



Socio-Economic Potentials of Plants Used for Blood-Cleansing in Selected Local Government Areas of Oyo and Ogun States, Southwestern Nigeria

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ABSTRACT:

The role of forests as custodians of plants for alternative medicine cannot be overemphasized and cleansing blood is one of the most important activities in the alternative medicine for achieving optimum wellness. This study examined the socio-economic potentials of blood cleansing plants in selected Local Government Areas of Oyo and Ogun States, Southwestern, Nigeria. A Multistage sampling technique of four stage design was adopted. Data were obtained through questionnaire administered to 150 respondents - herbalists, herb sellers and individuals who had knowledge of plants for medicinal purposes. Data were collected on respondents' socio-economic characteristics, plants used for blood cleansing and economic costs and returns of blood-cleansing herbs preparation. Collected data were analyzed using descriptive statistics and budgetary analysis. The results revealed mean age of respondents in both States as 56 years with well pronounced gender dichotomy of male (70%) and female (30%). Majority had no formal education (69.3%). The study further revealed that 78% of the respondents came into tradomedical activities through family heritage, 18.7% through training while 3.3% combined the two methods. A total of 123 plants species belonging to 57 families were recorded with Fabaceae having the highest number of species. Bark and root with 28.9% each were the plant parts frequently used for blood-cleansing purposes, followed by leaves with 27.2%, twig was the least part used with 1.7%. The benefit-cost ratio of the enterprise was 4:21 while the rate of return on investment was 1.17 indicating a profit of 17kobo on every ₦1 invested.

Keyword: *Forests, Alternative medicine, Blood, Bark and Root, Enterprise*

INTRODUCTION

For centuries, herbs have been used to naturally cleanse the body especially the blood [1]. Modern life style has influenced human daily routine to a greater extent bringing in furious changes in dietary habits and lifestyle which impair healthy blood. On the other hand, the rising pollution in the environment has immensely influenced the purity of human blood [2]. The bacteria spread in the environment, gases, polluted water, insomnia, junk foods, has tightened its vice grips over the purity of blood. These entire poisonous elements are entering inside the body giving invitations to several diseases [2]. Cleansing the blood is one of the most important weapons in the alternative health arsenal for achieving optimum wellness [3]. Also, it is crucial for the entire body functioning and a healthy living all together because the entire body functioning depends on the supply of blood [4]. Blood is a specialized bodily fluid in animals that deliver necessary substances such as nutrients, hormones and oxygen to the cells and transport metabolic waste [5]. Blood removes waste and toxins from the system to keep the body healthy. It protects from illness, infections and helps to heal cuts, scrapes and wound. One of the properties of blood shows slight alkalinity with pH 7.35 to 7.45 [5]. Dirty blood simply cannot perform these functions properly. As a result, malnutrition sets in, resistance plummets, toxemia becomes a chronic condition, and germs have a field day invading most valuable tissues. Unless one live an ascetic life far from civilization and avoid all dietary folly, blood and other tissues are bound to accumulate toxins and generally lose their functional vitality [6]. Blood cleansing herbs eliminate toxins from the lymph system, kidneys and liver, ensuring pure untainted blood circulates through the body to the various organs [7]. Cleansing herbs are the

roots, barks, mushrooms, seeds and berries of various plants that help to cleanse and purify the body of internal toxicity accumulated from environmental pollutants as well as metabolic wastes produced from substances ingested.

With natural cleansing, digestion and metabolism can be improved; health threats from liver congestion may also be prevented and blood can be further purified [8]. Alternative and depuratives, which are known in traditional folk medicine as blood purifiers, are very important class of herbs in botanical medicine. These herbs generally act through the lymphatic, glandular and mucous membrane systems, and to a lesser degree through the skin [9].

METHODOLOGY

The study was conducted in selected Local Government Areas of Oyo and Ogun States, Southwestern Nigeria (Figure 1). Oyo State is approximately located between latitudes 7⁰N and 9⁰N and longitude 2.5⁰E and 5⁰E. It covers an area of approximately 28,454 km² approximately 4.08% of Nigeria's total area. Ogun State is located between latitudes 6⁰N and 8⁰N and longitudes 2.5⁰E and 5⁰E [10]. It covers a total land area of 16,409.26 km².

Sampling procedure and sample size

A multistage sampling with four stage design was used for this study.

Stage one: Oyo and Ogun States as primary Unit.

Stage two: division of the States into sub ethnic group. Oyo State has five subethnic divisions which are: Ibadan, Ibarapa, Ogbomosho, Oke-ogun and Oyo. The Ogun State division includes: Remo, Ijebu, Yewa and Egba.

Stage Three: purposive selection Local Government in each division to make 30% of the total Local Governments in each

State. In Oyo State, 10 Local Government Areas were selected while 5 Local Government Areas were selected in Ogun State.

Stage 4: Markets were visited targeting the Herb sellers while Snow-ball method was used to locate the Tradomedical practitioners. A predetermined sampling frame of 150 respondents were used for this study.

DATA COLLECTION

Data were collected on the socio-economic characteristics of the respondents, medicinal plants used for blood cleansing and economic returns on blood-cleansing herbs preparation.

DATA ANALYSIS

Descriptive statistics of frequency, percentage and mean were used to analyze the socio-economic characteristics, economic returns on blood-cleansing herbs preparation was also analyzed using budgetary analysis stated as:

$$\text{Gross Margin (GM)} = \text{TR} - \text{TVC}$$

Where:

TR = Total Revenue (Quantity X Price)

TVC = Total Variable Cost incurred in the blood-cleansing herb preparation

$$\text{NI} = \text{GM} - \text{TFC}$$

$$\text{TFC} = \text{TC} - \text{TVC}$$

Where:

NI = Net Income

GM = Gross Margin

TC = Total Cost of scale of the operation

TVC = Total Variable Cost which include transportation cost, cost of firewood, cost of recipes and tax.

TFC = Total Fixed Cost on Fixed Assets; rent and depreciation of tools which include: Cutlass, Digger, Mortar and pestle and cooking pot used in the preparation of the herbs. The straight line of depreciation was adopted. This is

$$\text{Depreciation} = \frac{C-S}{Y}$$

Where:

C = cost of fixed asset in naira

S = salvage value

Y = economically productive year of fixed input.

Rate of Returns on Investment (RORI)

$$= \frac{\text{TR} - \text{TC}}{\text{TC}} \times 100$$

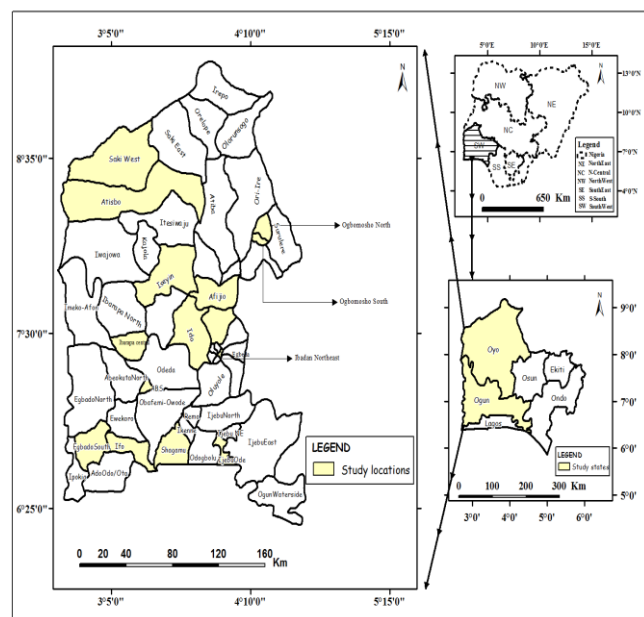


Figure 1: Map of Oyo and Ogun States, showing the study area.

RESULTS AND DISCUSSION

The mean age of 56 years was recorded amongst the respondents. Many of the respondents (36.7%) fall within ≥ 61 years, 32.7% fall within 51- 60 years while the least age bracket recorded was ≤ 30 years with 2% which implied that the respondents are still in their active age. This explained their effectiveness in the Tradomedical profession and is in agreement with Adekanmbi, *et. al.* [11] who reported that the mean age of 54 was recorded amongst the Tradomedical practitioners interviewed in six States of South-west Nigeria. Gender dichotomy was well pronounced with male being 70% and female 30% in the study area. This showed that tradomedical profession is male dominated within the study area and this is in line with the findings of Oyelakin [12], Ajibesin *et. al.* [13] who reported that ‘traditional medical practice among the Yoruba ethnic group of Nigeria is dominated by the male due to secrecy in practice and transfer of knowledge from generation to generation’. About 94.7% of the respondents were within the married category and spreads across the three main religions. Also, 69.3% of the respondents had no formal education while others had varying degrees of formal education. This agreed with Ihekwoaba, [14] who stated that traditional medicine practitioners are people mostly without education, who have rather received knowledge of medicinal plants and their effects on the human body from their forebears. High number of the respondents were mostly herbalists and herb sellers with 78% being trained through family inheritance, 18.7% through apprenticeship and 3.3% combined the two methods which agrees with Erinoso and Aworinde, [15] who reported that a great percentage of the respondents (68%) inherited their knowledge of herbal treatment from their ancestors while 20% got their knowledge from formal training, 10% both from formal training and ancestors while 2% claimed that their tradomedical knowledge was from divination. The mean years of experience in tradomedical profession amongst the respondent was 25 years. About 37.3% had between 11-20years, 30% had between 21-30 years, 27.3% had ≥ 31 years while the least year of experience was between 1-10 years with 5.3%. This implied that high number of the respondents who are knowledgeable about blood-cleansing using plants have been in the profession for a long period of time.

The mean annual income that a respondent could earn from blood-cleansing herb preparation in the study area is ₦70,735.45. The annual income ranged from \leq ₦20,000 to \geq ₦100,000 depending on the scale of operation. From the result, 3.3% earned \leq ₦20,000, 24% earned between ₦21,000- ₦40,000, 28.7% earned between ₦41,000- ₦60,000, 22% earned between ₦61,000- ₦80,000, 10.7% earned between ₦81,000- ₦100,00 while 11.3% earned \geq ₦100,000. This implied that blood-cleansing herbs preparation enhance the economic power of the tradomedical practitioners in the study area (Table 1).

A total of 123 plants species belonging to 57 families (Table 2 and 3) were recorded to be useful for blood-cleansing purposes. The family Fabaceae had the highest number of species 17 (13.8%) being used for blood-cleansing, next was Euphorbiaceae with 9 (7.3%) species. Anacardiaceae and Apocynaceae had 5 (4.1%) species each. Also, Annonaceae, Asteraceae, Combretaceae, Meliaceae and Moraceae had 4 (3.3%) species each while other families had between 1 to 3 species which accounted for 54.5%. Table 4 showed the various parts of the plants used for blood-cleansing which includes leaves, barks, roots fruit, seed and twig. Bark and root with 28.9% each had the highest frequency of mention followed by leaves with 27.2%, twig was the least part used with 1.7%. A similar trend was reported by Oladunmoye and Kehinde, [16] that leaf, stem, bark are the most commonly used parts, while fruit, roots are seldom used. The economic cost and

return on blood-cleansing preparation revealed that a respondent could earn ₦7,730.67 from a single preparation with a total cost of ₦1,836.05. Total variable cost accounted for 63.56% of the total cost while the Total Fixed Cost accounted for 36.44%. This implied that blood-cleansing herb preparation is profitable as the benefit cost ratio was 4.21 while the rate of return on investment

was 1.17 which means that for every ₦1, spent, a return of 17k is realized. Iwu, [17] stated that Nigeria has what it takes to diversify her economy through earnings from traditional and herbal medicines. Nigeria is so endowed that we should be able to compete with other countries in adding to our income stream things that come out from herbal products.

Table 1: Socio-economic Characteristics of the respondents in the study area

Variables	Category	Frequency	Mean
Age (Years)	≤30	3(2.0)	56 years
	31-40	8(5.3)	
	41-50	35(23.3)	
	51-60	49(32.7)	
	>60	55(36.7)	
	Total	150(100)	
Gender	Male	105(70.0)	
	Female	45(30.0)	
	Total	150(100)	
Marital Status	Single	1(0.7)	
	Married	142(94.7)	
	Divorced	1(0.7)	
	Widow	6(4.0)	
	Total	150(100)	
Religion	Christianity	26(17.3)	
	Islam	89(59.3)	
	Traditional	35(23.3)	
	Total	150(100)	
Educational Level	No formal Education	104(69.3)	
	Primary	17(11.3)	
	Secondary	23(15.3)	
	Tertiary	6(4.0)	
	Total	150(100)	
Occupation	Herbalist	89(59.3)	
	Herb selling	53(35.3)	
	Farming	8(5.3)	
	Total	150(100)	
Annual income	≤₦ 20,000	5(3.3)	₦70,735.45
	₦21,000-40,000	36(24)	
	₦41,000-60,000	43(28.7)	
	₦61,000-80,000	33(22)	
	₦81000-100,000	16(10.7)	
	>₦ 100,000	17(11.3)	
	Total	150(100)	
Mode of Training	Family inheritance	117(78.0)	
	Apprenticeship	28(18.7)	
	Both	5(3.3)	
	Total	150(100)	
Experience (Years)	1-10	8(5.3)	25years
	11-20	56(37.3)	
	21-30	45(30.0)	
	≥31	32(27.3)	
	Total	150(100)	

Source: Field survey, 2016. Figures in parenthesis are in percentages.

Table 2: Plants used for Blood-Cleansing in the Study Area

SN	Scientific Name	Local Name	Part used	Family
1	<i>Acacia nilotica</i> (L.) Willd. ex Delile.	Bòóní	Fruit/ seed	Fabaceae
2	<i>Adansonia digitata</i> Linn.	Osè	Root	Bombaceae
3	<i>Adenopus breviflorus</i> Benth.	Tàgíri	Fruit	Cucurbitaceae
4	<i>Aframomum melegueta</i> (Roscoe) K. Schum.	Ataare	Fruit	Zingiberaceae
5	<i>Alchornea cordifolia</i> (Schumach. and Thonn.) Mull.Arg.	Ìsín	Leaves/ root	Euphorbiaceae
6	<i>Allium ascalonicum</i> Linn.	Àlùbósà eléwé	Leaves	Alliaceae
7	<i>Allium cepa</i> Linn.	Àlùbósà	Bulb	Alliaceae
8	<i>Allium sativum</i> Linn.	Áyùú	Bulb	Alliaceae
9	<i>Alternanthera sessilis</i> (Linn.) DC.	Dágunró	Leaves	Amaranthaceae
10	<i>Anacardium occidentale</i> Linn.	Kajú	Bark/ Leaves	Anacardiaceae
11	<i>Ananas comosus</i> (Linn) Merill.	Òpe-òyìnbó	Fruit / Juice	Bromeliaceae
12	<i>Ancistrophyllum secundiflorum</i> (P.Beav).	Okuku	Bark	Palmae
13	<i>Annona senegalensis</i> Pers.	Àbo	Bark/ Root	Annonaceae
14	<i>Anogeissus leiocarpus</i> (DC) Guill. and Perr.	Àyin	Bark/ Leaves/ Root	Combretaceae
15	<i>Anthocleista djalonensis</i> A. Chev.	Sápó	Bark/root	Loganiaceae
16	<i>Argemone mexicana</i> Linn.	Máfowókanomòmi	Leaves	Papaveraceae
17	<i>Aristolochia albida</i> Duch.	Páran funfun	Root	Apocynaceae
18	<i>Aristolochia repens</i> Mill.	Akogùn	Root	Aristolochiaceae
19	<i>Acanthospermum hispidum</i> DC	Dàgunró-gogoro	Leaves	Asteraceae
20	<i>Asparagus flagellaris</i> (Kunth) Baker	Ègun-oode	Root	Asparagaceae
21	<i>Azadirachta indica</i> A. Juss.	Dongoyaro	Bark/ Leaves/ Root	Meliaceae
22	<i>Baphia pubescens</i> Hook.f.	Ùtó	Leaves	Leguminosae
23	<i>Bombax buonopozense</i> (P Beauv.)	Ponpola	Bark	Bombaceae
24	<i>Bridelia ferruginea</i> (Benth).	Ìrà	Bark	Euphorbiaceae
25	<i>Bridelia micrantha</i> (Hochst.) Baill.	Asaa	Bark	Euphorbiaceae
26	<i>Cajanus cajan</i> (L.) Millsp.	Otili	Leaves	Fabaceae
27	<i>Calliandra haematocephala</i> Hassk.	Túdè	Root	Fabaceae
28	<i>Capsicum annum</i> Linn.	Ata-ìjòsì	Fruit	Solanaceae
29	<i>Carica papaya</i> Linn.	Ìbépe	Leaves	Caricaceae
30	<i>Celtis integrifolia</i> Lam.	Aape	Bark	Asteraceae
31	<i>Citrullus colocynthis</i> (Linn).	Bààrà	Root	Cucurbitaceae
32	<i>Citrullus lanatus</i> (Thunb.) Matsum. & Nakai.	Bààrà	Fruit	Cucurbitaceae
33	<i>Citrus aurantiflora</i> (Cristm.) Swingle.	Osàn-wéwé	Leaves /Fruit/ Juice	Rutaceae
34	<i>Citrus limon</i> (L.) Burm.f.	Osàn-jàgáin	Juice	Rutaceae
35	<i>Citrus paradisi</i> Macfad.	Osàn gireepu	Juice	Rutaceae
36	<i>Cochlospermum tinctorium</i> Perr. ex A. Rich.	Gbèwutu	Bark	Cochlospermaceae
37	<i>Cocos nucifera</i> Linn.	Àgbon	Juice	Arecaceae
38	<i>Combretum micranthum</i> G. Don.	Okán	Root	Combretaceae
39	<i>Cryptolepis sanguinolenta</i> (Lindl.) Schl.	Páran pupa	Stem twig	Apocynaceae
40	<i>Curculigo pilosa</i> (Schum &Thonn) Engl.	Èpakún	Root	Hypoxidaceae
41	<i>Cyanotis lanata</i> Benth.	Ìto-ìgbin	Root	Commelinaceae

42	<i>Cymbopogon citratus</i> (DC.) Stapf.	Kóriko-oba	Leaves	Poaceae
43	<i>Cynometra megalophylla</i> Harms.	Ata	Bark	Fabaceae
44	<i>Daniella oliverii</i> (Rolfe) Hutch.&Dalziel.	Iyá	Bark	Fabaceae
45	<i>Desmodium gangeticum</i> (L.) DC.	Eemo-agbo	seed/pod	Papilionoides
46	<i>Elaies guineensis</i> Jacq.	Òpe	Fruit chaff	Palmae
47	<i>Entandrophragma utile</i> (Dave & Sprague) Sprague.	Jebò	Bark	Meliaceae
48	<i>Euphorbia hirta</i> Linn.	Oró-agogo	Leaves/ Root	Euphorbiaceae
49	<i>Euphorbia lateriflora</i> Schum. & Thonn.	Enuòpirè	Leaves	Euphorbiaceae
50	<i>Euphorbia poissoni</i> (Pax).	Oró-adètè	leaves/ Root	Euphorbiaceae
51	<i>Ficus exasperata</i> Vahl.	Epín	Leaves	Moraceae
52	<i>Ficus sur</i> Forssk.	Òpòtó	Bark/ Leaves	Moraceae
53	<i>Ficus thonningii</i> Blume.	Odán	Root/leaves	Moraceae
54	<i>Garcinia kola</i> Heckel.	Orógbó	Bark/fruit/ root	Clusiaceae
55	<i>Gossypium hirsutum</i> Linn.	Òwú Akèsé	Leaves	Malvaceae
56	<i>Griffonia simplicifolia</i> Baillon.	Tapàrà	Bark	Fabaceae
57	<i>Harungana madagascariensis</i> Lan. ex poir.	Àroje	Bark	Hypericeae
58	<i>Heliotropium indicum</i> Linn.	Àtàpàriòbúko	Root	Boraginaceae
59	<i>Hibiscus cannabinus</i> Linn.	Idà òrisà	Root	Malvaceae
60	<i>Jatropha curcas</i> Linn.	Làpàlàpá-funfun	leaves/ root	Euphorbiaceae
61	<i>Jatropha gossypifolia</i> .Linn.	Làpàlàpá pupa	Leaves	Euphorbiaceae
62	<i>Khaya grandifoliola</i> (Welw) CDC.	Òganwó	Bark/ Leaves	Meliaceae
63	<i>Kigelia africana</i> (Lam.) Benth.	Pándòrò	Root/ Bark	Bignoniaceae
64	<i>Lannea egregia</i> (Hiern) Engl.	Èkùdán	Bark/ Leaves	Anacardiaceae
65	<i>Launaea taraxacifolia</i> (Willd.) Amin.Ms ex C.Jeffrey.	Èfó-yanrin	Root	Asteraceae
66	<i>Lawsonia inermis</i> Linn.	Làálì	Bark/Leaves	Lythraceae
67	<i>Leea guineensis</i> G.Don.	Àlùgbókità	Root	Leeaceae
68	<i>Lophira alata</i> Banks ex Gaertn.	Páhan	Bark	Ochnaceae
69	<i>Magnifera indica</i> Linn.	Mongoro	Bark/Leaves/Root	Anacardiaceae
70	<i>Markhamia tomentosa</i> (Benth.) K.Schum.ex. Engl.	Oruru	Bark	Bignoniaceae
71	<i>Massularia acuminata</i> G.Don.	Pákò funfun	Stem twig	Rubiaceae
72	<i>Mondia whitei</i> (Hook.f.) Skeels.	Isirigun	Root	Periplocaceae
73	<i>Morus mesozygia</i> Stapf.	Ayee	Bark	Moraceae
74	<i>Musa nana</i> (Poir)	Ogede omini	Peel	Musaceae
75	<i>Newbouldia laevis</i> (P. beauv) Semann ex. Bureau.	Akòko	Bark /Root	Bignoniaceae
76	<i>Ocimum basilicum</i> Linn.	Efinrin-aja	Leaves	Lamiaceae
77	<i>Ocimum gratissimum</i> Linn.	Efinrin-nla	Leaves	Lamiaceae
78	<i>Olox subscorpioidea</i> Oliv.	Ifon	Root	Olacaceae
79	<i>Parkia biglobosa</i> (Jacq.) Willd.	Ìgbá	Bark	Fabaceae
80	<i>Parquetina nigrescens</i> (Afzel.)Bullock.	Ogbó	Leaves/ root	Asclepiadaceae
81	<i>Paullinia pinnata</i> Linn.	Kàkàsehlà	Bark	Sapindaceae
82	<i>Petivera alliacea</i> Linn.	Awogbaàrùn	Bark	Phytolaccaceae
83	<i>Phyllanthus reticulata</i> (Poir).	Ìranjé	Leaves	Euphorbiaceae
84	<i>Piliostigma thonningii</i> (Schum.) Milne-Redh.	Abàfè	Bark/Leaves/Root	Fabaceae
85	<i>Piper guineense</i> Schumach. & Thonn.	Ìyèré	Fruit/ Seed	Piperaceae

86	<i>Plumbago zeylanica</i> Linn.	Ìnábìrì	Root/Leaves	Plumbaginaceae
87	<i>Prosopis africana</i> (Guill., Perr. & A. Rich.) Taubert.	Àáyán	Root	Fabaceae
88	<i>Pseudosedrela kotschyi</i> (Schweinf) Harms.	Emigbègì	Bark /Leaves	Meliaceae
89	<i>Psorospermum febrifugum</i> Spach.	Légúnlóko	Root	Hypericaceae
90	<i>Pterocarpus erinaceus</i> Poir.	Apépe	Bark	Fabaceae
91	<i>Pycanthus angolensis</i> (Welw.) Warb.	Akòmù	Root	Myristacaceae
92	<i>Rauvolfia vomitoria</i> Afzel.	Àsofèyeje	Bark/ Root/leaves	Apocynaceae
93	<i>Sarcocephalus latifolius</i> (Sm.) Bruce.	Ègbèsì	Root/Leaves	Rubiaceae
94	<i>Secamone afzelli</i> (Sculth) K Schum.	Ailu	Root	Asclepiadaceae
95	<i>Securidaca longepedunculata</i> Fres.	Ìpetà	Root	Polygalaceae
96	<i>Semanea saman</i>	Jègèdè	Bark/Leaves	Fabaceae
97	<i>Senna fistula</i> Linn.	Àidan-tòrò	Root/Leaves	Fabaceae
98	<i>Senna podocarpa</i> (Guill.& Perr.) Lock.	Àsùnwòn	Root/Leaves	Fabaceae
99	<i>Senna siamea</i> (Lam.) Irwin and Barneby	Kasia	Bark/ Leaves	Fabaceae
100	<i>Senna tora</i> Linn.	Èrúàsùn	Leaves	Fabaceae
101	<i>Serindeia warneckei</i>	Méyínró	Root	Fabaceae
102	<i>Sesbania Pachycarpa</i> DC	Sénifíràn	Root/ Bark	Fabaceae
103	<i>Solanum erianthum</i> D.Don	Yewuru/ apana	Root	Solanaceae
104	<i>Sorghum bicolor</i> (Linn.)Moench	Pòròpòrò /Okà-bàbà	Leaves	Poaceae
105	<i>Spondias mombin</i> Linn.	Ìyeyè	Bark	Anacardiaceae
106	<i>Staudtia stipitata</i> (Warb.) Warb.	Amùjè	Bark	Myristicaceae
107	<i>Sterculia setigera</i> Delile	Fuufu /Ose awere	Bark/ leaves / Root	Sterculiaceae
108	<i>Strophanthus gratus</i> (Hook.) Franch.	Isà	Root/ Bark	Apocynaceae
109	<i>Strophantus hispidus</i> . DC.	Sàgèéré	Bark/ Fruit	Apocynaceae
110	<i>Syzygium aromaticum</i> (L.) Merr. & L.M.Perry.	Kànáfùrù	seed/pod	Myrtaceae
111	<i>Terminalia glaucescens</i> Planch. ex Benth.	Ídí , Ídín	Stem twig	Combretaceae
112	<i>Terminalia ivorensis</i> A.Chev.	Afàrà dúdú	Bark	Combretaceae
113	<i>Tetracera alnifolia</i> Willd.	Opòn	Bark/leaves/ Root	Dilleniaceae
114	<i>Tetrapleura tetraptera</i> (Taub).	Àidan	Fruit/ Bark/ Root	Fabaceae
115	<i>Theobroma cacao</i> Linn.	Kòkó	Bark /Leaves/ Root	Sterculiaceae
116	<i>Uvaria chamae</i> P.Beauv.	Erújù	Root/ stem bark	Annonaceae
117	<i>Uvaria afzelli</i> Sc.Elliot.	Gbogbonse	Leaves	Annonaceae
118	<i>Vernonia amygdalina</i> Delile.	Ewùro	Leaves	Asteraceae
119	<i>Vitellaria paradoxa</i> C.F.Gaertn.	Emi	Bark	Sapotaceae
120	<i>Vitex doniana</i> Sweet.	Òorì	Fruit	Verbenaceae
121	<i>Xylopia aethiopia</i> (Dunal) A. Rich.	Èerù	Fruit, Root	Annonaceae
122	<i>Zea mays</i> Linn.	Àgbàdo pupa	Fruit	Poaceae
123	<i>Zingiber officinale</i> Rosc.	Ata-ile	Rhizome	Zingiberaceae

Source: Field survey, 2016

Table 3: Plants Family used for blood-cleansing in the study Area

SN	Family	Number of species	%
1	Fabaceae	17	13.8
2	Euphorbiaceae	9	7.3
3	Anacardiaceae	5	4.1
4	Apocynaceae	5	4.1
5	Annonaceae	4	3.3
6	Asteraceae	4	3.3
7	Combretaceae	4	3.3
8	Meliaceae	4	3.3
9	Moraceae	4	3.3
10	Others	67	54.5
	Total	123	100

Source : Field survey, 2016

Table 4: Frequency of Plants parts used

Plant parts	Frequency	%
Leaves	47	27.2
Bark	50	28.9
Root	50	28.9
Fruit	19	11.0
Seed	4	2.3
Twig	3	1.
Total	173	100

Source: Field survey, 2016.

Table 5: Economic Costs and Return on Blood-cleansing Herbs preparation in the study Area

Variables	Values (₦)	Percent (%)
Total revenue(Qty X Price)	7730.67	
Fixed Cost (FC) (₦)		
Depreciation of cutlass	84.58	4.61
Depreciation cost of mortal & pestle	58.33	3.17
Depreciation cost of digger	8.49	0.46
Depreciation of cooking pot	193.04	10.51
Rent	324.67	17.68
Total Fixed Cost (TFC)	669.11	36.44
Variable Cost (VC) (₦)		
Tax	30.67	1.67
Transportation cost	194.00	10.57
Cost of Firewood	324.80	17.69
Cost of Recipes	617.47	33.63
Total Variable Cost (TVC)	1166.93	63.56
Total Cost (TFC+TVC)	1836.05	
Gross Margin (TR-TVC)	6563.73	
Net income (GM-TFC)	5894.62	
RORI(TR-TC/TC)	1.17	
RORI%	117.29	
BCR (TR/TC)	4.21	

Source: Field survey, 2016.

CONCLUSION

This study showed that numerous plant species are useful for blood-cleansing purposes; therefore, sustainable utilization and conservation practices of these plants should be adequately pursued in order to avert degradation of the ecosystems where these medicinal plants thrive.

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