



RESEARCH ARTICLE

TRADITIONAL HERBAL CURES PRACTICED IN SOME AREAS OF NORTH AND SOUTH 24-PARGANAS DISTRICTS OF WEST BENGAL (INDIA)

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ABSTRACT

Recent study on the uses of medicinal plants for primary healthcare in some periurban areas of North and South 24-Parganas districts of West Bengal revealed widespread use of herbal cures among the local people. A total of 102 plant species were listed from three areas, Amtala and Diamond Harbour in South 24-Parganas and Habra in North 24-Parganas. These herbal medicines are believed to give good results against common ailments like cough, cold, dysentery, diarrhoea, skin problems, cuts, wounds, inflammations and acne as well as difficult diseases like jaundice, diabetes, anaemia, rheumatism, epilepsy, cardiac disorders, hypertension, constipation, bone fracture, insect and snake bites, etc. Often, different parts of the same plant were used to cure different ailments and leaves are the mostly used plant part. The study revealed that the district of 24-parganas (North & South) is rich in medicinal plant wealth and knowledge on their traditional uses. Local people in the periurban areas practice such traditional medicines even today, and if paid attention to, these natural resources can act as important basic materials for sustainable commercial exploitation (178 words).

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INTRODUCTION

A major portion of the population in the world relies mainly on plants and plant extracts for their healthcare (Dutfield, 2003). From a very ancient period India has been one of the leading countries in Asia regarding traditional knowledge systems related to the use of plant species for medicinal purposes (Sen and Chakraborty, 2017). Ancient Indian literature gives vivid accounts of medicinal plants. India has a vast repository of medicinal plants being used by traditional communities for curing different diseases (Perumal and Ignacimuthu, 1998, 2000; Kamboj, 2000; Sarkar and Das, 2010; Chettri *et al.*, 2014). There is a vast diversity of medicinal plants in different climatic condition in India (Padulosi *et al.*, 2002). India being a mega diversity country there is an endless scope and opportunity in the study of ethnobotany (Das *et al.*, 2007; Paria, 2005). Thus medicinal plants play important role in supporting the healthcare system in India. A huge amount of information about the traditional uses of plants for treating various ailments is still intact with the local people of rural areas in different parts of India (Ghosh, 2003; Mandal, 2014; Mistry, 2015). Even today the people of rural and periurban areas in India largely depend upon indigenous medicinal plants

as they lack access to modern medical facilities or are unable to afford synthetic medicine due to their high prices. A vast majority of the population of most developing countries still use traditional medicines derived from plants for treating human diseases because those have almost no side effects and are safe (De Silva, 1997; Azaizeh *et al.*, 2008). The Indian systems of medicine like Ayurveda, Sindha and Unani entirely and homeopathy to some extent are dependent on plant materials or their derivatives for treating human ailments (Prajapati *et al.*, 2003). It is for the same reason that urban people of developed countries are also beginning to prefer herbal medicines (Saha *et al.*, 2016). However, there has been much depletion in forest and other type of natural vegetation cover due to population explosion coupled with environmental degradation, threatening the very existence of several plant species of therapeutic value (Akerle, 1993). Therefore, to meet the growing need of planned utilization of this resource, effective strategies for further development and conservation of diversity of medicinal plants are the needs of the hour. It is necessary to assess the extent of exploitation of medicinal plants from the wild stock and implement required checks to maintain the balance between sustainable use and exploitation of this highly limited natural resource. The present research, was an attempt to survey and record various traditional knowledge inherited and maintained by the residents of periurban areas about the healing power of local medicinal plants.

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The areas surveyed were Amtala and Diamond-Harbour of South 24-Parganas and Habra of North 24-Parganas in West Bengal, India. There is no difficulty to understand that rapid urbanization and globalization has had visible adverse effects on the area's vegetation, so this study also aims to raise awareness for conservation, sustainable utilization and management of these important plant species and prevent them from being wiped out totally in this era of rapid urbanization.

MATERIALS AND METHODS

Study Area

The three areas chosen for the survey were Amtala, Diamond Harbour and Habra which are situated in the lower Gangetic plain of 24-Parganas in West Bengal, India (Fig. 1).

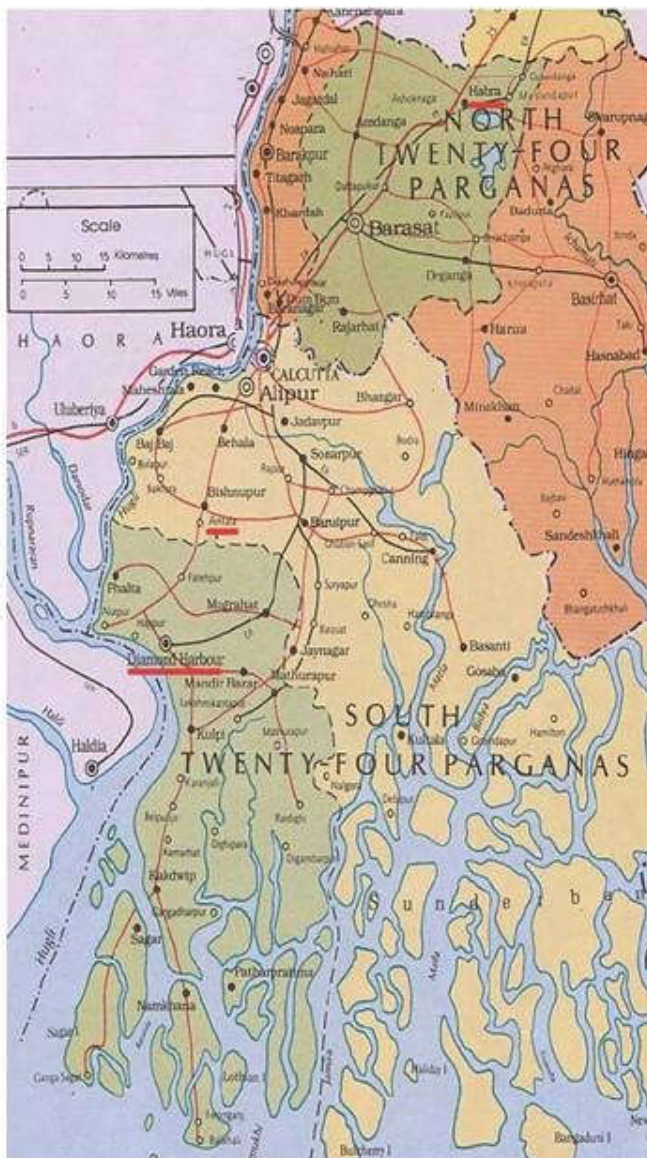


Fig. 1. Map of the study area

[http://calcuttahighcourt.nic.in/district_courts/south24pgs.htm]

The villages surveyed in Amtala area were Kriparampur, Ramkrishnapur and Gotalahat. Amtala is a small township under Bishnupur police station of Alipore Sadar subdivision in the South 24-Parganas district with central Coordinates 23.93° N and 88.45° E and has an elevation of 16 m amsl. In Diamond Harbour (South 24-Parganas) the village surveyed was

Sultanpur near the riverbank. Diamond-Harbour is located in the southern suburbs of Kolkata, on the eastern bank of the river Hooghly, near to the place where the river meets the Bay of Bengal with central Coordinates 22.20° N and 88.20° E and has an elevation of only 8 m amsl. Habra is a community development block that forms an administrative division under the Barasat Sadar subdivision in North 24-Parganas district, situated on the Bangladesh boarder near Petrapole with central coordinates 22.86° N and 88.75° E and has an average elevation of 13 m amsl. The villages surveyed were Nagarhuba and Bottala. All the three places are quite close to the Sunderbans (within 100 km), but situated far from the city's pollution, covered with greenery and can be referred as periurban areas. The soil of the entire area, is very fertile and support a vast diversity in vegetation.

Method of Survey

Periodic door to door surveys were carried out in the study areas during the months of January to December 2016. The local people with indigenous knowledge on medicinal plants were contacted through frequent visits to the areas and using local contact persons. The information was collected through group discussions and individual interviews with them in their local language (Bengali). People ranging in age from 25 to 75 were interviewed. A major portion of the data was collected from the medicine men or kaviraj and/or ojhas. The information was collected using a questionnaire prepared on the model of Jain (1987) including local name of the plants, habit, the parts used, the ailments they cure, the mode of administration and dosage. The data collected was recorded and later tabulated (Table 1). The plants were identified using different literature (Hooker, 1875 – 1897; Prain, 1903; Mabberley, 1997) and for updated names and family delimitation www.theplantlist.org was used extensively. Photographs of some of the people interviewed were taken using a digital camera (Plate - I).

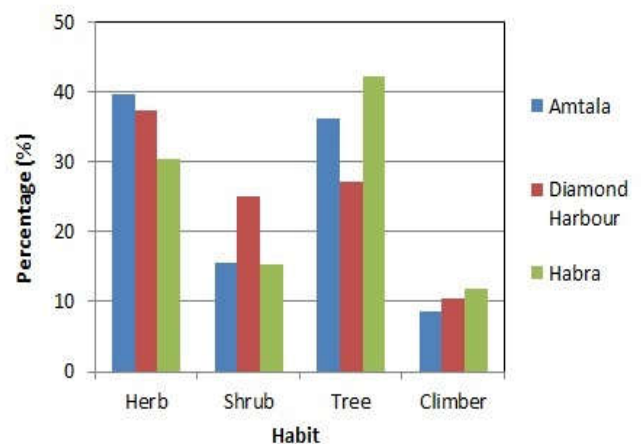


Fig. 2. Graph showing habit of the medicinal plants in the three areas of survey

RESULTS AND DISCUSSION

From the areas surveyed, a total of 102 species of medicinal plants were enlisted which were used traditionally by local people to cure human diseases and two of those (*Neolamarckia cadamba* and *Cuscuta reflexa*) were also used to cure diarrhoea in cows. The vegetation in the areas was quite dense and showed great diversity. The plant species enlisted included 39 herbs, 17 shrubs, 35 trees and 11 climbers (Fig. 2).

Table 1. Medicinal plants and their uses in the study sites of North & South 24-paraganas districts of West Bengal

Scientific name; [Family]; Local name	Parts used ; Uses & Mode of administration
<i>Abroma augusta</i> (L.) L.f. [Malvaceae]; <i>Olot Kambal</i>	Root; blood dysentery, diarrhoea; ½ cup of root juice drunk daily till complete cure
<i>Acacia nilotica</i> (L.) Delile [Leguminosae]; <i>Babla</i>	Leaf, bark; diarrhoea, sore of throat/ leaf paste with cumin seeds taken orally; for gargle with decoction of bark for sore throat
<i>Acacia polyacantha</i> Willd. [Leguminosae]; <i>Jaundice gach</i>	Leaf; leaf juice taken twice daily in empty stomach for 7 days heals jaundice
<i>Achyranthes aspera</i> L. [Amaranthaceae]; <i>Apang</i>	Whole plant; 60 g plant boiled with 100 ml water till it becomes 50 ml, cooled, sieved, taken twice daily as diuretic
<i>Acorus calamus</i> L. [Acoraceae]; <i>Bach</i>	Rhizome; 20-30 drops juice mixed with warm water, taken thrice daily for bowel trouble, chronic diarrhoea, dysentery
<i>Aegle marmelos</i> (L.) Correa [Rutaceae]; <i>Bel</i>	Ripe fruit; pulp consumed raw as digestive and stomachic
<i>Aerva javanica</i> (Burm.f.) Juss. ex. Schult. [Amaranthaceae]; <i>Lal bishalyakarani</i>	Leaf; juice applied externally heals cuts and wounds
<i>Allium sativum</i> L. [Amaryllidaceae]; <i>Rasun</i>	Cloves of bulb; paste taken orally cures whooping cough, lowers cholesterol
<i>Alocasia macrorrhizos</i> (L.) G.Don [Araceae]; <i>Mankachu</i>	leaf, corn; consumed after cooking acts as stimulant, styptic and is good as dietary aid for diabetic patients
<i>Aloe vera</i> (L.) Burm.f. [Xanthorrhoeaceae]; <i>Ghritakumari</i>	leaf; 1 tbsp. leaf sap taken orally in the morning as laxative, sap applied on skin heals wounds and sun burns
<i>Alstonia scholaris</i> (L.) R.Br. [Apocynaceae]; <i>Chhatim</i>	Bark; bark powder taken twice daily acts as blood purifier and cures arthritis
<i>Ananas comosus</i> (L.) Merr. [Bromeliaceae]; <i>Anaras</i>	leaf; leaf tablets taken for 3-4 days as anthelmintic
<i>Andrographis paniculata</i> (Burm.f.) Nees [Acanthaceae]; <i>Kalomegh</i>	Whole plant, leaf; 5-10 ml plant decoction or leaf tablets taken in empty stomach act as hepatoprotective, anthelmintic
<i>Argemone mexicana</i> L. [Papaveraceae]; <i>Sial Kanta</i>	Treatment of warts; stem latex; latex is applied externally
<i>Azadirachta indica</i> A.Juss. [Meliaceae]; <i>Neem</i>	Twig, leaf, bark; twig used as toothbrush for oral hygiene, leaf fried with brinjal taken for diabetes, bark soaked in water used orally as blood purifier
<i>Bacopa monnieri</i> (L.) Wettst. [Plantaginaceae]; <i>Brahmi</i>	Whole plant or leaf; whole plant cooked or leaf juice taken daily acts as sedative, expectorant and brain tonic
<i>Brassica campestris</i> L. [Brassicaceae]; <i>Sada Sarshe</i> ;	Seed; paste applied externally for treatment of acne
<i>Cajanus cajan</i> (L.) Millsp. [Leguminosae]; <i>Arhar</i>	Leaf; juice taken in empty stomach for 7 days cures jaundice
<i>Calotropis gigantea</i> (L.) Dryand. [Apocynaceae]; <i>Akanda</i>	Stem latex, leaf; latex with sesame oil and turmeric (3:2:1) applied for skin disease, baked leaf with mustard oil tied over swelling & painful joints
<i>Carica papaya</i> L. [Caricaceae]; <i>Pepe</i>	Fruit, twig, stem latex; fruit / stem latex with sugar taken early morning helps digestion; hot air passed through twig to ear hole relieves earache
<i>Catharanthus roseus</i> (L.) G.Don [Apocynaceae]; <i>Nayantara</i>	Young leaf; juice of 3-4 leaves taken orally everyday is antidiabetic
<i>Ceiba pentandra</i> (L.) Gaertn. [Malvaceae]; <i>Swet Shimul</i>	Gum from stem; gum applied on the affected area for treatment of insect bite
<i>Centella asiatica</i> (L.) Urb. [Apiaceae]; <i>Thankuni</i>	Leaf; juice or paste taken orally as memory tonic, laxative and stomachic
<i>Ceratosanthes palmata</i> (L.) Urb. [Cucurbitaceae]; <i>Makal</i>	Fruit, leaf, root; fruit and leaf paste applied on boils, acne, root paste applied for rheumatic pain
<i>Cinnamomum tamala</i> Nees & Eberm. [Lauraceae]; <i>Tejpata</i> ;	Leaf; decoction along with black pepper and honey taken orally to treat influenza, sore throat
<i>Cissus quadrangularis</i> L. [Vitaceae]; <i>Harjora</i>	Stem; 10-20 ml juice taken for 2 months heals bone fracture
<i>Citrus maxima</i> (Burm.) Merr. [Rutaceae]; <i>Batabi lebu</i>	Fruit; taken regularly helps as stomachic, expectorant, febrifuge and in jaundice
<i>Clerodendrum infortunatum</i> L. [Lamiaceae]; <i>Vaat</i>	Leaf; paste applied on cuts and wounds, cooked leaf controls amoebiasis
<i>Coccinia grandis</i> (L.) Voigt. [Cucurbitaceae]; <i>Telakucha</i>	Leaf, fruit; consumed after cooking acts as hypotensive and coolant
<i>Colocasia esculenta</i> (L.) Schott [Araceae]; <i>Kachu</i>	leaf; juice applied externally acts against pain and swelling of wasp bite
<i>Croton bonplandianus</i> Baill. [Euphorbiaceae]; <i>Bon tulsi</i>	Stem, leaf; juice applied externally controls scabies, cures cuts and wounds
<i>Cucumis sativus</i> L. [Cucurbitaceae]; <i>Sosha</i>	Leaf; boiled and mixed with cumin seeds taken orally to treat irritation or infection in throat
<i>Curcuma longa</i> L. [Zingiberaceae]; <i>Halud</i>	Rhizome; paste applied for skin care and taken orally as blood purifier, for cough and cold
<i>Cuscuta reflexa</i> Roxb. [Convolvulaceae]; <i>Swarnalata</i>	Stem; Stem juice fed to cows thrice daily cures diarrhoea, in man applied on wounds controls bleeding and inflammation
<i>Cynodon dactylon</i> (L.) Pers. [Poaceae]; <i>Durba</i>	Whole plant; juice applied externally heals cuts, wounds and skin rashes.
<i>Datura metel</i> L. [Solanaceae]; <i>Dhutura</i> ;	Leaf, flower; leaf compress for pain and inflammation, smoke of flower inhaled for asthma
<i>Eclipta prostrata</i> L. [Asteraceae]; <i>Kesuth</i>	Leaf; juice applied on scalp acts as hair growth stimulant
<i>Erythrina variegata</i> L. [Leguminosae]; <i>Tepolte, Madar</i>	Leaf; 2-3 leaves cooked with vegetables and eaten acts as anthelmintic, galactagogue
<i>Euphorbia nerifolia</i> L. [Euphorbiaceae]; <i>Manasa</i>	Leaf; paste applied externally is antidote to snake, scorpion or wasp bite, inflammation, swelling and pain
<i>Euphorbia tithymaloides</i> L. [Euphorbiaceae]; <i>Rangchita</i>	Leaf; juice taken orally as purgative, antiasthmatic and applied externally for scabies
<i>Ficus benghalensis</i> L. [Moraceae]; <i>Bot</i>	Bark, leaf, young twig; Decoction of bark taken for dysentery, leaf paste applied on wound, young twig used as toothbrush
<i>Ficus hispida</i> L.f. [Moraceae]; <i>Dumur</i> ;	Fruit, stem latex; cooked fruit acts as laxative, latex applied externally for insect bite
<i>Ficus racemosa</i> L. [Moraceae]; <i>Jagga dumur</i>	Bark, unripe fruit; decoction of bark for skin problems, fruit cooked and eaten to control diarrhoea
<i>Glinus oppositifolius</i> (L.) Aug.DC. [Molluginaceae]; <i>Gime kak</i>	Leaf; consumed after frying used as blood purifier
<i>Gymnema sylvestre</i> (Retz.) R.Br. ex Sm. [Apocynaceae]; <i>Sugarpata</i>	Leaf; 5 ml juice taken daily before lunch for 1 month cures diabetes
<i>Hibiscus rosa-sinensis</i> L. [Malvaceae]; <i>Jaba</i>	Flower bud, leaf; buds rubbed on hair for growth and dyeing, leaf juice taken to beat the heat of summer
<i>Holarrhena pubescens</i> Wall. ex G.Don [Apocynaceae]; <i>Kurchi</i>	Bark; decoction taken in empty stomach is anthelmintic and controls amoebic dysentery
<i>Hygrophila auriculata</i> (Schumach.) Heine [Acanthaceae]; <i>Kulekhara</i>	Whole plant; fresh juice consumed daily cures anaemia and normalizes low pressure
<i>Jatropha curcas</i> L. [Euphorbiaceae]; <i>Sada varena</i>	Twig, stem latex; twig used as tooth brush for dental problems, latex applied on skin for scabies and eczema
<i>Jatropha gossypifolia</i> L. [Euphorbiaceae]; <i>Lal varena</i>	Leaf; juice applied externally heals wounds due to fungal infection near the nails
<i>Justicia adhatoda</i> L. [Acanthaceae]; <i>Basak</i>	Leaf; juice or decoction taken orally as expectorant, febrifuge and antiasthmatic

.....Continue

<i>Lablab purpureus</i> (L.) Sweet [Leguminosae]; <i>Sheem</i>	Leaf; 1-2 drops juice poured in ear hole cures ear ache
<i>Lawsonia inermis</i> L. [Lythraceae]; <i>Mehendi</i>	Leaf; paste with curd and tea applied on head for 2-3 hours and washed for dyeing & conditioning hair, leaf paste applied externally cures acne, boils, burns and swelling
<i>Litsea glutinosa</i> (Lour.) C.B.Rob-[Lauraceae]; <i>Pimlet</i>	Leaf; extract mixed with water taken orally as body coolant
<i>Manilkara zapota</i> (L.) P.Royen [Sapotaceae]; <i>Sabeda</i>	Fruit, leaf; fruit is febrifuge, leaf juice applied on cuts wounds
<i>Maranta arundinacea</i> -L. [Marantaceae]; <i>Ararut</i>	Rhizome; decoction of rhizome taken after meal acts as astringent, cures diarrhoea, dietary aid during weakness
<i>Marsilea minuta</i> L. [Marsileaceae]; <i>Sushni</i>	Whole plant; consumed after cooking acts as sedative, hypotensive, used in epilepsy and loss of memory
<i>Mikania scandens</i> (L.) Willd. [Asteraceae]; <i>Malaria pata</i>	leaf; leaf juice applied externally heals cuts and wounds
<i>Moringa oleifera</i> Lam. [Moringaceae]; <i>Sajina</i>	Leaf, flower, fruit; fried leaves & flowers for chicken pox, cooked fruits taken for diabetes
<i>Murraya koenigii</i> (L.) Spreng. [Rutaceae]; <i>Curry pata</i>	Leaf; fried with vegetables or 1 tsp. leaf juice+1 tsp. lemon juice taken acts as stomachic, digestive and hypoglycemic
<i>Murraya paniculata</i> (L.) Jack [Rutaceae]; <i>Kamini</i>	Leaf; paste applied heals cuts and wounds
<i>Musa x paradisiaca</i> L. [Musaceae]; <i>Kala</i>	Stem, flower, fruit; Ripe fruit consumed as laxative, cooked stem & flower eaten to lower blood pressure and for anaemia, stem juice heals cuts and wounds
<i>Neolamarckia cadamba</i> (Roxb.) Bosser [Rubiaceae]; <i>Kadam</i>	Leaf; leaf juice given orally is antidiarrhoeal for cows, leaf paste tied over wound cures pain and swelling
<i>Nerium oleander</i> L. [Apocynaceae]; <i>Karabi</i>	leaf; leaf juice applied externally cures insect bite
<i>Nyctanthes arbor-tristis</i> L. [Oleaceae]; <i>Shiuli</i>	Leaf; 10-20 ml juice taken orally acts as antihelmintic, antirheumatic, antiinflammatory
<i>Ocimum basilicum</i> L. [Lamiaceae]; <i>Babui Tulsi</i>	leaf; 1 spoon leaf juice with honey taken orally thrice daily acts as expectorant
<i>Ocimum gratissimum</i> L. [Lamiaceae]; <i>Ram Tulsi</i>	Leaf; decoction taken daily used for fever and nasal catarrh
<i>Ocimum tenuiflorum</i> L. [Lamiaceae]; <i>Radha Tulsi, Tulsi</i>	Leaf; juice or decoction taken orally helps cure cough, fever, nasal catarrh
<i>Oxalis corniculata</i> L. [Oxalidaceae]; <i>Amrul</i>	Leaf; leaf juice taken orally acts as diuretic, coolant, antipyretic and cures amoebiasis
<i>Paederia foetida</i> L. [Rubiaceae]; <i>Gnadal</i>	Leaf; cooked leaves consumed as antidiarrhoeal and diuretic
<i>Phyllanthus emblica</i> L. [Phyllanthaceae]; <i>Amlaki</i>	Fruit; 1 fruit eaten daily acts as laxative, blood purifier, coolant, cures cough and asthma
<i>Phyllanthus fraternus</i> G.L.Webster [Phyllanthaceae]; <i>Bhui amla</i> ;	Whole plant; plant extract consumed orally for jaundice, indigestion, urinary disorder, dysentery
<i>Premna herbacea</i> Roxb. [Lamiaceae]; <i>Bamanhali</i>	Leaf; decoction of leaf taken daily acts as antiasthmatic
<i>Psidium guajava</i> L. [Myrtaceae]; <i>Peyara</i>	Leaf, fruit; leaf decoction as mouth wash cures toothache, leaf juice taken as antidiarrhoeal, fruit eaten for healthy liver
<i>Punica granatum</i> L. [Lythraceae]; <i>Dalim</i>	Fruit; taken regularly cures dysentery, diarrhoea, anaemia and urinary disorder
<i>Raphanus raphanistrum</i> subsp. <i>sativus</i> (L.) Domin [Brassicaceae]; <i>Mulo</i>	Tender leaf, root; cooked and eaten acts as appetizer, diuretic
<i>Saccharum officinarum</i> L. [Poaceae]; <i>Aakh</i>	Stem, root; stem juice taken 2-3 times a day for jaundice, with jaggery and ginger root powder cures gastric disorders.
<i>Saraca asoca</i> (Roxb.) Willd. [Leguminosae]; <i>Ashok</i>	Bark; oral administration of bark powder to get relief from leucorrhoea and menstrual pain
<i>Sesamum indicum</i> L. [Pedaliaceae]; <i>Til</i>	Seed; paste applied on affected area cures burn, acne
<i>Solanum melongena</i> L. [Solanaceae]; <i>Begun</i>	leaf; hot leaf applied cures pain of blood clotted area due to heavy collision
<i>Solanum nigrum</i> L. [Solanaceae]; <i>Girim</i>	Leaf; leaf paste applied cures inflammation
<i>Sphagneticola calendulacea</i> (L.) Pruski [Asteraceae]; <i>Vringaraj</i>	Leaf, fruit; leaf paste applied externally promotes hair growth, fruits consumed as vegetable reduce cholesterol
<i>Swertia chirayita</i> (Roxb.) Buch.-Ham. ex C.B.Clarke [Gentianaceae]; <i>Chirata</i>	Whole plant; decoction taken daily in empty stomach as blood purifier and liver tonic
<i>Swietenia mahagoni</i> (L.) Jacq. [Meliaceae]; <i>Mehagini</i>	Seed; 2-3 seeds soaked in water and the water drunk in empty stomach acts as antidiabetic
<i>Syzygium aromaticum</i> (L.) Merr. & L.M. Perry [Myrtaceae]; <i>Lavanga</i>	Dry flower bud; good for teeth and irritation in throat; bud kept in mouth for relief
<i>Syzygium cumini</i> (L.) Skeels [Myrtaceae]; <i>Kalo jam</i>	Fruit; fruit eaten raw as antidiabetic
<i>Syzygium jambos</i> (L.) Alston [Myrtaceae]; <i>Golap jam</i>	Bark, leaf, ripe fruit; bark decoction taken orally for dysentery, leaf paste applied on inflammation, fruit eaten for liver complaints and as diuretic
<i>Tagetes erecta</i> L. [Asteraceae]; <i>Ganda</i>	Leaf; paste or juice applied externally cure cuts and wounds
<i>Tamarindus indica</i> L. [Leguminosae]; <i>Tentul</i>	Leaf, fruit; Leaf paste with turmeric applied on inflammation and bone pain, fruit eaten to reduce cholesterol
<i>Terminalia arjuna</i> (Roxb. ex DC.) Wight & Arn. [Combretaceae]; <i>Arjun</i> ;	Bark; decoction of bark taken daily as cardio-protective and for lowering blood pressure
<i>Terminalia bellirica</i> (Gaertn.) Roxb. [Combretaceae]; <i>Bahera</i>	Fruit; dried fruit powder taken orally everyday for laxative and hypotensive action
<i>Terminalia chebula</i> Retz. [Combretaceae]; <i>Haritaki</i>	Rind of fruit; 3-6 g fruit powder taken daily as purgative and antiasthmatic
<i>Tinospora sinensis</i> (Lour.) Merr. [Menispermaceae]; <i>Gulanchar</i>	Bark; 1 g bark powder + 1/4 th of pepper powder consumed orally as anti-diarrhoeal, analgesic and for gastritis
<i>Trichosanthes cucumerina</i> L. [Cucurbitaceae]; <i>Chichinga</i>	Leaf, fruit; leaf and fruit juice taken orally are dietary aid during jaundice
<i>Trichosanthes dioica</i> Roxb. [Cucurbitaceae]; <i>Patol</i>	Tender shoot, fruit; cooked and eaten helps digestion and as hepatoprotective
<i>Trigonella foenum-graecum</i> L. [Leguminosae]; <i>Methi</i>	Seed; Appetizer, antiseptic, antidiabetic; seed used as spice, seed powder taken orally for diabetes
<i>Typhonium trilobatum</i> (L) Schott [Araceae]; <i>Kharkon</i>	Leaf; leaf paste taken with rice is a powerful stimulant, relieves rheumatism
<i>Urena lobata</i> L. [Malvaceae]; <i>Bon okra</i>	Root; root paste applied externally for rheumatism
<i>Vigna mungo</i> (L) Hepper [Leguminosae]; <i>Mash kalai</i>	Seed; a cup of seed infusion drunk in the morning effective against kidney stone, oil extracted used for rheumatic pain
<i>Vitex negundo</i> L. [Lamiaceae]; <i>Nishinda</i>	Dry leaf; smoking dry leaf cures ear ache
<i>Zingiber officinale</i> Roscoe [Zingiberaceae]; <i>Aada</i>	Rhizome; juice taken with leaf juice of 'tulsi' cures irritable bowel, cold, influenza, throat allergy
<i>Ziziphus jujuba</i> Mill. [Rhamnaceae]; <i>Kul</i>	Leaf; paste applied on boils and carbuncles for cure

These plants represent 45 different families of which 9 species belonged to Leguminosae, 6 species to Apocynaceae and Lamiaceae, 5 each were from Cucurbitaceae, and Euphorbiaceae, 4 species each from Asteraceae, Malvaceae, Myrtaceae and Rutaceae, 3 species each from Acanthaceae, Araceae, Combretaceae, Moraceae and Solanaceae, and 2

species each from Amaranthaceae, Brassicaceae, Lauraceae, Lythraceae, Meliaceae, Phyllanthaceae, Poaceae, Rubiaceae, and Zingiberaceae and rest 22 families are represented by single species each. Different parts of the plants had different medicinal values and were used to cure different diseases. The parts used of the medicinal plants in the three areas studied are

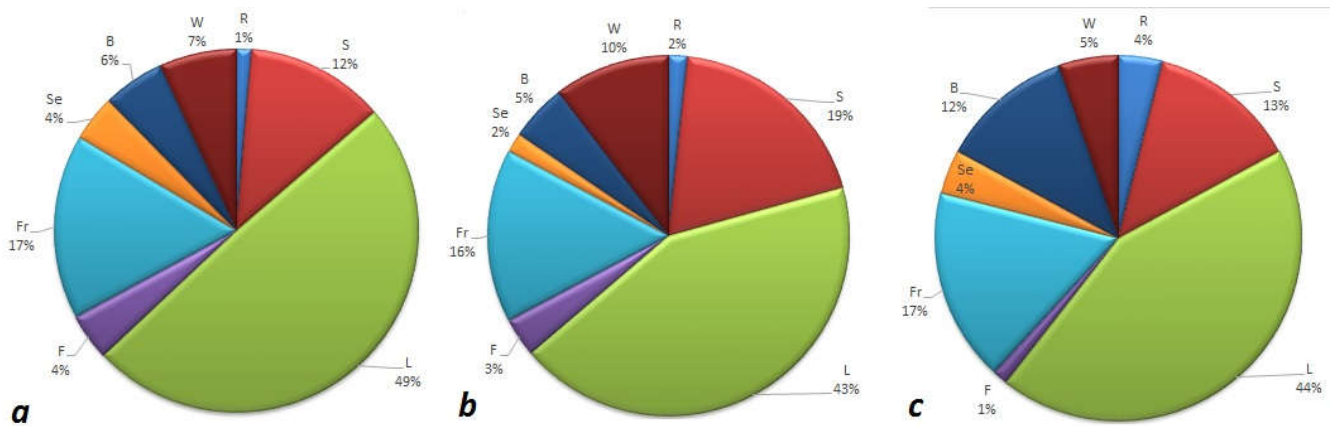


Fig. 3. Pie charts showing parts used of the medicinal plants in a. Amtala b. Diamond Harbour c. Habra. [Abbreviations used: B = Bark; F = Flower; Fr = Fruit; L = Leaf; R = root; S = stem, rhizome, bulb and corm; Se = Seed; W = Whole plant]

shown in Fig 3. Leaves had most widespread medicinal use compared to other plant parts. The middle aged and aged people had sound knowledge on the use of medicinal plants and found to use commonly available medicinal plants extensively for healthcare as these are easily available, less expensive, and have no side effects. While, some of these plants were grown by them in their kitchen gardens like *Brassica campestris*, *Cajanus cajan* and *Saccharum officinarum*, majority of the plants or their useful parts were collected from nearby wastelands and roadsides. Some other plants like *Ficus racemosa*, *Punica granatum*, *Swertia chirayita*, *Terminalia bellirica*, and *Terminalia chebula* were obtained from local markets. Herbal preparations were typically made from a single plant or sometimes from a mixture of plants. The aged people vouched on the efficacy of plants and some of them said that they were completely dependent on herbal cures even today. However, the younger generation were partly dependent on medicinal plants and were inclined towards the use of allopathic medicines. Therefore, use of traditional herbal cures is on the wane and the knowledge about herbal cures is fast declining and it is of prime importance to preserve this traditional knowledge and to conserve these important species of plants.

The presently increasing practice of plant based health-care materials, indiscriminate collection of medicinal plants as raw materials by different pharmaceutical companies has pushed many of these species to the brink of extinction (Akerle, 1993). Widespread study is essential to know the scenario of traditional knowledge based conservation biology to conserve the nature and natural resources in such degraded ecosystems (Das and Ghosh, 2017).

Thus it is necessary to inventorise and record all ethnomedicinal information on plants accumulated and practiced by the diverse ethnic communities before those are completely lost (Ghosh, 2003). Such recorded knowledge forms the base-line data and those are to be investigated through modern scientific methods for possible discovery of novel drugs (Mandal, 2014). The present study reveals that the vegetation in the district of 24-parganas is rich in wealth of indigenously available medicinal plants and traditional knowledge on their uses and are extensively used by the local people even today in such periurban areas and if paid proper attention it may go a long way towards fostering the sustainable use, conservation and resource generation from these valuable natural biological elements.

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REFERENCES

- Akerle, O. 1993. *Nature's Medicinal Bounty: don't throw it away*. World Health Forum, Vol 14
- Azaizeh, H., Fulder, S., Khali, K. and Said, O. 2008. Ethno-Medicinal knowledge of local area practitioners in the Middle East region, *Fitterapia* 14, 98-108.
- Chettri, Deepika; Moktan, S. and Das, A.P. 2014. Ethnobotanical studies on the Tea garden workers of Darjiling Hills. *Pleione* 8(1), 124 – 132.
- Das, A.P., Ghosh, C., Sarkar, A. and Biswas, R. 2007. Ethnobotanical Studies in India with Notes on Terai-Duars and Hills of Darjiling and Sikkim. *NBU J. Pl. Sci.* 1, 67 – 83.
- Das, D. and Ghosh, P. 2017. Some Important Medicinal Plants Used Widely in Southwest Bengal, India. *Int. J. Engin. Sci. Inven.*, 6 (6), 28-50.
- De Silva, T. 1997. Industrial utilization of medicinal plants in developing countries, In: Bodekar, G., Bhat, K.K.S., Burley, J. and Vantomme, P. (eds.) *Medicinal plants for forest conservation and healthcare. Non Wood Forest Products* 11, FAO, Rome, Italy, pp. 38-48.
- Dutfield, G. 2003. *Protecting Traditional Knowledge and Folklore, Issue*. Paper No. 1, UNCTAD - ICTSD Project on IPRs and Sustainable Development, p. 58.
- Ghosh, A. 2003. Herbal Folk Remedies of Bankura and Medinipur Districts, West Bengal, *Indian J. Trad. Knowl.* 2(4), 393-396.
- Hooker, J.D. 1875 – 1897. *The Flora of British India*. vols. I – VII. L. Reeve & Co., Kent, London.
- Jain, S.K. 1987. *A Manual of Ethnobotany*. Scientific Publishers, Jodhpur.
- Kamboj, V.P. 2000. Herbal Medicine, *Curr. Sci.* 78(1), 35-39.
- Mabberley, D.J. 1997. *The Plant-Book. A portable dictionary of the vascular plants*, Second edition. Cambridge University Press.

- Mandal, M. 2014. Ethno-Medicinobotany of Some Tribal Communities of Bankura District, West Bengal, India, *Explor. Anim. Med. Res.* 4 (1), 64-80.
- Mistry, J. 2015. Traditional Medicinal Plants used by Local People of Murshidabad District, West Bengal, India, *World J. Pharm. Pharmaceut. Sci.*, 4 (9), 1225-1234.
- Padulosi, S., Hodgkin, T., Williams, J.T. and Haq, N. 2002. Underutilized crops: Trends, challenges and opportunities in the 21st century in managing plant genetic resources. In: Engel, J.M.M. *et al.*, (eds.) CABI-IPGRI, pp. 323-338.
- Paria, N.D. 2005. *Medicinal Plant Resources of South West Bengal*. Research Wing, Directorate of Forests, Government of West Bengal, Kolkata.
- Perumal, S.R. and Ignacimuthu, S. 1998. Screening of 34 Indian medicinal plants for antibacterial properties, *J. Ethnopharmacol.* 62, 173-182.
www.theplantlist.org
- Perumal, S.R. and Ignacimuthu, S. 2000. Antibacterial activity of some Indian folklore medicinal plants used by tribals in Western Ghats of India, *J. Ethnopharmacol.* 69, 63-71.
- Prain, D. 1903. *Bengal Plants*. Vols. I & II. West, Newman & Co., London.
- Prajapati, N.D., Purohit, S.S., Sharma, A.K. and Kumar, T.A. 2003. *Hand Book Medicinal Plants*. Agribios India.
- Saha, D., Sarma, T.K. and Mukherjee, S.K. 2016. Some Medicinal Plants of North 24 Parganas District of West Bengal, India. *Int. J. Pharm. Biol. Sci.*, 6 (3): 191-206.
- Sarkar, A. and Das, A.P. 2010. Ethnobotanical formulations for the treatment of Jaundice by the *Mech* tribe in Duars of West Bengal. *Indian J. Trad. Knowl.* 9(1), 134 – 136.
- Sen, S. and Chakraborty, R. 2017. Revival, modernization and integration of Indian traditional herbal medicine in clinical practice: Importance, challenges and future. *J. Tradit. Complement. Med.* 7(2):234-244S
