



RESEARCH ARTICLE

PRODUCTION OF FOOD AND MEDICINAL PLANTS IN HOMEGARDENS IN
NORTHEAST OF BRAZIL

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ABSTRACT

The aim of this study was to survey the use of these plants in homegardens of São João da Várzea, Mossoró, RN. The techniques of direct data collection and participant observation, guided tour, free list and semi-structured interviews were applied to 22 production units. It was found the presence of 154 species belonging to plant families 63, comprising a total of 2,474 plants. The most common species were *Psidium guajava* L., *Cocos nucifera* L. and *Calotropis procera* (Aiton) W. T. Aiton. Informants reported 15 categories of use and the most representative were medical (57), ornamental (54) and food (52), and most species had more than one reported use. The most commonly used parts were fruit (23%), leaf (17%) and stem (11%). The homegardens are composed of several spaces that reflect the socioeconomic and cultural aspects of families and have diversity of species used by families mainly as medicinal.

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INTRODUCTION

Agricultural spaces occupied by a community are managed and organized according to a certain logic, peasant logic, that for this you use the body of knowledge that has (Nabuco *et al*, 2009). The domestic spaces, located in the vicinity of houses are complex systems in which a great diversity of species is handled and / or stored, particularly for house hold and food for medical purposes (Kumar and Nair, 2007). Many of these spaces are named and characterized as homegardens agroforestry or simply homegardens.

In homegardens agroforestry how productive factors are organized tends to correspond to the body of knowledge, ecological situations, social and specific experiences accumulated by each farmer. Thus, the knowledge of farmers are based on a long empirical experience and are generated from different experiences, which are: accumulated experiences of successive generations; collective experience of each generation of farmers; and individual experience of each of the farmers, made from its objectivity and subjectivity (Azevedo, 2003).

In this sense, the plants are used for multiple purposes, highlighting in several studies in homegardens, the use of food

and medicinal plants (Florentino *et al*, 2007, Moura and Andrade, 2007, Pasa *et al*, 2008, Guarim Neto and Amaral, 2010, Freitas *et al*, 2011, Aguiar *et al*, 2012, Freitas *et al*, 2012, Eichenberg and Amorozo 2013, Botelho *et al*, 2014, Freitas *et al*, 2015, Pereira and Figueiredo Neto, 2015, Garcia *et al*, 2015).

In Rio Grande do Norte, several ethnobotanical studies have been conducted, most of which investigated the use of medicinal plants by communities (Guerra *et al*, 2007, Mosca and Loiola, 2009, Guerra *et al*, 2010, Roque *et al*, 2010, Silva and Freire, 2010; Paulino *et al*, 2012, Freitas *et al*, 2012, Freitas *et al*, 2015), the use of plants for various purposes (Roque *et al*, 2010, Roque and Loiola, 2013) or ethnobotanical aspects of some families or specific botanicals (Loiola *et al*, 2010).

Thus, conducting an ethnobotanical study in the city of Mossoro-RN will provide recovery, rescue and preservation of knowledge that local people have regarding the use and management of plants and spaces that make up the production units. Moreover, it can contribute to the development of new management techniques and exploitation of agro-ecosystems, in addition to supporting work on sustainable use of biodiversity.

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MATERIALS AND METHODS

Location of study

The community of São João da Várzea is located on the banks of the RN 117, towards Mossoro - Governador Dix-Sept Rosado (5°18'19,5 "S; 37°24'46,8" W) Altitude 28m, lying 18 km from seat of the municipality, Mossoro-RN. The community is part of the Polo Passing of the River which is composed of about 400 families distributed in 11 communities and 2 Settlements of the National Program of Land Credit, which survive mostly on subsistence agriculture and cattle and goats. (EMATER, 2012).

In the area dominated by the climate type Bshw (hot and dry semi-arid with short rainy season from February to April), high temperatures ranging from 25 °C to 35 °C, with annual average temperatures of 27,2°C, annual average relative humidity of 68% and average annual rainfall of 695.8 mm. average monthly precipitation varied in the rainy season (February, March and April) between 102.8 and 160.9 mm and the dry season (September, October and November) between 1.9 and 4.9 mm (Sobrinho *et al*, 2011).

Collection and analysis of data

The first contact with the Community was made in March 2012 by the community leader indicated by technicians of the Technical Assistance Office and Rural Rio Grande do Norte Extension (EMATER-RN) and the information provided about the community helped in the articulation and implementation workshops.

In the two workshops held with community residents to work proposal was presented and discussed, emphasizing the objectives, the importance and the methodology to be adopted. Moreover, it was clarified that the participation of respondents in the survey was subject to its acceptance, may we give up at any time without any damage. The term of Prior Informed Consent (TAP) as instructed the Board of Management of Genetic Heritage (CGEN) was prepared during the workshops.

For the choice of respondents and their production units was used to non-probability sampling known as "Snowball" (Albuquerque *et al*, 2014). From the initial contact with the community, a first expert is recognized, which shall appoint another expert and so on, to involve all community experts. Thus, 22 experts were selected, corresponding to 42% of the production units. Experts were visited in their production units aiming to clarify possible doubts about the survey and schedule dates and times of the interviews so as not to impair daily activities.

At the time, there was the reading of the TAP, reaffirming that the information collected would be used only for research purposes. It requested the signature of the informant in that term being given a copy of it signed by the parties involved.

In this work, there were two to five visits per production unit in the period from June to December 2012, and used the techniques of direct data collection and participant observation, guided tour, free list and semi-structured interviews (Albuquerque *et al*, 2014).

Informants were asked about the use and management of the plants and the parts used for each use, approaching specific questions about each species present in domestic spaces. In this case, the interviews were made during the spot check for each species mentioned by every informant, using the method guided tour that is to go to the field with the informant, aiming to support and validate the names of the plants mentioned in the interviews.

During the tour-guided, the said plants were thoroughly photographed for later confirmation of botanical identification through professional literature (Lorenzi and Matos, 2008; Souza and Lorenzi, 2012) and some species were herborized according to established techniques in botanical collections, for further taxonomic identification by experts of the Herbarium Dárdano de Andrade Lima of the Federal Rural University of Semi-Arid. The classification families are according to Angiosperm Phylogeny Group (APG 2009). The species were classified according to the use according to the definitions of the respondents themselves, avoiding using predefined categories.

RESULTS AND DISCUSSION

Homegardens of São João da Várzea community recorded the presence of 154 species belonging to 63 botanical families, covering a total 2,474 plants (Table 1).

It is observed heterogeneous distribution of these species of plants and the number of production units, varying between 9 and 60 species and 24 plant and 375, respectively. This difference in floristic composition is directly related to factors such as water availability, size of the plant, soil type and the presence of outcropping of rocks, socioeconomic and cultural conditions of the family, preference and maintainer of the interest of the plant and finally the family farm fitness.

Other studies also cite the relationship between the diversity of plants in domestic spaces and some of these conditions, such as the function and homegarden size, socioeconomic and cultural factors (Galluzzi *et al*, 2010); ecological potential of the region and cultural food preferences (Niñez, 1984); and interests of its owners, since the products are generally used for self in the family unit of production (CONSEA, 2004).

The botanical family that had the highest number of species were Lamiaceae (9 spp.) and then the Apocynaceae family (8 spp.), Euphorbiaceae (8 spp.) and Fabaceae-Caesalpinioideae (8 spp.). These results are similar to those found in São Miguel-RN by Freitas *et al*, (2012) and partly with those found by Florentino *et al*, (2007) in Caruaru-PE.

The most common species were *Psidium guajava* L., *Cocos nucifera* L. and *Calotropis procera* (Aiton) WT Aiton), all present in 16 homegardens (73%), followed by *Annona squamosa* L., *Malpighia glabra* L. and *Carica papaya* L. in 13 homegardens (59%). In southern Rio Grande do Norte in São Miguel, *P. guajava* and *C. nucifera* were the most frequent species, occurring in 14 of the 20 studied homegardens (Freitas *et al*, 2012). It appears therefore that, with the exception of *C. procera*, which is a spontaneous species used by informants as forage, medicinal and technological, the other most common species are fruitful used in feeding families, contributing to the food security of the same.

Table 1 Species found in ethnobotanical survey of domestic spaces of homegardens in São João da Várzea, Mossoro-RN. Categories of use: A = "Foods"; B = "Crafts"; C = "Trade"; D = "Cosmetic"; E = "Energy"; F = Fodder; G = "Medical"; H = "Mystic"; I = "No use"; J = "Oil"; K = "Ornamental"; L = "Repellent"; M = "Shadow"; N = "Technology"; O = "Toxic". Plant parts: a = "Bulb"; b = "bark"; c = "Stem"; d = "flower"; e = "Leaf"; f = "Fruit"; g = "Latex"; h = "Pseudostem"; i = "Pseudofruit"; j = "Root"; k = "Seed"; l = "Whole plant".

Species	Etnospecies	Use	Used part	Number of plants	Number of homegardens
AGAVACEAE					
<i>Agave americana</i> L.	Agave	K	l	2	1
<i>Agave sisalana</i> Perr.	Espada de São Jorge	K	l	4	1
AMARANTHACEAE					
<i>Celosia argentea</i> L.	Veludo	K	l	1	1
<i>Celosia cristata</i> L.	Veludo	K	l	29	2
<i>Chenopodium ambrosioides</i> L.	Mastruz	G	c, d, e	5	4
AMARYLLIDACEAE					
<i>Allium cepa</i> L.	Cebola de cabeça	A, G	a	1	1
<i>Allium fistulosum</i> L.	Cebola de fio	A	e	33	2
<i>Allium sativum</i> L.	Alho	A, G	a	1	1
<i>Crinum erubescens</i> L. f.	Croton espada	K	l	2	2
<i>Crinum procerum</i> Carey ex Herb.	Língua de vaca, Lágrima de noiva	K	l	6	2
ANACARDIACEAE					
<i>Anacardium occidentale</i> L.	Cajueiro	A, C, F, G, J, M	b, i, k	5	4
<i>Mangifera indica</i> L.	Mangueira	A, E, M	c, f, l	14	6
<i>Myracrodruon urundeuva</i> Allemão	Aroeira	G, N	b, c	2	2
<i>Spondias mombin</i> L.	Cajá	A, M	f, l	9	2
<i>Spondias purpurea</i> L.	Seriguela	A, M, N	c, f, l	27	9
<i>Spondias tuberosa</i> Arr. Cam.	Cajarana	A, F, M, N	c, e, f, l	28	10
ANNONACEAE					
<i>Annona muricata</i> L.	Graviola	A, M	f, l	36	5
<i>Annona squamosa</i> L.	Pinha	A, F, M	f, l	67	13
<i>Annona reticulata</i> L.	Condessa	A	f	2	1
APOCYNACEAE					
<i>Allamanda blanchetii</i> A. DC.		K	l	9	3
<i>Allamanda cathartica</i> L.	Trepadeira amarela	K	l	1	1
<i>Aspidosperma pyriforme</i> Mart.	Pereiro	E, F, G, M, N	b, c, e, l	54	10
<i>Calotropis procera</i> (Aiton) W.T. Aiton	Flor de seda	F, G, I, N, O	c, d, e, f, g, k, l	121	16
<i>Catharanthus roseus</i> (L.) G. Don.	Boa noite	G, K	d, l	120	7
<i>Cryptostegia grandiflora</i> R. Br.	Unha do cão	I, K, M, O	g, l	97	12
<i>Nerium oleander</i> L.	Espirradeira	K, M, O	l	2	2
<i>Plumeria rubra</i> L.		K	l	1	1
ARACEAE					
<i>Alocasia macrorrhizos</i> (L.) G. Don	Croton	K	l	11	4
<i>Caladium bicolor</i> L.	Croton	K	l	1	1
<i>Dieffenbachia</i> sp.	Comigo ninguém pode	K	l	9	4
<i>Epipremnum pinnatum</i> (L.) Engl.	Trepadeira	K	l	2	2
<i>Philodendron imbe</i> Schott ex Endl.	Cara de cavalo	K	l	10	5
ARECACEAE					
<i>Chamaedorea fragrans</i> (Ruiz & Pav.) Mart.	Palmeira	K	l	5	2
<i>Cocos nucifera</i> L.	Coqueiro	A, B, G, J, K, M, N	b, e, f, k, l	97	15
<i>Copernicia prunifera</i> (Mill.) H.E. Moore	Carnauba	B	e	24	1
<i>Licuala grandis</i> H. Wendl. ex Linden	Palmeira	K	l	2	1
ASPARAGACEAE					
<i>Asparagus densiflorus</i> (Kunth) Jessop	Alfinete	K	l	1	1
ASPHODELACEAE					
<i>Aloe arborescens</i> Mill.		K	l	1	1
<i>Aloe vera</i> (L.) Burm. f.	Babosa	D, G	e	58	4
ASTERACEAE					
<i>Achmella repens</i> (Walter) Rich.		K	l	1	1
<i>Zinnia peruviana</i> L.		K	l	91	1

BALSAMINACEAE						
<i>Impatiens balsamina</i> L.	Maravilha	K	1	4	1	
BEGONIACEAE						
<i>Begonia aconitifolia</i> A. D. C.	Asa de anjo	K	1	2	1	
<i>Begonia cucullata</i> Willd.	Brinco de princesa	K	1	2	2	
BIGNONIACEAE						
<i>Tabebuia caraiba</i> (Mart.) Bur.	Craibeira	K, M	1	7	3	
<i>Tabebuia impetiginosa</i> (Mart. ex DC.) Standl.	Pau darco	M	1	1	1	
BIXACEAE						
<i>Bixa orellana</i> L.	Corante	A	k	1	1	
BORAGINACEAE						
<i>Heliotropium indicum</i> L.	Fedegoso	G	c, d, e	3	1	
BRASSICACEAE						
<i>Nasturtium officinale</i> R. Br.	Agrião	G	d, e	1	1	
BROMELIACEAE						
<i>Ananas comosus</i> (L.) Merr.	Abacaxi	A, G	f	2	1	
BURSERACEAE						
<i>Commiphora leptophloeos</i> (Mart.) J. B. Gillett	Imburana	M, N	c, l	4	1	
CACTACEAE						
<i>Opuntia</i> sp.	Palma	F, K, N	c, l	2	2	
<i>Tacinga inamoena</i> (K.Scumm.) N.P.Taylor & Stuppy		K	l	1	1	
CAPPARACEAE						
<i>Capparis cynophallophora</i> L.	Feijão bravo	F, M	c, e, f, l	1	1	
CARICACEAE						
<i>Carica papaya</i> L.	Mamão	A, F, G	c, d, e, f, g	61	13	
CHRYSOBALANACEAE						
<i>Licania rigida</i> Benth.	Oitíca	J, M	f, l	2	1	
<i>Licania tomentosa</i> (Benth.) Fritsch		M	l	1	1	
CLEOMACEAE						
<i>Cleome spinosa</i> Jacq.	Comer de passarinho	F	K	2	1	
CLUSIACEAE						
<i>Clusia fluminensis</i> Planch. & Triana		K	l	1	1	
COMBRETACEAE						
<i>Combretum leprosum</i> Mart.	Mofumbo	E, F, G, M, N	b, c, e, f, j, l	36	7	
CONVOLVULACEAE						
<i>Ipomoea asarifolia</i> (Desr.) Roem. & Schult.	Salsa	F, G, O	c, d, e	5	3	
COSTACEAE						
<i>Costus spiralis</i> (Jacq.) Roscoe		G	e	18	1	
CRASSULACEAE						
<i>Bryophyllum pinnatum</i> (Lam.) Oken	Corama	G	c, e	3	2	
<i>Kalanchoe blossfeldiana</i> Poelln.	Calandiva	K	l	4	2	
<i>Kalanchoe brasiliensis</i> Cambess.	Malvarisca	G	c, e	2	2	
CUCURBITACEAE						
<i>Citrullus lanatus</i> (Thunb.) Matsum & Nakai	Melancia	A	f	5	2	
<i>Cucumis anguria</i> L.	Maxixe	A	f	5	2	
<i>Cucumis melo</i> L.	Melão	A	f	2	1	
<i>Cucurbita pepo</i> L.	Jerimum	A, G	c, f, k	6	3	
<i>Luffa cylindrica</i> M. Roem	Bucheira	N	f	5	3	
<i>Momordica charantia</i> L.	Melão Caetano	F, G, N	c, e, f, k	11	5	
DAVALLIACEAE						
<i>Nephrolepis exaltata</i> (L.) Schott	Samambaia	K (1)	l (1)	2	2	
EUPHORBIACEAE						
<i>Croton campestris</i> A. St. Hil.	Velame	F, G, I, N	e, g, l	133	8	
<i>Euphorbia lactea</i> Haw.	Cordão de São Francisco	K	l	2	1	
<i>Euphorbia milii</i> Des Moul.		K	l	4	1	
<i>Jatropha gossypifolia</i> L.	Pinhão roxo	G, H	e, g, l	73	8	
<i>Jatropha mollissima</i> (Pohl) Baill.	Pinhão	F, G, M, N	c, e, f, g, l	15	4	
<i>Manihot utilissima</i> Pohl	Macaxeira	A	j	6	2	
<i>Pedilanthus tithymaloides</i> (L.) Poit.	Sapatinho	K	l	5	3	
<i>Ricinus communis</i> L.	Carrapateira, mamona	A, F, J	e, f, k	2	2	
FABACEA-CAESALPINIOIDEAE						
<i>Caesalpinia ferrea</i> Mart.	Jucá	G, M	f, l	2	1	
<i>Caesalpinia pulcherrima</i> (L.) Sw.		K, M	l	21	3	
<i>Caesalpinia pyramidalis</i> Tul.	Catingueira	E, F, G, M, N	c, d, e, f, l	78	7	
<i>Senna occidentalis</i> (L.) Link	Manjerioba	A, F	c, d, e, f, k	1	1	
<i>Senna siamea</i> (Lam.) H.S. Irwin & Barneby	Acácia	K, M	l	4	3	
<i>Senna spectabilis</i> (DC.) H. S. Irwin & Barneby	Canafístula	F, M	c, e	2	1	
<i>Senna uniflora</i> (Mill.) H.S. Irwin & Barneby	Mata pasto	F, I	c, d, e, f, l	7	3	
<i>Tamarindus indica</i> L.	Tamarina	A, F, G, M	f, l	3	2	

FABACEA-FABOIDEAE					
<i>Erythrina variegata</i> L.	Raio de sol	K	l	1	1
<i>Gliricidia sepium</i> (Jacq.) Kunth ex Walp.		F, K, M	c, e, f, l	9	4
<i>Vigna unguiculata</i> L. Walp.	Feijão	A	k	1	1
FABACEA-MIMOSOIDEAE					
<i>Desmanthus virgatus</i> (L.) Willd.	Anil, jureminha de bode	F, M	c, e, f, l	7	2
<i>Leucaena leucocephala</i> (Lam.) de Wit	Leucena, lucena	F, M	c, e, f, l	31	5
<i>Mimosa ophthalmocentra</i> Mart. ex Benth.	Jurema de imbirá	F, M, N	c, e, f, l	2	1
<i>Mimosa tenuiflora</i> (Willd.) Poir.	Jurema, jurema preta	E, G, M, N	b, c, l	5	4
<i>Piptadenia stipulacea</i> (Benth.) Ducke	Jurema branca	E, M	c, l	1	1
<i>Prosopis juliflora</i> (Sw.) DC.	Algaroba	E, F, M	c, e, f, l	3	3
LAMIACEAE					
<i>Mentha arvensis</i> L.	Hortelã pimenta	A, G	c, d, e	6	3
<i>Mentha X piperita</i> L.	Hortelã roxo	A, G	c, d, e	8	6
<i>Mentha X villosa</i> Huds.	Hortelã	A, G	e	6	2
<i>Ocimum basilicum</i> L.	Manjeriçã	G	c, d, e	3	1
<i>Ocimum gratissimum</i> L.	Louro	A, G	c, d, e	4	2
<i>Origanum majorana</i> L.	Manjerona	G	c, d, e	3	1
<i>Plectranthus amboinicus</i> (Lour.) Spreng.	Malva	G	c, e	7	6
<i>Plectranthus barbatus</i> Andrews	Boldo	G	e	1	1
<i>Plectranthus neochilus</i> Schltr.	Dipirona	G	e	1	1
LAURACEAE					
<i>Persea americana</i> Mill.	Abacate	A, G, M	f, k, l	5	3
LYTHRACEAE					
<i>Punica granatum</i> L.	Romã	A, G	f, k	8	7
MALPIGHIACEAE					
<i>Malpighia glabra</i> L.	Acerola	A, C, F, G, M	f, l	65	13
MALVACEAE					
<i>Abelmoschus esculentus</i> (L.) Moench	Quiabo	A	f	4	1
<i>Guazuma ulmifolia</i> Lam.	Mutambeira	A, E, F, M, N	c, e, f, l	8	4
<i>Hibiscus rosa-sinensis</i> L.	Brinco de princesa	K, M	l	3	2
<i>Pseudobombax marginatum</i> (A. St.-Hil., Juss. & Camb.) A. Robyns	Embiratonha	G	b	1	1
<i>Sida rhombifolia</i> L.	Relógio	N	c, d, e, f	82	4
<i>Waltheria</i> sp.	Malva braba	F, N	c, d, e	8	1
MELIACEAE					
<i>Azadirachta indica</i> A. Juss.	Ninho, nim	F, K, L, M (4)	e, l (2)	58	11
MORACEAE					
<i>Artocarpus heterophyllus</i> Lam.	Jaca	A, M	f, k, l	1	1
<i>Ficus benjamina</i> L.	Sempre verde	K, M	l	18	7
MUSACEAE					
<i>Musa</i> sp.	Bananeira	A, F, G	e, f, h	94	4
MYRTACEAE					
<i>Eugenia uniflora</i> L.	Pitanga	A, M	f, l	2	1
<i>Psidium guajava</i> L.	Goiabeira	A, F, G, M	e, f, l	77	16
<i>Syzygium cumini</i> (L.) Skeels	Azeitona	A, M	f, l	3	2
OLACACEAE					
<i>Ximenia americana</i> L.	Ameixa	G	b	2	1
OLEACEAE					
<i>Jasminum sambac</i> (L.) Aiton	Bugari	K	e, l	4	2
PASSIFLORACEAE					
<i>Turnera ulmifolia</i> L.	Xanana	G, I, K	d, e, j, l	20	5
PHYLLANTHACEAE					
<i>Phyllanthus niruri</i> L.	Quebra pedra	G	j	9	4
PIPERACEAE					
<i>Peperomia obtusifolia</i> (L.) A. Dietr.	Croton figo	K	l	5	4
PLANTAGINACEAE					
<i>Scoparia dulcis</i> L.	Vassourinha	G, N	c, d, e, f, j, l	96	7
<i>Stemodia maritima</i> L.	Rabo de soim	F, N	c, e, l	8	2
POACEAE					
<i>Cymbopogon citratus</i> (DC.) Stapf	Capim santo	A, G	e	6	5
<i>Saccharum officinarum</i> L.	Cana	A, F	c	16	4
<i>Sorghum bicolor</i> (L.) Moench	Sorgo	F	c, e	3	2
PORTULACACEAE					
<i>Portulaca grandiflora</i> Hook.	Nove horas	K	l	25	6
<i>Portulaca oleracea</i> L.	Beldroega	K	l	27	8
RHAMNACEAE					
<i>Ziziphus joazeiro</i> Mart.	Juazeiro	A, D, E, F, G, M	b, c, e, f, l	18	10
ROSACEAE					
<i>Rosa chinensis</i> Jacq.	Rosa menina	K	l	1	1
RUBIACEAE					
<i>Ixora coccinea</i> L.		K	l	7	2

<i>Morinda citrifolia</i> L.	Noni	G	F	5	4
<i>Tocoyena guianensis</i> K. Schum.	Jenipapo	E, G, M, N	b, c, l	3	2
RUSCACEAE					
<i>Sansevieria trifasciata</i> Prain 'Hahnii'	Espada de São Jorge fêmea	K	l	1	1
<i>Sansevieria trifasciata</i> var. <i>laurentii</i> (De Wild.) N. E. Br	Espada de São Jorge macho	K	l	32	3
RUTACEAE					
<i>Citrus reticulata</i> Blanco	Tangerina	A, M	f, l	3	3
<i>Citrus sinensis</i> (L.) Osbeck	Laranja	A, G, M	e, f, l	5	4
<i>Citrus X limonia</i> (L.) Osbeck	Limão	A, G, M, N	e, f, l	21	10
SAPOTACEAE					
<i>Manilkara sapota</i> (L.) Van Royen	Sapoti	A, M	f, l	3	2
<i>Sideroxylon obtusifolium</i> (Roem. & Schult.) T. D. Penn.	Quixabeira	A, G, M	b, f, l	3	3
SOLANACEAE					
<i>Capsicum chinense</i> Jacq.	Pimenta de cheiro	A	f	3	1
<i>Capsicum frutescens</i> L.	Pimenta malagueta	A, K	f, l	9	3
<i>Lycopersicon esculentum</i> Mill.	Tomate	A	f	1	1
<i>Solanum melongena</i> L.	Berinjela	A, G	f	1	1
URTICACEAE					
<i>Pilea microphylla</i> (L.) Liebm.	Croché, trinta rapaz, orelha de rato	K	l	10	6
VERBENACEAE					
<i>Lippia alba</i> (Mill.) N. E. Br. ex Britton & P. Wilson	Cidreira, erva cidreira	A, G	c, d, e	6	6
VITACEAE					
<i>Vitis vinifera</i> L.	Uva	A	f	1	1
ZINGIBERACEAE					
<i>Alpinia zerumbet</i> (Pers.) B. L. Burt & R. M. Sm.	Coluna, colônia	G	e	32	1

These results corroborate those found by other authors found that the most common species in gardens are the fruit (Florentino *et al*, 2007, Freitas *et al*, 2012, Silva *et al*, 2014). The arboreal fruit species, and favor the establishment of a favorable microclimate, can benefit the development of other species (Kumar and Nair, 2007).

2,474 individuals distributed in 22 production units were observed. In other studies in areas of Caatinga a lower number was observed. In Pernambuco Florentino *et al*. (2007) reported the presence of 1,461 individuals in 25 yards of Caruaru-PE and Albuquerque *et al*, (2005) found 390 plants in 31 homegardens. In Rio Grande do Norte in São Miguel, Freitas *et al*, (2012) found a total of 1,325 individuals in 20 homegardens.

Croton campestris A. St. Hil. stands out as the most abundant species, with a total of 133 plants in 8 production units, followed by *C. procera* and *Catharanthus roseus* (L.) G. Don.) plants with 121 and 120, respectively. The greater abundance of these species is due, probably, to the period when the ethnobotanical survey was conducted from June to December 2012, as the region as well as throughout the semiarid region, drought facing the consequences of that year. Thus, there was a predominance of species possibly present greater resistance to water stress, especially those spontaneous, as is the case of *Croton campestris* A. St. Hil. and *C. procera* or those easily spread, as *C. Roseus*

In São Joao da Varzea community located in the semiarid region, the demand for water by culture is a factor that influences the choice of species that will make the production units, since the amount of water available for irrigation in these regions is in most cases insufficient to meet the needs of plants.

Moreover, this fact has a direct impact on the amount of plants that are maintained and/or managed in the vicinity of the residences. Thus, the diversity of species and their abundance are directly related to the rainy season, since in this period, various annual and perennial species in order to avail the facility of water for irrigation and the action of rain are grown.

In a study conducted in the region of Morraria, Cáceres-MT, Oliveira (2006) found a similar condition where planting is concentrated in the rainy season and the plants depend on rainfall water to survive. The same author states that with access to limited water during the dry season, only a few plants are irrigated, mainly medicinal and ornamental, with a preference relation and / or important to select plants that will be maintained with irrigation during this period.

Although not a standard defined spacing and an apparent disorganization of domestic spaces studied, the distribution of plants is directly related to the characteristics and peculiarities of each homegarden and each family member responsible for the management of these spaces. The ornamental plants, for example, are always found in front of the house or surrounding it, suggesting an interest in using such plants to the aesthetics of the home spaces. Those used for human consumption, are generally grown behind the homes, which are also taken advantage of the shadows when dealing with bushes and trees. Other authors observed similar spatial distribution, reporting certain sectorization in choosing the place of planting species where the ornamental are arranged in front of the residence, while the food allocated in the homegarden funds (Semedo *et al*, 2007, Siviero *et al*, 2011, Silva *et al*, 2014). The herbal medicinal plants, in turn, are generally close to the kitchen of the house, confirming other studies, such as Freitas *et al*, (2012) and Florentino *et al*, (2007).

Regarding the use of the species found in the productive units studied, the informants cited 15 categories, classifying each species in at least one of these categories (Table 2).

Table 2 Number of species, use and homegardens and their respective percentages by category of use cited by informants in São João da Várzea, Mossoro-RN.

Category of use	N° species	% species	N° quotations	% quotations	N° Home gardens	% Home gardens
Medicinal	57	18,9	170	20,1	21	12,1
Ornamental	54	17,9	125	14,8	16	9,2
Feeding	52	17,3	199	23,5	22	12,7
Shadow	49	16,3	150	17,7	22	12,7
Fodder	35	11,6	70	8,3	17	9,8
Technology	23	7,6	55	6,5	19	11,0
Energy	10	3,3	21	2,5	8	4,6
None	5	1,7	14	1,7	11	6,4
Oil	4	1,3	6	0,7	4	2,3
Toxic	4	1,3	10	1,2	7	4,0
Handicraft	2	0,7	5	0,6	5	2,9
Trade	2	0,7	2	0,2	2	1,2
Cosmetic	2	0,7	10	1,2	9	5,2
Mystique	1	0,3	8	0,9	8	4,6
Repellent	1	0,3	2	0,2	2	1,2
TOTAL	301	100	847	100	173	100

In 154 species found in the study, 57 (18.9%) are used as a medicine, 54 (17.9%) as an ornamental, 52 (17.3%) as a food, 49 (16.3%) for shade and 35 (11.6%) as fodder. Medicinal plants are also highlighted in a study conducted in the homegardens of a rural community in San Miguel-RN (Freitas et al., 2012) and in urban homegardens of Rosario Oeste in Mato Grosso State (Guarim Neto and Amaral, 2010).

According Guarim Neto and Amaral (2010), studies in homegardens, whether urban or rural, show that the popular use of plants for medicinal purposes is large, almost always, in comparable numbers to plants used for food purposes, especially also for ornamental plants, especially in urban homegardens. These features are the main components of the homegardens studied in other works, but do not follow the same order of representation (Florentino et al, 2007, Moura and Andrade, 2007, Pasa et al, 2008, Freitas et al, 2012).

According to the results of ethnobotanical survey, one can see that all species present in the production units were considered useful, and 51.3% were cited for more than one purpose, while 48.7% for a single use. Freitas et al, (2012) studying homegardens in Sao Miguel, RN, they found a high diversity of species and 37.6% were cited for multiple uses. Florentino et al, (2007) but found that few species are used for more than one purpose in the homegardens of Caruaru-PE. In this study, *C. nucifera* was presented as the most versatile species, being used for food, handicrafts, medicinal, like oil, ornamental, for shade and technological, covering thus seven categories of use.

The used part of "Whole plant" was the most represented with 98 species mentioned (31%), then stood out the leaf, the fruit and the stem, as shown in Table 3. The most frequent use of leaf, fruit and bark is cited in the study of Silva et al, (2014) in Maraba homegardens in Para State and Moreira and Guarim Neto (2015) in Tangara da Serra homegardens in Mato Grosso State.

Table 3 Number and percentage of species, number and percentage of use and number and percentage of homegardens by parts of plants used by informants in São João da Várzea, Mossoro-RN, Brazil.

Parts of plants	N° species	% species	N° quotations	% quotations	N° Home gardens	% Home gardens
Bulb	2	0,6	2	0,2	1	0,6
Shell	11	3,5	26	3,1	12	7,6
Stalk	46	14,6	93	11,0	18	11,5
Flower	20	6,3	38	4,5	17	10,8
Leaf	57	18,0	148	17,5	22	14,0
Fruit	56	17,7	198	23,4	22	14,0
Latex	6	1,9	15	1,8	11	7,0
Pseudostem	1	0,3	1	0,1	1	0,6
Pseudofruit	1	0,3	4	0,5	4	2,5
Root	5	1,6	11	1,3	8	5,1
Seed	13	4,1	37	4,4	19	12,1
Whole plant	98	31,0	273	32,3	22	14,0
TOTAL	316	100	846	100	157	100

be probably the relationship between this category and the presence of ornamental plants and used for shade in productive units studied, since it is difficult to separate parts of these use quotes.

CONCLUSION

The homegardens studied are composed of several spaces that reflect the socioeconomic and cultural aspects of families and have diversity of species used by families mainly as medicinal. Homegardens of São João da Várzea community recorded the presence of 154 species belonging to 63 botanical families, covering a total 2,474 plants. The main categories of use of plants are medicinal, food and ornamental.

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