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A NOTE ON ETHNO-MEDICINAL HERBS OF GOPIBALLAVPUR BLOCK-1 OF JHARGRAM DISTRICT, WEST BENGAL, INDIA

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ABSTRACT ■ Gopiballavpur Block-1 under Jhargram district situated in south west corner of West Bengal. This place shares boarder with neighboring states of Jharkhand and Odisha. The block has a drydeciduous forest cover and having substantial number of tribal inhabitants. The present study deals with ethno-medicinal plants used by tribals like Santal, Lodha, Munda, Bhumij and Sabar. The survey was based on extensive season-wise data collection in different villages of the block. While getting information about the people's traditional knowledge of medicinal plants used in different human ailments, elder persons and local medicine-men (Baidyas) were interviewed and cross interviewed. Information thus collected, were verified with the standard literature on medicinal plants. The study thus revealed the tribal use of twenty (20) medicinal herbs covering nineteen (19) genera under fourteen (14) families of angiosperms. It records the botanical name of the plant, local name, family, uses, parts used, mode of administration and combination. This investigation recommends to initiate similar studies involving other blocks of the district, and also urgent to popularize to use health-friendly and cheap method of herbal care system.

Key words: Ethno-medicine, Gopiballavpur block-1, Traditional knowledge.

INTRODUCTION

India is a land rich in biodiversity and more so in medicinal plant resources. From the dawn of civilization, human beings are dependent primarily on plants for food, shelter and healthcare (Dubey *et al.*, 2004). The age-old traditional system of medicine, namely Ayurveda, Unani, Siddha and also Homoeopathy,etc.are based on herbal formulation.

Interestingly, preparation of database of medicinal plants and their conservation and cultivation are now a priority issue of our national agenda. Consequently in recent years there is an upsurge of interest of research on medicinal plants in the form of research publications, books, edited books and awareness –building leaflets. In order to promote their activities, the Government of India has constituted National Medicinal Plant Boards at state level. Several Indian states have already documented their medicinal plants resources with a mission for conservation, cultivation and utilization of

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these national plant wealth as well as germplasm.

With this background this paper highlights a preliminary short term study on ethno-medicinal plants of Gopiballavpur-1 Block under Jhargram district, West Bengal.

STUDY AREA

Gopiballavpur-I CD Block situated in south west corner of West Bengal, This place shares boarder with neighboring states of Jharkhand and Odisha (**Fig.1**). It is situated between 22º 12' 14" North and 86º 57' 38" East longitude.

Gopiballavpur-I CD Block was under the Paschim Medinipur district and on 4 April 2017, when Jhargram district was formed (splitting from the Paschim Medinipur district), it was placed under of this district. Total area of this Block is about 275.83 km2 (Anon, 2011). Gopiballavpur-1 CD Block has a dry-deciduous forest cover of 6,018 hectares which is 21.60 % of the reporting area of the CD Block. Most of the area contains lateritic and alluvial soil. The river Subarnarekha is the main stream of this block.

The Gopiballavpur-I Block was selected as study area for easy access to the block from Medinipur town and having substantial no. of tribal inhabitants.

MATERIALS AND METHODS

Field survey was carried out between the January 2018 to January 2019 on the seasonal basis. It was conducted in various villages areas of Gopiballavpur Block-1 under Jhargram district. Firstly, create confidence of the tribes regarding survey; they were befriended so that they will easily reveal the secret of their traditional knowledge until they believe and

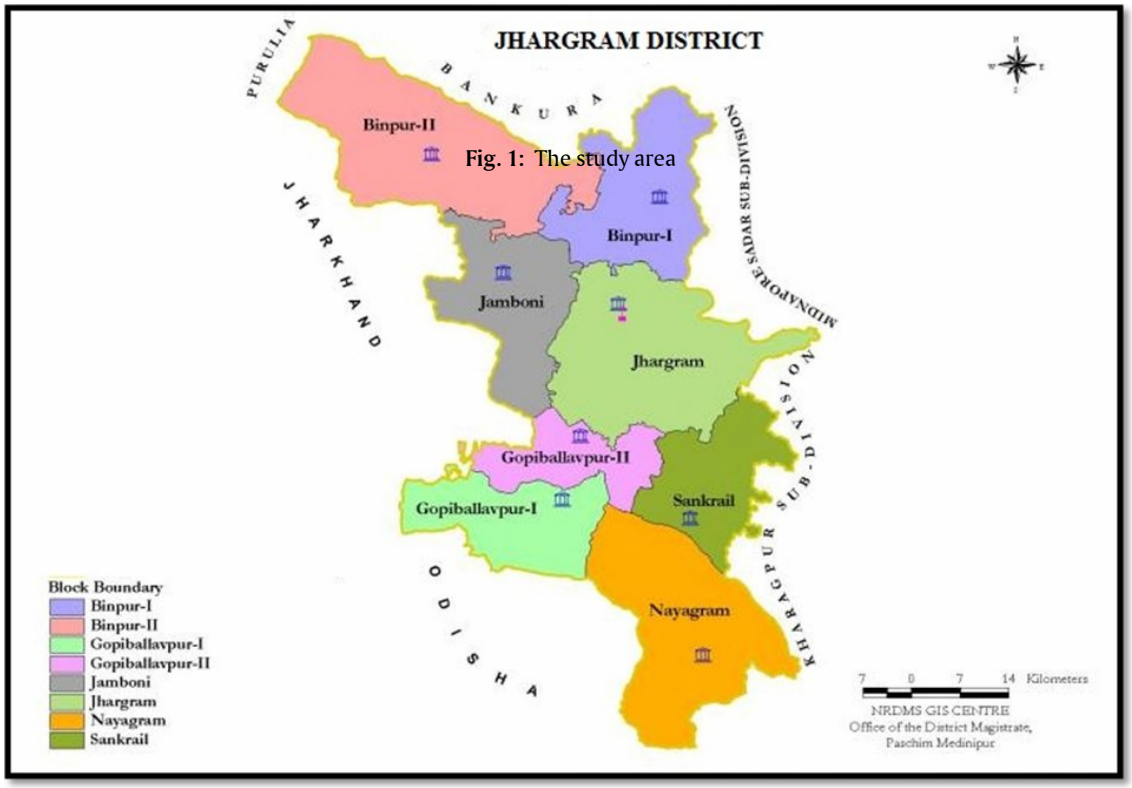

Fig. 1: The study area

trust us. They have a traditional concept (Taboo etc.) also used that if any secret is exposed the curing property of the plant will vanish.

The information was thus gathered through repeated oral interviews with traditional medicine man about the plants used for the treatment of various human ailments. The preparation of the medicine in the forms of infusion, decoction or as tea, paste, pills, syrup, extracts with water, fresh juice by squeezing fresh materials, oil, burning ash, plaster and mixture with other ingredients or other plants areapplied both internally as well as externally. Generally they used drug in combination with the seeds of long pepper and black pepper. Most of the tribal medicine are prepared either from single drug occurred from single plant or plant parts. The other plant parts, animal organs, rock, mineral and salt etc. are used as a combination of preparation of the drugs.

Tribal medicine men were also contacted for getting the detailed information about ethno-medicinal plants, their local names, time of collection, usable plant parts, medicinal uses, method of medicine preparation and different dosage, duration and mode of administration and combination with other plants. The data collected, verified and cross-checked in different villages and among different ethnic groups with different practitioners, and finally cross-checked with the help of available published literature (Pal and Jain, 1989; Bhakat and Pandit, 2003; Pakrashi and Mukhopadhya, 2004; Paria, 2005; Das and Mondal, 2009; Das, 2015).

RESULTS AND DISCUSSION

The study thus revealed the tribal use of twenty (20) medicinal herbs covering nineteen (19) genera under fourteen (14) families of angiosperms (Table-1). It records the various uses of these plants either alone or in combination with other species. It also discusses parts-wise utility of the species and mode of administration.

Table 1. Ethnomedicinal plants of Gopiballavpur Block-1

Scientific name(s)	Local name(s)	Family	Part(s) used	Uses and Mode of administration
Achyranthes aspera Linn.	Apang (Bengali); Apamarga, Chitchite (Lodha);Buridantram (Santali)	Amaranthaceae	Whole plant, leaf, Root, Stem bark, flowering spike	**Whole plant:** whole plant extract used for body pain and body swellings. **Leaf:** Leaves paste extract taken orally for cure of malarial fever. Leaves paste applied on forehead to cure headache. **Root:** Root paste mixed with roots of Kedar (*Ochna obtusa*), Bhuikambal (*Premna herbacea*), and (Black pepper) Golmorich (*Piper nigrum*) applied to cure gout. **Stem bark:** Stem bark paste with Turmeric or Haldi (*Curcuma longa*) to cure sores of children. **Flowering spike:** Flowering spike paste with the paste of (Pipul) Long pepper (*Piper longum*) used twice in a day and continued for five days to treatment for the mad dog bite.

2.	*Aerva javanica* Juss. ex. Schult. Syn. *Aerva tomentosa*Forsk.	Lalbishalyakarani (Bengali and Santali)	Amaranthaceae	Leaf	**Leaf:** Crushed leaves / leaf paste applied on wounds to stop bleeding.
3.	*Aerva lanata* Juss. ExSchult.	Chaldhowa (Bengali); Chaya, Lopong-ara (Santali)	Amaranthaceae	Root	**Root:** Root paste mixed with paste of Durbaghas (*Cynodon dactylon*), Varenda stem (*Jatropha curcus*), (clove) Labanga (*Syzygium aromaticum*) and unboiled rice to produce pills used to treat white discharge for women. Root paste with paste of Kunch (*Abrus precatorius*) of equal amount prepare a pill taken twice a day forcuring piles.
4.	*Andrographis paniculata* (Burm. f.) Wall. ex Nees	Kalmegh (Bengali); Bhui-nimb (Lodha); Kanri-buru (Santali)	Acanthaceae	Whole plant, root and leaves	**Whole plant:** Whole dried plant soaked overnight in water and taken orally in the morning in empty stomach to cure liver function, diabetes and skin allergy. **Root:** Root paste mixed with 5-6 pieces of (Black pepper) Golmorich (*Piper nigrum*) prepare pills taken twice a day for curing stomach pain. Root paste applied for snake bite. **Leaf:** Crushed leaf extract taken two tea spoons thrice in a day for 7 days to cure malarial fever.
5.	*Buettneria herbacea* Roxb.	Kamraj (Bengali); Kaura (Lodha);Dikjhusin dur (Santali)	Sterculiaceae	Root	**Root:** Roots used for the treatment of swelling of legs, cholera and diarrhea. Root paste with paste of Alkushi root (*Mucuna pruriens*) and Golmorich (*Piper nigrum*) of equal amount made into pills taken orally for improvement of sexual power.
6.	*Celosia argentea* Linn.f. Syn. *C. cristata*Linn.	Lengashak, Morag phool (Bengali);Swetmur ga, Sirgit arak (Santali)	Amaranthaceae	Root and seed	**Root:** Fresh root extract taken in empty stomach in the morning treated as a pain killer. **Seed:** Seeds used to cure dysentery.
7.	*Elephantopus scaber* Linn.	Samdulum, Deshigajban, Manjurijhuti, Mejurjhuti (Santali)	Compositae (Asteraceae)	Root, whole plant and leaf	**Root:** Root paste with paste of Long peppers (*Piper longum*) and black peppers (*Piper nigrum*) used to treat gonorrhea. Root paste with paste of Long peppers (*Piper longum*) of equal amount made pills taken to cure dysentery. **Whole plant:** Whole plant extract used as a brain tonic. Whole plant extract used to cure fever due to small pox for children. **Leaf:** Leaves paste applied on wounds.
8.	*Enhydra fluctuans* Lour.	Hinchey, Helencha, Hinga-ara (Santali)	Compositae (Asteraceae)	Whole plant	**Whole plant:** Fresh plant juice used as liver tonic or to treat any liver complaints. Plant decoction with paste of Black peppers (*Piper nigrum*) used in diabetes. Fresh plant juice taken in empty stomach to cure dysentery.
9.	*Evolvulus alsinoides* Linn.	Shankapuspi (Bengali); Musa-kani, Vishnugandhi, Jungiba (Santali)	Convolvulaceae	Whole plant	**Whole plant:** Plant paste with equal amount of paste of Jaba flower (*Hibiscus rosa-sinensis*) and coconut oil applied on head for good hair growth. Plant paste used to cure leucoderma.

10.	*Hybanthus Enneaspermus* (Linn.) F. Muell.	Nunbora (Santali)	Violaceae	Whole plant	**Whole plant**: Plant extract mixed with equal amount of milk and taken orally as a health tonic and used to treatment of leucoderma. Whole plant extract with paste of Ginger (*Zingiber officinale*) and Black peppers (*Piper nigrum*) used to cure stomach pain.
11.	*Hygrophila schulli* (Buch.- Ham.) M. R. et S. M. Almeida Syn. *H.auriculata* (Schum.); *H. spinosa* Anders.; *Asteracantha longifolia*(L.) Nees	Kulekhara (Bengali); Manjarjanum (Lodha); Gokhulajanum (Santali)	Acanthaceae	Whole plant, Root and leaf	**Whole plant**: Used to treat anaemia. **Leaf**: Leaves juice taken to treat anaemia. Leaves paste with Long peppers (*Piper longum*) used to treat dropsy. **Root**: Root paste taken orally to cure body pain.
12.	*Lasia spinosa* Thw. Syn. *L. heterophylla* Schott; *L. aculeate* Lour.	Kantakachu (Bengali); Saram, Lutur, Janumsaru (Santali)	Araceae	Rhizome and stem bark	**Rhizome**: Rhizome paste mixed with paste of Garlic (*Allium sativum*) and Turmeric (*Curcuma longa*) used to treat the swelling of legs and also used to treat mumps. Rhizome decoction used to cure throat sore. **Stem bark**: Stem bark paste with mustard oil mildly heated and applied on chest to cure chest pain.
13.	*Leucas cephalotes* Spreng.	Ghalghasa, Bara halkasha (Bengali);Dhurpisag, Andiadhurup arak (Santali)	Labiatae (Lamiaceae)	Leaf and seed	**Leaf**: Fresh leaves juice used to cure scabies, skin allergy, wounds and used as an antiseptic. **Seed**: Seeds oil used to cure skin eruption.
14.	*Martynia annua* Linn. Syn. *M. diandra* Glox.	Baghnakh, Bag lucha (Santali)	Martyniaceae	Seed	**Seed**: Seeds oil applied on rheumatic swelling and gout and septic wounds. Seed paste mixedwith Kujri seed oil (*Celastrus paniculatus*) and paste of Long peppers (*Piper longum*) to make pill taken orally for a pain of irregular menstrual flow.
15.	*Merremia tridentate* (L.) Hall. f.	Prasarani (Bengali), Darujamjuri (Santali)	Convolvulaceae	Whole plant and root	**Whole plant**: Whole plant juice mixed with paste of Black peppers (*Piper nigrum*) and Jeera (*Cuminum cyminum*) used for the treatment of any gastric problem and stomach pain. Plant paste with Long peppers (*Piper longum*) used to cure leucorrhea. Plant decoction use to control fever. **Root**: Root decoction with salt used for the treatment tooth pain.
16.	*Pedalium murex* Linn.	Bara gokhur (Santali)	Pedaliaceae	Root and leaf	**Root**: Root paste with Long peppers (*Piper longum*) used to treat seminal weakness and piles. Root paste with Black Peppers (*Piper nigrum*) used for cold, cough, asthma and muscular pain. **Leaf**: Leaves used as a blood purifier and to cure menstrual problem.

17.	*Polygala crotalarioides* Buch.-Ham. ex DC.	Neel kantha (Bengali), Lil knathi (Santali)	Polygalaceae	Root	**Root**: Root paste with paste of Kalmegh leaves (*Androghraphis paniculata*) applied for the treatment of mumps, tonsil and to cure cold, cough and asthma.
18.	*Siegesbeckia orientalis* Linn.	Latlatia, Marang Kalmegh (Santali)	Compositae (Asteraceae)	Whole plant and leaf	**Whole plant**: Whole plant with Long peppers (*Piper longum*) used for the treatment of chest pain and fever; also used as cardiac tonic. **Leaf**: Leaves paste applied on skin disease and other fungus infection; also for the treatment of ring worm.
19.	*Solanum surattense* Burm. f. Syn. *S. xanthocarpum* Schrad. &Wendl.	Kantakari, Vebi-begun, Rambaigan, Rangainijanum (Santali)	Solanaceae	Whole plant, root, fruit and seed	**Whole plant**: Boiled extract of whole plant along with root used to cure fever. **Root**: Root paste used for skin allergy. **Fruit**: Fruit paste along with leaves juice of Tulsi (*Ocimum tenuiflorum*) mixed with honey and Ginger (*Zingiber officinale*) given to children against whooping cough. **Seed**: Smoked dried seed powder used for the treatment of asthma, cold and cough.
20.	*Talinum portulacifolium* (Forsk.) Aschers. Ex Schwf. ;Syn. *T.cuneifolium* Willd.; *Orygia portulacifolia* Forsk.	Alakpui (Santali)	Portulacaceae	Leaf	**Leaf**: Leaves decoction with Long peppers (*Piper longum*) used to cure constipation and stomach pain. Leaves paste used for curing eye disease.

CONCLUSION

Medicinal plants usually grow in the forest areas in different ecosystem. Ancient text reveals almost all plants have medicinal value. For our incomplete knowledge many of the herbal drugs and herbs are patented. The list is growing every year. It is essentially required that a composite system comprising of protection, preservation, cultivation, utilization should be done together on sustainable basis.

It is the high time for the creating of awareness and proper networking on the medicinal properties of these indigenous plants. Input from various sectors, professions and strata of our society will be necessary to have such stable system. But in recent times many of the ethno-medicinal plants are becoming rare because the ethnic or tribal people used to sale these plants in the market to gain high prices. The over exploitation of many valuable medicinal plants from nature like *Polygala crotalarioides*, *Lasia spinosa* and *Hybanthus enneaspermus*, etc. shows their rare occurrence in the country side. The total control of collections and marketing is under the authority of local traders as well as *mahajans* (businessman) thus creating encouragement of unlimited, overexploited collections and selling of raw materials of local medicinal plants. This is alarming for the loss or of complete loss of many plants from their own homes.

Therefore, there is a basic need to aware the local people and to chalk out plan to protect and to conserve these species. An immediate effortis to be made to save these ethno-medicinal plants by initiating mass propagation of these plants in this region. This study recommends to initiate the sustainable utilization and to make step of the protection, conservation, propagation,

stop of over exploitation of local medicinal plants from other areas of Jhargram district to save the plant genetic resources and their sustainable uses.

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