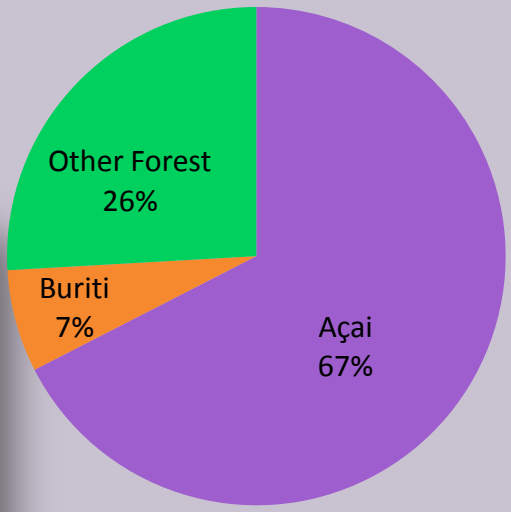




Results: Income profile











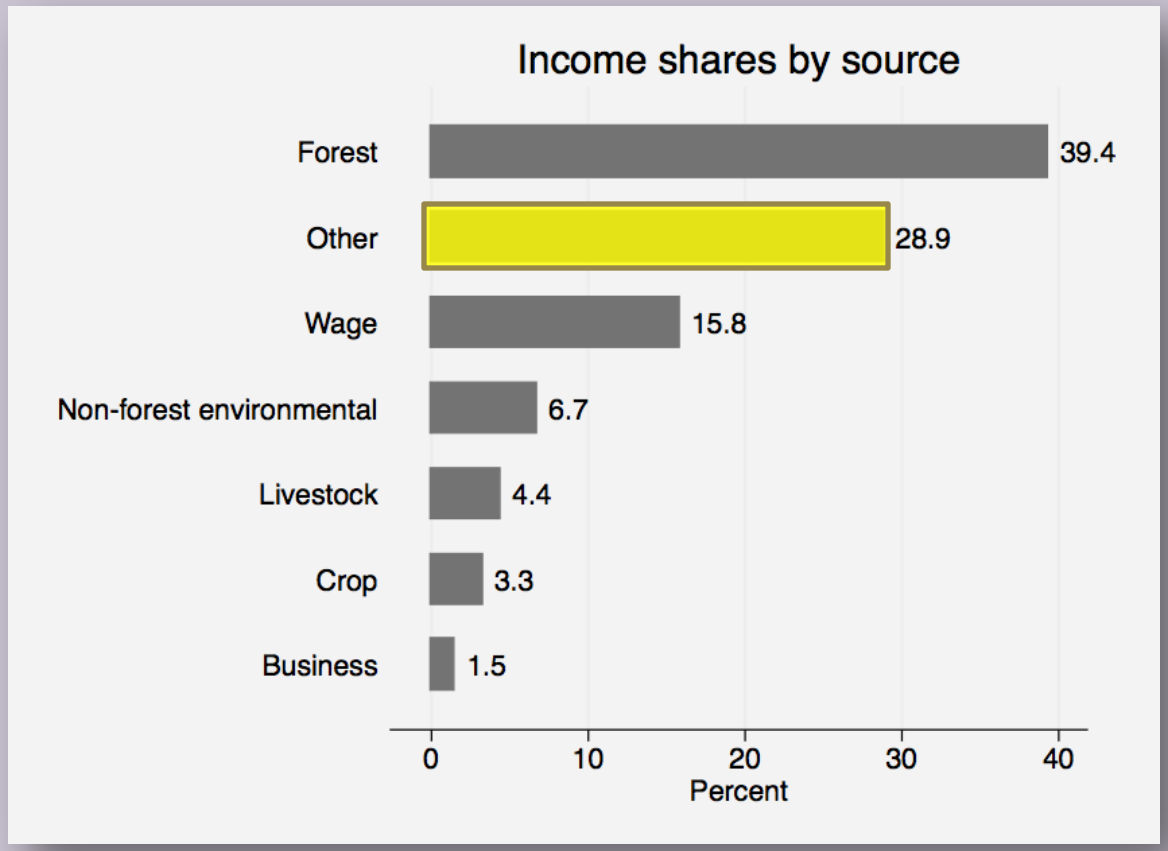


Forest products collected by at least 10 families in managed or unmanaged forest in 2008





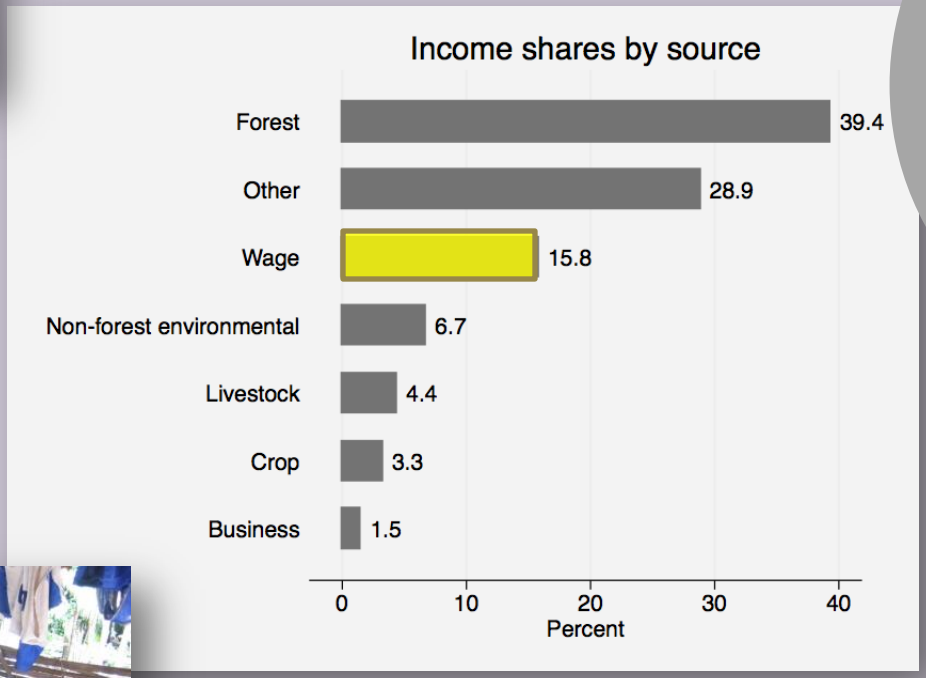
Results: Income profile

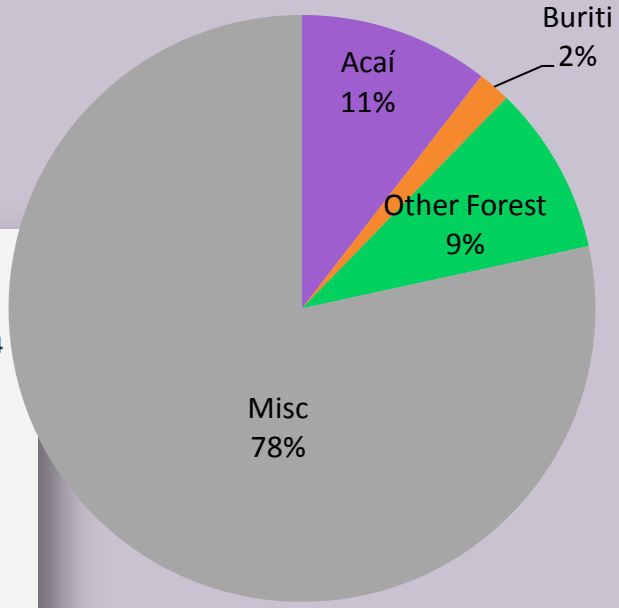


Primarily government social programs:
mostly retirement and pension benefits, child education bonus, rural credit

Results: Income profile





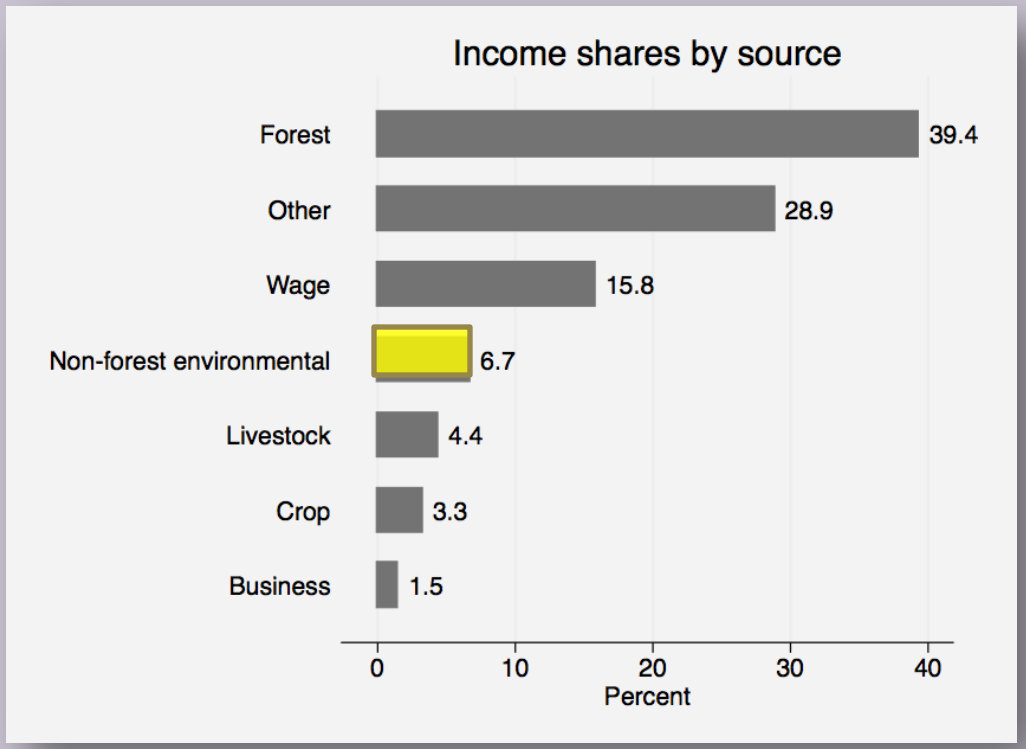


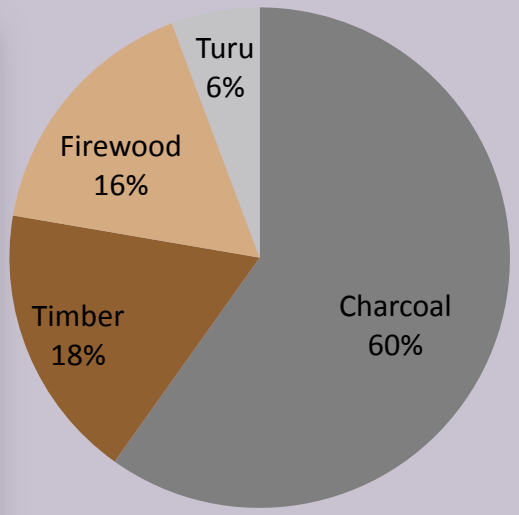




Results: Income profile

Primarily swidden fallow

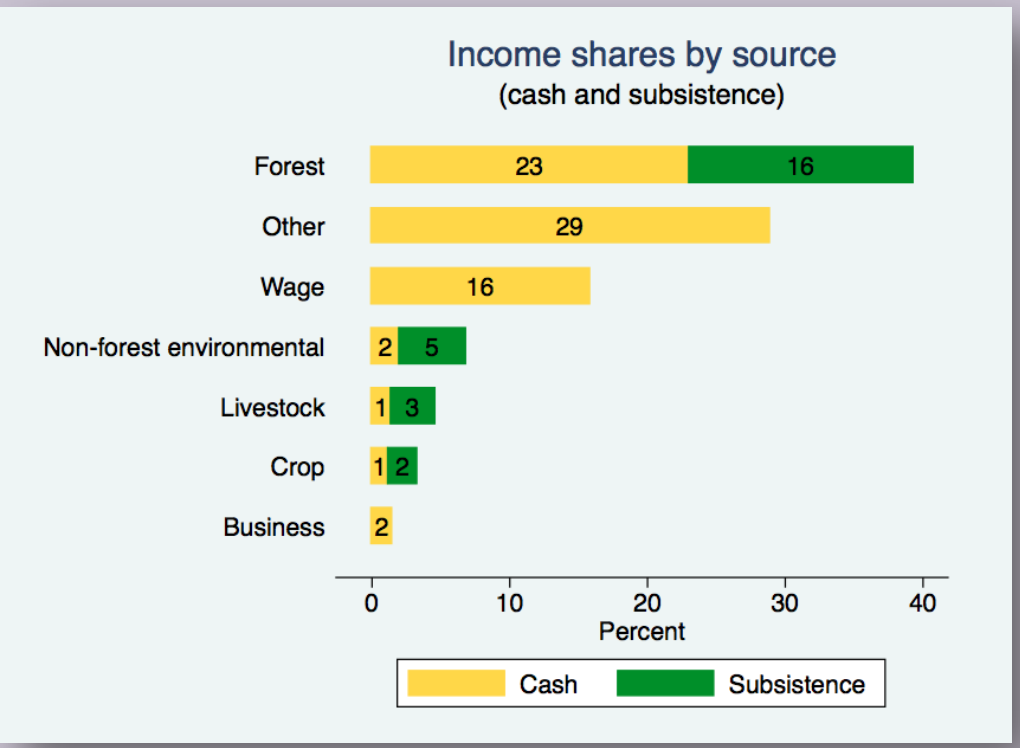






Results: Subsistence versus Cash Income





Açaí important for subsistence for all families nearly year-round

***Primary cash income sources**:*

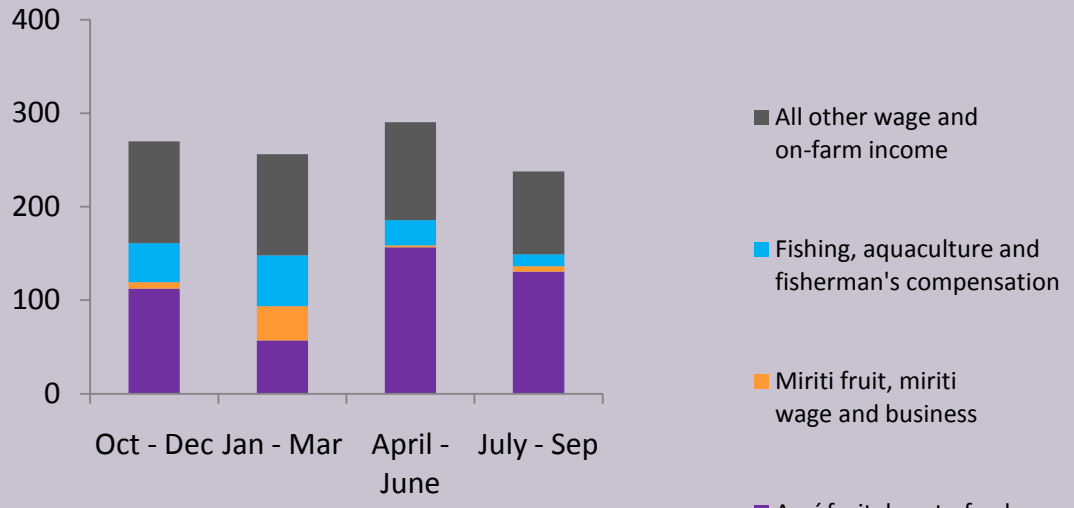
Government support

Açaí products and wages

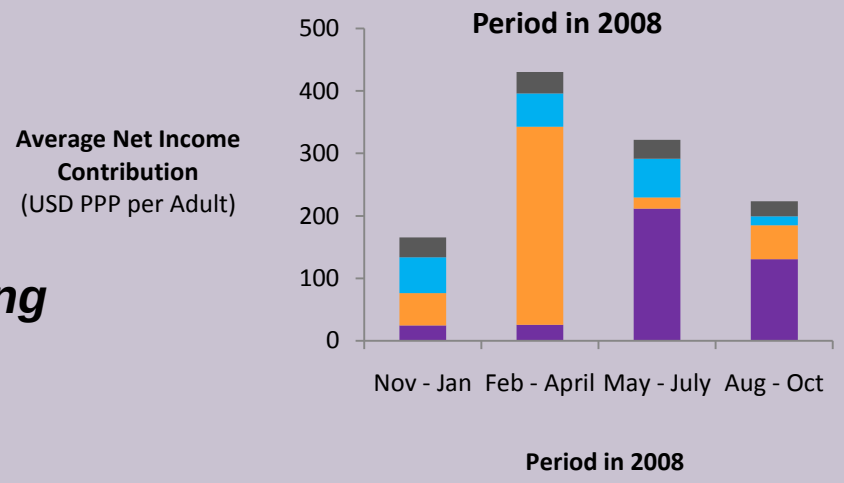
Misc. wages

Results: Seasonality of Productive Income

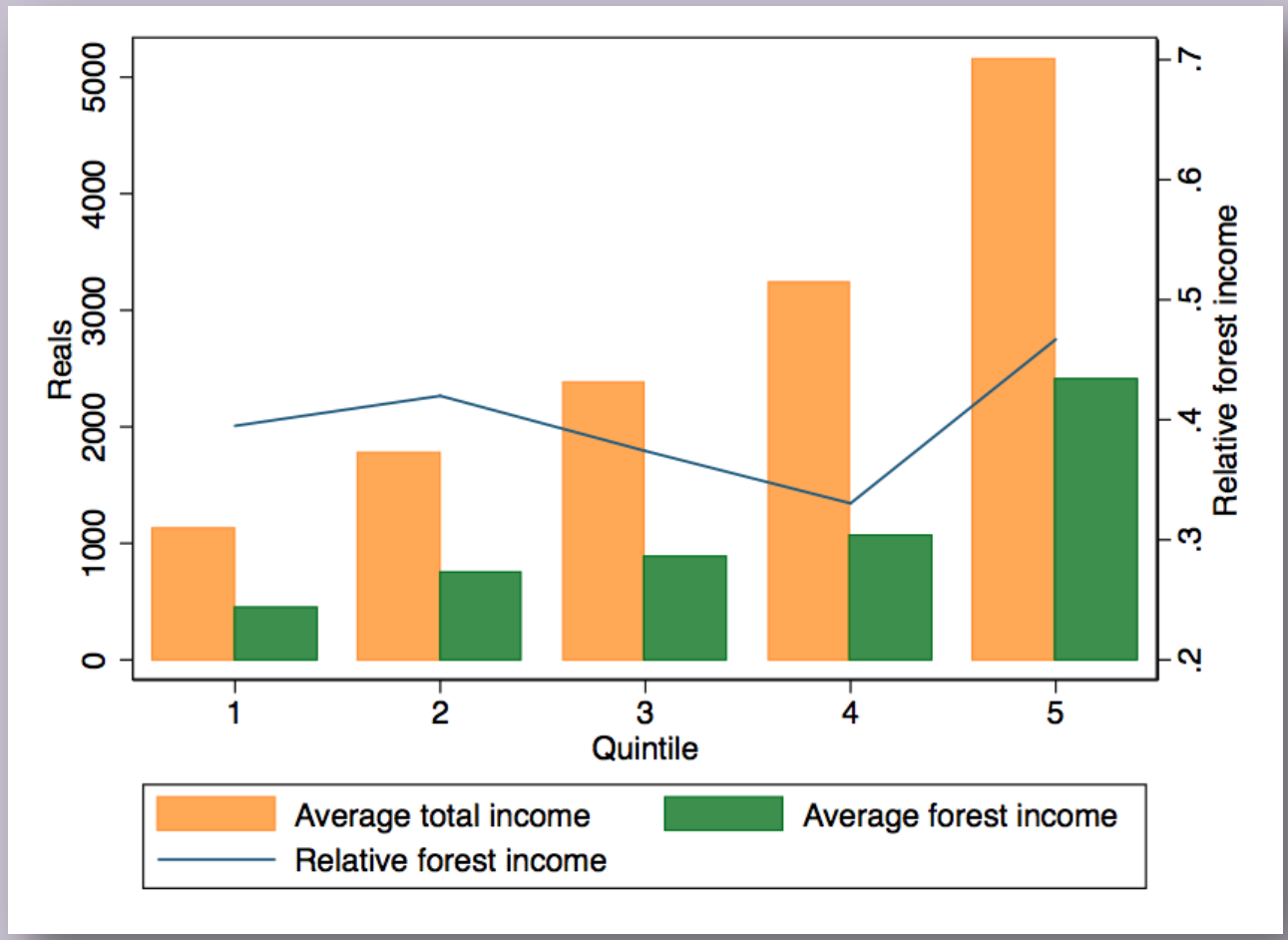
All households



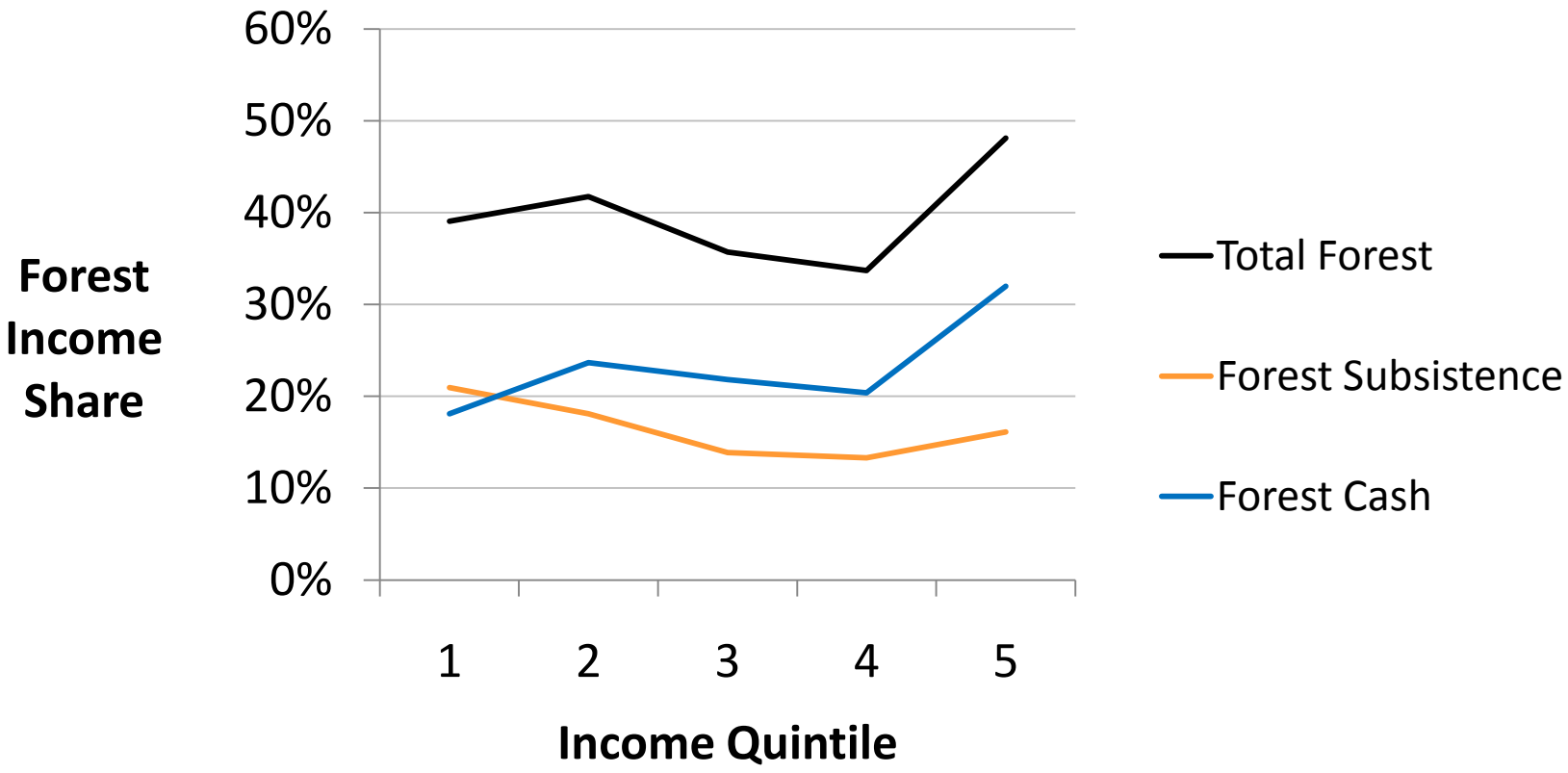
14 buriti-processing families



Results: Forest Dependency

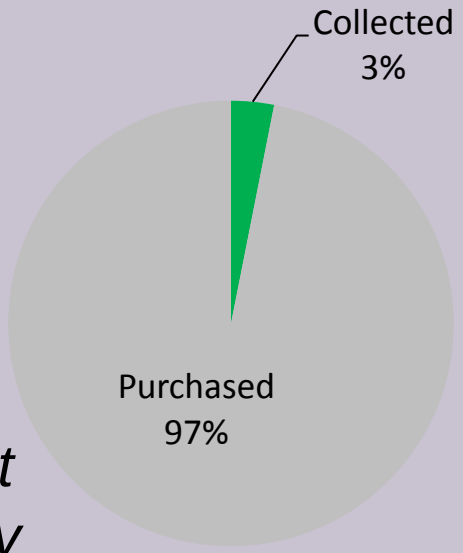


Results: Forest Dependency



Further findings: Processed Forest Products

Raw materials for buriti pulp and shrimp traps becoming scarce as a result of acai intensfication



Now smallholders must purchase raw forest products from nearby communities, possibly preventing them from accumulating as much cash as they might were the inputs found in their own forest.





Conclusions

- Smallholders in the estuary have adapted quickly to expanding açaí market and generated **significant cash income from açaí production.**

- Açaí contributes heavily to income, but **palms such as buriti should be valued within landholdings** (subsistence and economic benefits, in addition to important ecosystem role and cultural significance, seasonal complementarity to açaí).

- Future research: **Influence of government support** (nearly 1/3 of income) on smallholder livelihood strategies and land use decisions.



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