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ETHNOBOTANICAL OBSERVATIONS ON ANGUL DISTRICT OF ODISHA, INDIA

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ABSTRACT

An account of ethnobotanical uses of 231 species belonging to 79 families and 195 genera gathered from different tribal and rural people of Angul district of Odisha (erstwhile Orissa) has been dealt in the paper. These data are outcome of ethnobotanical survey amongst 16 tribal and 11 non-tribal communities in 55 villages of 4 sub-divisions of the district. Angul district is rich in floristic as well as ethnic diversity. About 49 tribal communities resides in or around the forest of the district and depend mainly on forest resources for daily requirements like food, fodder, fiber, wood, medicines, gum, dye etc. These first hand ethnobotanical informations collected from Angul district are being enumerated with their botanical name, family, local name (s), locality (ies) and voucher number, followed by detailed method of preparation and mode of uses.

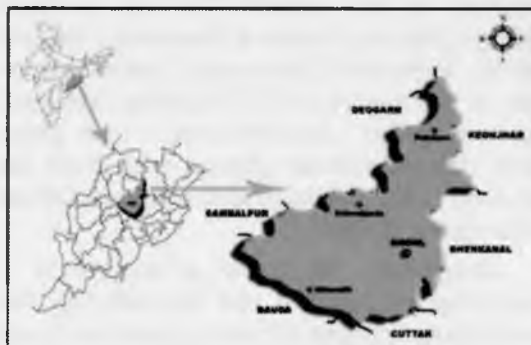
INTRODUCTION

Angul district of Odisha (erstwhile Orissa) is lies between, 20° 31' N & 21° 40' N latitude, 84° 15' E & 85° 23' E longitude. The name Angul is said to be corruption of Anugola, named after Anu, the last Khond Tribal Chief. Angul shares its borders with Sundargarh in the north, Deogarh, Sambalpur and Sonepur in the west, Boudh and Nayagarh districts in the south, Dhenkanal and Cuttack in the south-east and Keonjhar in the east (Map). The district covers a geographical area of 6,232 sq. km and supports a population of about 11.40 lakhs. The highest peak of the district is well known Malayagiri Hill of Pallahara sub-

division which is 1,186 meter above sea level. The river Mahanandi marks the southern boundary of this district. The rich cultural heritage, forests, mineral resources, natural beauty, industrial landscape, broad panorama of enchanting hills, rippling streams, mightiest gorge ' the Satakosia', lush green valley, the salubrious climate with fresh air are main characteristics of the district (Bhatt & Bhargava, 2006).

Altogether, 49 tribal groups with a population of 1,32,994 are inhabited in the district but dominated tribal groups are Gond (23,747), Khond (23,451), Kisan (15,949), Ho (12,017), Munda (11,803), Kolha (7,796),

Saora (7,640), Bhuiya (6,536), Santal (5,993), Kora (4,749), Shabar (3,860), Kharia (1,921), Oraon (1,130), Kandha Gauda (1,050), Matya (1,011), Juang (926), Koli (506), Bhumij (329), Kulis (316), Mirdha (183), Kol (157), Bathudi (147), Kotia (130), Binjhal (110), Kharwar (90), Mundari (63), Mahali (52), Kolah Lohara (46), Madia (39) etc. who generally resides in close vicinity of the forest areas (Bhatt & Bhargava, 2006). The vegetation growing in these forest areas plays a vital role in daily requirements and health care of the tribal people. Only the medicine man (*Vaidya* or *Kaviraj*), old men and women possess reasonable knowledge about the traditional uses of their surrounding vegetation. Although, a few research papers have been published on ethnobotany of neighboring districts like Sambalpur, Keonjhar and Deogarh by Sahu *et al.* (2009 & 2010), Satapathy (2008), Sur & Halder (2004 & 2010). It is quite evident from literature that no ethnobotanical study has been done so far on this particular district, which necessitated the present study. Therefore, observations on ethnobotany of Angul district were undertaken for the first time in different seasons in the year 2009 and 2010 with the view to enlist wild useful plant resources which can be utilized for the welfare of people in future after proper scientific authentication.



Map. Location map of ethnobotanical surveyed areas of Angul district, Odisha (Orissa)

MATERIALS AND METHODS

Field tours have been undertaken in 55 remote villages and forests areas, namely Pampasar, Chhutkai, Purunakote, Majhi-kholi, Hathigirija, Kendumundia, Hathiber, Karadapada, Badkheta, Salore and adjacent forest areas in Satkosia division; Kumbhia, Nuapada, Hatuapada, Bankpal, Kiakata, Mangalpur, Kadopada, Mundapada, Boiso Motho Pahad, Gumpha, Boinda, Takoba, Handapa, Udal, Kadali Munda, Jamunali, Katuda, Tentuli, Parwatipur, Dharpani and adjacent forest areas in Athamallik sub-division; Pallahara, Nizigarh, Kerjang, Khuludi, Kontabad, Kontanali, Jamardihi, Kuntala, Pathbada, Samala Gudapada, Namoposhi, Banda Bhuin, Nagira, Bhim Kand, Jamara, Nuguda, Banman, Jhoralo, Jharbada and adjacent Malayagiri forest areas in Pallahara sub-division and Chhendipada, Jarapada, Gola Bandha, Bhurkibhora, Sankerjang, Sankerjang Pansai in Chhendipada sub-division of the district. These surveys were conducted amongst 16 tribal communities, namely Kandh, Kolha, Matya, Munda, Kandha, Gauda, Gond, Kisan, Khairia, Lohar, Shabar, Kolho-Munda, Bhuinya, Juang, Paudi-Bhuinya, Santal and 11 non-tribal communities, namely Tyuhora, Tasha, Ghasi, Suda, Kumbhar, Mohanta, Dal, Kumharo, Patro, Chasa and Dhuba. Old and experienced men, women, and medicine men (*Vaidya* or *Kaviraj*) were interviewed for the first hand information on ethnobotanical uses of the plants. Repeated and cross queries were done for confirmation and verification of the information. The informers led the team to the forests to show the plants that they had been using for various purposes including their vernacular names, method of preparation and mode of use. Care has been taken to record only those ethnobotanical informations whose potentialities have been confidently claimed by the informants. Plant

specimens were labeled, numbered and placed between blotting sheets in plant press for drying purpose. These plant specimens are identified with the help of regional floras, like Haines (1921-25), Mooney (1941, 1950) and Saxena & Brahmam (1994-96). After matching with the authentic specimens kept in Central National Herbarium (CAL), these voucher specimens have been deposited in Ethnobotanical Herbarium of Central Botanical Laboratory (CBL) Howrah.

ENUMERATION

The up-to-date botanical names of the plant species have been arranged alphabetically (synonyms also given wherever necessary) for easy reference with their family in parenthesis, followed by local name(s) in italics, locality (ies) with collection number (s), alongwith ethnobotanical uses in detail.

Abelmoschus crinitus Wall. (Malvaceae); *Ban Midhasingh*; Samala Gudapada 30556

Whole plant is boiled with leaves of *Dendrophthoe falcata* (Kumbhi malang) and *Abutilon indicum* (Ban kawnriya) and the decoction (1 spoonful) is given daily for 30 days in the treatment of epilepsy.

Abrus precatorius L. (Fabaceae); *Nali Kaincho, Gunjo, Kencho*; Purunakote 34109, Golabandha Kerjang 30587

A root (2-3 inch) is fed along with any fodder to cow in eye inflammation three times for 3 days.

Abutilon indica (L.) Sweet (Malvaceae); *Pedipedica*; Takoba 34229

Leaves (7) pasted with black pepper (7) and given for 7 days in the treatment of jaundice.

Acacia catechu (L.f.) Willd. (Mimosaceae); *Khair*; Jarapada Road, Chhendipada 30577

Wood is collected for making a brownish-red dye (Kattha).

A. auriculiformis A. Cumm. (Mimosaceae); *Casia, Akashia*; Chhendipada, Takoba 34267

Wood is generally used for making furniture. Plants are grown as hedge and road side tree.

Achyranthes aspera L. (Amaranthaceae); *Apm-arga, Bodo-karoda, Birbinchi, Apamarga, Apamarang*; Purunakote 34130, Kerjenga, Jamardihi, Pallahara 30403

Leaves are pasted without water and the paste is applied only once on deep cuts. The portion should be covered with a piece of clean cloth for one day. This paste should be detached only after complete healing.

Leaf ash is given with honey (Mahu) in the treatment of stomach tumour and also in eye, nose, ear and limb pain.

Twigs are used as tooth brush to clean the teeth and to reduce tooth pain.

Whole plant is boiled with water and the decoction (50 ml) is given two times for easy delivery.

Leaves are dried and smoked as country cigarette (Bidi) to treat asthma (Swas).

Seed powder (1 gm) is given with hot water for 1 week in gastric trouble.

Leaves are mashed and then applied on forehead and the extracted juice is poured into nostril once to cure headache.

Leaves are worshipped and thrown on footpath crossing with a little rice and turmeric and believed that the fever is cured by doing so.

Acorus calamus L. (Araceae); *Bachh*; Takoba 34245

Rhizomes are powdered and ¼ teaspoonful given for 15 days with honey to children in the treatment of delay speak.

Haldina cordifolia (Roxb.) Ridsd. (Rubiaceae); *Mundi*; Motha Pahad 34216

The juice of tender leaves is poured in the opposite nostril once only in the treatment of half side headache (Adhkapali).

Aegle marmelos (L.) Correa (Rutaceae); *Belo, Bel*; Kendu Mundia, Kumbhia, Mangalpur 34178, Golabandha Kerjang, Bhurkibhora, Chhendipada 30583

Ripe fruits are eaten.

Leaves (5-7) are grounded with water and black pepper (21) and given in the morning in

empty stomach for the treatment of gastric trouble till cure.

Twenty one pieces (½ inch long) of roots are grounded along with black pepper (21) and water obtained after washing the rice (Chawal dhowan) and made three doses. Each dose is given in every Saturday for three weeks in the treatment of spermatorrhoea and leucorrhoea (Meh) for complete cure. During the treatment meat, egg and sourly food should be restricted.

Unripe fruits are crushed and boiled with water. It is taken in the treatment of gastric and acidity complaints for 21 days. Pulp of the fruits is taken with water to clean stomach and to increase semen concentration for 20-25 days.

Tender leaves (5-7) are eaten with water in empty stomach as appetizer.

Leaves are considered sacred and used in worship especially for lord 'Shiva' and also used for making garlands to deities. Leaves are also considered as symbol of Goddess 'Durga'.

Aerva sanguinolenta (L.) Blume (Amaranthaceae); *Chawad Dhuwa*; Kerjenga, Pallahara 30401

Leaves are cooked as vegetable. It is also given continuously for one week in the treatment of leucorrhoea.

Ageratum conyzoides L. (Asteraceae); *Gandhri*, *Pukhu-sungha*; Khuludi, Jamardihi, Nizgarh 30455

Leaf paste is applied externally on skin diseases including red allergic pimples (Pitt).

Leaf juice is given with honey (Mahu) for one week in the treatment of brain malaria. Plant decoction is also given in the treatment of malaria.

Leaf juice is inhaled through nostrils in the treatment of growth of bone (Massa) inside the nose and headache.

Alangium salvifolium (L.f.) Wangerin (Alangiaceae); *Ankulo*, *Enkulo*; Hathigirija, Mangalpur 34166, Samala Gudapada 30553

Fruits are eaten occasionally.

A root (10 gm) is grind with black pepper (3) and given once only to infant in unconsciousness (Murcha) locally called 'Pihula Jaro'.

Roots are rubbed on a stone with water and the paste is applied on the part bitten by snake and other poisonous insects /animals.

Root bark is pulverized and given (10 gm) internally in the bite of dog, cat, tiger, hyena, fox etc. to neutralize the poison.

Allophylus serratus (Roxb.) Kurz (Sapindaceae); *Dadim*; Golabandha Kerjang 30586

Yellowish-red sweet fruits are eaten by the people of the area.

Alpinia galanga Willd. (Zingiberaceae); *Bachh*; Takoba 34231

Rhizome decoction is used to gargle during morning and evening in throat infection.

Alstonia scholaris (L.) R.Br. (Apocynaceae); *Chhatyona*, *Verna*, *Chhachina*, *Chhatana*, *Chhatyon*, *Chhatin*; Purunakote 34119, Jamardihi, Pallahara 30472

Leaves are roasted in an earthen pot (Handia) and the hot vapour inhale through mouth in asthma (Swas, Dama). Dried leaves are smashed and smoked as tobacco in ancient smoking hubble-bubble (Chilam) for the treatment of same.

Stem bark powder is sprinkled over old ulcerous wound after washing by the leaf extract of *Azadirachta indica* (Neem) for quick recovery.

Bark powder (1 gm) is given with honey for 1 month in swelling, rheumatism, weakness and other 36 diseases.

Amaranthus tricolor L. (Amaranthaceae); *Nalikhoda*, *Notia-sag*; Pampasar 34275

Plants are collected and cooked as vegetable and curry. It is sold in the market @ 5 rupees per bundle (about 100 gm).

Amorphophallus paeoniifolius (Dennst.) Nicol var. *campanulatus* (Decne.) Sivadasan (Araceae); *Godu Gaadi*, *Ulo*, *Brahmani Jhantiya*, *Baghri*, *Oal*; Kendu Mundia 34175, Kerjenga, Pallahara, Samala Gudapada, Chhendipada 30441

Tender leaves are cooked as vegetable. Rhizome of the plant is also collected and consumed after repeated boiling or after detoxification (Shodhan). Rhizomes are cooked with the leaves of

Tamarandus (Tetuli) to avoid irritation in throat while consume.

Rhizomes are cooked with cow urine for whole day. It is dried, powdered and given (10 gm) with sugar and honey in the treatment of asthma.

Root is tied on arms to subside the adverse effect of Jupiter (Vrihaspati grah).

Ampelocissus latifolia (Vahl) Planch. (Vitaceae); *Pani Kachhu*; Purunakote 34108

Roots are pasted, mixed with castor oil, warmed and applied as plaster for 7 days on fractured bone.

Andrographis paniculata (Burm.f.) Wall. ex Nees (Acanthaceae); *Bhuin-limba*, *Chiraita*, *Bhuin-neem*, *Kalmegh*; Purunakote, Mangalpur, Parwatipur 34123, Kerjenga, Jamardihi, Nizgarh, Chhendipada 30420

Leaves are ground with water and made pills (Gram seed size). Two pills are given in the morning and evening for two days in the treatment of malaria. Leaf extract is also given in malaria.

Leaf decoction (one spoonful) is given orally once only to kill intestinal worm (Kirmi). Leaves are pasted and made pills of pea size. One pill is given evening and morning to kill intestinal worm. Whole plant is boiled and the decoction is given three times a day in the treatment of boils and blisters (Kachu- Kundia). Plant powder (1/2 spoon) is given orally for 2 week in the treatment of skin diseases.

Leaf decoction/powder is given in the treatment of diabetes; skin diseases and fever.

Whole plant is boiled and the decoction is given with honey in equal quantity in the treatment of fever, headache, worm, wound, boil and blisters.

Leaf extract is given to the victim of snake bite to confirm that the snake was poisonous or not. If it tastes sweet it means the snake was poisonous.

Leaves are used as an ingredient for the preparation of a local rice beer (Handia).

Annona squamosa L. (Annonaceae); *Atta*; Kumbhia 34193

Fruits are collected and eaten after ripening.

Anogeissus acuminata (Roxb. ex DC.) Guill. & Perr. (Combretaceae); *Phasi*; Hathigirija 34171

Leaves are ground with the leaves of *Limonia elephantum* (Kentho patra) and black carbon dust (Andho), collected from inverted iron disc (Tawa) and given to domestic cattle to check any type of diarrhoea (Jhada).

A. latifolia (Roxb. ex DC.) Wall. ex Guill. & Perr. (Combretaceae); *Dhaura*, *Dhawara*; Kumbhia 34205

Leaves are lopped and fed to cow, ox and buffalo.

Wood is generally used for making building materials.

Dried branches are collected for fuel purposes.

Argyrea nervosa (Burm.f.) Boj. (Covolvulaceae); *Budhhadharak*; Nizgarh, Pallahara 30507

Leaf paste is applied externally for 1 month on gout and arthritis and also applied on skin diseases (Kachhu).

Seed powder (10 gm) is taken with cow's rectified butter (Ghee) and sugar crystal (Misri) in equal quantity and milk (one glassful) for one month to increase concentration and quality of semen.

Aristolochia indica L. (Aristolochiaceae); *Pannauri*, *Sahastrabhedi*, *Panauri*, *Panohari*; Kendu Mundia 34182, Purunakote, Tentuli 34125, Kerjenga, Khuludi, Samala Gudapada, Pallahara, Sankerjang Pansai 30442

Leaves are pasted with turmeric and applied externally on the body of children in the treatment of pox (Narangi).

Root (1 inch) is pasted with black pepper (7) and given once only in the treatment of stomach pain.

Root is pasted with black pepper and applied for 2-3 days on ulcerous wounds (Bada Ghaw) on the head of children.

Roots are pasted with water and 4 spoonfuls is given to pregnant woman for abortion of 3-4 months old fetus.

Roots are pasted with water and given 2-3 times in stomach pain.

Roots are pasted with black pepper and the water and given to the victim of snake bite. It is believed that if the prescription is given on first day

of Hindu month (Sankranti) the snake will either die or run away.

Root paste is smeared on the body of victim to ward off the evil spirits. Roots are also used by witch doctor (Tantrik) when cow is not giving milk.

Asparagus racemosus Willd. (Asparagaceae); *Iswarjata, Satawari, Chhatuwari, Chhatwari*; Purunakote, Kendu Mundia 34102, Kerjenga, Pallahara 30424

Roots are washed, dried and powdered. One spoonful powder is given with milk (100 ml) for 15 days as tonic for strength.

Fresh root (1 inch) is crushed and kept in a glass of water for overnight. Next day after filtration it is taken in empty stomach for cooling purpose up to 3 days.

Root powder is given to keep stomach cool and also given in spermatorrhoea and as tonic. Roots are soaked in water and ground and taken in hotness of stomach. Root paste is applied externally on forehead in headache.

Roots are pasted with water and applied twice a day on hoof to kill worms and maggots.

Roots are grounded and fed along with grass to the cattle for drying up any kind of wounds. It is also given to human beings for same purpose but consumption of meat and fish should be restricted during the treatment.

Roots are grounded with water and taken internally once only to ward off the evil spirits (Dristi, Najar).

Azadirachta indica A.Juss. (Meliaceae); *Limba, Nimba*; Purunakote, Mangalpur, Kumbhia 34107

Flowers and new tender leaves are cooked and eaten as vegetable.

Stem bark (Chhali) is boiled with water and after cooling this water is used for bath in the treatment of boils and blisters. The extract (1 spoon) is also taken orally with one drop honey till cure for the same.

Leaves (7) are pasted with leaves (7) of *Aegle marmelos* (Bel) and given in empty stomach for 15-20 days in the treatment of diabetes.

Stem twig is used as tooth brush (Danti Kati) to clean the teeth.

Seed oil is sprayed in paddy fields to kill the harmful insects and moths.

Bacopa monnieri (L.) Wettst. (Scrophulariaceae); *Brahmi*; Pallahara, Boinda 34268

Plant decoction is given twice a day in the treatment of fever.

Leaf extract (1 spoon) is given continuously for 1 month in the treatment of hysteria and other brain related complaints.

Paste of the leaves is applied externally on feet up to knee for quick and smooth delivery.

Barleria cristata L. (Acanthaceae); *Ban Onayee*; Nizgarh, Pallahara 30528

Flowers are offered to goddess 'Durga' during 'dushera' festival (Durga puja).

B. prionitis L. (Acanthaceae); *Das Karenda*; Nizgarh, Pallahara 30529

Leaf powder is given orally with water for 1 week in any kind of skin diseases.

Barringtonia acutangula (L.) Gaertn. (Barringtoniaceae); *Hinjado, Hinjad*; Hathigirija 34165, Jamardihi 30475

Bark is boiled and the water is given to gargle 2-3 times in mouth ulcer, jaw sore and tongue sore.

Leaves are cooked with rectified butter (Ghee) and given 2-3 times per day in the treatment of piles up to cure.

Bark powder is spread over ulcerous wounds to heal up and kill maggots.

Leaf extract is given with honey in the treatment of diarrhoea and dysentery.

Fruits are boiled and given to cow to check acute diarrhoea.

Fresh bark is crushed and thrown into ponds to stupefy the fishes.

Bauhinia purpurea L. (Caesalpiniaceae); *Aambiti*; Jarapada, Chhendipada 30575

Tender leaves are collected and cooked and eaten as vegetable in the rural areas.

B. vahlii Wight & Arn. (Cesalpiniaceae); *Siali Lata*; Kendu Mundia 34189

Leaf powder is mixed with mustard oil and applied on an infection, especially behind the ear.

Leaves are collected and sell in the local market after making serving plates (Khali) and bowls (Dauna).

Inner bark of the stem is collected and used as rope for tying hut roof, grass and wood bundles.

Bixa orellana L. (Bixaceae); *Japhara, Kukumu, Kukuma, Sinduri*; Takoba 34234, Pallahara 30488

A red dye is obtained from the seed coat. It is used to garnish of vegetable and other dishes.

Boerhavia repens L. var. *diffusa* (L.) Hook. f. (Nyctaginaceae); *Puni, Purarbaso, Punarnawa, Purani, Puni-gachh*; Purunakote 34116, Jamardihi, Bhurkibhora, Sankerjang 30465

Leaves are cooked as vegetable. This vegetable is said to be very nutritious.

Roots (15 gm) ground with black pepper (7) and given once only to check excessive bleeding during menstruation cycle.

Leaf juice is applied on eye lids for better eye sight. Plant paste is applied externally on snake bite. Leaf extract is given with black pepper in flatulence.

Leaf powder is given in the treatment of jaundice and swelling.

Bombax ceiba L. (Bobacaceae); *Simuli, Plihamari, Simudi*; Purunakote 34124, Nizgarh, Pallahara 30519

Roots of young plants are ground and taken with cow milk for vigour and vitality and as tonic after illness.

Bark powder is given in the treatment of spleen (Pliha) disorder. Therefore, it is locally known as 'Plihamari'.

Bark paste is applied on burnt part of the body to avoid blister (Chhala) and quick recovery.

Borassus flabellifer L. (Arecaceae); *Tad, Tad-gachh*; Jamardihi, Kumbhia, Parwatipur, Mangalpur 34271

Fruits are eaten in the region.

Inflorescence of male plant is ground and given (50 gm) to woman in empty stomach at the end of menstruation cycle as contraceptive for next few months. She will become infertile after consuming second or third dose. Ash after burning of male inflorescence is also given for the same purpose.

Plant sap is collected and drunk as local wine for intoxication.

Dried leaves are used for making broom, mat, hat, basket and thatching purposes. Broom is selling @ Rs. 10 per piece in the local market.

Bridelia squamosa (Lam.) Gehrm. (Euphorbiaceae); *Kasi*; Mangalpur 34262

Fruits are eaten.

Wood is generally used for making sleeper (Patta).

Buchanania cochinchinensis (Lour.) Almeida (Anacardiaceae); *Chara, Char, Char-gachh*; Kumbhia, Tentuli 34198, Kerjenga, Samala Gudapada, Pallahara 30429

Fruits are edible. Seeds are eaten as tonic.

Bark decoction is given once only to check excessive bleeding during menstruation.

Bark decoction (1/2 spoon) is given for 1 month in the treatment of leucorrhoea, spermatorrhoea, nose bleeding, bleeding in cough, tuberculosis and bleeding piles.

Wood is generally used for making house hold articles.

Butea monosperma (Lam.) Taub. (Fabaceae); *Palasa, Padasa, Padas*; Kumbhia, Parwatipur, Tentuli 34203, Jamardihi, Samala Gudapada 30469

Bark, leaves and roots are crushed and made a paste: The paste is applied as plaster on bone fracture for 21 days. It should be changed after every 3 days.

Seed (1) is pasted and given with water to kill intestinal worms (Kurmi).

The green twigs are collected and spread over the field immediately after sowing the corm of *Colocasia esculenta*. By doing so, the propagated corms remain protected from wild animals/birds

and obviously increase the sprout and yield percentage due to proper aeration on the soil.

Leaves are collected and used for thatching the huts and cow sheds. Wood is generally used as fuel wood.

Caesalpinia bonduc (L.) Roxb. (Caesalpinaceae); *Gilo, Gila*; Nizgarh, Pallahara 30541

Gum or seeds are powdered and given with milk for 21 days to increase quality and concentration of semen.

Cajanus scarabaeoids (L.) Thouars Syn. ***Atylosia scarabaeoides*** (L.) Benth. (Fabaceae); *Kurthia, Kulthia, Sarpunkha*; Plurunakote 34114, Nizgarh, Pallahara 30513

Root (ca 2 inch) is ground with water (2 spoonfuls) and taken during dysentery with colic pain.

Extract of seeds is poured into eyes for 2 months in the treatment of cataract and poor vision (Jala or Palado-nemopet).

Calotropis procera (Ait.) Ait. f. (Asclepiadaceae); *Arakh, Swet Arakh*; Mangalpur, Parwatipur Kerjenga 34260

The paste of root and leaves are applied on snake bite. Leaf paste is also taken internally in critical condition.

Latex is applied externally once only on snake bitten part. If not cured, half spoonful latex can be given internally to victim. Latex is also applied externally on dog and cat bite and also on scorpion sting.

Fresh latex is collected, dried and made into pills and 1 pill per day is given for 7 days before sleeping at night in the treatment of fistula.

Calycopteris floribunda (Roxb.) Poir. (Combretaceae); *Dhauda Atundi*; Hathigirija, Kendu Mundia 34154

Dried wood is generally collected and used as fuel wood.

Canavalia gladiata (Jacq.) DC. (Fabaceae); *Taurango*; Jamardihi 30478

Green pods are cooked as vegetable.

Roots are pasted and given 2-3 times in gastric troubles.

Fresh extract of leaf is applied externally on scorpion stung part to get relief from pain. It is also applied on forehead in the treatment of half portion headache (Adh kapali).

Seed (red) oil is used for body massage purpose in the area.

Cannabis sativa L. (Cannabinaceae); *Ganja*; Pallahara 30498

Leaves are pasted and half spoonful is given with water for 1 month to keep stomach cool.

Capparis zeylanica L. (Capparaceae); *Asaduwa*; Hathigirija 34158

Stem bark pasted with water and the prepared paste (½ spoonful) is given with milk (¼ glass) for 7 days in the treatment of gout (Ambavato). During the treatment consumption of fish and meat is restricted.

Capsicum frutescens L. (Solanaceae); *Dhanuee Lanka*; Tridhara 34256

Fruits are extremely pungent in taste.

Fruits are pasted and made into pills. Pills are swallowed once only in stomach pain (Amda Dard) due to acidity.

Cardanthera triflora Ham. (Acanthaceae); *Bhringraj*; Takoba 34249

Leaves are washed properly and used for making chutney.

Leaf paste is applied on head as hair tonic.

Careya arborea Roxb. (Lecythidaceae); *Kumbhi*; Hathigirija 34167, Kerjenga, Pallahara, Chhendipada 30428

Stem bark paste is applied as plaster on fractured bone in case of human beings as well as domestic animals.

Root decoction is given in epilepsy up to cure.

Fruits are cut into small pieces and fed to cow for sound health.

Wood is collected by local inhabitants for fuel purposes.

Cascabela thevetia (L.) Lippold Syn. *Thevetia neriiifolia* Pers. ex Steud. (Apocynaceae); *Kaneri*; Nizgarh, Pallahara 30509

Fruits are cooked with oil and the lotion is applied externally on eczema for 3 days.

Casearia tomentosa Roxb. (Flacourtiaceae); *Khakara, Kardigo; Hathigirija, Kumbhia 34147*

Fresh fruits are pulverized in grinder (Dhenki) or stone and spread into ponds to stupefy the fishes.

Cassia fistula L. (Caesalpiniaceae); *Sunari, Sonari; Purunakote 34115, Kerjenga, Jamardihi, Samala Gudapada, Pallahara, Chhendipada 30411*

Root (ca 2 inch) is pasted along with black pepper (21) and water and the paste is given only once to cure half sided pain from shoulder to waist.

Leaf powder is given in the treatment of chronic constipation. It is an important ingredient of a well known ayurvedic medicine 'Kayamchurna'.

Roots are ground with water and the paste is kept inside the folded leaves of *Shorea robusta* and warmed on a hot iron disc (Tawa). Then this tepid paste is applied 2-3 times in the treatment of lumbago, joint pain and gout (Mendha-mundiavat). Bark powder along with dried zinger powder is also taken orally twice a day for the same.

Wood is occasionally used for timber (Kath).

Unripe bananas are kept between the leaves of plant for quick ripening.

Cassytha filiformis L. (Lauraceae); *Nirmuli; Golabandha Kerjang, Bhurkibhora 30585*

Whole plant is pasted with water and the prepared paste is applied externally on glandular swellings due to hurt.

Cathranthus roseus (L.) G.Don (Apocynaceae); *Sadabahari; Pallahara 30501*

Petals of the flower are chewed in the treatment of high blood pressure.

Leaves are ground with the bark of *Azardirachta indica* (Neem), *Pongamia pinnata* (Karanj) and *Terminalia alata* (Asan) in equal quantity and given in empty stomach for 1 year in the treatment of cancerous complaints.

Catunaregam spinosa (Thunb.) Tirveng. Syn. *Xeromphis spinosa* (Thunb.) Keay (Rubiaceae); *Karadogachh, Karhado, Dhuba Kentho, Karad; Hathigirija 34152, Kerjenga, Pallahara 30435*

Roots are pasted with water and given orally once only to human beings and animals in the treatment of mad dog bite.

Root is grounded with water and extract (2 spoonful) is given in stomach pain.

Bark paste is applied on paining wart.

Fruits are used as detergent to clean cloths by the local people.

Tamilnodia uliginosa (Retz.) Tirveng. & Sastre Syn. *Xeromphis uliginosa* (Retz.) Maheshwari (Rubiaceae); *Thelko; Motha Pahad 34217*

Fruits are cooked with rectified butter (Ghee) and spices and eaten as vegetable.

Celastrus paniculatus Willd. (Celastraceae); *Pingo, Pingu; Motho Pahad 34214, Samala Gudapada 30550*

Dried seeds are crushed and boiled with water. The oil is separated from water and used as medicine to cure any type of skin diseases. Seed oil is also applied daily on gout and arthritis till cure.

Seeds are collected from ripe fruits in the winter season. About 200 gm oil can be extracted from about 1 kg seeds.

Celosia argentea L. (Amaranthaceae); *Nahanga; Jamardihi 30466, Nizgarh, Pallahara 30534*

Leaves with tender stem are cooked as vegetable. This vegetable is considered very tasty and nutritious.

Centella asiatica (L.) Urb. (Apiaceae); *Thalkudi, Sthad Brahmi; Takoba 34240, Nizgarh, Pallahara 30514*

Leaves are collected, washed and cooked as vegetable.

Leaves vegetable is prescribed to children and old persons as brain tonic.

Cheilanthes farinosa (Forssk.) Kaulf. (Cheilanthaceae); *Chabol, Indrajai; Kerjenga, Nizgarh 30421*

Leaf paste is applied on the arms of children in the treatment of rheumatism (Kada-vat).

The roots are tied on the four corners of paddy fields to ward off the insects and moths.

Costus speciosus (Koenig) J.E. Sm. (Costaceae); *Gai Gendaliya*, *Kewu*, *Kou*, *Koukouka*; Purunakote 34112, Kendu Mundia, Tokoba 34193, Jamardihi, Pallahara 30481

Tubers are collected, cooked and eaten as vegetable.

Rhizomes are dried, powdered and given with honey (1:2 ratio) in stomach pain. It is also given orally in the treatment of hydrocoel (Eksira) for 3 weeks.

Rhizomes are powdered after detoxification (Shodhan) and given (2 gm) for 1 month in the treatment of goitre, tumour and other diseases called 'Galmala' and 'Granthi'.

Green leaves are hanged on a pole of roof of cow shed to ward off the evil eyes and believed their cow will not be affected by any kind of diseases.

Leaves are hanged with fruit of *Semecarpus anacardium* (Bhalia) and leaves of *Commelina benghalensis* (Kansi) on the door of cow shed on full moon night of the July-August (Shrawan) month. The body of the cow will touch these leaves, while passing through and believed that the cow will give more milk and remain safe from evil eyes.

The plant is considered sacred and worshipped by the local tribal populace.

Chlorophytum arundinaceum Baker (Liliaceae); *Musali*, *Napayee*; Samala Gudapada, Majihkholi, Ghat Tentuli 34137, Samala Gudapada 30599

The tender leaves (about 200 gm) are properly washed and cut into pieces like other green vegetable. About 200 gm pulse, preferably *Vigna radiata* L. (Moong), is cooked with common salt for 20-30 minutes. After then, these leaves are added with pulse and cooked again for 10-15 minutes. Finally, it is fried in mustered oil with seeds of fenugreek (Methi), fennel (Saunf), cumin (Zeera) and garlic (Lahsan), ginger (Adarak) and chillies (Mirch) collectively known as 'Futano' and served with rice. This preparation is sufficient for 10 person and taste as mutton.

Leaves are collected from wild in June-July and made the bundles of about 200 gm and sold @ Rs. 3/-bundle in the local market.

Tubers are collected for preparation of a tonic and given for vigour, vitality and strength.

Chloroxylon swietenia DC. (Meliaceae); *Bheru*; Mangalpur 34206

Green leaves are kept over the burning coal and mosquito will be killed due to a typical fragrance and smoke.

Chromolaena odorata (L.) R.M. King & H. Robinson Syn. *Eupatorium odoratum* L. (Asteraceae); *Madmadi*, *Bhua Sundi*, *Mudmudiya*, *Indiragandhi*, *Palsiya*, *Mamadi*; Purunakote, Parwatipur 34132, Kerjenga, Chhendipada 30410

Tender leaves are mixed with the flowers of *Madhuca longifolia* (Mahua phul) for more intoxication (Nasha) during the preparation of a local wine (Mad).

Extract of leaves are applied on fresh cut to check bleeding and wound healing. Leaf juice is also applied on internally injured part for 4-5 days.

Tender leaves are collected and fed to goats.

Flowers causes allergic cough. Plants are used as fencing.

Chrozophora rottleri (Geis.) Juss. (Euphorbiaceae); *Kharkhari*; Kadopada 34261

Green fruits are collected to obtain blue dye while children are playing.

Chrysopogon lancearius (Hook.f.) Haines (Poaceae); *Vena*; Golabandha Kerjang, Bhurkibhora 30580

Culms are collected, dried and used for making brooms to sweep their houses.

Cissampelos pareira L. (Menispermaceae); *Akand Bindu*, *Akandbindu*, *Mochkundo*; Hathigirija 34157, Kerjenga, Nizgarh, Pallahara, Sankerjang Pansai 30445

Root (10 gm) is pasted with black pepper (3) and given once only in the treatment of stomach pain.

Leaves (7) are pasted with black pepper (7) and given to woman at the end of menstruation cycle as oral contraceptive. The same prescription is also given to woman for abortion of 3 month old foetus.

Flowers are dried and given with curd for cooling the stomach, leucorrhoea (Meh) and sound sleep.

Roots are mixed with raw rice (Arwa Chawal), leaves of *Andrographis paniculata* (Bhuin-nimb) and made a catalyst (Dawai) for quick fermentation of rice beer (Handia) and for more intoxication (Nasa).

Cissus quadrangularis L. (Vitaceae); *Had Shankhali*; Kerjenga 30450

Whole plant is pasted with water and applied externally on bone fracture as plaster after properly setting.

Clausena excavata Burm.f. (Rutaceae); *Agnijada, Agnihada, Agnimukh*; Jamardihi, Nizgarh 30484

Root paste is given with salt to clean the stomach of children. It is given without salt to check the loose motion. Root powder is given daily for 1 month in stomach pain.

Root powder (2 gm) is given with black pepper in morning and evening for 2 months in the treatment of stomach tumour.

Cleistanthus collinus (Roxb.) Benth. ex Hook.f. (Euphorbiaceae); *Karada, Karoda*; Purunakote, Mangalpur 34110, Kerjenga, Samala Gudapada, Pallahara, Chhendipada, Bhurkibhora 30434

Leaves are pasted with turmeric and applied between toes to treat fungal infection.

A little root extract (2 drop) is given with a little water of calcium (Chuna pani) to children to check diarrhoea (Taral Jhada).

Roots are said to be dead poison and it is mixed with the bark of *Holarrhena pubescens* (Kuchada) and taken for suicide.

Bark powder is also sprinkled on the wound of cattle to kill worms.

Dry leaves are kept in the store of food grains to protect from moths and insects. Leaves are spread in the field of paddy for the treatment of a disease locally known as 'Pandari rog'.

Fresh branches are planted between and around the paddy fields for ward off the moths and insects. Leaves are boiled and the water and residue is thrown in the paddy field to kill insects.

Cleome gynandra L. Syn. *Gynandropsis pentaphylla* DC. (Cleomaceae); *Ban Surso*; Takoba 34263

Tender leaves are collected, washed, cooked and eaten as vegetable (Sag).

C. viscosa L. (Cleomaceae); *Ban Sarusia, Ban Surso*; Purunakote 34135, Nizgarh, Pallahara 30511

Leaf juice is poured into ear for 2-3 days during hearing trouble.

A piece of root is tied with a cotton thread on left arm of woman and right arm of man in the treatment of cold.

Clerodendrum indicum (L.) Kuntze (Verbenaceae); *Brahmjasthi*; Nizgarh, Pallahara 30518

A piece of root is put in an amulet and tied in the neck of victim for reducing the bad effect of planets (Grah-shanty).

C. viscosum Vent. (Verbenaceae); *Komuntiya, Mendhasingha*; Jamadih, Pallahara 30476

Soft root is ground with water and the resulted extract is given in fever and headache.

Root powder is given with dried zinger (Sunthi) for 7 days in knee pain and rheumatism.

A piece of root is slightly warmed and mixed with the sap of *Phoenix sylvestris* (Khajur) to increase more intoxication/ narcotic effect.

Clitoria ternatea L. (Fabaceae); *Aprajita*; Takoba 34226

Root decoction (one spoonful) is given for 7 days in menstruation cycle disorder.

Cocculus hirsutus Diels (Menispermaceae); *Dahidahika, Dadaiya*; Purunakote 34128

Fresh leaves are pounded and boiled with water until the evaporation of complete water. The remaining solid part is applied externally on head and forehead in giddiness and cooling purposes in every alternate day up to cure.

Plectranthus amboinicus (Lour.) Spreng. (Lamiaceae); *Rucunna, Hatapochha*; Handapa 34246

Leaf paste is given with black pepper in thrice a day in the treatment of stomach disorder.

Colocasias esculenta (L.) Schott (Araceae); *Ban Saru*; Kendu Mundia 34186

Leaves are cooked along with other vegetables, garlic and spices and consumed in the area.

Combretum album Pers. (Combretaceae); *Kada Atundi*; Hathigirija 34153

Fresh leaves are pasted with raw turmeric and the paste is applied on fungal infection between the toes for 5-7 days.

Commelina benghalensis L. (Commelinaceae); *Kena Suri*; Purunakote 34131

Roots are pasted with fresh turmeric and water. The prepared paste is applied over stomach of infants (below 6 months) in stiffness of arms and legs (*Kada-vato*) for 2-3 days.

Crateva magna (Lour.) DC. syn. *C. religiosa* Forst. var. *nurvala* (Buch.-Ham.) Hook. f. & Thoms. (Capparaceae); *Varuno*, *Varuno-gach*, *Varun*; Hathigirija 34170, Jamardihii, Pallahara 30459

Leaf juice is warmed and poured into ear to treat infection and foul smell. It is also applied externally on the skin diseases. Juice of the leaves is given with wine made from *Madhuca longifolia* (Mahua) in the treatment of skin affections.

Bark paste is applied on neck in goitre (Kanthmala, Gadgand). Simultaneously the bark powder is also given internally with honey for fast recovery.

Scented flowers are considered sacred and offer to local deities.

Crotalaria albida Heyne ex Roth (Fabaceae); *Jhunjhunja*; Samala Gudapada 30560

Root paste is applied on the body part bitten by snake.

Croton bonplandianum Baill. (Euphorbiaceae); *Marchia*; Golabandha Kerjang, Bhurkibhora 30584

Leaf sap is applied on fresh cut to check bleeding.

Cryptolepis buchananii Roem. & Schult. (Periplocaceae); *Gopokanchu*, *Gufkanu*, *Mugdhparani*; Purunakote 34105, Nizgarh, Pallahara 30515

Root paste is applied as plaster on bone fracture and simultaneously root powder is given internally for 1 week for quick recovery.

Leaves (7) are touched from head to tail of cow for 3 times, while the cow is not giving milk and kicking to the milk man. Some leaves are kept on the hook (*Khunta*) and after putting a piece of stone on those leaves he must move backward from the cow shed.

C. elegans Wall. (Periplocaceae); *Shyam lata*, *Shyam lahi*, *Shyam Layee*; Purunakote 34121, Kendu Mundia 34172

Whole plant (*Panchang*) is cut into small pieces and boiled with water. The decoction (2 spoonfuls) is given with honey (one spoonful) to reduce temperature in any type of fever.

Long flexible stem is used as rope to tie wood bundles, grass bundles and roof of the huts.

Stem bark is chopped off and used as rope for tying roof of the hut. It is also used at front side of fish catching instruments.

Curculigo orchoides Gaertn. (Hypoxidaceae); *Tadamuli*, *Tadmudi*, *Borha Konda*, *Badia konda*; Purunakote, Mangalpur 34111, Kerjenga, Pallahara, Chhendipada 30406

Fresh rhizome (ca ½ inch) is taken orally in intermittent fever (which revives after 4-5 days). This prescription should not be given to pregnant woman, otherwise she may get miscarriage.

Rhizomes are washed, dried, and powdered along with the roots of *Asparagus racemosus* (*Satawari*). About 5 gm per does twice a day is given for 21 days in the treatment of piles.

Rhizomes are pasted and applied externally on scorpion sting for 1-2 times only.

Rhizomes powder is taken internally in the treatment of boils and blisters.

Rhizome powder (25 gm) is given with cow's milk for 3 days in spermatorrhoea, impotency and as tonic in weakness.

Rhizomes are powdered with the root of young *Bombax ceiba* (*Bala Simdi*) and given continuously for 1-2 months for strong body and as aphrodisiac. It is also prescribed to woman for solid and

attractive breast and for men to long and solid genital.

Cuscuta reflexa Roxb. (Cuscutaceae); *Nirmuli*, *Nirmudi*; Kumbhia, Nuapada 34195

Plant is grounded with water and black pepper and given in hotness of the stomach for 4-5 days.

Cycas circinalis L. (Cycadaceae); *Arguna*; *Majhikholi* 34146

Female cones are cut and seeds (nuts) are taken out and dried. It is powdered and mixed with dried fruits of *Momordica cochinchinensis* (Kankro) and made chapattis during food scarcity.

Cyphostemma auriculatum (Roxb.) P. Singh & B.V. Shetty (Vitaceae); *Dhundro Lai*; Khandbar, Boinda 34251

Tender shoots with juvenile leaves are collected and sold in weekly market @ Rs. 5/-per bundle (10-12 shoots of 1.5 feet) used for making chutney. To prepare chutney, the seeds of fenugreek (methi), capsicum, foeniculum, cumin, garlic, onion and ginger are fried in oil. Shoots are cut into pieces and mixed with it. A little water, little sugar and leaves of mustard are added and boiled till become like jelly. It is eaten as chutney after cooling.

Cymbopogon flexuosus (Nees ex Steud.) W. Watson (Poaceae); *Dhanwantri*; Pallahara 30492

Inflorescences (10 gm) are fried with rectified butter (100 gm) and given (2 gm) per day for 21 days in complete cure of asthma.

Dalbergia sissoo Roxb. (Fabaceae); *Shisoo*; *Kiakata* 34224

Tender leaves are chewed for cooling purposes in summer season. Leaf extract is given with sugar candy twice a day to treat diarrhoea.

Datura metel L. (Solanaceae); *Dudura*; Tridhara, Tentuli 34254

Leaves are coated with castor oil and warmed and tied with a piece of cloth in the night to allay pain on paining part of the body.

Seed paste is applied on forehead once only to treat headache.

Flowers are frequently offered to Lord 'Shiva' in the area.

Dendrocalamus strictus Nees (Poaceae); *Bans*, *Baunsa*; Hathigirija, Kumbhia, Takoba 34168

New tender culm buds (Karadi) are chopped, dried and cooked as vegetable.

Green leaves are pasted with a little black carbon dust (Andho) collected from lower side of iron disc (Tawa). It is fed to domestic cattle for once only to check acute diarrhoea.

Culms strips are generally used for making partition wall, boundary wall, hut wall, gate etc. It is frequently used for making fish catching implements and different kind of baskets locally known as 'Bhuga', 'Kula', 'Pedi', 'Changuri' etc.

Desmodium gangeticum (L.) DC. (Fabaceae); *Sal Parni*, *Kalpuni*; Mangalpur 34215, Kerjenga 30405

Leaf paste is applied on fresh cuts to check bleeding quickly and to heal wounds for 2-3 days.

Whole plant is collected and sold to traders for preparation of an ayurvedic medicine called 'Dashmul'.

D. motorium (Houtt.) Merr. (Fabaceae); *Chakra Kadi*; Samala Gudapada 30549

Root is dug out in the morning when the small leaves are remain attached together and the root is touched to the body of girl/women to attract her towards him.

Dillenia indica L. (Dilleniaceae); *Rai*; Khuludi, Pallahara 30456

Fruits are collected and eaten by the tribal people.

D. pentagyna Roxb. (Dilleniaceae); *Rai*; Kendu Mundia 34185

Fruits are generally consumed by monkey and cow.

Leaves are collected and used for thatching purposes in the area.

Dioscorea bulbifera L. (Dioscoreaceae); *Pittadu*; Kerjenga, Samala Gudapada, Pallahara 30418

Rhizomes are cut into pieces and boiled for 15-20 minute. It is kept under the running water for overnight and again cooked with sugar and eaten as a subsidiary food.

The vegetable is prescribed continuously for one month in the treatment of diabetes.

Rhizome powder (5 gm) is given in the treatment of gout (Vat), diabetes and gastric trouble.

D. glabra Roxb. (Dioscoreaceae); *Konta Alu*; Kerjenga 30419

Rhizomes are collected, cooked and eaten as vegetable.

D. hispida Densst. (Dioscoreaceae); *Koduba Gachh*; Kendu Mundia 34184

Rhizome are collected, washed, boiled, peeled off and eaten as vegetable.

Diospyrus melanoxylon Roxb. (Ebenaceae); *Kendu*; Kendu Mundia, Tentuli, Parwatipur 34191

Fruits are generally eaten but it is mostly consumed as subsidiary diet in famine. Seeds of unripe fruits are taken out and eaten by tribal people.

Leaves are collected and sold for making country cigarettes (Bidi).

Diplocyclos palmatus (L.) C. Jeffrey (Cucurbitaceae); *Shivlingi*; Motho Pahad 34213

Roots are dried and burnt. The smoke is inhaled once only to domestic cattle in any skull related diseases.

Eclipta prostrata (L.) L. (Asteraceae); *Kesho-dudura*; Pallahara 30503

Leaf extract is applied over the body of cow to kill lice and other harmful insects.

Whole plant is mixed with sesame oil and applied on head for long and black hair and also to kill lice.

Elephantopus scaber L. (Asteraceae); *Mayurchura*, *Mayur Chudiya*, *Majhur chudiya*, *Ishwar-jata*, *Marchudia*; Purunakote, Parwatipur 34136, Kerjenga, Jamardihi, Nizgarh, Pallahara 30404

Fresh roots are grounded and a half spoonful is given to infants for 3 days in the treatment of diarrhoea.

Roots are crushed with water and given (2 spoonfuls) to check diarrhoea in children for 2-3 times.

Root past is applied over forehead in headache and hotness twice a day for 2-3 days.

Root is said to be poisonous and 1-2 smooth roots are inserted with cotton thread into vagina for abortion of 2-3 months foetus.

Erycibe paniculata Roxb. (Convolvulaceae); *Dudkudi*; Jamardihi 30483

Black ripe fruits are eaten by local people.

Roots are pounded and used for quick fermentation of local rice beer (Handia).

Unripe fruits are crushed and thrown in to ponds for stupefying the fishes.

Eucalyptus citriodora Hook. (Myrtaceae); *Ecalptus*, *Patash*; Chhendipada, Kumbhia 34277

Leaf extract is applied externally on forehead for 2-3 times in the treatment of headache.

Leaf extract is also given orally to check diarrhoea and to cool stomach.

Euphorbia fusiformis Buch.-Ham. (Euphorbiaceae); *Chedikani*, *Dudhkuduma*; Nizgarh, Pallahara 30539

Fresh rhizome is given to woman to increase milk secretion and as tonic. Root powder (1gm) is given with the milk of goat for one month in the treatment of tuberculosis.

E. hirta L. (Euphorbiaceae); *Hari-harika*, *Chitakuti*, *Pedpedika*, *Chhoto Pedpedica*, *Khero Sag*, *Jhuti Gadia*; Purunakote, Takoba 34117, Jamardihi, Pallahara, Sankerjang Pansai 30461

Whole plant is pasted with little curd and sugar and given once only to children suffering from gripping with frequent evacuation of faeces and gas formation.

Leaves pasted with leaves of *Aegle marmelos* (Bel-patra), bark of *Dalbergia sissoo* (Sisu), sugar crystals (Mishri) and water in equal quantity. The prepared extract is given in empty stomach for 11 days in jaundice.

The powder of leaves/whole plant is given with milk/honey for 1 week to increase secretion of milk.

Fresh latex is poured into eyes for 2-3 days for cooling the stomach in hotness.

Latex of the plant is used for tattooing by the tribal people.

Evolvulus nummularius (L.) L. (Convolvulaceae); *Shankhpushpi, Mati Kamada*; Pallahara 30505

Whole plant is pasted and applied twice a day for 2 days on big boils on the breast.

Ficus benghalensis L. (Moraceae); *Bargach*; Kumbhia 34274

Fresh leaf is plucked and latex (5-7 drops) mixed with puffed sugar (Batasa) and taken for 7 days in gonorrhoea and urinary trouble. Fresh latex (4-5 drops) are dropped on banana and taken in empty stomach for 7 days to increase concentration of semen.

F. hispida L.f. (Moraceae); *Dimur, Dimir, Jagya Dimiri*; Kendu Mundia 34173, Nizgarh, Pallahara 30527

Fruits are eaten. Green figs are collected and cooked as vegetable. It is also prescribed for cooling stomach and mind.

Root latex (2-3 drops) is dropped in a glass of water and kept for overnight. It is drunk in the next morning for cooling purposes.

Latex of the plant is applied on the glandular outgrowth arises on the upper portion of thigh due to hurt on any part of the leg. Some fried sand (Bhuji Bali) is spread on that part. The sand will stick on latex and will drop slowly as the outgrowth cured.

Fioria vitifolia (L.) Mattei (Malvaceae); *Bado Perpedika*; Sankerjang Pansai 30588

A flower (facing towards east) is given with ripe banana to sure sot abortion of 2-3 month fetus.

Leaves are fed to cow, goat and buffalo.

Flacourtia indica (Burm.f.) Merr. (Flacourtiaceae); *Bhuncho*; Samala Gudapada 30552

Root bark is powdered with black pepper and given for 3 days in cough. It is also prescribed for long period in the treatment of tuberculosis.

Flemingia macrophylla (Willd.) Prain ex Merr. (Fabaceae); *Gaj Bwenga*; Samala Gudapada 30548

Root powder is given with hot water once only to stop any type of diarrhoea and dysentery.

F. strobilifera (L.) Ait. & Ait. f. (Fabaceae); *Salparni*; Takoba 34247

Root decoction (1 spoonful) is given twice a day for two days in the treatment of fever.

Securinga virosa (Roxb. ex Willd.) Baill. (Euphorbiaceae); *Hado Konkali*; Hathigirija 34149

Roots are pasted with water and the tepid preparation is applied on fractured bone as pain killer for 7 days. It causes irritation with burning sensation while applying.

Garcinia kowa Roxb. ex DC. (Clusiaceae); *Kowa, Rajkusum*; Takoba 34236

Fruits are frequently eaten by the local people.

Gloriosa superba L. (Liliaceae); *Loh Langudiya, Endkera -gachho, Lahlangia, Lagulagudia, Agnishikha, Nauriya, Andkira*; Purunakote 34129, Jamardihi, Pallahara, Chhendipada, Bhurkibhora 30487

A small piece of rhizome (ca 1 inch) is fed to cattle along with grass once only in diarrhoea with foul smell and also while unable to graze the grass.

Rhizome paste is applied on the piles carefully once only. Rhizomes are used in gout after proper detoxification (Shodhan).

Rhizome paste is put on the part of body to pull out the spines, accidentally inserted.

Gmelina arborea Roxb. (Verbenaceae); *Gambhari*; Kumbhia 34201

Wood is generally used for making cot (Palang, Khatia) and sleepers (Patta).

Leaves are lopped and fed to cow, ox, goat and buffalo.

Grewia asiatica Masters Syn. *G. aspara* Roxb. (Tiliaceae); *Phalsa*; Takoba 34248

Ripe fruits are generally eaten by the local people.

G. hirsuta Vahl (Tiliaceae); Sunarogarh, Sundari-garh; Jarapada Road, Chhendipada, Bhurkibhora 30574

Ripe red (coffee) sweet fruits are eaten by the local inhabitants.

Leaves are collected and frequently fed to goat.

Gymnema sylvestre (Retz.) R. Br. ex Schult. (Asclepiadaceae); Gudmari; Nizgarh, Pallahara 30510

Leaves (2) are taken daily with water in the morning for the treatment of diabetes.

Helicteres isora L. (Sterculiaceae); Mura; Hathigirija, Kendumundia 34148, Nizgarh, Pallahara 30508

Dry fruits are kept in oil and the oil is applied over the whole body of infant against body thrilling and limb stiffness (Mura-rog/Muravat) up to cure.

Inner bark is chopped out and used as rope to tie the roof & wall of the huts.

Hemidesmus indicus (L.) R. Br. (Periplocaceae); Cherumari, Cheromaro layee, Anantmul, Chidomar, Anantmul; Purunakote, Mangalpur 34101, Jamardihi, Nizgarh 30480

Roots (1 inch) is pasted with black pepper (7) and water (after washing rice) or milk and given in empty stomach in the morning for 7 days in the treatment of fistula and piles (Mala Kanthaka).

Root is rubbed on clean stone and the paste is applied on the nipple of mother 2-3 times while feeding to infant as anthelmintic (Kirmi-nasak).

Root paste is applied on stiffness of arms and legs (Pui bandhon) of children for 2-3 times.

Root is tied into neck to neutralize the adverse effect of Sun planet (Surya grah).

Roots are chewed daily and believed that person will not suffer from any diseases. Root paste is applied on whole body to ward off the evil spirits (Bhut-pret).

Hibiscus rosa-sinensis L. (Malvaceae); Dhada Mundaro; Nizgarh, Pallahara 30522

Root paste is mixed with fresh cow-dung and applied externally on stomach once only to treat spleen (Pliha) disorder.

Leaf paste is applied on hairs as henna and left for 2 hours for black and long hairs by the tribal girls.

Holarrhena pubescens (Buch.-Ham.) Wall. ex G. Don Syn. *H. antidysenterica* (L.) Wall. ex A. DC. (Apocynaceae); Bhalupadi fula, Indrajau, Kurayee, Pitta Karua, Kutaz, Gulchi, Kurahee, Kurmi; Mangalpur, Tentuli 34270, Kerjenga, Jamardihi, Pallahara, Chhendipada 30415

Seeds are pasted with coconut oil and applied on skin diseases.

Seeds paste is given two times in stomach infection. Seeds (6-7) are ground with water and given in fever, headache, constipation and the paste is also applied externally on boils and blisters.

Bark decoction is given with raw sugar (Gud) in the treatment of stomach disorder and frequent evacuation.

Roots are pasted with water and given in any kind of fever. Root is given to neutralize the poison of snake.

Wood is generally used for making household articles and as timber.

Homonola riparia Lour. (Euphorbiaceae); Tharthari; Hathigirija 34169

Tender leaves are occasionally cooked as vegetable. Root decoction is given internally twice a day for 5 days in the treatment of urinary disorder.

Hygrophila schulli (Buch.-Ham.) M.R. & S.M. Almeida (Acanthaceae); Kuilekha; Pallahara 30495

Leaves (4) juice is given for 1 month in the treatment of anaemia and swellings.

Hyptis suaveolens (L.) Poit. (Lamiaceae); Gaya Tulsi, Purada; Golabandha Kerjang, Bhurkibhora 30581

Leaf paste is applied externally on any type of skin diseases.

Quirivella frutescens (L.) M.R. & S.M. Almeida Syn *Ichnocarpus frutescens* (L.) R. Br. (Apocynaceae); Sugandhi; Nizgarh, Pallahara 30531

Root powder is given with milk or hot water for 2-3 month for strong bones.

Indigofera cassioides Rottler ex DC. (Fabaceae);
Gila, Gilara; Takoba 34243, Kerjenga 30440

Pinkish flower are collected and mixed with half cooked pulse (Dal) and eaten as curry after cooking. Flowers are also eaten after frying with oil as vegetable (Bhaja) in winter season.

Indoneesiella echioides (L.) Sreemadh. Syn.
Andrographis echioides (L.) Nees (Acanthaceae);
Bhun Limb; Nizgarh, Pallahara 30538

Leaf powder (one spoonful) is given for 2 days in the treatment of malaria. It is also given for 1 year for the treatment of diabetes.

Ipomoea carnea Jacq. subsp. *flutulosa* (Mart.ex Choisy) Austin (Convolvulaceae); *Amori, Amari*; Kerjenga, Pallahara 30433

Latex is applied externally on eczema and wound on fingers.

Branches are vegetatively planted as fencing around kitchen garden and cultivated fields. Leaves are said to be poisonous to cow and goat. Fruits are eaten by crow only.

I. pes-tigridis L. (Convolvulaceae); *Bindha manji, Kathatiya*; Samala Gudapada 30555

Seeds are eaten by the local inhabitants.

Ixora pavetta Andr. (Rubiaceae); *Bhuen Kurma, Telkui-gachh, Tel Kurma, Tel Kurmi*; Kerjenga, Jarapada, Chhendipada, 30572, Kumbhia, Tentuli, Bhurkibhora 34194

Roots are parted with water and given for 2 days in the treatment of blood dysentery.

Leaves are eaten by goat.

Wood is used as timber and used for making furniture etc.

Plants are grown around the cultivated field as hedges (Bada).

Jatropha curcas L. (Euphorbiaceae); *Biagobo, Nali Jada, Lankajadda*; Takoba 34230, Jamardihi, Nizgarh, Bhurkibhora 30473

Root paste is smeared on gout affected parts of the body. Seed oil is also applied for the same in the night before sleeping.

Soft twigs are used as tooth brush to clean tooth and in the treatment of tooth carries. It is also

used for stiffness of teeth and to kill worms. Plant sap is applied on loose teeth to reset tightly.

Seeds are collected and sold to local contractors for preparation of petrol.

Justicia adhatoda L. (Acanthaceae); *Basang*; Nizgarh, Pallahara 30533

Leaf extract is given with honey (Mahu) in cough, cold and gout.

Kalanchoe pinnata (Lam.) Pers. (Crassulaceae); *Patraguja, Patragaj*; Bhurkibhora, Pallahara 30493

Leaves are pasted and given (5 gm) daily for 21 days to dissolve urinary tract stone and flush them out with urine. It is proved that the grinding stone will be dented or rubbed if leaves are grounded on it. Simultaneously pulse (Kudathi) should be taken internally during the treatment.

It is believed that the snake will not come if planted nearby the houses. It is easily transplanted due to rooted buds arising from every notch of leaf.

Lagerstroemia parviflora Roxb. (Lythraceae); *Sena*; Nuapada, Mangalpur 34204

Dry wood is generally used for fuel. Wood is used for making agricultural implements and house hold articles.

Lawsonia inermis L. (Lythraceae); *Mehendi*; Nizgarh, Pallahara 30535

Root powder is given with water after washing rice (Chawal dhua pani) for 2 week in jaundice.

Leaves are collected, dried, powdered and mixed with water in iron pot and the paste is applied on hairs as dye. It is also applied on palms and foot during marriage and other auspicious occasions.

Leucas cephalotes (Roth) Spreng. (Lamiaceae); *Goiso*; Jarapada, Chhendipada 30579

Tender leaves are cooked as vegetable.

L. decodentata Willd. R. Br. ex Sm. Syn. *L. mollissima* Wall. ex Benth. (Lamiaceae); *Samar Khayee*; Kendu Mundia 34188

Roots are grounded with water and the paste is warmed and applied on gout, rheumatism and paining part of the body.

Limonia acidissima L. (Rutaceae); *Kwencho*; Mangalpur 34221

Ripe fruits are eaten by local tribal people.

Unripe fruit is crushed and one spoonful extract is given once only to check diarrhoea (Taraljhada).

Lippia javanica (Burm.f.) Spreng. (Verbenaceae); *Gandhauri*, *Nagohari*; Jamaradih, Pallahara 30477

Leaf paste is smeared on the body of victim to treat fever.

A piece of root is tied in the neck of victim for reducing the effect of snake poison.

Lygodium flexuosum (L.) Sw. (Lygodiaceae); *Indra-Jali*, *Bandriya-gachh*, *Indrajai*; Purunakote 34103, Kerjenga, Pallahara 30449

Roots are kept in the pocket while collecting honey from bees hives and believed that the honey bee will not bite to the collector.

Roots are dead poison and taken during suicide and also fed to enemy.

Root is tied around neck after chanting some *tantra-mantra* by witchdoctor (Ojha /Guro) to keep away all diseases.

Madhuca longifolia (Koenig) Mac Bride var. *longifolia* (Sapotaceae); *Mahul*; Jamardihi, Kumbhia, Tentuli 34202

Sweet flowers (Tulo) are eaten. Flowers are collected, pounded and eaten during scarcity as subsidiary food locally known as 'Lattha'.

Flower are collected and used for making country liquor (Mad). 50 ml liquor may be obtained from the fermentation of one kg flowers.

Seeds are collected for oil extraction and this oil is used in cooking and for massages purpose.

Mallotus philippensis (Lam.) Muell.-Arg. (Euphorbiaceae); *Sinduri*; Samala Gudapada 30546

Fruit coating grains are collected and used to as red dye.

Martynia annua L. Syn. *M. diandra* Glox (Pedaliaceae); *Bagnakha*, *Baghnakhi*, *Gurukhia*; Takoba 34266, Jamardihii 30464

Oil is extracted from seeds and applied on all type of skin infection especially boils and blisters (Jadu).

Mentha arvensis L. (Lamiaceae); *Pudina*; Nizgarh, Pallahara 30516

Leaf powder or leaf extract is given in digestion related troubles.

Mesua ferrea L. (Clusiaceae); *Nageshwar*, *Nagkeshar*; Takoba Nursery 34237, Khuludi, Pallahara 30457

Fruits are eaten by the local people in the area.

Fresh flowers are kept on head to keep brain cool. Dried flowers are soaked in a glass of water for overnight and drunk to keep stomach cool. Dry flowers are pasted with water and sugar candy (Misri) and given for 1 week in gastric trouble.

Oil of the plant is used to avoid grey hairs.

Flowers are used for decoration and fragrance.

Millettia extensa (Benth.) Baker (Fabaceae); *Ara-Kauda*, *Arkada*; Hathigirija 34160, Kendu Mundia 34177

Roots are crushed and kept in a bucket of water. This water is applied externally on the whole body of cow to kill lice, insects etc. Stem is also pounded with water and externally applied on the body of cow to kill worm and lice.

Root bark is crushed and thrown into ponds to stupefy the fishes.

Mimosa himalayana Gamble (Mimosaceae); *Kirkinchi*; Hathigirija 34162, Nizgarh, Pallahara 30512

Roots (10 gm) is ground with black pepper (7) and given once only in the treatment of fever, body pain and to ward off the evil spirit.

Roots are ground with dried zinger and black pepper and the powder is given twice a day for 2-3 months in the treatment of rheumatism, gout and arthritis.

M. pudica L. (Mimosaceae); *Lajkudi*; Purunakote, Pallahara 34127

Root (10 gm) pasted with black pepper (7) and given once only to check acute diarrhoea (Taraljhada).

All parts of the plant (Panchang) along with bark of *Azadirachta indica* (Neem), *Pongamia pinnata* (Karanj) and *Terminalia elliptica* (Asan) in equal quantity for 1 year in the treatment of cancerous complaints.

Mimusops elengi L. (Sapotaceae); *Bauda*; Tridhara 34258

Tender twigs are used as tooth stick (Kathi). It is believed that loosening tooth will be tightened by regular using of twig and bark powder.

All parts (Panchang) are boiled and after staining it is given to gargle in toothache and pyorrhoea.

Flemingia bracteata (Roxb.) Wight (Fabaceae); *Murgo sheera*; Samala Gudapada 30543

Roots are powdered and given with hot water in morning and evening to check amoebiasis.

Momordica charantia L. (Cucurbitaceae); *Karada, Karela*; Kumbhia 34259

Juice of the fresh leaves is given in empty stomach for 15-20 days in the treatment of diabetes.

Morinda citrifolia L. (Rubiaceae); *Aanchhu*; Kumbhia 34200

Roots are collected to obtain a yellow-red dye, which is used for dyeing cotton cloth.

Wood is generally used for making sleepers (Patta).

Mucuna pruriens (L.) DC. (Fabaceae); *Bai Dhanka, Bai Dhunka, Baidank*; Majhikholi 34143, Jamardihi, Samala Gudapada 30482

Seeds are fried with rectified butter (Ghee) and taken orally as tonic in weakness. Seed powder is also given with milk for 2 week as tonic and as an aphrodisiac.

Roots are hanged on the ceiling of cow shades to protect from insects especially 'Tinko' and 'Ukni'. A piece of root is tied in the neck after performing worship for sound health.

Naringi crenulata (Roxb.) D. H. Nicolson Syn. *Limonia crenulata* Roxb. (Rutaceae); *Bantho*; Hathigirija, Kendu Mundia 34150

Fruits are generally relished by birds.

Wood is frequently used for making plough (Langada).

Nerium oleander L. Syn. *N. indicum* Mill. (Apocynaceae); *Nali Kanero*; Mangalpur 34212

Leaf juice is mixed with sesame (Til) oil and applied on ringworm, black spot and other skin disease upto 7 days.

Nyctanthes arbor-tristis L. (Oleaceae); *Ganga Sewali, Gutti Kharika, Gutti Khadika, Ganga siwadi*;

Purunakote 34104, Handapa, Tentuli 34241, Kerjenga, Jamardihi, Pallahara, Bhurkibhora, Sankerjang Pansai 30448

Leaf extract (2 spoonfuls) is given with honey (½ spoonful) in the morning for 7 days in the treatment of 12 types of fever. Leaves are boiled with the leaves of *Ocimum tenuiflorum* (Tulsi) and given 2-3 days in fever.

Leaves or all parts (Panchag) are boiled and the decoction is given 2-3 days in the treatment of malaria. Leaves are boiled with the leaves of *Andrographis paniculata* (Bhuin-limb) and given (2-4 spoon) in empty stomach for 4-6 days in malaria.

Twigs with leaves are cut into small pieces and boiled with water in earthen pot (Handi) till water remain 1/8 part. The prepared decoction (2-3 spoons) is given for 2-3 days in the treatment of malaria or other type of fever. It is also taken as preventive measures twice in a month for malaria.

Leaves are boiled with 5 kg water till it remains 1 kg. It is given with black pepper (Guti mirch), dried zinger (Sunthi), honey (Mahu) in fever, malaria, gout, gastric and headache.

Leaf extract (1 spoonful) is given with little dried zinger (Suthni) in the morning for one month in the treatment of any type of gout (Vat). Leaves are boiled with the leaves of *Andrographis paniculata* (Bhuin-limb), *Paederia scandens* (Prasarani), *Capparis sepiaria* (Kantakpali) and *Asparagus racemosus* (Gaikheera) and given 2-3 days in rheumatism (Vat). Leaves are boiled with the leaves of *Paederia scandens* (Prasarani), *Aegle marmelos* (Bel), root of *Ricinus communis* (Jada), *Capparis sepiaria* (Kantakpali), *Garcinia kowa* (Rajkusum), *Plumbago zeylanica* (Dhada-chitta),

Boerhavia repens var. *diffusa* (Puri), *Calotropis gigantea* (Dhada-arakh), fruit of *Semecarpus anacardium* (Bhalia), milk and water in earthen pot till it remain half. It is taken in the early morning for 6-7 days in any type of rheumatism, arthritis, gout etc.

Leaves are boiled and made into a paste and applied on the broken horn of cow, ox and buffalo for quick relief.

Unripe bananas are kept between the leaves for quick ripening.

Stigma (orange) colour is used for extracting dye.

Ocimum basilicum L. (Lamiaceae); *Ban Tulsi*, *Londa Babuli*; Kerjenga, Nizgarh, Pallahara 30412

Leaves and seed powder is given orally for 2 week in cough and to clear throat of viscid phlegm.

Seeds are powdered and given for 1 year in the treatment of leprosy (Kusta-roq). Seed decoction is given internally for 2-3 days in fever and rheumatism.

Seed is inserted in to eye once only to search foreign particles and clean the eye. It is also inserted in to eye to remove infection (Jala).

O. tenuiflorum L. (Lamiaceae); *Tulsi*; Kumbhia 34273, Pallahara 30494

Fresh juice of leaves (one spoonful) is mixed with honey (1/2 spoon) and taken in cough and cold.

Leaves (7) are given with honey for one month continuously in the treatment of malaria, acidity and gastric trouble.

Fresh leaves are used in all kind of worship and the whole plant is worshipped by the local inhabitants.

Olex scandens Roxb. (Olacaceae); *Bhal Bhadriya*; Motha Pahad 34207

Leaves are boiled, fried and eaten as vegetable. It is very good in taste.

Hedyotis trinervia (Retz.) Roem. & Schult. (Rubiaceae); *Shankha sag*, *Sinkua sag*, *Sinko sag*; Kerjenga 30447

Plants are cut into pieces and cooked with Kankharu and eaten.

Plant vegetable is very good in taste.

Oroxylum indicum (L.) Vent. (Bignoniaceae); *Fenfena*; Nizgarh, Pallahara 30517

Stem bark is used in the preparation of an ayurvedic medicine known as 'Dasmul'.

Paederia foetida L. (Rubiaceae); *Prasaran*, *Prasarani*; Takoba 34244, Nizgarh, Pallahara 305232

Tender leaves are cooked and prescribed as vegetable in gastric, stomach pain, heumatism and acidity.

Paspalum scrobiculatum L. (Poaceae); *Kakudiya*; Pallahara 30499

Whole plant (Panchang) is powdered and given (2 mg) daily for 2 weeks in the treatment of hydrocele.

Passiflora foetida L. (Passifloraceae); *Sikakai*; Nizgarh, Pallahara 30524

Fresh fruit is ground with water and the paste is applied externally on hydrocele once only.

Pavetta crassicaulis Bremek. Syn. *P. tomentosa* Roxb. ex Sm. (Rubiaceae); *Pingu*, *Kukurchhatya*; Purunakote 34106

The leaves are boiled with the leaves of *Justicia adhatoda* (Basinga) and the resultant water is used for bathing to the children for sound health and as an antiseptic.

Seeds are generally used as bullet (Goli) for bamboo gun by the children in the area.

Phoenix acaulis Buch.-Ham. ex Roxb. (Arecaceae); *Ban Khajuri*, *Khijuri*; Hathigirija, Kumbhia 34156, Pallahara 30496

Young tender leaves are crushed and the extract is given once only to treat spermatorrhoea and leucorrhoea (Parisar Poda).

Leaf extract (1 spoonful) is given to check irritation during urination.

Leaves are collected, dried and used for thatching purposes.

P. sylvestris (L.) Roxb. (Arecaceae); *Khijur*; Kerjenga, Kumbhia, Parwatipur 34272

Ripe fruits are eaten.

Plant sap (Khajuri ras) is collected in a pot fixed on plant and the sap is taken (3-4 glass) as wine for intoxication.

Dried leaves are used for making broom, mat, and thatching purposes.

Phyllanthus embelica L. Syn. *Embllica officinalis* Gaertn. (Phyllanthaceae); *Onla, Aoda, Awada*; Motha Pahad, Mangalpur 34209, Jamardihi, Chhendipada 30471

Fruits are eaten raw and used for making pickles.

Fresh fruits or powder of the fruits is given in the treatment of acidity, hotness, allergy, mouth sore.

Fruits are collected and sold to local traders for preparation of an ayurvedic medicine called as 'Trifala'.

Leaves are lopped and fed to goat and cow.

Phyllanthus fraternus G.L. Webster (Phyllanthaceae); *Choti Awala, Baadi Aawanda*; Handapa 34242, Jamardihi, Pallahara 30462

Leaf paste is applied externally around the eye in the treatment of eye-redness.

Plant decoction is given twice a day for 3 days in dysentery, mouth ulcer and jaundice.

Whole plant is ground with castor oil and applied on gout, cut, wound and headache.

Whole plant is ground and 1 spoonful is given for 2 days to check excessive bleeding after delivery, stomach pain, lumbago and fever.

Piper longum L. (Piperaceae); *Pipali, Bano Pimpuda, Ban Pipadi*; Takoba 34228, Kerjenga, Pallahara 30409

Fruits are given with honey in the treatment of cough and cold.

Roots are washed and given to chew in the treatment of cough. Root powder is also given 2-3 days in the treatment of cough.

P. nigrum L. (Piperaceae); *Kali Mirch*; Takoba 34227

Dried fruits are given in the treatment of cold, fever and cough and also used as condiments.

Plumbago zeylanica L. (Plumbaginaceae); *Dhada Chitta, Dhauda Chitta*; Samala Gudapada 30559, Purunakote 34122

Roots are pasted on a stone and the paste is applied externally on knee pain (Vat). It should not be applied without pain. It will cause burning sensation and eruption on that part, if applied without pain.

Plumeria alba L. (Apocynaceae); *Kath Champa, Kathi Champa*; Purunakote, Takoba 34164

A piece of soft stem is warmed and used for hot fomentation on waist pain after wrapping a cloth and a leaf of banana around the waist.

Plant is grown near the house and flowers are offered to the local deities in temple in tribal areas.

Polycarpon prostratum (Forssk.) Aschers. & Schweinf. (Caryophyllaceae); *Pitto-sago, Gime-sag*; Majhikholi 34144

Leaves are cooked as vegetable.

Leaf-vegetable is prescribed for 2-3 times in the treatment of boils, blisters and also to kill intestinal worm (Kirmi).

Pongamia pinnata (L.) Pierre (Fabaceae); *Karanj*; Takoba 34232, Jamardihi 30479

Seed oil is applied in all type of skin diseases including boils, blisters and wounds.

Stem bark of the plant is powdered along with the plant of *Mimosa pudica* (Lajkudi) and bark of *Azadirachta indica* (Neem) and *Terminalia elliptica* (Asan) in equal quantity for 1 year in the treatment of cancerous trouble.

Psidium guajava L. (Myrtaceae); *Pijuli, Pijudi*; Purunakote 34163, Tridhara, Parwatipur 34253, Nizgarh, Pallahara 30525

Young tender leaves are crushed and the juice is given once only with citrus (Nimbu) and cumin (Jeera) in the treatment of diarrhoea and indigestion.

New soft leaves (a handful) are extracted and two spoonful juice is taken with salt and black pepper to check diarrhoea.

Leaf juice (1 spoon) is given for 2 times only to check blood dysentery.

Pterocarpus marsupium Roxb. (Fabaceae);
Piyasad, Piyasal; Kumbhia 34276, Nizgarh,
Pallahara 30530

Water is kept in a glass (made from the wood of the tree) for overnight and drunk in the treatment of diabetes.

Wood is preferred for making boxes.

Pterospermum acerifolium (L.) Willd.
(Sterculiaceae); Sinduriya; Kerjenga 30446

Wood is generally used for making load carrier (Bahangi).

Pueraria tuberosa (Roxb. ex Willd.) DC.
(Fabaceae); Bidarikand, Bhuin Kukhari;
Samala Gudapada 30545

Rhizome powder (1/2 spoon) is given with milk to keep stomach cool and in the treatment of nocturnal emission, leucorrhoea and to increase concentration of semen.

Rauvolfia serpentina Benth. ex Kurz (Apocynaceae); Patalgarodo, Patalgarud, Sarpgandha; Purunakote 34126, Khuludi, Jamardihi 30452

Roots are powdered and given with black pepper (Gol Mircha) once only in stomach pain. It is also given in high blood pressure.

Root paste is applied on boils and blisters. Root paste is applied externally on scorpion sting and snake bite and also given internally for quick relief.

Leaves (3-5) are given to chew for sound sleep.

Root decoction is given to domestic cattle in flatulence.

Rivea hypocrateriformis (Desr.) Choisy
(Convolvulaceae); Fandeyee gachh, Fandi, Fanji; Kerjenga, Pallahara, Bhurkibhora 30423, Jarapada, Chhendipada 30576

Soft leaves are cooked as vegetable. These leaves are grounded along with the flowers of *Madhuca longifolia* (Mahua) and rice and made into cake (Roti, Pitha) and eaten. It also acts as an appetizer.

Sansevieria cylindrica Boj. ex Hook. (Asparagaceae); Ishwar Jata, Ojhad-gachh, Oghad-gachh, Gokhura-gad, Naga Ahiri; Parwatipur, Tridhara 34252, Khuludi, Pallahara 30451

Plant is pasted and applied on the part bitten by snake and believed that poison will not spread further. The extract of the plant is also given simultaneously for speedy relief.

Scindapsus officinalis (Roxb.) Schott (Araceae);
Gaj Pipadi; Samala Gudapada 30557

Leaves are pasted and given to expel intestinal worm and also given in cough and rheumatism.

Scoparia dulcis L. (Scrophulariaceae); Ghar Pudiya, Madhujasti, Topachini, Jestmadhu; Purunakote, Tentuli, Parwatipur 34113, Jamardihi, Nizgarh 30486

Fresh leaves are pasted with water (obtained after washing the rice) and this preparation (two spoonfuls per day) is given in the intervals of two days in the treatment of jaundice. Root paste with black pepper is also given 2-3 times in jaundice.

Leaves are pasted and given with sugar crystal (Mishri) for 1 week in the treatment of jaundice. Leaves and roots paste is also applied on head during the treatment.

Semecarpus anacardium L.f. (Anacardiaceae);
Bhaliya; Kendu Mundia, Tentuli 34190

Dried seed is cut into two halves, warmed and fomented on cut and crack heels.

Fruit paste is smeared on hands and legs in the treatment of gout and rheumatism.

Seeds are given after detoxification (Shodhan) in the treatment of rheumatism (Vat). Seeds are pasted with *Allium sativa* (Rasan), root of *Clitoria ternatea* (Dhada Aparajita), *Calotropis procera* (Arakh) and mustard oil and the lotion is used to massage in rheumatism for one month.

Senna alata (L.) Roxb. Syn. *Cassia alata* L.
(Caesalpiniaceae); Ghuda Chakunda; Nizgarh 30596

Roots are pasted with leaves of *Moringa oliefera* (Sujna) and applied for 1 week in skin diseases and skin cracking.

S. occidentalis (L.) Link Syn. *Cassia occidentalis* L. (Caesalpiniaceae); Bad Chakunda, Ghoda Chakunda; Kerjenga, Pallahara 30414

Leaves are smashed and applied behind the ear for the treatment of ear infection.

Root paste is applied on all skin diseases (Jadu) including boils and blisters.

S. tora (L.) Roxb. Syn. *Cassia tora* L. (Caesalpinaceae); *Chakunda*, *Nadi Chakunda*; Purunakote, Kumbhia 34133, Kerjenga, Jharbada 30402, Pallahara 30467

Tender leaves are cooked as vegetable.

Seeds (10 gm) are grounded with 2 gm Sulphur (Gandhak) and the paste is applied on eczema (Jadu) for 7-8 days. Seeds are ground with urine of cow and the prepared paste is applied on any kind of skin diseases. It is also applied on leprosy for 90 days.

Leaf juice is applied on the scorpion stung part of the body for 2-3 times to reduce pain. It is also applied externally on honey bee sting.

Fresh roots are pounded with water and given 2 times in stomach pain.

Oil is extracted from the seeds and applied on all kind of skin diseases (Charm-rog).

Sesamum orientale L. Syn. *S. indicum* L. (Pedaliaceae); *Maghirasi*; Pallahara, Angul 30502

Black seeds are boiled and given in the treatment of malaria.

Whole plant is boiled along with leaves (100 gm each) of *Nyctanthes arbor-tristis* (Ganga siwadi), *Azadirachta indica* (Nimb), *Hyptis suaveolens* (Purada), *Tinospora cordifolia* (Gudachi), *Justicia adhatoda* (Basanga), *Vitex negundo* (Baigunia), *Andrographis paniculata* (Kalmegh), *Ageratum conyzoides* (Pukhosunga) with 4 kg water until it remains 500 gm. It is mixed with 500 gm honey (Mahu) and given twice a day for 3 days in malaria, meningitis and brain malaria.

Shorea robusta Gaertn. f. (Dipterocarpaceae); *Sal*, *Saad*; Kendu Mundia, Takoba 34181

Seeds are mixed with flowers of *Madhuca longifolia* and eaten as cake (Pitha) in famine.

Seed oil is used for cooking purpose.

Resin (Jhuna) is collected and used as incense in worship and to repel mosquitoes.

Wood is frequently used for making household articles like cot and building materials like door and window frame.

Leaves are collected and used for making serving plates (Dauna / Khali) in the area. These plates are sold in the local market (Hat) by tribal people.

Sida acuta Burm.f. (Malvaceae); *Bazra-mudi*; Jamardihii, Pallahara 30460

Leaf extract is taken with sugar for 21 days in the treatment of jaundice.

Whole plant is boiled with water and the resulted decoction (1/2 glass) is given with honey daily morning in the treatment of leucorrhoea (Meh).

Plant decoction (2 spoons) is given with honey for 1 month in kidney trouble and jaundice.

S. cordata (Burm.f.) Borssum (Malvaceae); *Vishwa Khapri*; Samala Gudapada 30544, Sankerjang Pansai 30589

Leaf paste is applied externally on big and ulcerous boils for removing pus.

Leaves are roasted with un-boiled rice (Arva) and ground and made into a paste. The paste is externally applied on internally injured part of the body.

Smilax ovalifolia Roxb. ex D. Don Syn. *S. macrophylla* Roxb. (Smilacaceae); *Kumbhatua*, *Muturi*, *Muchudi*, *Kamaltua lata*; Majhikholi 34142, Kerjenga, Samala Gudapada, Pallahara 30417

Roots are pasted with wa' : obtained after washing rice (Chawal dhowa) and given two spoonfuls daily in early morning for 7 days in the treatment of diabetes.

Roots (3) are pasted with water and given for 3 days to cure hot stomach and reddish urine.

Roots are powdered with dried zinger (Sonth) and black pepper in (4:2:1 ratio) and given to men/women to reduce belly.

Roots are powdered with dried zinger (Sonth) and black pepper in (4:4:1 ratio) and the powder (3gm) is given for 1 month to pregnant lady to get male baby.

Stem is used as tooth stick (Kathi) in the treatment of pyorrhoea.

Solanum viarum Dunal (Solanaceae); *Bhej Beguno, Denga Bhaji, Beju Baigun*; Hathigirija 34161, Khuludi, Pallahara 30454

Young fruits are cut in to small pieces and fried with rectified butter (Ghee) and given once only in the treatment of cough and asthma. Fruits are fried with cow's rectified butter (Ghee) and taken for a week to take out phlegm.

Dried seeds are wrapped in a piece of thin paper and smoked as cigarette to treat the tooth carries.

All parts (Panchang) mixed with some other plants (not disclosed) and taken internally in rheumatic arthritis (Vat).

S. virginianum L. (Solanaceae); *Akranti*; Jamardihi, Pallahara 30485

Fruits are fried with cow's rectified butter (Ghee) and given 2 spoonfuls for 2 days in body shivering and asthma.

Roots are dried, powdered and given in asthma, cough, chest pain and urinary troubles.

Leaf juice is poured into ear to treat any kind of infection.

Plant is regarded sacred and worshipped by tribal people in the area.

Soymida febrifuga (Roxb.) A. Juss. (Meliaceae); *Rohani*; Jarapada, Chhendipada 30573

It is considered to have heavy wood among all available in the forest, so specially used for making paddy grinder (Dhenki).

Spermacoce hispida L. (Rubiaceae); *Jibhkata*; Kerjenga 30431

Leaf edge is used as razor by the tribal children.

Sphaeranthus indicus L. (Asteraceae); *Murisa, Buikadam*; Mangalpur 34223

Green heads are cooked and eaten to prevent chicken pox by the people of the area.

Spilanthes paniculata Wall. ex DC. (Asteraceae); *Akarkara*; Nizgarh, Pallahara 30523

Whole plant is ground with black pepper, dried ginger, king's cumin, black salt and the prepared powder (1/2 spoon) is given daily twice for 1 month in the treatment of rheumatism (Vat).

Streblus asper Lour. (Moraceae); *Sahada, Sahana*; Kerjenga, Pallahara 30407

The decoction of the bark is given for 1 week in oesnophilia.

Fresh twigs are used as toothbrush to clean teeth.

Tribal people must have to marry with this tree before commencing third marriage.

Strychnos nux-vomica L. (Loganiaceae); *Kuchila, Katak, Kuchuda, Kuchdiya*; Purunakote 34118, Jamardihi, Pallahara 30470

Leaves are cut into pieces and boiled with water. A piece of woollen cloth is dipped in hot water and fomented knee and ankle in the morning and evening for the treatment of gout (Mendhamundiavat) up to cure.

Leaf extract is mixed with honey in equal quantity and given once a day for 3 days in fever.

Leaves, fruit and bark is pasted and applied as well as taken internally in all kind of skin diseases.

Bark powder is mixed with oil and applied on the body in skin diseases and rheumatism. Fruits are also given after detoxification (Shodhan) in rheumatism.

Fruits are crushed and thrown into ponds to stupefy fishes.

Symplocos racemosa Roxb. (Symplocaceae); *Lodh*; Takoba 34233

Bark is boiled and the resulted water is used to gargle in gum and teeth infection.

Syzygium cumini (L.) Skeels (Myrtaceae); *Jambu*; Majhikholi 34139

Fresh bark is pounded with water and one spoonful extract is given to check diarrhoea (Taraljhada) up to cure.

S. cerasoides (Roxb.) Chatt. & Kanjilal Syn. *Eugenia operculata* Roxb. (Myrtaceae); *Pui-Jambo*; Mangalpur 34211

Fruits are eaten by village children.

Tender leaves are pounded and taken for 2-3 times in the treatment of diarrhoea (Taral Jhada).

Tagetes erecta L. (Asteraceae); *Gendu*; Pallahara 30500

Leaf paste is applied on fresh cut to check bleeding and quick healing.

Tamarindus indica L. (Ceasalpinaceae); *Tentuli*; Hathigirija 34159, Mangalpur 34210

Fruits are either eaten raw or after making chutney.

Leaf juice ($\frac{1}{2}$ spoon) is mixed with pomegranate fruit juice ($\frac{1}{2}$ spoon) and honey in ($\frac{1}{4}$ spoon) and given once only to check any kind of diarrhoea.

Leaves are lopped and fed to domestic cattle.

Tephrosia purpurea (L.) Pers. (Fabaceae); *Ban Kurtho*, *Nidi*, *Neda-gachh*; Jharbada, Jamardihi, Pallahara 30458

Seeds are consumed as pulse (Dal) by the poor people in the area. Seeds are collected for edible oil.

Root paste is given once only to check acute diarrhoea.

Whole plant is burnt and the ash is applied on old wound for quick recovery.

Root is ground with water and the extract is given (1 spoon) in empty stomach in diarrhoea.

Terminalia elliptica Willd. (Combretaceae); *Asana*; Hathigirija 34155, Kumbhia, Tentuli 34199

Fresh leaves are boiled with water and the hot water is sprayed on cow shed to ward off the mosquitoes and insects. One spray will be effective for about one month.

Wood is generally used for making sleepers (Patta). It is also used for making building and house hold articles.

T. cuneata Roth (Combretaceae); Majihikholi 34138, Samala Gudapada

Stem bark is dried, powdered and given orally with cow's rectified butter (Ghee) for 7 days to the patient of bone fracture.

Bark powder is given for 1 year in the treatment of heart trouble.

T. bellirica (Gaertn.) Roxb. (Combretaceae); *Bahada*; Nuapada, Mangalpur 34197, Kerjenga, Jamardihi 30490

Fruits are collected and sold for preparation of an ayurvedic medicine called 'Trifala'.

Fruits are chewed to clean the stomach and for blood purification.

Bark of the fruit is soaked in water and given with honey once only to check loose motion.

Tender leaves are used as fodder to cattle.

T. chebula Retz. (Combretaceae); *Harda*, *Hareda*; Motha Pahad, Mangalpur, Kumbhia 34208, Kerjenga, Jamardihi, Pallahara 30416

Fruits are sold for preparation of an ayurvedic medicine called 'Trifala'.

Fruit powder is taken for cleaning the throat of viscid phlegm and also to purify the blood.

Fruits are chewed in the treatment of cough and stomach disorder.

Fruits are powdered with King's cumin (Ajowain) and given 3 times in all stomach disorders including pain, gas, vomiting etc.

Fruit powder ($\frac{1}{2}$ spoon) is given with Jaggery (Gud) for 1 month in piles. It is also taken in rheumatism, cough and to clean stomach and also as appetizer.

Thespesia lampas (Cav.) Dalzell & Gibs. (Malvaceae); *Kapasias konda*, *Ban medasingh*; Kerjenga 30443

Roots are roasted on fire and eaten. It is also eaten after cooking with water.

Tinospora cardifolia (Willd.) Miers ex Hook.f. & Thomson (Menispermaceae); *Gudach*, *Gudachi*; Takoba 34235, Kerjenga, Samala Gudapada 30463

Stem is cut into small pieces and boiled with water. The decoction is given in the morning and evening in the treatment of dysentery.

Stem extract (2 spoonfuls) is given with dried ginger, black pepper and honey in fever.

Tragia involucrata L. (Euphorbiaceae); *Bichhati*; Jamardihi, Pallahara 30489

Leaves are pulverized with black pepper and the paste is applied on bald head regularly for

growth of hairs. Fruits are merely touched to the head in the treatment of headache.

Tridax procumbens L. (Asteraceae); *Vishalakarni*, *Vishailakarani*; Takoba 34239, Nizgarh, Pallahara, Sankerjang Pansai 30540

Leaf paste/extract is applied on deep cuts by any weapon to check bleeding and for healing purpose.

Uraria logopodioides (L.) Desv. (Fabaceae); *Salparni*, *Krishnaparni*; Kerjenga, Jamardihi, Nizharh, Pallahara 30444

Root bark is removed and remaining part is chewed to treat decayed teeth.

Root is an important ingredient of a well known medicine 'Dasmul', which is given in malaria, fever and cold. It is made after mixed with the bark of *Aegle marmelos* (Bel), *Oroxylum indicum* (Fenfena), *Gmelina arborea* (Gamhari), 'Patudi', 'Agwathu', 'Lata Benkuli', root of *Desmodium* sp. (Salparni), whole plant of *Solanum virginianum* (Akranti) and *Tribulus terrestris* (Gokhura).

Whole plant (Panchang) is powdered with other nine plant parts and given to all villagers as preventive measure for malarial or any type of fever.

Vanda tessellata (Roxb.) Hook ex G. Don (Orchidaceae); *Rasna*; Majhikholi 34140, Samala Gudapada 30547

Ariel root is cooked as vegetable.

Fresh leaves ground with butter in 2:1 ratio and the paste is applied externally on gout and rheumatism up to cure. Root powder (1/2 spoon) is given in rheumatism.

Plant paste is applied externally as plaster on bone fracture. Leaf juice is poured into ear in the treatment of earache.

Vernonia anthelmintica (L.) Willd. (Asteraceae); *Soranj*, *Somraj*, *Udasmari*, *Bakuchi*; Khuludi, Samala Gudapada 30453

Seeds are powdered along with black pepper and common salt and given to cow in the treatment of acute diarrhoea.

Leaves are dried and burnt to kill bugs (Udas) and mosquitoes. Seeds are ground with rice powder

and given for 1 month in the treatment of oesophyllia.

V. cinerea (L.) Less. (Asteraceae); *Jhurjhuri*; Takoba 34269

Plant decoction is given twice a day in the treatment of fever.

Vitex altissima L. f. (Verbenaceae); *Chadaigudi*; Kendu Mundia 34180

Leaves are pasted with the leaves of *Phyllanthus fraternus* (Bhui-amla), *Andrographis paniculata* (Bhui-limba) and seed of fenugreek (Methi) and boiled with water. This decoction is given with honey in the treatment of malaria.

V. negundo L. (Verbenaceae); *Nirgundi*; Nizgarh, Pallahara 30537

Leaf powder is given for 2 months in the treatment of rheumatism (Vat), cough and digestive disorder (Pitta).

Withania somnifera (L.) Dunal (Solanaceae); *Ashawagandha*; Takoba 34238

Root decoction is given for 7 days in the treatment of gout and joint pain.

Root powder is taken with water as tonic in general weakness.

Woodfordia fruticosa (L.) Kurz (Lythraceae); *Dhachuki*, *Jathi Madhu*, *Dhataki*, *Dhating*, *Dhatri*; Nuapada, Managalpur, Tentuli 34196, Kerjenga, Chhendipada 30425

Fruits are sucked by children due to sweet nectar. Flowers are collected and sold to contractor for medicinal purposes.

A twig of the plant is touched 7 times on the head of cow/ox, which regularly not come home.

Ziziphus mauritiana Lam. var. *fruticosa* (Haines) R.R. Stewart (Rhamnaceae); *Banro Koli*; Hathigirija 34151

Yellow ripe fruits are eaten.

Leaves are crushed and the juice is applied externally on palm and lower side of feet and also on the whole body during burning sensation (Jalan).

Z. mauritiana Lam. var. *mauritiana* (Rhamnaceae); *Berkudi*; Pallahara 30491

Fruits are eaten.

Tender leaves (2) are given with salt for 2 days in the treatment of chicken pox.

Z. oenoplia (L.) Mill. (Rhamnaceae); *Kantai Kuli*; Koda Pada 34220

A piece of root is tied with a thread made of *Apluda mutica* (Ponasi) and worn in the neck of patient suffering from cataract (Safed fularog). After a few days the root will fall down from the neck and the disease will be cured simultaneously.

DISCUSSION

The above analysis revealed that tribal and rural people of Angul district uses the maximum number of plant species for medicinal purpose, followed by edible, household material, fodder, dye, fuel, thatching, and making of broom, mat, basket, fibre, plates etc. During the ethnobotanical investigation of Angul district, a total number of 507 ethnobotanical informations have been collected from the district. Of these, 297 are ethnomedicine, 48 edible, 9 fodder, 7 veterinary, 12 snake, scorpion and dog bite, 12 tonic, 5 fish poison, 4 edible oil, 7 dye, 2 basketry, 2 fibre, 6 insecticide, 21 magico-beliefs, 8 religious, 5 fuel, 14 household and building material, 5 thatching, broom, mat, 6 alcoholic drink, 10 toothbrush, 2 plates, 5 hedge, 20 miscellaneous purposes.

Due to lack of interest of young generation towards traditional knowledge as well as urbanization and unscientific exploitation of natural forests the valuable knowledge and plant species are getting depleted leading to their extinction. Therefore, it is necessary to collect and document such precious knowledge from the tribal and remote areas before their complete depletion and also increase awareness among the tribal communities for conservation and sustainable use of plant wealth. The plants with medicinal value should be chemically analyzed so that active constituents from them can be identified and used for the

development of new drugs. Nutritional analysis of wild edible plants should also be encouraged for search of new or less known potential edible plants to supplement food requirements of the over growing global population. Some potential plant species should be recognized for the development of plant based small cottage industries in the tribal areas for the economic improvement of the country as a whole and tribal in particular.

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