Forestry potential, under the REDD + mechanism in Tocantins State, threatened by agricultural and livestock expansion

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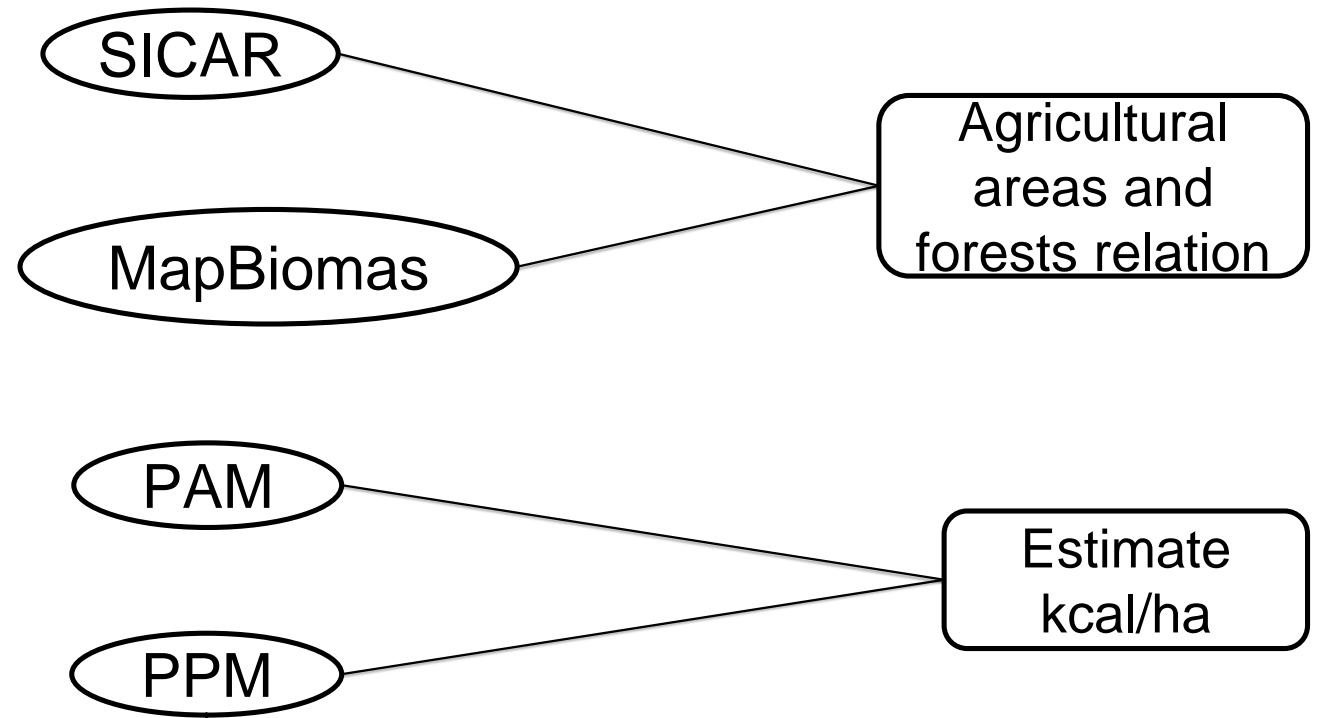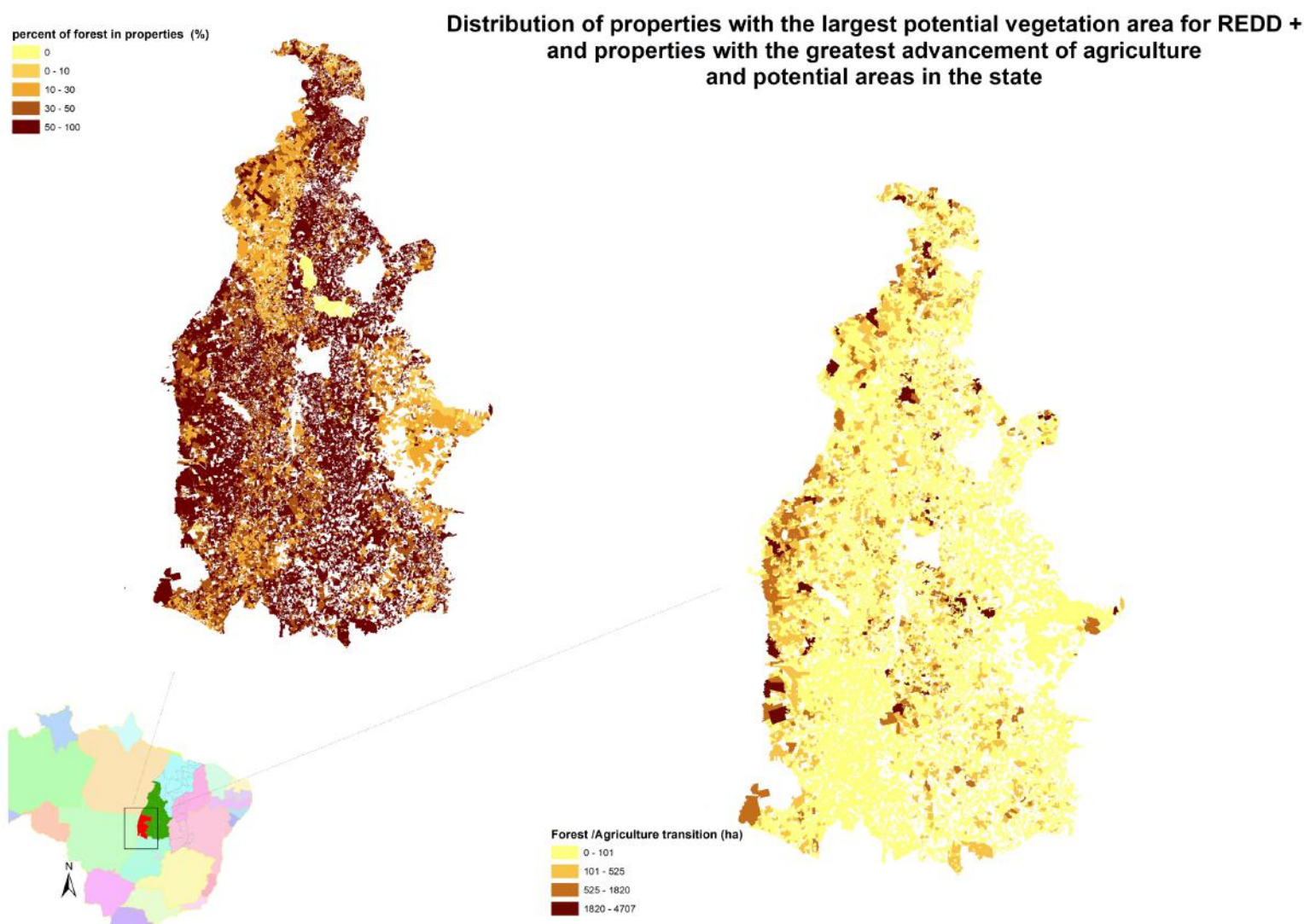Correspondence e-mail: **yara.ferreira@inpe.br**

Aim and Scope

❖ Deforestation contributes to climate change, so the REDD + mechanism seeks to preserve the forest in order to avoid greenhouse gas emissions and contributes to the maintenance of ecosystem services.

❖ Nowadays, the state of Tocantins is the area of agricultural and livestock expansion in Brazil, however, the total of its production is not entirely intended for the population's consumption.

❖ The objective of this work was to relate areas with potential for REDD + and their use in the generation of calories for human consumption through agricultural production.

Metodology

SICAR
MapBiomas → Agricultural areas and forests relation

PAM
PPM → Estimate kcal/ha

Results

Distribution of properties with the largest potential vegetation area for REDD + and properties with the greatest advancement of agriculture and potential areas in the state

percent of forest in properties (%)
- 0
- 0 - 10
- 10 - 30
- 30 - 50
- 50 - 100

Forest /Agriculture transition (ha)
- 0 - 101
- 101 - 525
- 525 - 1820
- 1820 - 4707

Deforestation and farming areas sample

Micro region	Micro region area (km^2)	CAR Properties	CAR Properties area (km^2)	Florest area (km^2)	Farming area total(km^2)	Farming area in deforestation (km^2)
17001	15.800	9.885	11.227,95	6.074,48	3.494,98	927,34
17002	26.510	7.693	21.476,36	8.866,37	10.740,43	808,67
17003	34.920	10.798	28.451,97	13.695,78	9.614,71	1.400,06
17004	51.730	5.540	23.498,47	13.324,43	6.957,37	1.449,63
17005	27.540	6.915	21.333,63	11.261,74	7.841,85	1.192,75
17006	21.240	8.009	13.504,94	7.995,27	2.857,73	541,59
17007	53.540	10.333	34.174,86	15.889,80	2.124,14	401,06
17008	47.220	11.611	30.894,06	17.598,54	6.283,16	951,25
Total	278.500		184.562,25	94.706,39	49.914,37	7.672,34

Discussion e conclusion

❖ We estimate that in the period were produced 9.00981×10^{11} kcal in the state.

❖ According to analyzes around 13% of the production area was deforested in the same period.

❖ Drawing a parallel with that recommended by FAO, where the average energy requirement in the Brazilian diet is 2448 kcal per day per person, which produced energy would supply the need for 27221 people, ie 1.7% of the estimated population. for the year 2019.

❖ Given this scenario and the importance of preserving native vegetation, the data support the analysis between applying a PES mechanism to ensure preservation or continuing to practice.

❖ Food acquisition scenarios indicate that the growing Brazilian population by 2030 will require greater availability of beef, increasing the need for pasture area in the Cerrado region (149%), maintaining the same production pattern ie we need review this form the production in Brazil.

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