

THE LATANYÉ (*Coccothrinax barbadensis*) CRAFT INDUSTRY IN ST. LUCIA



Lyndon John
Forestry Department
Ministry of Agriculture, Forestry & Fisheries
Union, Castries
St. Lucia
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The Forestry Department in recognizing the cultural and economic importance of the Latanyé (*Cocothrinax barbadensis*) embarked on an assessment of its contribution to the economic welfare of those involved in the industry. This effort is in recognition of the economic value of St. Lucia's biodiversity. Such natural resources must be utilized in an efficient and sustainable manner. Thanks to Michael Andrew Acting Chief Forest Officer for spearheading this conservation effort and facilitating the project's development. The respective range officers who participated and supervised the Latanyé survey and who have mustered community support for this project. These officers include Alfred Prospere, Michael Bobb, Sylvie Raymond, Peter Vidal, Ananius Vereneuil, Alwin Dornelly, Rhikkie Alexander, Theodore Nicholas, Vincent Ernest, Margaret Severin, and Brent Charles.

Introduction

The local handicraft industry employs the use of a once fairly common local palm, *Cocothrinax barbadensis*, commonly called Latanyé. This palm is the mainstay of local broom production and other craft manufacturing. Recently, levels of Latanyé occurrence have been dropping steadily in the wild. This is due in part to indiscriminate leaf harvesting to meet broom and handicraft production demands. The Forestry Department felt the need to assess the scope of the industry and the impact it was having on Latanyé in the wild. The survey was conducted April, 2000. The results presented a serious situation where we may be witnessing the demise of this important species due to unsustainable levels of exploitation. There is potential for a self-sustaining industry that can provide a meaningful livelihood for many who are currently self employed in the agriculture sector. Latanyé offers a wide array of other craft opportunities which could be just as lucrative if not more so than the manufacture of brooms. The Department recognizes that this species can play a great economic role as an alternative cash crop in advancing the Ministry of Agriculture's policy of agricultural diversification.

Species Description

Small to medium, solitary palms to ca. 5-15(-22) m. tall; In diameter (7-)10-18(-20) cm.; ashy gray; smooth to fibrous; leaf and inflorescence scars often visible, becoming rimose with age. leaves 12-15 In number; sheaths becoming finely netlike ; glabrescent elsewhere ; 1.0-1.2m. long ; ca. 1-1.5 (-2)cm. or wide; hastula irregularly triangular-acute; erect; 2cm. Long; 2-3cm or more wide, densely lepidote abaxially with spreading, interlocking, fimbriate, hyaline scales (especially when freshly expanded), only becoming glabrescent when very old (or on juvenile leaves), the abaxial surface usually appearing quite silvery; segments 50-70 in number, rigid or lax, narrowly trullate to rhombic, acuminate, 2-4.5 cm. wide (widest at point of connation), ca. 60-90 cm. long (hastula to apex), often apically bifid. Inflorescence 25-45 cm. long, erect or arcuate, shorter than the leaves, with 4-10 primary branches; scape bracts lightly lepidote apically; primary branches glabrous, pendent, 10- 20 cm. long at anthesis (up to 30cm. long in fruit), ultimate branches 6-25cm. long, the uppermost branches rarely again branched. Flowers pale yellowish, fragrant, pedicellate; bracteoles triangular; perianth lobes mostly acute, triangular; stamens 9-12, the filaments connate slightly at the base, anthers 1-2mm. long; stigma obliquely infundibuliform, entire to crenulate, on a short narrow style. Fruit 7-12 mm. In diameter, flattened, globose, with persistent stigmatic remains; pedicels 1-5 mm. Long; seed globose, 6-10 mm. In diameter, endosperm sulcate, cerebriform, sometimes separating nearly to the center of the seed.

General distribution: The Windward and Leeward Islands, Trinidad and Tobago. Probably also the same taxon found in the Virgin Islands and Puerto Rico.

Distribution in the Lesser Antilles: Saba, Barbuda, Antigua, Guadeloupe, Marie Galante, Dominica, Martinique, St Lucia, Barbados.

Common names: Palmier a balai, Latanier balai (Guad., Mart.); Latanier (Guad., St Lucia, Dominica); Allatani (Carib name); Palmetto (Barbuda); Thatch Palm (various places).

Habitat: Littoral woodland and scrub woodlands on limestone near the coast, from sea level to 200 m. elevation.

Observations: “Many authors, including the present writer, concur with Beard’s comment: a single *Coccothrinax* population formerly existed throughout the islands, but since man’s arrival it has become exterminated in the wild on many islands” (Howard, Vol.3, 1979).

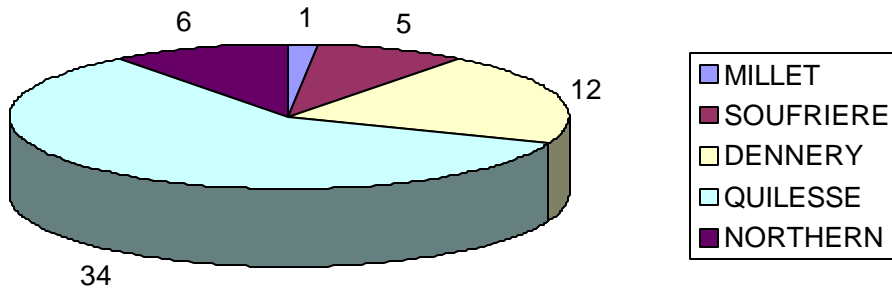
Methodology

The survey was conducted by the Forestry Department. Each range was asked to canvas their region for Latanyé harvesters and broom manufacturers. Based on the assessed number, they then conducted a survey on the estimated participants.

Results

A survey was conducted island-wide by the Forestry Department to assess the extent to which the Latanyé plant was being utilized. A total of 69 individuals participated in the survey. Generally, most of them manufactured their brooms for sale (83%). Most of those involved in this industry came from the ranges of Quillesse, Dennery and Northern. The greatest percentage came from Quillesse (Fig. 1). One respondent came from Millet. This range has seen the industry completely disappear due to problems in acquiring leaves for manufacture. The Soufriere range also reported no manufacturing activity from the Choiseul area where respondents explained that they had too far to travel to harvest leaves. The majority of those involved in the industry manufactured brooms for sale, only 14 % said that they did not. Those that did not manufacture brooms but sold them obtained brooms from wholesalers or from an estate.

Fig.1 Latanyé survey participants by range in St. Lucia



Most participants were involved in the Latanyé industry for over 15 years (Table 1). Those that have been involved in the industry typically have many years experience (Table 1). Seventeen percent had been involved for less than 5 years, 22% were between 5-10 years and at least 39% acknowledged over 15 years involvement.

Table 1. Survey results for number of years involved in broom manufacture

Numbers of persons	Years
12	<15 years
15	5-10 years
9	11-15 years
27	>15 years
2	A long time
4	No answer

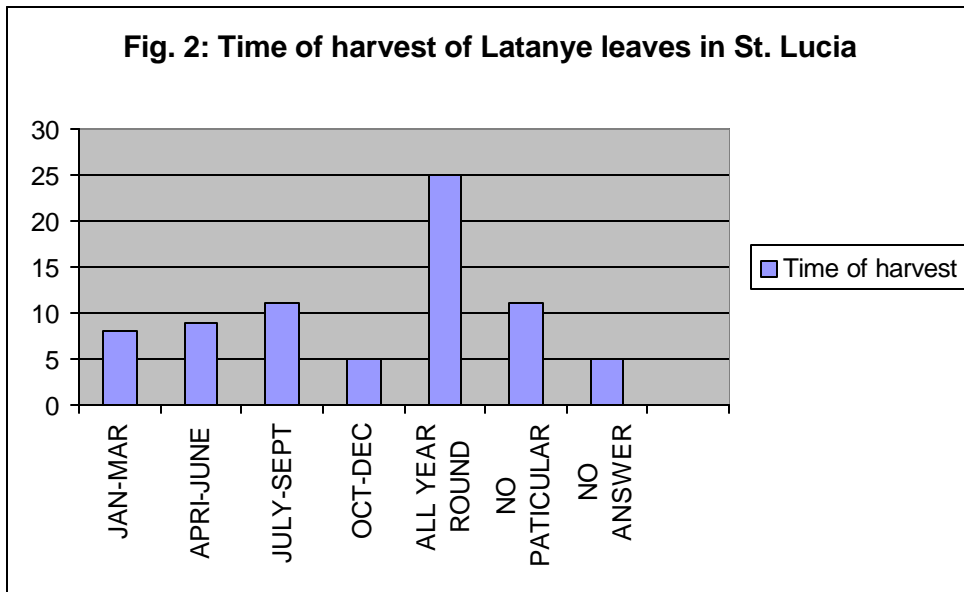
Most of the harvesting occurs on private lands located on the north east-east coast in the areas of Grand Anse, Louvet, Dauphin, Praslin. The La pointe/ Patience area in Mon Repos was also a heavily utilized area. Areas along the west coast that were targeted included Canaries and Choisuel.

Table 2 : Latanyé harvesting sites in St. Lucia

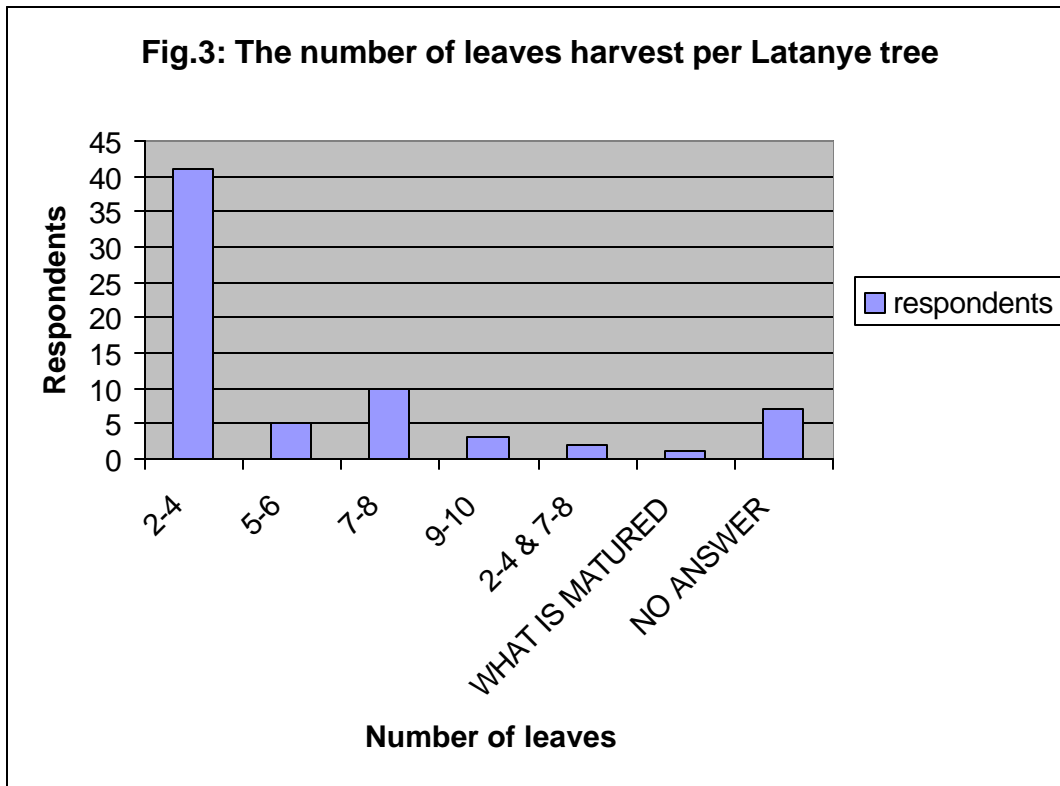
Areas	
La Pointe	Louvet
Patience/Mon Repos	Cap Estate
La Bourne	Praslin
Anse Ger Beach	Moule-a-chique
Cannelle	Desruiseaux
Cecil Lay's Estate	La Basse
Honeymoon beach	Grand Anse
Dauphin	Oblot
Lanse Mabouya	Dennery
Choisuel	Micoud

The majority (71%) of harvesters/broom manufacturers said that it was growing increasingly difficult to obtain harvestable material. The majority said that they had no problems with landowners and harvesting leaves on their property, this may be due to a large amount of harvesting occurring on properties of ex-patriate owners or absentee owners. The alternative land ownership may be crown property (e.g. Moule-a-chique) or Forest Reserve. At least three respondents (4%) had encountered conflict with police involvement, while six respondents (8%) had been refused access to properties.

The Latanyé industry is based on harvesting of leaves from wild stock. There is no active cultivation of the plant and therefore the wild stock is dwindling rapidly. The activity of leaf harvesting continues year round unabated by most harvesters. Most of the harvesters (36%) admitted to year round harvesting activity while 48% of the respondents selected particular months for harvesting (Fig. 2.).



A mature tree has 12-15 leaves. The majority of harvesters (59%) took 2-4 leaves per tree. However, some acknowledged taking 7-10 leaves per tree. Seventy two percent of the harvesting occurs on plants ranging from 2ft.-8ft. While the distance that is traveled to obtain leaves is a factor to consider, most harvesters (54%) acknowledged harvesting more than 80 leaves per trip. Sixteen percent answered harvesting from 40-60 per trip (Fig. 3.).



The broom maker needs sturdy wood as broom handles, therefore the industry impacts on other species apart from the palms. The primary species are typical of the Tropical Dry forest habitat. The Bwa Madam is the overall preferred species followed by Ti bom blanc, Bwa Gwiye, Bwa Den, Flambeau, Bwa campeche (Table 2.) of species). Some showed no particular preference, using any wood type sturdy enough for the purpose. The amount of leaves used varies with the product. The average amount of leaves used for a regular standing broom ranged from 5-10 leaves. The larger the leaves, the sturdier the quality and fewer leaves are necessary per broom. Sixty four (64%) of the respondents used between 5-10 leaves per broom. Most respondents used 3-7 leaves to make the small dusting brooms. Most of the brooms manufactured (88%) are for sale here in St. Lucia.

Table 3. Trees selected by harvesters as suitable for broom handles

Species	Scientific Name
Bwa Madam	<i>Guettarda scabra</i>
Bwa Ti Bom Blanc	<i>Croton bixoides</i>
Bwa Gwiye	<i>Myrcia citrifolia</i>
Bwa Den	<i>Pimenta racemosa</i>
Bwa Flambeau	<i>Eupatorium celtidifolium</i>
Coco cawet	<i>Caeariadecandra spp.</i>
Bwa Rose	
Campeche	<i>Haematoxylon campechianum</i>
Mahoe Pimant	<i>Daphnopsis macrocarpa</i>
Mahoe Nois	<i>Cordia curassavica</i>
Lepinni	<i>Zanthoxylum monophyllum</i> <i>Zanthoxylum martinicense</i> <i>Zanthoxylum caribaeum</i>
Mayenne	
Bwa mang	<i>Chrysochlamys caribaea</i>
Zakaia	
Bwa Mayon	<i>Calliandra teremina</i>
Bwa Creole	<i>Myrcia deflexa</i>

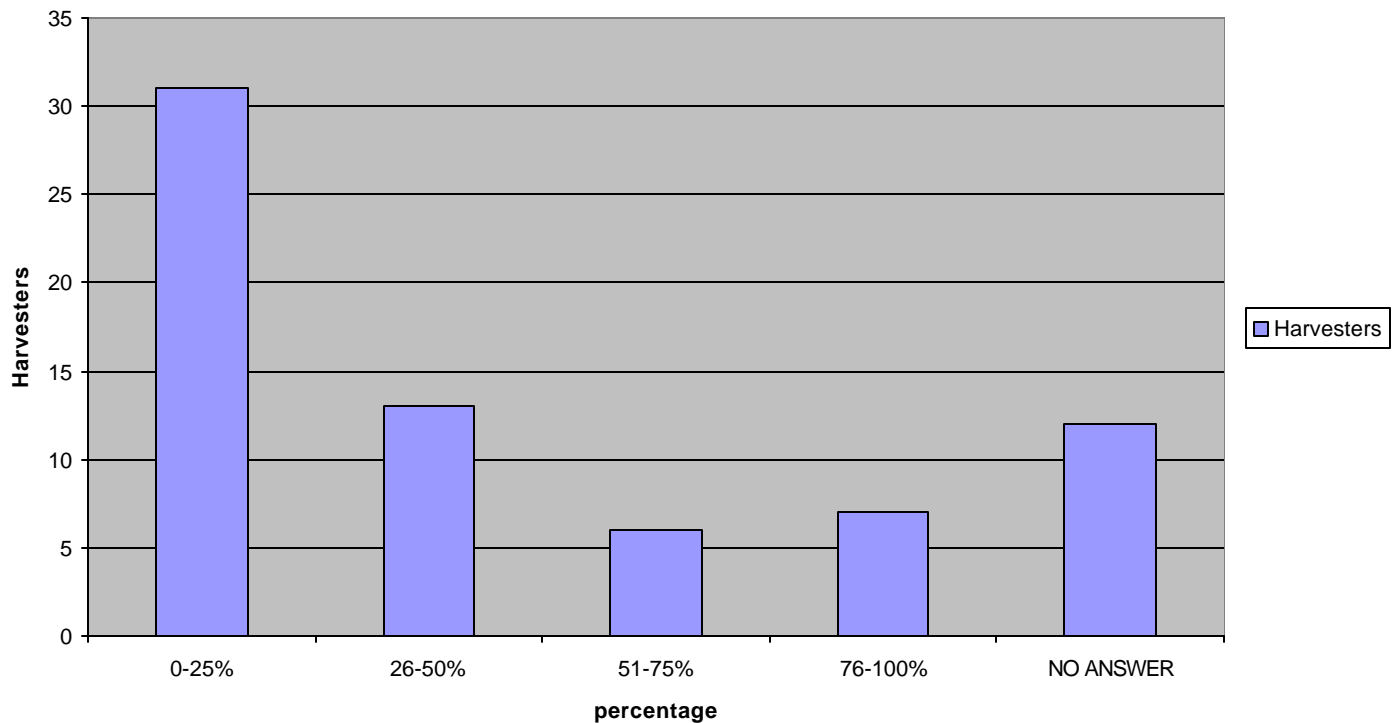
Brooms are sold islandwide by most retailers in markets and supermarkets in almost all the major communities. Significant sales occur in Castries and Vieux Fort. Broom sales are dependant primarily on the availability of the broom manufacturing material. However, 34% acknowledged sales of over thirty (30) brooms per week. 41% averaged between 10-30 brooms sold per week. On a monthly basis, 36% of the respondents averaged more than seventy (70) brooms sold. The next significant group (16%) averaged 30-50 brooms sold per month.

When questioned as to whether they export brooms, only 10 % were actively doing so. The amount exported on a weekly basis by the respondents averaged more than 30 brooms. Some individuals have secured contracts for exports to other islands including St. Vincent, Dominica, Antigua and Barbados.

The Department tried to assess the costs incurred by the broom manufacturers. Most of the manufacturers had only to invest their time in harvesting of leaves and manufacturing of the brooms. Most had not purchased any of the required raw materials. They then sold the brooms relatively cheaply. The small dusting broom is usually sold for \$3.00 (42%). The price ranged from \$2.00-\$5.00 for these small brooms. For the larger brooms, 45% of the respondents sold them for \$5.00. The price range for the larger brooms ranged from \$2.00-\$10.00. The revenue generated for these individuals can be a substantial percentage of their total income. The respondents were asked to give total revenue earned from their sales of brooms on a monthly basis. Most chose not to answer (54%), however, those that did respond gave an interesting breakdown of earnings. If the total of 37 out of the 69 who chose to answer the question is treated as a total subpopulation, the results indicate that 66% earn between \$1.00-\$400.00/month. The range on income for a monthly basis by respondents is \$1.00-\$2000.00. It must be noted that only two respondents earned between \$801.00-\$2000.00 on a monthly basis.

The income generated by the broom manufacturing and sales is substantial for the households involved. For 45% of the respondents, the revenue earned represented up to 25% of total income. For 10% of the respondents, it represented 76%-100% of their total income (Fig. 4). The results of this survey indicate a viable industry with good potential but lacking proper support and a lack of formal organization. The survey revealed that there was no association or cooperative arrangement among the broom manufacturers. While the majority of respondents did not employ others, 21% did hire others in the process for either helping in harvesting leaves and in broom manufacturing. Hired assistance ranged from 1-4 individuals, most often relatives were hired. 48% of the respondents intended to source other markets and expand their supplies and yet 42% chose not to do so. This again reflects on the current state of the industry.

Chart 4. The percentage of total income brought in Broom Making



The survey tried to assess the future viability of the industry by asking respondents how long do they see their remaining in the broom manufacturing based on the present wild stocks of Latanyé . The respondents were mostly pessimistic about the future of the industry, 32% were unsure of any future due to unsuitable leaf harvesting practices while 48% gave a response of 1-10 years. Only 15% said indefinitely or a long time.

Suggestions for the survivability of this industry by the respondents can be summarized as follows:

1. Seek and create markets, local & export
2. Create more planting space and make materials available by planting trees
3. Easier access to materials
4. Control measures on harvesting by implementing seasonal harvesting
5. Easier transportation
6. Educate the public on palm harvesting
7. Investigate health risk factor in leaf harvesting¹
8. Build craft booths (sales venues)

¹Health note: Harvesters claimed that inhalation of a “dust” like substance located under the palm leaf was responsible for health problems. This dust-like material may be of a fungal nature, however, the matter needs to be investigated..

Discussion

Latanyé has many qualities that make it an ideal agroforestry crop. It occurs naturally in coastal regions of the island with relatively low rainfall and marginal edaphic conditions. Latanyé occurs naturally in the Tropical very Dry forest (T-vdf)- Subtropical Moist forest (S-mf) vegetative lifezones (Holdridge, 1967). The temperature ranges from 26°C for the Tropical Dry Forest to a variation of 18-24°C in the Subtropical Moist Forest. Precipitation is a particularly limiting factor for these vegetative zones. Mean annual rainfall ranges from 1270 mm for T-vdf and 2000-2490mm for S-mf.

Tropical soils tend to be acidic in nature which poses a problem for the agriculture industry. Soil nutrients tend to be tightly bound in the soil and are unavailable for plant uptake. Edaphic conditions have been described for some of the Latanyé’s natural range. The description for the soils range Dennery Knob – Grand Anse reveals soil types ranging from highly acidic to moderately so (Stark *et al* 1966). Traditionally cultivated tree crops for this area include Mangoes (*Mangifera indica*), Cocoa (*Theobroma cacao*), Coconuts (*Cocos nucifera*), Sour Sop (*Annona mericata*), Cashew (*Anacardium occidentale*) and Guava (*Psidium guajava*) (James, 1989).

Table 4: Soil Type and Quality for Dennery Knob to Grand Anse Area

Soil Type	Drainage Through Soil	Moisture Supplying Capacity	Factors Limiting root penetration	Erosion hazard	Natural Fertility	Any special Soil management Problems
Falaise Stony Loam	Rapid	Poor to fair	Agglomerate at 15"-20"	High to very high (acidic)	Low slightly cultivated	Erosion control
Franciou Stony clay	Rapid	Poor	Agglomerate at 12"-24"	High to very high	Low neutral to slightly acidic	Erosion control.
Anse Clay	Slow	Good subsoil below 6"-12"	Mottled Clay	Moderate (acidic)	Low fertility	Drainage erosion
Latille clay loam	Moderate	Good	-	Almost nil	High acidic	Almost none
Delomel clay	Slow to very slow	Fair	Compact mottled clay 8"-15"	Moderate	Medium acidic	Erosion control. Difficult soil to work

Natural Vegetative Associations

Latanyé naturally occurs along the coasts and is associated with species that display a drought resistant nature. The forest is composed of predominantly deciduous tree and shrubs intermixed with semi-evergreen trees. The canopy reaches a maximum height of approximately 15 to 18 meters in the S-mf life zone. The area is poor in lianas and almost devoid of epiphytes. Characteristic species are:- *Tabebuia pallida*, *Chamaecrista glandulosa*, *Wedelia calycina*, *Cordia sp.*, *Randia aculeate*, *Guettarda scabra*, *Erithalis odorifera*, *Pimenta racemosa*, *Desmodium sp.*, *Enicostema sp.*, *Miconia sp.*, *Myrcia sp.*, *Petrea sp.* A vegetative survey conducted in 1990 over the Dennery Knob to Grand Anse area revealed Latanyé as a “species under severe stress” and therefore listed as vulnerable (Isaac, Jn Pierre and Anthony, 1990).

The Latanyé Industry

The Latanyé broom industry has survived many years as a traditional subsistence type industry. The continuity of this cultural practice lies in urgent conservation of the Latanyé (*Cocothrinax barbadensis*). The current practice of harvesting wild plants cannot sustain the industry and threatens the plant with local extinction. The process of broom making involves various steps. Most of the individuals surveyed cut 2-4 leaves per tree, some cut as many as 7-8 leaves per tree. The cut palm leaves are then placed in bundles for transportation from the field. They are then spread out in the open for sun drying. Once drying is satisfactory, the leaves are then tied with strings or wire to broom handles fashioned from stems of bwa madam, bwa ti bom blanc or bwa gwiye. The brooms are made in various sizes ranging from the hand dusting broom to a standing broom. The loss of this primarily rural industry creates further hardship for those who are already suffering from losses in traditional agricultural employment (e.g. banana industry). Most of the participants surveyed had been involved in the industry for over 15 years. Harvesting and broom production was a year round activity for many and it supplied at least a quarter of the households income. Although the survey failed to capture a recognizably crucial aspect of the industry, the casual observation has been made that primarily women manufacture the brooms. They apparently purchase the leaves from the harvesters.

The survey revealed arising social conflicts as availability in the wild stocks of latanyé diminishes. Currently, most harvesting occurs illicitly on crown lands and private lands under absentee or ex-patriate ownership.

Initially, land owners were satisfied to allow latanyé harvesting on their lands for a nominal fee. This arrangement gave the harvester unrestricted access to all latanyé trees on the property. In such a situation a harvester may obtain two vanloads of leaves for \$100.00 E.C. This situation occurred due to the incidental occurrence of latanyé on the property and the landowners wish to prepare the land for planting or building construction. The latanyé would be cleared away and any hardwood trees converted to charcoal, another by-product of land preparation. However, there is an increasing awareness of the value of latanyé plants and land owners are going to restrict former harvesting practices. Such a scenario could lead to praedial larceny and open conflict. Such events have occurred and the survey revealed police involvement on three occasions. Harvesters are already complaining of having to purchase stocks from adjacent communities due to loss of their own (e.g. Vieux Fort residents purchasing from Praslin community). Harvesters from Micoud are gaining access to remote stocks of Latanyé in Dennery by way of the sea, using fishing boats. Due to reduced availability from local areas, harvesting occurs in such remote areas, and thereby incur transportation costs. The broom makers in Choiseul are already exploring the possibility of using other palms for broom making. The Latanyé palm is in critically low supply there. Windward Island Tropical Ltd. is a private nursery that retails plants in the area and has been supplying the market with the exotic palm, *Livistonia spp.* The leaves are apparently larger than *Cocothrinax* and are of a sturdier quality. It reportedly takes only two leaves to make a normal standing broom, however, the leaves are supposedly too big for small brooms.

Aside from the broom industry, other environmental pressures that currently exist threaten the survival of Latanyé. During the 1960's through 1980's deforestation was a major concern for forests of St. Lucia. This attracted great concern due to the uncontrolled devastation that was occurring on the islands watersheds driven by the success in the banana industry. Since the mid 1990's, with the burgeoning trade problems experienced by the banana sector, lands formerly under banana production are reverting to secondary forest cover. These were lands in the interior with moderate to heavy precipitation and luxuriant forest vegetation (Tropical moist forest – Subtropical rainforest lifezones) (Holdridge 1967). However, over the last two decades, St. Lucia has been experiencing a construction boom for domestic and industrial purposes that is now threatening the coastal tropical dry forests. The demand for housing and its attending infrastructure is leading to conversion of land use and adding pressure to critical species of fauna and flora (e.g. Latanyé) which occupy the tropical dry forest. The current possibility of a proposed by-pass highway from the Castries North region through sensitive dry forest habitat to Auleon highlights the issues involved.

The survey reveals that most of the individuals involved in the industry are not optimistic about the future. They are experiencing the demise and readily recognize that conservation management is urgently required. Their recommendations are timely and insightful. Many realized the need for a cultivated approach to Latanyé production instead of harvesting from the wild. Thus the need for planting material and planting space were high on the list of recommendations. This would readily address concerns such as ease of access to materials, and ease of transportation. Another major concern featured by the survey was that of marketing of Latanyé products. The participants wished to see market expansion locally and for export in the region. However, as with any industry, there is a need for production standards which would ensure uniformity of product quality. This would guarantee customer confidence and secure the local and export market. The public should be made aware of the workings of the industry and the concerns of those involved.

The need for conservation education of the public and those involved in the industry was readily identified. It is imperative that the resource users be educated on harvesting techniques, as they are the ones most likely to be directly affected by the loss of this plant and the loss of their livelihood. Survey participants suggested the need for regulating the industry leaf harvest (e.g. harvest seasons). They noted that the rate of leaf harvest led to insufficient leaves for the plants to survive and the harvest of immature leaves.

In lieu of all the issues involved the Forestry Department has sought to address the need for conservation of Latanyé with an ecological and a socio-economic approach. The Department has secured Latanyé wildlings from the forest and they are tended to in the Departments nursery. These plants are then used to establish research plantations in the Forest Reserves in Marquis and in Fond D'Or where growth parameters are being monitored. The plantations are supplied with fertilizers and are brushed to promote healthy tree growth. The heavy harvest rate of Latanyé leaves in the wild has led to very few mature Latanyé flowering and fruiting in the wild. The tree apparently takes 4-5 years to flower and fruit. It is hoped that these plantations will eventually provide adequate stocks of seed for nursery production which will reduce the dependency on wildling collection. The plantations will also be subjected to various leaf harvesting regimes that will address the optimal conditions for such.

The Ministry of Agriculture has been promoting economic crop diversification as part of its national policy. The Forestry Department, through its investigations believes that latanyé and mauby are two local species that are under threat due to local and regional economic pressures and are suitable crop alternatives. The Department has been approached by farmers who are interested in a collaborative venture under which the Forestry Department can obtain its research information and they gain from harvest and sale of leaves. The Department is fostering this relationship and encouraging the entrepreneurs by providing planting materials and technical assistance.

Conclusion

The Latanyé broom industry is a cultural practice that has survived for many generations. It is the economic mainstay for some rural families, particularly women in those households. These individuals face diminishing agricultural alternatives as the banana industry experiences international trade pressures. The latanyé holds the potential to be a viable economic alternative fostering the independence of those involved in the craft sector. The current rate of harvesting from the wild threatens the plant with local extinction and the loss of a viable industry. It is imperative that conservation measures be implemented by encouraging planting of latanyé and investigations be carried out on its optimal productive conditions.

Recommendations

1. The need for building awareness of the value of the plant to the industry. The need to educate land owners, resource users and the general public to ensure the survival of the species.
2. In depth study of the plant as a potential agricultural crop with costs of production and marketing of latanyé for local and international export.
3. The need for production standards to ensure product quality in the market
4. Conflict resolution and conservation strategy development
5. Development of community nurseries where plants can be propagated and distributed to interested landowners

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APPENDIX

The Forestry Department is hereby requesting your help in completing this questionnaire in order to compile information that will be utilized to implement given projects that will benefit you. Please complete all questions objectively. Thanking you for your time and assistance.

1. How long have you been in the broom making industry?

< 5 years 5-10 years 11-15 years >15 years

2. What part of St. Lucia do you harvest the palm leaves from? _____

3. How easy is it to access the areas of harvest from the point where you make the brooms?

Very easy easy difficult very difficult

4. What problems do you have with the landowners with respect to accessing and harvesting the palms? _____

5. Which months of the year do you harvest the palm leaves?

Jan Feb Mar

6. How many branches of leaves are normally cut from one palm?

2-4 5-6 7-8 9-10

7. How tall are the palms that you harvest from? (Estimate the range of height in feet)

8. What is the average number of leaves you normally will harvest in one day?

€<40 €40-60 €61-80 €>80

9. What type of tree is used to make the broom sticks? _____

10. How many leaves are used to make the normal standing brooms? _____

11. How many leaves are used to make the smaller making brooms? _____

12. Do you sell brooms in St. Lucia? Yes € No €

13. How many brooms are sold in St. Lucia per week?

€<10 €10-20 €21-30 €>30

Per month? €<30 €30-50 €51-70 €>70

14. Do you export brooms out of St. Lucia for sale?

€ Yes € No

15. How many brooms are exported out of St. Lucia per week?

€<10 €10-20 €21-30 €>30

Per month? €<30 €30-50 €51-70 €>70

16. What is your cost in making one of the smaller dusting brooms? _____

17. What is your cost in making one of the normal dusting brooms? _____

18. What is the sale price of your smaller standing brooms? _____

19. What is the sale price your larger standing brooms? _____

20. What percentage of money will your broom making revenue contribute to your monthly income?

€0-25% €26-50% €51-75% €76-100%

21. Are you a member of a Broom Makers Cooperation or any kind of Broom Makers Organization? €Yes €No

22. How many people do you employ, or aid you, in harvesting of the leaves and in the broom making process? _____

23. Do you plan to source other markets and expand your supply?

€Yes €No

24. With the quantity of Latanier palms available in the wild, how long do you think you will be able to continue with broom making in St. Lucia? _____

25. What measures would you like to see implemented to help and benefit the Broom Maker in the future?

Thank you for assisting the Forestry Department in conducting this survey