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Wild Resources Used by Primitive tribes of Rampachodavaram Division Alluri Sitarama Raju District, Andhra Pradesh, India

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Abstract | **Original Research Article**

The purpose of the present study was to document the wild plants used by tribal people in Rampachodavaram Division, Alluri Sitarama Raju District, Andhra Pradesh. A total of 120 species were documented as wild plants resources used for varies purposes. These resources have enormous prospective benefits to humankind. The ever-increasing population and climate change over the years have contributed substantially to the pressure on plant resources leading to their decline or loss in nature. Hence, there is an immediate need to develop suitable conservation strategies for proper utilization and sustainability of these important resources.

Keywords: Wild resources, Primitive tribe, Rampachodavaram Division, Alluri Sitarama Raju District.

INTRODUCTION

The plant resources form an integral part of a huge inter-dependent system that encompasses the physical components and the biological community of life they have an important role to play in the development of agriculture and food security of a country. The world population has experienced a continuous growth and the current projections show a continued increase in population with the global population expected to reach between 7.5 and 10.5 billion by 2050 [1]. The population of India, which increased to 389 million by 1941 [2], is at present over 1.22 billion representing about 17 % of the world's population [3]. The Indian subcontinent is rich in medicinal plants used in traditional medical treatments [4]. The Ayurvedic concept (science of life) is believed to have appeared and developed between 2500 and 500 BC in India. Although 20,000 medicinal plants are reported from India [5], only 7,000–7,500 plants have been used for curing different diseases by traditional communities [6]. India is the world's largest producer of many fresh fruits, vegetables, major spices, fibrous crops such as jute, millets and castor oil seed. It is the second largest producer of wheat and rice, the world's major staple food [7].

Most of the ethanobotanical reviews and surveys are concentrated merely around medicinal plants. Food security is the main concern in recent scenario therefore; use of wild edible resources can be a great alternative footstep towards balancing human demand and utilization of resources. Wild edible plants can be used not only a staple food but can be used as supplement food as well as a source of income to native communities. According to Abermound, about one billion people in the world use wild foods (mostly from plants) on a daily basis [8]**.** The dependence on a few domesticated species limits dietetic diversity and leads to over dependence on limited resources. In contrast, ethno botanical investigations on Wild edible plants suggest that more than 7,000 species have been used for food in human history [9]. In countries like China, India, Thailand and Bangladesh hundreds of wild edible plants are still consumed along with domesticated species [10]. The role of these safe to eat plant species in preserving human and environmental fitness has been suggested [11, 12]. In depth studies concerning its nutritional position have additionally been highlighted in lots of surveys around the world [13]. The present aim of the study was wild resource used by primitive tribes of Rampachodavarm Mandalam, Alluri Sitaram Raju District.

METHODOLOGY

Several field trips were undertaken in tribal area of Alluri Sitarama Raju district, Andhra Pradesh during 2021-2022. The information was accrued after discussions with several tribal persons, village head, elder women and other local informants. Repeated

interviews through questionnaires were made in different villages to authenticate the information. Plant specimens were collected and identified with regional floras [14-17]. All the specimens were deposited in herbarium of Botany Department, Andhra University (AUH), Visakhapatnam and the collected information on wild plants was analysed.

RESULT & DISCUSSION

A total of 120 species 113 (49.80%) tree taxa were reported by 60 informants from the study area have medicinal value. Significant medicinal plants include: *Dillenia indica, Dillenia pentagyna, Michelia champaca, Annona reticulate, Annona squamosa, Polyalthia suberosa, Cochlospermum religiosum, Casearia graveolens, Flacourtia jangomas, Bombax ceiba, Ceiba pentandra, Eriolaena hookeriana, Firrmiana colorata, Sterculia urens, Grewia tiliifolia, Sloanea sterculiacea, Aegle marmelos, Atalantia monophylla, Limonia acidissima, Naringi crenulata, Zanthoxylum armatum, Ailanthus excels, Garuga pinnata, Protium serratum, Azadirachta indica, Cipadessa baccifera, Toona ciliate, Chloroxylon swietenia, Ziziphus mauritiana, Ziziphus xylopyrus, Leea indica, Sapindus emarginatus, Schleichera oleosa, Buchanania axillaris, Buchanania lanzan, Lannea coromandelica, Mangifera indica, Semecarpus anacardium, Butea monosperma, Dalbergia latifolia, Dalbergia paniculata Erythrina variegate, Ougeinia oojeinensis, Pongamia pinnata, Pterocarpus marsupium, Bauhinia purpurea, Bauhinia racemosa, Bauhinia variegate, Cassia fistula, Tamarindus indica, Acacia catechu, Acacia leucophloea, Albizia amara, Albizia procera, Xylia xylocarpa, Anogeissus acuminate, Anogeissus latifolia, Terminalia alata, Terminalia arjuna, Terminalia bellirica, Terminalia chebula, Syzygium cumini, Barringtonia acutangula, Careya arborea, Alangium salvifolium, Canthium dicoccum, Gardenia latifolia, Haldinia cordifolia, Hymenodictyon orixense, Ixora pavetta, Morinda pubescens, Madhuca indica, Madhuca longifolia, Manilkara hexandra, Mimusops elengi, Diospyros chloroxylon, Diospyros malabarica, Diospyros melanoxylon, Nyctanthus arbortristis, Schrebera swietenoides, Alstonia venenata, Wrightia arborea, Wrightia tinctoria, Strychnos nuxvomica, Strychnos potatorum, Cordia dichotoma, Oroxylum indicum, Callicarpa arborea, Callicarpa tomentosa, Gmelina arborea, Premna latifolia, Premna tomentosa, Vitex altissima, Vitex leucoxylon, Litsea glutinosa, Gyrocarpus americanus, Bridelia Montana, Cleistanthus collinus, Glochidion velutinum, Glochidion zeylanicum, Macaranga peltata, Mallotus philippensis, Phyllanthus emblica, Antidesma acidum, Antidesma ghaesembilla, Bischofia javanica, Holoptelea integrifolia, Trema orientalis, Ficus auriculata, Ficus exasperate, Ficus hispida, Focus palmate, Ficus microcarpa, Ficus racemosa, Ficus semicordata, Ficus tinctoria, Ficus tomentosa,* and *Caryota urens.*

The morphological plant parts used for ethnomedicinal purposes were classified into leaf, root, stem bark, seed, fruit, flower, stem, gum, root bark and fruit. Depending upon the plant part used for medicinal purposes stem bark constitutes the highest percentage 37 (23.27%) followed by leaf 34 (21.38%), root 19 (11.94%), bark 16 (10.06), seed 11(6.91), root bark 10 (6.28%), stem 6 (3.77%), gum 3 (1.88%), flower and nuts each with 2 (1.25%) (Fig 1).

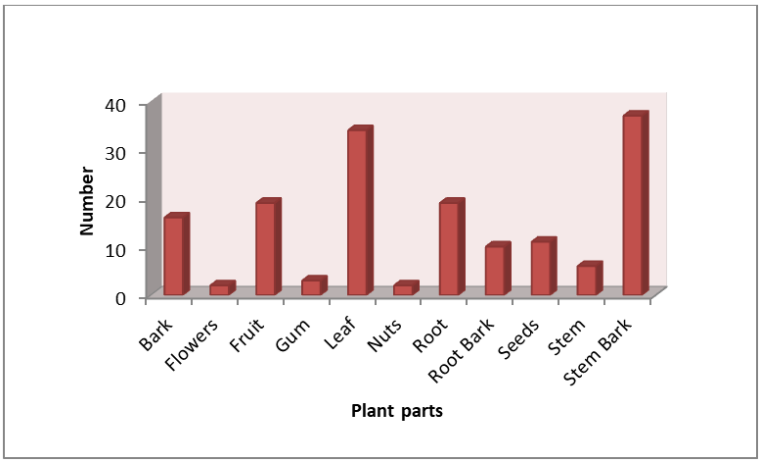

Fig 1: Plant parts wise use reports

Out of 120 species 113 tree species were used for treatment 54 disease. The most common ailments are Abortion (1), Anaemia (1), Anthelmintic (1), Antidote (2), Asthma (4), Bleeding Piles (1), Body Pain (2),Boils (5), Bone Fracture (4), Burns (1), Chest Pain (1), Chickenpox (1), Cold (1), Contraceptive (1), Cough (3), Delivery for child birth, Diabetes (6), Diarrhea (11), Digestive (2), Dysentery (13), Earache (2), Fertility (1), Fever (6), Galactagogue (5), Gonorrhoea (2), Gynic Problem (1), Headache (7), Hydrocele (20, Hysteria (1), Insectbite (1), Intestinal Worms (1), Itching (1), Jaundice (3), Kidney Stone (2), Laxatives (1),Leprosy (1), Leucorrhoea (1), Menstrual Problems (2), Piles (1), Poultice (1), Rheumati Pain (12),Roundworms (1), Scabies (1), Scorpion Sting (2), Skin Disease (10), Snake Bite (3), Stomachache (5), Swelling (1), Threadworms

(1), Toothache (5), Tuberculosis (1), Ulcers (5), Worms (1) and Wounds (9). In this region several remedies are made in combination of different plants. Sometimes the recipes are made of 2-3 different plant species. Some ingredients such as mustard seeds, black pepper seeds, seeds of cumin and sesame oil are also used in preparation of recipes. The healers are very much particular about the specific time of collection and administration. The method of preparation of drugs also varies. Sometimes they add various additives such as oil, honey, ghee, milk etc. to make the therapeutic dosages effective. The amount and number of dosages vary according to age, sex and health condition of the patient. Very often single drug is administered. The given practices have been followed by the different vaidhyas of this forest since generations; they have acquired the knowledge of these practices from their ancestors.

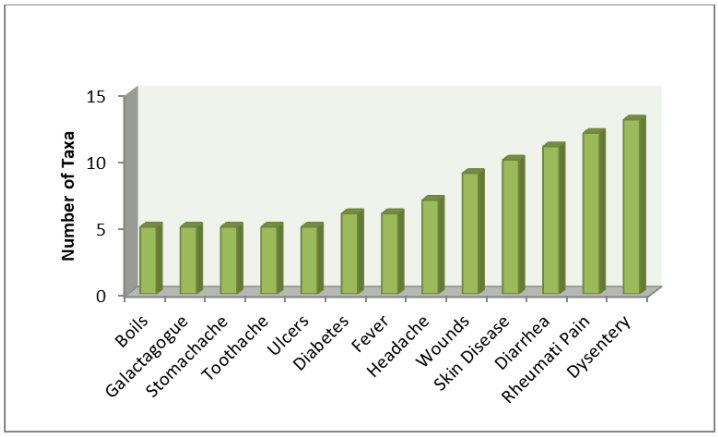

Fig-2: Dominant Diseases

Some common avaible plant species used by local tribe, for abortion *Strychnos nux-vomica* seeds are used, *Schrebera swietenioides* stem bark is used for anaemia, stem bark of *Callicarpa arborea* is used for anthelemintic, *Trema orientalis* and *Wrightia arborea* leaf and stem bark is used for antidote, for asthma *Zanthoxylum armatum*, *Barringtonia acutangula* and *Alangium salvifolium* fruits, nuts and root bark is were used by local tribes. *Alangium salvifolium* bark was used for bleeding piles, *Buchanania axillaris* and *Caryota urens* gum and stem was used for body pain, *Terminalia chebula*, *Albizia amara*, *Bombax ceiba* and *Annona reticulate* were used for boil on skin, *Homalium nepaulense*, *Phyllanthus emblica*, *Cochlospermum religiosum* and *Diospyros montana* were used for Bone fracture, the seed of *Diospyros montana* was used curing bronchitis and also fruits are used for curing burns, *Dillenia pentagyna* leaf past is used for chest pain, *Azadirachta indica* leaf is generally used for chickenpox. *Ziziphus mauritiana* fruit for cold and also seeds for contraceptive, *Semecarpus anacardium*, *Limonia acidissima*, *Aegle marmelos*, *Antidesma acidum*, *Toona ciliata* and *Syzygium cumini* were used for dysentery. *Butea monosperma* leaf is used for Dyspepsia. *Artocarpus heterophyllus*, *Gmelina arborea*, *Madhuca indica*, *Alstonia venenata* and *Manilkara hexandra* were used for Galactagogue. Root and Root juice of *Ficus exasperate* and *Ficus palmate* were used for Gonorrhoea. Bark of *Hymenodictyon orixense* was used for Gynic problem. *Antidesma ghaesembilla*, *Morinda pubescence*, *Garuga pinnata* and *Lannea coromandelica* were used for headache by local tribes. *Holoptelea integrifolia*, *Albizia procera*, *Vitex altissima*, *Premna latifolia*, *Atlantia monophylla*, *Callicarpa tomentosa*, *Naringi crenulata*, *Vitex leucoxylon* and *Pongamia pinnata* were used for Rheumatism and pains.

Timber tree:

A total of 21(8.36%) tree taxa were reported from the study area have timber value. Significant timber yielding plants include: *Michelia champaca*, *Elaeocarpus tectorius*, *Mangifera indica*, *Dalbergia latifolia*, *Dalbergia paniculata*, *Pterocarpus marsupium*, *Albizia amara*, *Anogeissus acuminate*, *Terminalia arjuna*, *Careya arborea*, *Lagerstroemia parviflora*, *Haldinia cordifolia*, *Hymenodictyon orixense*, *Madhuca indica*, *Madhuca longifolia*, *Xantolis tomentosa*, *Alstonia scholaris*, *Dolichandrone falcate*, *Premna tomentosa*, *Litsea glutinosa*, *Bridelia cinerascens* and *Cleistanthus collinus.*

Fuel wood trees:

A total of 28 (11.78%) tree taxa were prominently used as fuel wood in the study area. Significant taxa include: *Dillenia indica*, *Polyalthia suberosa*, *Grewia tiliifolia*, *Ailanthus excels*, *Protium serratum*, *Lannea coromandelica*, *Dalbergia latifolia*, *Ougeinia oojeinensis*, *Bauhinia purpurea*, *Bauhinia racemosa*, *Albizia amara*, *Albizia odoratissima*, *Syzygium cumini*, *Memecylon edule*, *Lagerstroemia parviflora*, *Canthium dicoccum*, *Ixora pavetta*, *Mitragyna parvifolia*, *Wendlandia gamblei*, *Manilkara hexandra*, *Wrightia tinctoria* ,*Callicarpa tomentosa*, *Gmelina arborea*, *Premna tomentosa*, *Vitex altissima*, *Vitex leucoxylon*, *Bridelia monoica*, *Glochidion ellipticum*, *Glochidion velutinum*, *Glochidion zeylanicum*, *Macaranga peltata* and *Mallotus philippensis.*

Fodder trees:

A total of 17 (7.60%) species were used as fodder. Significant taxa include: *Michelia champaca, Pterospermum xylocarpum, Chloroxylon swietenia, Mangifera indica, Butea monosperma, Erythrina suberosa, Erythrina variegate, Pterocarpus marsupium, Bauhinia variegate, Tamarindus indica, Acacia leucophloea, Albizia odoratissima, Albizia procera, Mitragyna parvifolia, Diospyros chloroxylon, Premna latifolia, Bridelia monoica, Bridelia Montana, Trema oriental* and *Ficus racemosa.*

Edible trees:

Many forest species yield edible fruits, leaves and tubers, which are of great economic importance. The analysis in this regard indicates that 28 (11.40%) tree species possess edible value in study area.*Annona reticulate, Annona squamosa, Grewia rothii, Elaeocarpus tectorius, Aegle marmelos, Ziziphus mauritiana, Ziziphus xylopyrus, Schleichera oleosa, Buchanania axillaris, Buchanania lanzan, Mangifera indica, Semecarpus anacardium, Bauhinia purpurea, Bauhinia racemosa, Tamarindus indica, Albizia procera, Xylia xylocarpa, Syzygium cumini, Barringtonia acutangula, Memecylon edule, Morinda pubescens, Diospyros chloroxylon, Diospyros melanoxylon, Schrebera swietenoides, Oroxylum indicum, Gyrocarpus americanus, Bridelia monoica, Phyllanthus emblica, Ficus microcarpa,* and *Caryota urens.*

Non timber products:

A total of 26 (8.36%) tree taxa were reported from the study area have non timber value. Significant Non timber yielding plants include: *Dillenia indica, Dillenia pentagyna, Pterospermum xylocarpum, Grewia rothii, Sloanea sterculiacea, Walsura trifoliate, Sapindus emarginatus, Schleichera oleosa, Buchanania axillaris, Erythrina suberosa, Erythrina variegate, Ougeinia oojeinensis, Pongamia pinnata, Acacia leucophloea, Xylia xylocarpa, Anogeissus acuminate, Anogeissus latifolia, Terminalia alata, Terminalia bellirica, Terminalia chebula, Careya arborea, Lagerstroemia parviflora, Alangium salvifolium, Wendlandia gamblei, Madhuca longifolia, Diospyros chloroxylon, Nyctanthus arbortristis, Bridelia cinerascens, Macaranga peltata, Mallotus philippensis* and *Trema orientalis.*

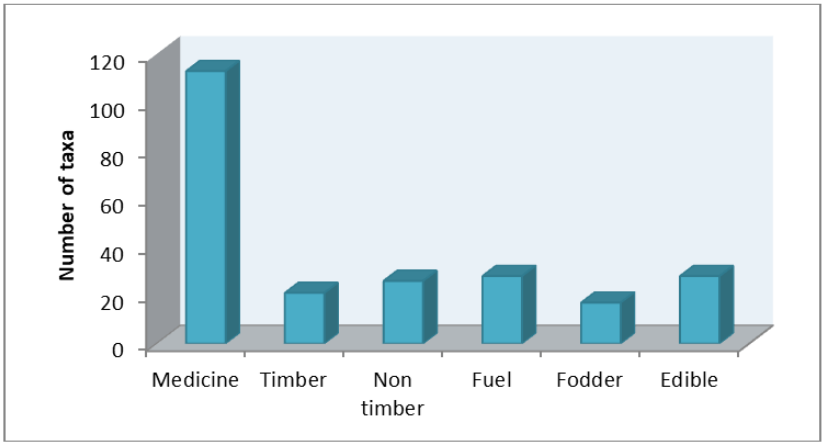

Fig-3: Resource potential of tree taxa with their use values

CONCLUSSION

Mostly in tribal areas, gathering and preparing wild foods is regular daily activity for many tribal households. Women and children mainly carry out the collection of wild foods. Many foods are collected along the way to forests. Women who go in groups to forests at a greater distance from the homestead undertake the collection of wild foods. It has been noticed that the traditional method of collecting food plants are in sharp decline. It is because of the lack of interest of younger generation to learn the skills from older people as they prefer food found in the local market rather that collection. Many of the wild foods may not be freely available in future due to over-exploitation, habitat destruction, regular forest fires and invasion of alien exotic species. So, efforts must be taken to conserve wild food plants and also the traditional knowledge for a sustainable management of biodiversity.

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