

Discussion of regulations for exploration of primitive forests in the Brazilian Amazon: a case study for the Uatumã Sustainable Development Reserve

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INTRODUCTION

The logging activity in Brazil was regulated in 1998 through the decree N^o. 2.788/98. This decree made possible the exploration of the primitive forests in the Brazilian Amazon that are regulated under the article 15 of the Law n^o 4,771, of 15 of September of 1965 (Brazilian Forest Code). In order to regulate the rules and procedures for elaboration, presentation, execution and evaluation of the Plans for Sustainable Forest Management, it was instituted by the Federal Government the Normative Instruction N^o- 05, of 11 of December of 2006 (IN 05).

Even though the IN 05 was designed very wide and robust, it presents also some gaps and rules that doesn't fit well in many of the different realities encountered in the Amazon region. In February 2008, the state of Amazonas aiming to regulate the timber logging to the local reality of the State, instituted the modality of "Small Scale Plans for Sustainable Forest Management (PMFSPE)", through the Normative Instruction N^o 002, of 11 of February 2008 (IN 02).

The objective of this work is to evaluate and discuss the advantages and implications in terms of technical proceedings for selection, exploration and maintenance of the timber stocks, within the two different Normative Instructions, Federal (IN05) and State (IN02). The criteria evaluated were: number of potential explored trees, potential harvest volume, harvest intensity and number of potential harvested species.

MATERIALS AND METHODS

For conducting the analysis, it was calculated number of potential explored trees, potential harvest volume, harvest intensity and number of potential harvested species by means of data proceeding from forest census carried through in 3 community management areas at the Uatumã Sustainable Development Reserve (*RDS do Uatumã*), in Amazonas, Brazil.

To verify statistic difference between the 2 proceedings (IN 05 and IN 02) it was made the Pearson Test.



RESULTS

Table 1. Results for census at 3 management areas.

Community	Management Area ha	N ^o of Potential harvest trees	IN 05		N ^o of Potential harvest trees	IN 02		Difference (%)		
			Potential Volume (m ³)	Harvest intensity (m ³ .ha)		Potential Volume (m ³)	Harvest intensity (m ³ .ha)	N ^o of Potential harvest trees	Potential Volume	Harvest intensity
Bom Jesus do Angelim	5	3	14,73	4,9	17	81,92	16,4	82,35	82,02	70,03
Livramento	5	8	48,60	9,7	21	111,77	22,4	61,90	56,52	56,52
Jacarequara	5	11	50,18	10,0	22	117,05	23,4	50,00	57,13	57,13
Total	15	22	113,51	7,57	60	310,74	20,71	63,33	63,47	63,47

Table 2. Pearson test for number of potential harvest trees.

N ^o of potential harvest trees	IN 05	IN02	Calculated X ²	Table X ² α = 0,01
Bom Jesus do Angelim	3	17	11,5294	9,21
Livramento	8	21	8,0476	
Jacarequara	11	22	5,5000	
Total	22	60	25,0770	

Table 3. Pearson test for potential harvest volume.

Potential Volume (m ³)	IN 05	IN02	Calculated X ²	Table X ² α = 0,01
Bom Jesus do Angelim	14,73	81,92	55,1102	9,21
Livramento	48,60	111,77	35,7023	
Jacarequara	50,18	117,05	38,2025	
Total	113,51	310,74	129,0150	

Table 4. Pearson test for harvest intensity.

Harvest intensity (m ³ .ha)	IN 05	IN02	Calculated X ²	Table X ² α = 0,01
Bom Jesus do Angelim	4,9	16,4	8,0359	9,21
Livramento	9,7	22,4	7,1405	
Jacarequara	10,0	23,4	7,6405	
Total	24,7	62,1	22,8169	

Table 5. Number of potential harvest species.

N ^o of potential harvest species	IN 05	IN02	Calculated X ²	Table X ² α = 0,01
Bom Jesus do Angelim	1	11	9,0909	9,21
Livramento	6	10	1,6000	
Jacarequara	4	11	4,4545	
Total	11	32	15,1455	

CONCLUSION

There is statistic difference ($\alpha = 0,01$) between the 2 proceedings, IN 05 and IN 02, for the criteria: number of potential explored trees, potential harvest volume, harvest intensity and number of potential harvest species. The IN 02 possibilities a bigger exploration considering the 4 evaluated criteria: **number of potential explored trees 22 (IN 05) vs. 60 (IN 02); potential harvest volume 113,51m³ (IN 05) vs. 310,74 m³ (IN02); harvest intensity 7,57 m³.ha⁻¹ (IN 05) vs. 20,71 m³.ha⁻¹ (IN 02); number of potential harvest species 11 (IN 05) vs. 32 (IN 02).**

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