

Forest Exploitation and Inhabitants' Attitudes in Brazil

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Abstract

This work shows the research results that was carried out in the cities of Manaus, Fonte Boa and Parintins in Amazon State. It aims to know how peoples feel and think about nature. Besides Brazil, it was also carried out in Japan, Germany and France. The survey was conducted through application of a questionnaire that is constituted of 4 questions related to social aspects such as sex, age, birth place and profession, and 13 questions related to nature as affection for forests in daily life, feeling and knowledge of trees, mystic and holy feeling about trees and forests, propriety of forest management, attitude toward hunting, and primitive and religious emotion toward nature. High school students, university students and citizens were the respondents.

Introduction

According to Funatura (1989), in the Amazon region, after getting the first colonizers, the biological diversity and natural habitat have suffered a drastic degradation, caused mainly by deforestation. Besides that, the natural resource utilizations have not been converted in wealth or economic benefit and social to people that live in this region.

This research aims to diagnose the relationship of Amazon inhabitants with the nature, i. e., to know about the forest exploitation and inhabitants attitudes toward nature in the cities of Manaus, Fonte Boa and Parintins, Brazil.

Material and Methods

The survey was carried out from April to November 1992, through a questionnaire constituted of 4 questions related to social aspects and 13 questions related to nature such as affection for forests in daily life, feeling and knowledge of trees, mystic and holy feeling about trees and forests, propriety of forest management, attitude toward hunting, and primitive and religious emotion toward nature; and a question related to a face sheet with pairs of landscape photos.

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High school students, university students and citizens were interviewed. Sampling size was 852 people, being 44 in Fonte Boa, 59 in Parintins and 749 in Manaus city. The stratifications were 286 high school students, 150 university students and 416 citizens.

Results and Discussion

The results of questions 1 and 2 are presented in the Table 1.

Table 1. Affection for forests in daily life

Question	High School (%)	University (%)	Citizens (%)	Total (%)
Q1) When you make a tour, which place do you prefer?				
a) Forest	7.9	4.1	10.0	22.1
b) Church	5.9	0.1	2.6	3.3
c) Beach	8.5	4.1	11.7	24.3
d) Meadow on mountain	1.1	0.2	2.2	3.5
e) Mountain for view	5.1	2.4	6.8	14.2
f) High peak and ridge	0.1	0.4	0.4	0.8
g) Lake	9.9	5.9	13.7	29.5
h) Others	0.5	0.5	1.4	2.4
Q2) Do you enjoy walking in the forest?				
a) Enjoy	26.9	14.6	32.8	74.2
b) Indifferent	6.0	3.1	14.0	23.0
c) Dislike	0.7	0.0	2.1	2.8
Total	33.6	17.6	48.3	100.0

According to the Table 1, 22.1% chose forest; 24.3% beach and 29.5% lake, representing 75.9% of sampling. These results are according to Amazon peculiarities, that is characterized by dense forest, no mountainous and immensely intersected by water courses, lakes and rivers with beach. In relation to favorite place, high school students, university students and citizens chose lake. About walking in the forest 74.2% answered positively; 23% answered indifferent and 2.8% answered dislike.

The Table 2 presents the results of questions 3 and 4 that are:

Q3) Name five trees which are most familiar to you

Q4) Which of these trees do you like best?

Table 2. Feeling and knowledge of trees

Common name	Scientific name	%
Mango tree	<i>Mangifera indica</i>	24.2
Brazil – nut tree	<i>Bertholletia excelsa</i>	18.7
Jambeiro	<i>Eugenia malacensis</i>	16.2
Avocado tree	<i>Persea americana</i>	13.4
Rubber tree	<i>Hevea</i> spp.	11.7
Paraná pine	<i>Araucaria angustifolia</i>	11.4
Guava tree	<i>Psidium guajava</i>	9.1
Cedar	<i>Cedrela</i> spp.	7.8
Citrus	<i>Citrus</i> spp.	7.4
Cashew tree	<i>Anacardium occidentale</i>	4.2
Sumaúma	<i>Ceiba pentandra</i>	3.9
Ipê	<i>Tabebuia</i> spp.	3.3
Brazil wood	<i>Caesalpinia echinata</i>	3.2
Crabwood	<i>Carapa guianensis</i>	2.5

According to results from Table 2, Mango tree, Brazil – nut tree and Jambeiro were the more preferred, being chosen Mango tree the best.

In the Table 3, the results of the questions 5 and 6 are presented.

Table 3. Mystic and holy feeling about trees and forests

Question	High School (%)	University (%)	Citizens (%)	Total (%)
Q5) When you look at a huge old tree, do you feel anything holy ?				
a) Yes	31.8	15.7	43.5	91.1
b) No	1.8	2.2	5.3	8.9
Q6) When you enter into dense forest, do you have a mysterious feeling ?				
a) Yes	30.3	15.6	42.8	88.7
b) No	3.3	2.0	6.0	11.3

About mystic and holy feeling for old tree 91.1% answered positively, and in relation to dense forest 88.7%. These results show that people have respect for huge old tree as tradition or remembrance of something in common, and also the sensation of mystery or dread of dense forest.

The results of the questions about the propriety of forest management are presented in the Table 4.

Table 4. Propriety of forest management

Question	High School(%)	University(%)	Citizens(%)	Total (%)
Q7) Which is your opinion ?				
a) Man should manage forests to keep them beautiful	24.7	15.3	33.9	73.8
b) Man should not manage forests at all	8.9	2.4	14.9	26.2
Q10) Which do you prefer ?				
a) Nature influenced by man, with mixed farm, meadow and forest	24.2	11.4	32.5	68.3
b) Unspoiled nature, such as virgin and wild forests	9.2	6.2	16.3	31.7

Approximately 75% of the total sampled is favorable to the conservationist aspects, this in the most extensive sense than just beautiful nature, i. e., considering several functions and uses of the forest. The conservationist aspects were most significant among university and high school students, probably due to theoretical – practical knowledge. Favorable percentage was less expressive among the citizens. The questions 8 and 9 are related to sporting, and the Table 5 presents the obtained results.

Table 5. Attitude toward hunting

Question	High School(%)	University(%)	Citizens(%)	Total (%)
Q8) Which of the following sporting activities do you like best ?				
a) Swimming	9.3	5.8	17.1	32.2
b) Jogging	8.5	1.6	8.9	19.0
c) Walking	8.2	4.2	8.1	20.5
d) Camping	2.0	3.2	3.8	8.9
e) Skiing	0.2	0.0	0.2	0.5
f) Hunting	0.6	0.5	1.1	2.1
g) Golf	0.1	0.0	0.2	0.3
h) Sailing	0.5	0.4	1.6	2.5
i) Mountain climbing	0.1	0.4	0.4	0.8
j) Fishing	4.1	1.6	7.6	13.1
Q9) Do you think hunting is as good sport ?				
a) Yes	4.3	2.9	4.7	12.0
b) No	29.2	14.7	44.1	88.0

The majority of interviewing groups chose the sport which is in accordance with the physical and cultural reality of the region that were swimming, walking, jogging and fishing.

Hunting as a good sport was rejected by 88% of the interviewed people. University students were more favorable for hunting as a good sport than the other groups, probably because they have a better understanding about conservationist aspects. In the region hunting is considered only for survival, i. e., as source of animal protein. The Table 6 shows the results of the questions 11 and 12.

Table 6. Primitive and religious emotion toward nature

Question	High School (%)	University (%)	Citizens (%)	Total (%)
Q11) When you look at sunrise, sunset or silent mountains, are you moved emotionally?				
a) Yes	31.8	16.7	45.8	94.2
b) No	1.8	0.8	3.2	5.8
Q12) Do you believe in a spirit in such natural things as mountains, valleys, streams, trees, plants, etc.?				
a) Yes	4.6	12.0	34.6	70.7
b) No	2.2	5.6	14.2	29.3

The majority of interviewed people (94.2%) has a special holy for sunrise, sunset or silent mountain, due to aspects of renovation and energy changing or spiritual aspects. However, 29% of them had no mystic or superstition emotion toward nature, maybe because they do not believe in fable or ridiculous belief, even by not to know them.

The analysis of question 13 (preference of the forest type by the paired comparison method using five pairs of photographs) were omitted.

In the followings Tables will be presented the results on social aspects.

Table 7. Sex

Sex	High School (%)	University (%)	Citizens (%)	Total (%)
a) Female	4.6	8.9	25.7	52.4
b) Male	2.2	5.4	26.4	47.6

The respondents of female sex were lightly superior than male sex.

Tabel 8. Age

Age class	High School (%)	University (%)	Citizens (%)	Total (%)
10 - 14	0.0	0.0	0.8	1.2
15 - 19	0.4	0.9	13.1	29.4
20 - 24	3.2	7.1	12.4	31.7
25 - 29	1.7	3.3	7.8	14.0
30 - 34	0.9	1.4	5.8	9.2
35 - 39	0.1	0.9	5.7	7.1
40 - 44	0.4	0.4	2.4	2.9
45 - 49	0.1	0.1	1.7	1.8
50 - 54	0.1	0.1	1.3	1.4
55 - 59	0.0	0.1	0.5	0.6
60 - 64	0.0	0.0	0.2	0.2
65 - 69	0.0	0.0	0.6	0.6

According to the Table 8, it was verified that 75% of respondents are between 15 and 29 years of age. For high school students 90.9% are between 15 and 29 years of age; for university students 72% are between 20 and 29 years of age and for citizens 45.5 % are between 10 and 40 years of age.

The analysis of questions about birth place and profession were omitted.

Conclusion

The standard questionnaire, no modified, in some way attained the objectives of the research, though some questions were out of traditions and realities of the Brazilian Amazon such as the locals of tourism and the favorite sports.

The intensity of the adopted sampling attained the objectives of this research, considering that is occurring migration of the population from other states and countries to Manaus city.

In spite of the questionnaire to be no modified, it is understood that the research should also be carried out in other regions of Brazil as Northeast and Centre – West regions as well as to be extensive for whole State of Amazon.

(The original paper is written in Portuguese with English abstract, and it was translated by N. Y. Nakajima).