



## RESEARCH ARTICLE

### UMBU EXTRACTIVISM IN THE PERCEPTION OF FAMILY FARMERS IN THE RURAL AREA OF CATURITÉ-PB - BRAZIL

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#### ABSTRACT

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The objective of this research was to evaluate the perception of family farmers from the Pedra d'água Community and Curralinho district, both located in the rural area of Caturité - PB, about the importance of umbuzeiro extraction. Initially there were visits in the community in order to expose the idea and carry out. The research was conducted during the period from March 2016 to May 2016. Structured questionnaires, previously prepared with the purpose of involving and extracting as much information as possible from the whole Community, were applied. With the data in hand, figures were made that show the perception of cooperative farmers about the extraction of the umbu. Incomplete first degree (47%), followed by complete high school (40%). Regarding the process of extraction of umbu by Community producers, several uses can be indicated, the main destinations being pulp industry (34%), family consumption (33%), feed (19%) and direct selling. (14%). Regarding the sale, when there was a sale, the price of the 3.0 kg bag varied between R \$ 2.00 and R \$ 2.50, and 62% of the consulted producers said they sell for the price of R \$ 2, 00, while 31% sell at \$ 2.50 and 7% sell over \$ 2.50. Of the producers who collect umbu, 100% have another activity to supplement their income, among them: agriculture (85%), livestock (85%), handicrafts (7.5%) and others (7.5%).

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Copyright © 2020, LACERDA, A. W. R. et al. Umbu extractivism in the perception of family farmers in the rural area of Caturité-PB- Brazil

## INTRODUCTION

Umbuzeiro or Imbuzeiro (*Spondias tuberosa* Arruda) is the main endemic fruit species of the Caatinga Biome. Xerophilous plant of the genus *Spondias*, family Anacardiaceae, It has high genetic and phenotypic variability and is dispersed throughout the Semiarid region (SANTOS, 1997). Its name came from the Tupi-Guarani language family, “ymbu” or “ymbuyrá”, meaning “tree that gives drink”, derived from the suffixes y-water, u-drink, ybyrá-tree, ybura-water that springs from above. This demonstrates the extensive knowledge of Native American peoples about the multiple uses of the plant (MARTIN, 2013).

The fruits of umbuzeiro are glabrous or slightly hairy and rounded drupes, weighing around 10 to 20 g. They have a smooth surface or show 4-5 small protuberances on the distal portion. Fruit characterization has shown a high phenotypic correlation, in decreasing order, for pulp, rind and stone weight, total soluble solids and total acidity (SILVA et al., 1987). When ripe, the fruit has juicy, slightly acidic and pleasant taste pulp, containing 14.2 mg of ascorbic acid per 100 ml, fiber, reducing sugars and tannin.

The umbu is recognized by all the sertanejo people as an important and strategic food source, able to compose a diversity of recipes, such as umbuzada and umbu vinegar or wine. Umbuzada is recognized as the most common form of fruit preparation, a beaten drink of pulp cooked with cow's milk, goat's milk or milk extracted from licuri (*Siagrus coronata*). Umbu vinegar or wine is considered a traditional product made from ripe fruits that are sifted to obtain the fruit juice and boiled for hours until it forms a dense mass that can be stored for over a year without losing the typical flavor of slightly sweet and sour fruit (obs. pers.).

Extractivism, when practiced sustainably, can generate income for many families and contribute to the conservation of the Caatinga, protecting the diversity of plants and animals, the watercourses and the cultural richness of its people. With this income, food, household goods, children's clothing and school supplies are purchased, as the harvest period coincides with the beginning of the school period in rural schools. The appreciation of the umbu can strengthen people's traditions and stay in the countryside from the generation of complementary income (BARRETO

& CASTRO, 2010).

Organized collective work can be a good strategy for better use of fruits and improving the conditions of collection, storage, processing and commercialization of umbuzeiro. An example of the social and productive organization of umbu extraction is the work of the cooperatives and neighborhood associations.

In the Brazilian semiarid region, this activity has been fostering the emergence of enterprises capable of creating economic bases for family farming in rain-dependent areas of northeastern Brazil. However, there is a decrease in fruit production, with a very sharp decrease in recent years. This reduction may be related to water deficit and death of centenary plants of umbuzeiro, aggravated even further by the absence of descendants therefore, there are no plants of young umbuzeiros in Caatinga pasture areas (ARAÚJO et al., 2016).

The umbu extractive production and marketing chain is described by Araújo (2016) as a traditional commercialization circuit, which begins with the extraction of fruits from trees located on the family's own property or in third-party areas. Cavalcanti (2006), estimated the daily production of an extractivist at 40 kg / person / day and throughout the harvest, which lasts an average of three months, the total production of an extractivist reaches 3 tons. Harvested fruits are sold locally to primary brokers, who transport the produce to market in the main regional wholesale markets or trade it directly to pulp or ice cream factories. In 2017, the minimum price established by the National Supply Company (Conab) 3 for the sale of fresh fruit umbu paid to the extractivist was R \$ 0.62 / kg and the average wholesale value of Ceasa de Recife. /PE was R \$ 3.25 / kg, reaching retail at an average value of R \$ 6.00 / kg. The amount paid by the final consumer was 10 times higher than that paid to the extractivist, and this difference becomes even greater in markets outside the NE region.

According to IBGE data, the national production of umbu had a reduction of almost 20% in the last ten years, production in 2006/09 oscillated between 8 and 9 thousand tons, while in 2012/17 this production was below 8 thousand tons. The fall in production is associated with prolonged drought that occurred between 2012 and 2016/17, being considered one of the most severe droughts that occurred in the SAB, directly impacting regional agricultural production, which recorded severe losses mainly in agricultural crops dependent on rain. According to IBGE data referring to the states'

participation in the national umbu production in the 2015 harvest, Bahia comes first with 88% of the national umbu extractive production, with production percentages registered in 195 municipalities, followed by the Pernambuco states with 5%, Rio Grande do Norte 3%, Minas Gerais 2%, Paraíba and Piauí with 1% each.

## **MATERIAL METHODS**

The municipality of Caturité is located in the Borborema region of Paraíba State, Cariri Oriental Microregion (Figure 1). It has the municipality of Caturité area of 118.57 km<sup>2</sup> (CPRM, 2005).



**Figure 1.** Map of the location of the municipality of Caturité in Paraíba State (Adapted from Google maps, 2019).

Initially visits were made in the communities in order to expose the idea to family farmers of the communities Pedra d'água and district of Curralinho, both located in the rural area of Caturité - PB. The research was conducted from March 2019 to September 2019. For the study, a semi-structured questionnaire was used as an anthropological research tool, in which the topics were previously defined by the researcher (VIERTLER, 2002).

The suggested tactic to diagnose the perceptions of the farmers of the Pedra d'água communities and Curralinho district, both located in the rural area of Caturité - PB, was based on five main points of analysis: (a) assessment of the most immediate reality of the Communities under study; (b) application of a semi-structured questionnaire to the perception of local family farmers; (c) quantification of umbuzeiro density in the study area; (d) incentives for farmers to plant umbu as a cultural form; (e) contribution to the growth of the umbuzeiros population.

Other research instruments used were:

indirect research through literature review with observation of books, dissertations, scientific journals, abstracts, theses and scientific articles available on the Internet and through direct documentation through the application of questionnaires and semi-structured interviews.

The research was qualitative, being conducted to data collection during on-site visits. After familiarizing the researcher with the environment, semi-structured questionnaires (appendix) were distributed to family farmers.

Data were tabulated in computerized spreadsheets and subsequently analyzed through relative frequencies of responses.

## **RESULTS AND DISCUSSION**

Given these tables 1 and 2, duly quantified, which were the only documentation found with the producers, separate electronic invoices issued by the Government of the State of Paraíba, for marketing in the program "Direct Purchase". Therefore, we can attribute gross revenue from these 36 producers during the year 2018:

**Table 1** - Agricultural production of family farmers in the communities of Pedra d'água and Curralinho district, in Caturité - PB in 2018.

NUMBER OF PRODUCERS	PRODUCTS (Kg)			
	Corn	Bean	Rice	Sesame
36	11.295	13.700	5.124	558

**Table 2** - Agricultural production sold by family farmers in the communities of Pedra d'água and Curralinho district, in Caturité - PB in 2018.

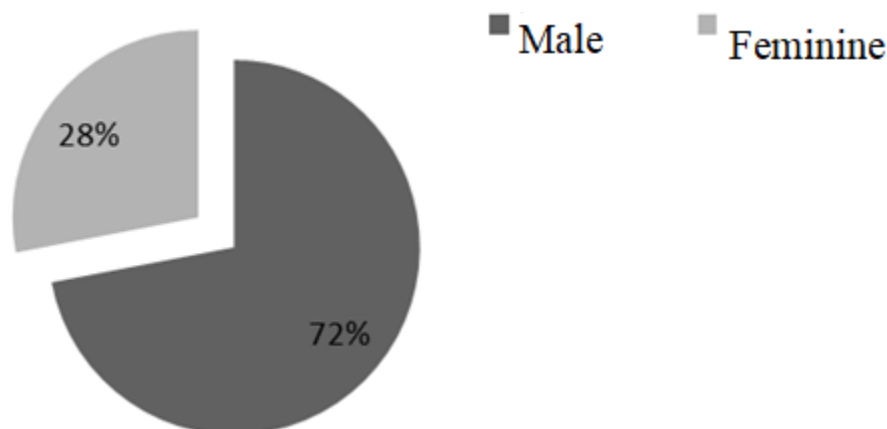
PRODUCTS	AMOUNT	UNITY	PRICE (Kg)	TOTAL (R\$)
CORN	11.295	Kg	0,54	6.099,30
BEAN	13.700	Kg	2,05	3.485,00
RICE	5.124	Kg	1,20	6.148,80
SESAME	558	Kg	9,00	5.022,00

<b>TOTAL GROSS REVENUE</b>	<b>20.755,10</b>
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Allied to the production of corn, rice, beans and sesame, there is collective vegetable cultivation in an underground dam and Amazon well. The irrigation of the species cultivated in that place are: tomato, pepper, lettuce, watermelon, jerimum, papaya, passion fruit, chives,

coriander, carrot and beet without records of their quantities and values.

Figure 2 shows that 28% of the interviewees were female and 72% male. This was due to the interviews being conducted with the main responsible for the residences, that is, the heads of families.



**Figure 2.** Gender of people interviewed during the survey.

These data differ from those found by Gomes (2014) conducting an ethnobotanical study in a quilombola community in São João municipality of Pombal-PB, where in his research found data on the sex of respondents, in which 50% of respondents are male and 50% female.

According to respondents' marital status in the communities of Pedra Água and Curralinho district,

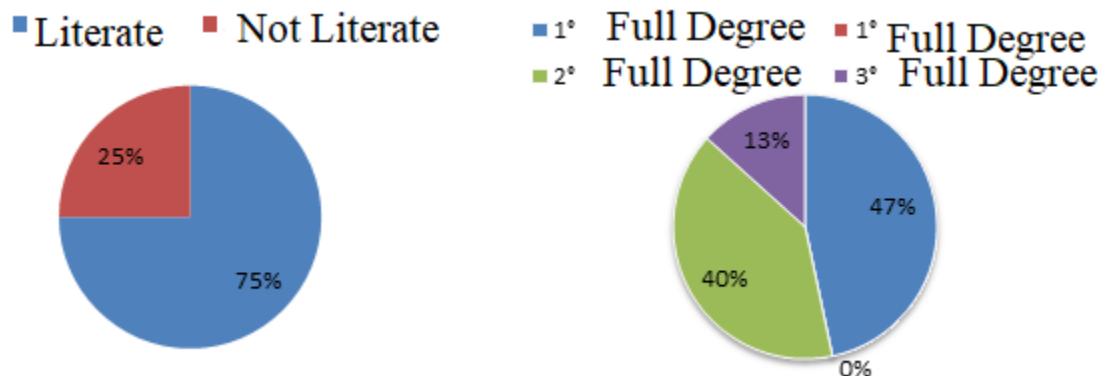
Caturité-PB, according to respondents' responses, 71% are married, 31% are single, 4% are widowed and 4% are separated, These data call attention to a very curious fact regarding the percentage of single settlers.

**Table- 3** Marital status of respondents from the communities of Pedra d'água and Curralinho district, Caturite-PB.

MARITAL STATUS	%
Married	61
Not married	31
Widower	04
Separate	04
Consensual union	-
<b>TOTAL</b>	<b>100</b>

It could be observed that in Figure 3 that a part of the farmers consulted is literate; however,

incomplete primary school (47%) predominates, followed by complete high school (40%).

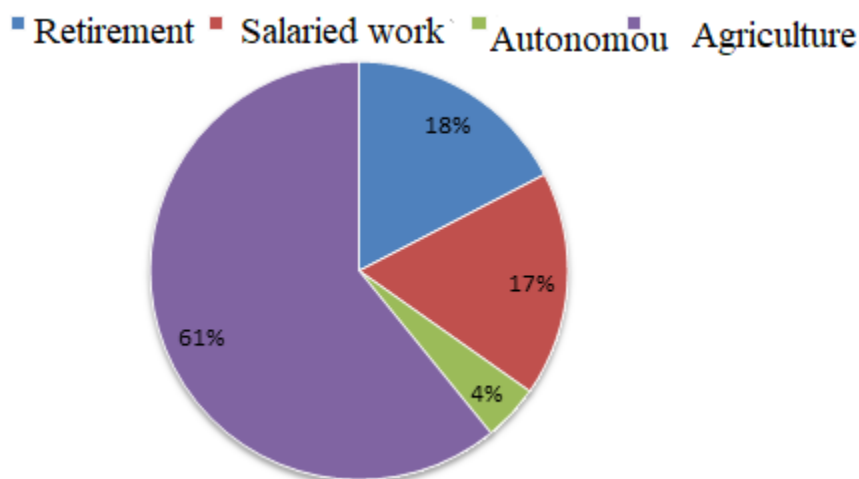


**Figure 3.** School situation of farmers interviewed in the survey.

Regarding the source of income acquired by respondents in the Community (Figure 4), 61% of interviewees reported that they obtain from agricultural activities, followed by income from retirement and salaried service.

Figure 4 shows that agricultural activities are

still the main source of income of respondents in the Riacho da Serra Community. This is evidenced by observing the IBGE (2016) data for the municipality of São José do Sabugá, regarding the amount of umbu fruits produced, which totaled 14 tons. This production provided an income of R \$ 14,000.00.

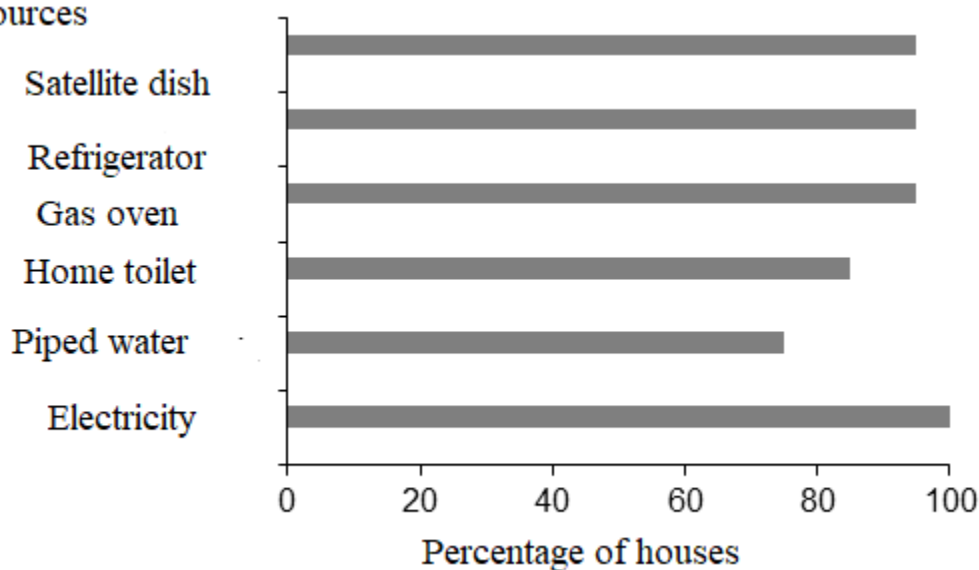


**Figure 4.** Sources of income obtained by respondents in the survey.

The survey results shown in figure 5 indicate

that in the homes of respondents in the Riacho da Serra Community all have electricity. However, in the 21st century, many homes still do not have running water or sanitary appliances at home.

**Resources**



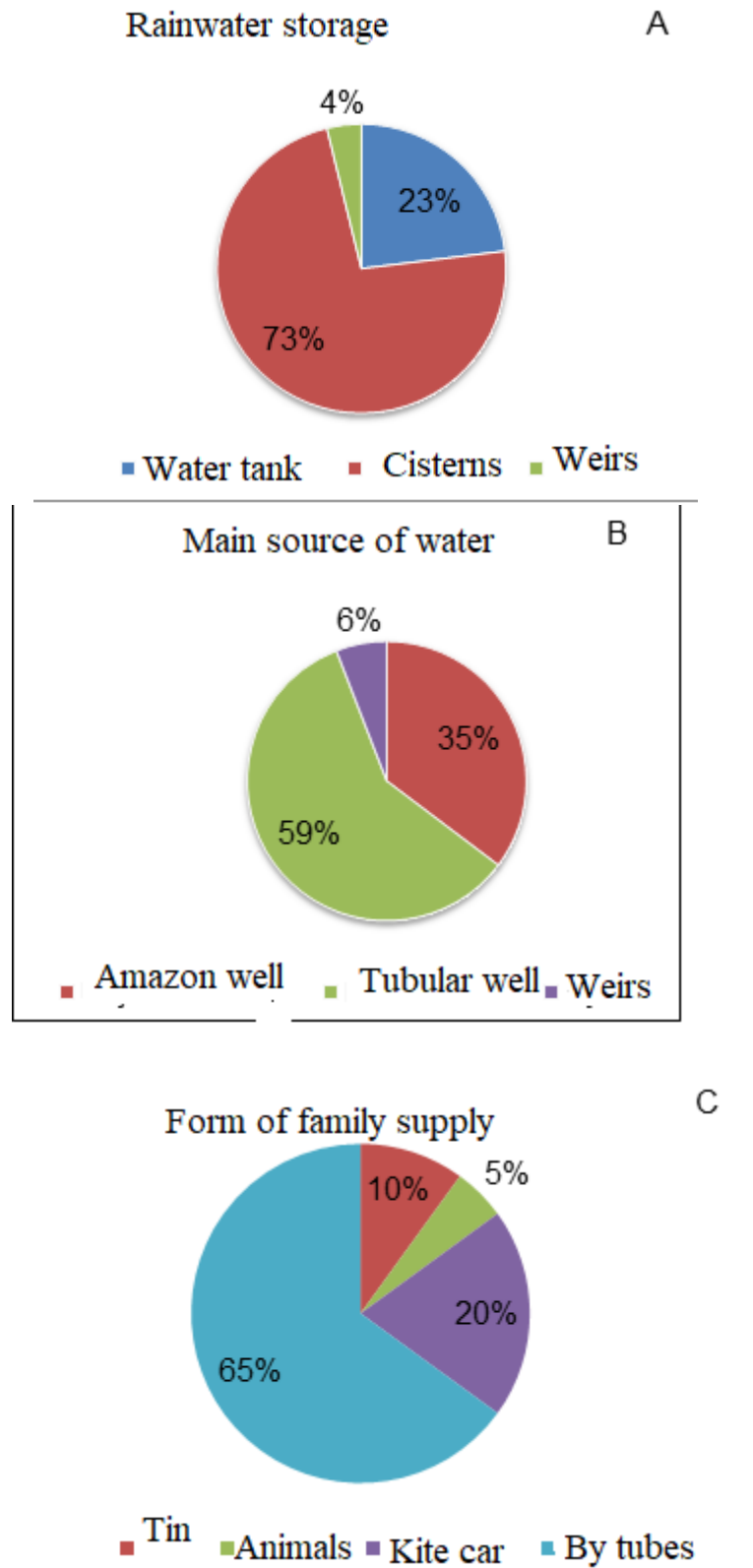
**Figure 5.** Resources in the homes of respondents in the survey..

Tanks are still the main way to store water for human consumption (Figure 6A). Already, when argued about the main source of water search in the soil, they replied that the tubular and Amazonian wells support domestic activities (Figure 6B).

The construction of the cistern serves as an alternative for the storage and supply of rainwater in rural areas, mainly in Paraíba semiarid, where in these places available sources,

such as wells and rivers, have a variable volume of water, due to seasonality. and most often high salt water.

The quality of water stored in tanks depends fundamentally on good system maintenance. This consists in the disposal of the first waters, inspection and cleaning of the roof, gutters, pipes and the cistern itself (ANDRADE NETO, 2004).

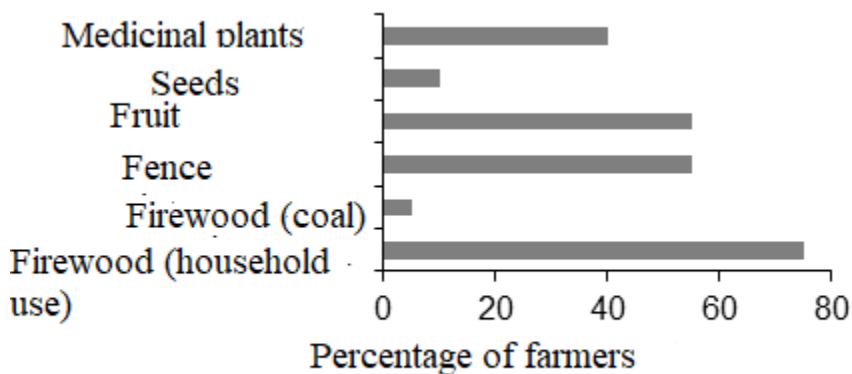


**Figure 6.** Water supply situation at home of farmers interviewed in the survey.

Regarding the form of household supply (Figure 6C), it is noted that 65% of the water is channeled. However, 10% is still held by farmers using cans. For Dillingham (2004) families spend up to 30 hours per month on water transportation. Cans containing up to 20 liters of water are usually carried on the heads causing negative chronic effects including back pain. This transport is most often done

by women, children and adolescents.

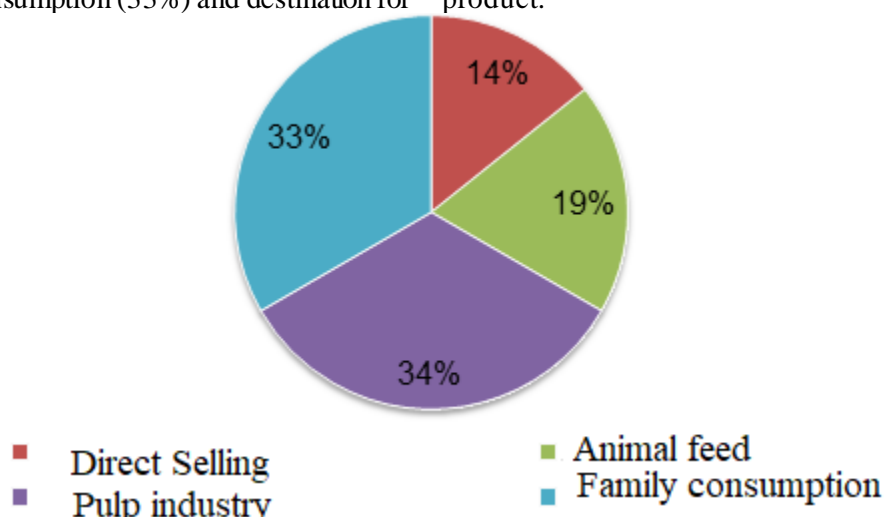
The Caatinga is still widely exploited for the purpose of removing wood for domestic use (firewood) and making fences. However, it is notorious that there is also exploitation for nobler purposes, such as the use of plants for medicinal use, the extraction of fruits for various purposes, such as umbu, and the diverse use of seeds (Figure 7).



**Figure 7.** Caatinga utilization of farmers interviewed in the survey.

In the process of extraction of umbu by Community producers, several uses can be indicated, the main destinations being direct sales (14%), feed (19%), family consumption (33%) and destination for

pulp industry. (34%) (Figure 8). It is noticed the variability in the use of umbu by producers, having several alternatives for the final destination of the product.



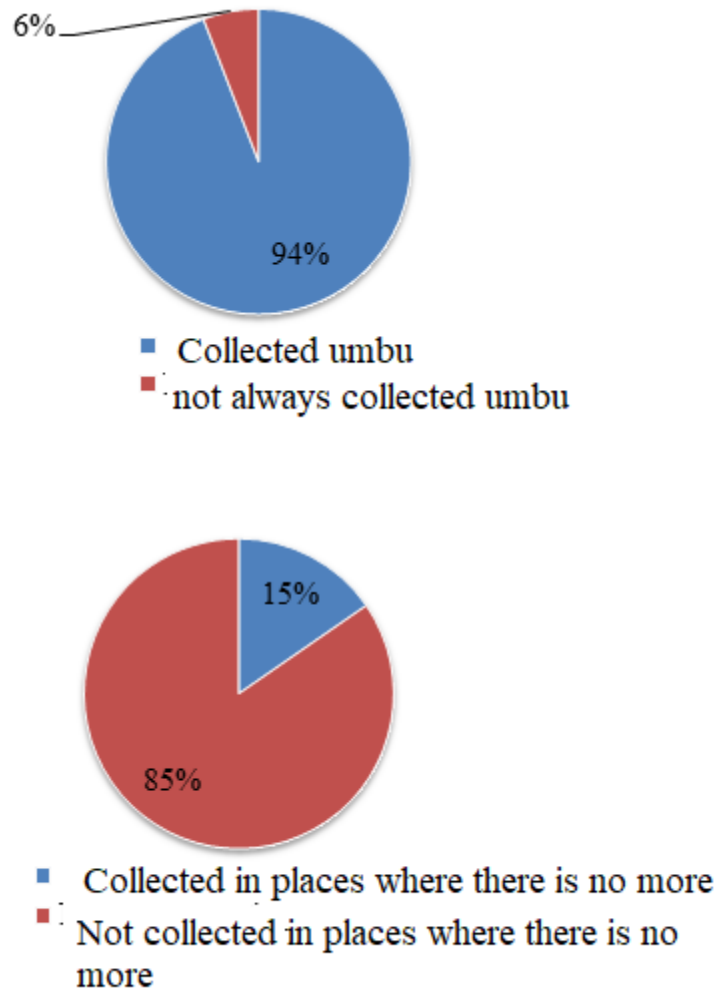
**Figure 8.** Main uses of umbu by farmers interviewed in the community in the survey.



The number of family members who participate in umbu exploitation in the community is leagues.

The vast majority (94%) of farmers have always collected umbu. In order to verify the reduction in the population of umbuzeiro used by the community, it was asked if the farmer has already

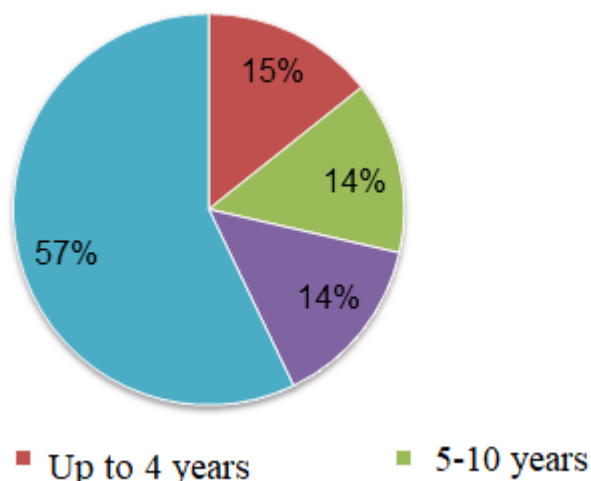
two to four people. Meanwhile, the distance from the residence to the umbu's catamaran is up to two collected in a finished umbuzeiro and the result was that 15% of the farmers have seen the local umbuzeiros end (Figure 9).



**Figure 9.** Percentage of farmers who always pick and pick in a place that ended up in the survey.

Evaluating the time when producers practice extractivism, it is observed that farmers have some experience in the activity, with 57% of them harvesting umbu over 20 years, indicating that

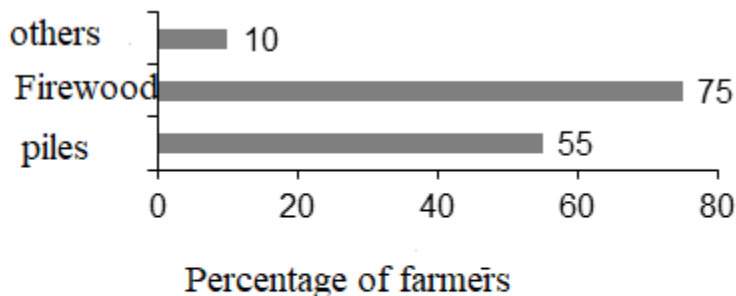
farmers who harvest umbu have a family tradition. However, the other age groups present considerable values around 15% (Figure 10).



**Figure 10.** Time when interviewed farmers pick umbu in the survey.

In addition to the extraction of umbu, producers remove from the caatinga other products such as firewood (75%) and stake (55%) (Figure 11). The extraction of umbu is a periodic activity and is not able to provide monthly income to farmers and thus becomes a complementary activity, only in the time

of production of umbuzeiro. Therefore, there is a need for the farmer to look for another way to acquire more resources, being the removal of firewood and cuttings the easiest way to extract products from Caatinga. However, this activity should be used sustainably.



**Figure 11.** Percentage of farmers who make other uses of Caatinga in the survey.

When harvesting umbuzeiro, producers pick up to eight umbu bags per day, depending on the production of each umbu and the productivity of each producer, that is, although some farmers pick eight bags in a day, others can pick a lot any less.

The marketing of umbu is very incipient, and most producers pick only for family consumption and sell in small quantities. In 2014,

the producers consulted reported that they sold less than 200 bags of umbu, ie when there was a sale, as most stated that they did not sell.

Still on sale, when there was a sale, the price of the 3kg bag ranged from R \$ 2.00 to over R \$ 2.50, and 62% of the producers consulted said they sell for the price of R \$ 2.00. while 31% sell at \$ 2.50 and 7% sell over \$ 2.50 (question IX.05, Appendix I). Of the producers who collect umbu,

100% have another activity to supplement their income and among them are: farm (85%), livestock (85%), handicrafts (7.5%) and others (7.5%).

## CONCLUSIONS

- For the exploitation of umbuzeiro to be configured as a job and income generation activity, it must be conceived and accepted by all interviewees;
- The community should be more involved in the activities, exposing their expectations, yearnings, visions and opinions;
- Relevant research contribution was found by stimulating the participation of the local community within a process with sustainable bases.

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