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Ethno-Veterinary Traditional Knowledge of Some Plants Used in Wardha district (Maharashtra)

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Abstract: ***Most of the rural peoples in Wardha district, especially having low income rear livestock on diet consisting of high quantities of locally available indigenous fodder plants. In rural areas modern veterinary services are not available and also affordable to the villagers. Hence the small holder farmers and labors rely on traditional knowledge to cure their goats. The present study was conducted to explore traditional knowledge used for treating common diseases of Goats. A questioner was structured for this research work and interviewed the farmers, shepherds and vaidus asking the plants used to treat specific veterinary diseases and their mode of treatment. The documented information showed that about 28 medicinal plants categorized as Trees (13), Shrubs (4) Herbs (4), Climbers (4), Twiners (2) and Bulb (1)were used by villagers. Mostly plants were used for diseases like Enteritis, Maggot wound, Fracture, Tympani, Black quarter and few others. The present paper deals with the ethno-veterinary aspects of these traditional wild fodder plants.***

Keywords: Ethno-veterinary, Traditional knowledge, diseases of goats, Wardha district

1. Introduction

Peoples are using different plants for curing the diseases of cattle's since ancient times. Even during present times, many villagers from developing countries follow same traditional practices. These practitioners have valuable knowledge about many plants being used to heal the diseases of goats. However, their knowledge is not made available due to lacuna of scientific documentation and ethno-veterinary research which includes indigenous knowledge and its related skills, practices and social beliefs belonging to animal healthcare for income generation [1].

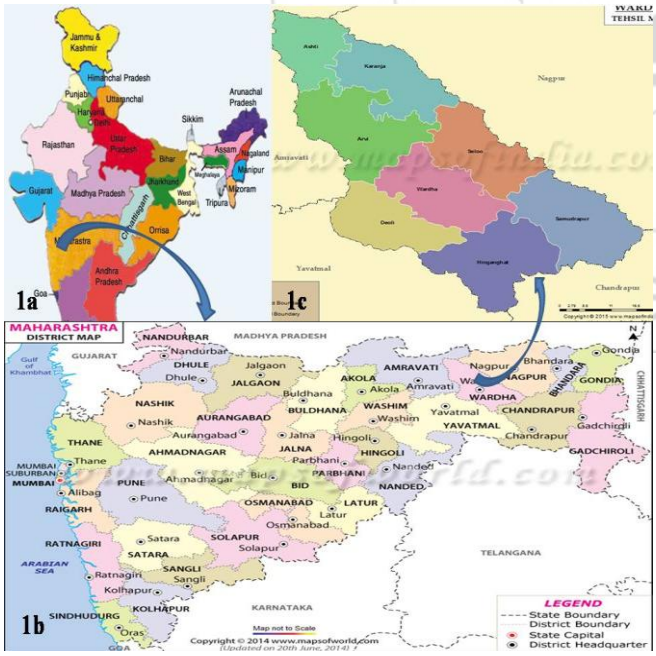

Figure 1: Maps of India (a), Maharashtra (b) and Wardha district (c).

In Wardha district, 67.45 % of population is located in rural areas [2]. Most of them are farm labourers and marginal land holders [3]. Other than farming, cattle's rearing is a promising and sustainable source for their livelihood. As per census 2014, total livestock of Wardha district is 6,10,532 animals of which goat and sheep comprises 31.8 %. This large population depends on available natural vegetation, which is decreasing alarmingly for want of proper knowledge and conservation by the community. So, the present researcher have made an attempt to document traditional knowledge available with shepherds, *vaidus* and elder villagers from the various parts of Wardha district so as to help them in appropriate utilization of valuable medicinal plants and their conservation. The present paper is the part of same investigation, which deals with the ethno-veterinary aspects of these plants.

2. Literature Survey

Patil *et al*. (2010) reported 80 species from 44 families were applied as veterinary medicine out of which 29 species exclusively marked for ethno-veterinary purpose [4]. Malla and Chhetri (2012) studied 21 plants belonging to 19 families for common diseases like foot and mouth disease, wounds and bone fracture [1]. Shrivastava *et al*. (2012) while studying herbal medicines used in treatment of goats in and around Gwalior documented *Azadirachta indica* and *Allium sativum* were used on most of the diseases [5]. Panda and Dhal (2014) reported 48 plants used as ethnoveterinary medicines in Nawrangpur, Odisha, Nepal were *Azadirachta indica*, *Vitex negundo*, *Semecarpus anacardium* were common [6]. Patil and Deshmukh (2015) studied the traditional ethno-veterinary practices in Betul, (M.P.) and recorded 41 species of plants belonging to 32 familes in which Fabaceae, Caesalpiniaceae, Solanaceae, Cucurbitaceae and Asclepediaceae were dominant [7].

3. Methods /Approach

The rural peoples are dependent on forest and natural vegetation for their daily requirements. Therefore present research was focused in 34 villages nearby forest areas from Arvi, Ashti, Deoli, Hinganghat, Karanja, Seloo and Samudrapur tehsils of Wardha district. The detailed survey and interviews of 79 shepherds, vaidus and livestock owner's in person and in group discussion were conducted. The study was concentrated on documentation of the usage

of plants for healing goats. Field visits were conducted with shepherds to identify plant species and to collect their voucher specimen.

Figure 2: Personal interview with villagers (a,b) , Group discussion with shepherds (c), Field visits in the forests (d, e), Traditional storage of plant parts (f. g).

Plant species recorded by rural peoples as ethno-veterinary practices, were enumerated with botanical name and family in parenthesis, vernacular name, habit, useful parts, used for specific disease and their mode of treatment. These plants were identified using the Flora of Maharashtra [8], [9].

4. Results / Discussion

The data about ethno-veterinary plants used for treatment of goats have been enumerated in Table 1 and Figs. 3-5. About 28 common plants were used as herbal remedies which were categorized as Trees (13), Shrubs (4) Herbs (4), Climbers (6) and Bulb (1). They belonged to 24 families including Amaryllidaceae, Anacardiaceae, Asclepiadaceae, Balanitacaceae, Boraginaceae, Cactaceae, Caesalpinaceae, Colchicaceae, Convolvulaceae, Cucurbitaceae, Euphorbiaceae, Fabaceae, Linaceae, Malvaceae, Meliaceae, Myrtacae, Periplocaceae, Rhamnaceae, Rutaceae, Sapotaceae, Simaroubaceae, Solanaceae, Verbeanacae and Zingiberacae. These 28 plants were useful for curing 17 types of diseases like Enteritis, Anthrax, Black quarter, Conjunctivitis, Dysentry, Maggoted wound, Fracture, Tympani, Hemorrhagic septicemia, Mouth and Foot diseases, Pneumonia, Sunstroke, Wounds, Galse, Pankawse & Mowase. The percentage of plant parts used as medicine was as: Leaves (38%), Bark and Fruits (16%), Rhizome (9%), Stem (6%), Flowers (6%), Seeds (6%) and Bulb (3%).

Table 1: Ethno-veterinary plants

Sr. No.	*Scientific name and Family*	*Local name*	*Habit*	*Useful plant part*	*Diseases for which used*	*Mode of treatment*
1	*Ailanthus excelsa* Roxb. Simaroubaceae	Maharukh	Tree	Bark	Enteritis	Leaves given to eat
2	*Allium sativum Linn.* Amaryllidaceae	Lasun	Bulb	Bulb	Pneumonia	Oil from heated bulb is dropped in nose
3	*Azadiracta indica* A.Juss. Meliaceae	Kadunimb	Tree	Bark, Leaves	Sunstroke	Decoction of leaves or Juice of internal bark is given
4	*Balanites aegytiaca* (Linn.) Del. Balanitaceae	Hinganbet	Tree	Fruits	Trypano-somiasis	Crushed fruit applied on head
5	*Boswellia serrata* Roxb Boraginacaceae	Salai	Tree	Leaves	Pankawse	Crushed leaves gives with buttermilk
6	*Butea monosperma* (Lamk.) Fabaceae	Palas	Tree	Bark, leaves, Flowers	Fracture, Anthrax	Bark binded to fractured part, Paste of flowers applied externally
7	*Caesalpinia decapetala* (Rothl) Caesalpiniaceae	Sagargoti	Shrub	Leaves	Enteritis	Leaves given to eat
8	*Choroxylon swietenia* DC. Rutaceae	Bhera	Tree	Leaves	Mowasa	Leaf juice applied on mouth
9	*Citrus aurantifolia* (Christm.) Rutaceae	Limbu	Tree	Fruits	Tympani	Pickle of fruits given to eat
10	*Cryptolepis buchananii* R. & S. Periplocaceae	Dudhi	Climber	Fruits	Black quarter, Pneumonia	Boiled soup of fruit given to drink
11	*Curcuma longa* L. Zingiberaceae	Halad	Herb	Rhizome	Wounds, Hemorr-hagic septicmia	Rhizome powder applied on wounds & given with water to drink

12	*Gloriosa superba* L. Colchicaceae	Kallawi	Herb	Rhizome	Maggoted wound	1 inch rhizome with wheat flour given to eat
13	*Hibiscus rosasinensis* L. Malvaceae	Jaswand	Tree	Leaves	Enteritis	Filtered leaf juice mixed with Peru Leaves & buttermilk given to eat
14	*Ipomea hederacea* Jacq. Convolvulaceae	Godhan	Climber	Stem	Maggoted wound	Twig bound around neck
15	*Linum usitatissimum* L. Linaceae	Jawas	Herb	Seeds	Tympani	Linseed oil given in food
16	*Madhuca longifolia* (koen.) Sapotaceae	Moh	Tree	Bark, Flowers	Fracture, Mowasa,	Crushed bark bound on fracture , Paste of flowers applied externally
17	*Mangifera indica* L. Anacardiaceae	Amba	Tree	Fruits	Tympani	Pickle of Mango fruit given to eat
18	*Melia azadirachta* L. Meliaceae	Bakan	Tree	Leaves	Enteritis, Tympani	Leaves given to eat
19	*Momordica diocia* Roxb. Cucurbitaceae	Katwal	Climber	Rhizome	Black quarter	Grinded rhizome and tobacco, added water to it and given 250 ml of this solution to drink
20	*Nicotiana tabacum* L. Solanaceae	Tambaku	Herb	Leaves	Black quarter	Leaves grinded with Katwal rhizome , added water to it and given 250 ml of this solution to drink
21	*Opuntia elatior* (L.) Cactaceae	Nivdung	Shrub	Stem	Fracture	Crushed and bound to fractured part. Also juice given to drink
22	*Pergularia extensa* (Forssk.) Asclepiadaceae	Utaran	Climber	Leaves	Conjuncti-vitis	Juice of leaves dropped in opposite eye and ear of infected eye
23	*Psidium guava* L. Myrtaceae	Peru	Tree	Leaves	Enteritis	Leaves given to eat
24	*Securinego virosa* (Roxb. Ex. Willd.) Euphorbiaceae	Pithundi	Shrub	Leaves	Fracture, Dysentery	Juice of crushed leaves given to drink
25	*Semecarpus anacardium* L.f. Anacardiaceae	Bibba	Tree	Fruits	Mouth & Foot diseases	Bibba with Coriander & Hing mixed in Buttermilk given to eat
26	*Ventilago denticulate* Gaertn. Rhamnaceae	Ragatkuda	Climber	Bark	Enteritis	Six inches bark crushed. mixed in One cup buttermilk & given to drink
27	*Vigna radiate* (L.) Fabaceae	Moong	Climber	Seeds	Mouth & Foot diseases	Juice of crushed Seeds mixed with coriander & given to drink
28	*Vitex nirgundo* L. Verbenaceae	Nirgudi	Shrub	Leaves	Galse	Juice of crushed branches given to drink

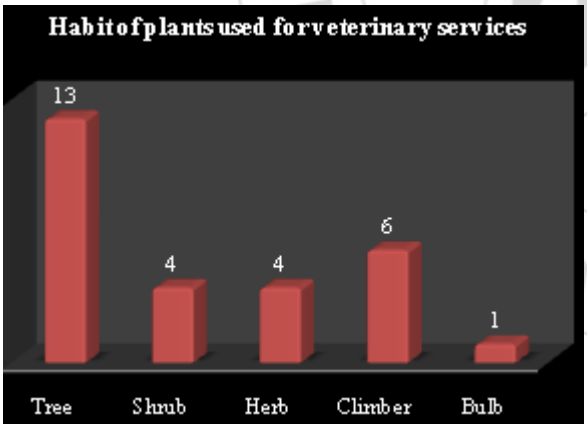

Figure 3: Types of plants used for treating Goat diseases

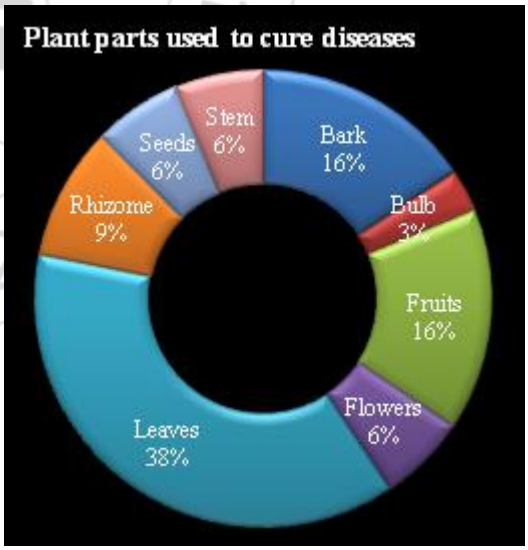

Figure 4: Percentage of plant parts used for treating Goat diseases

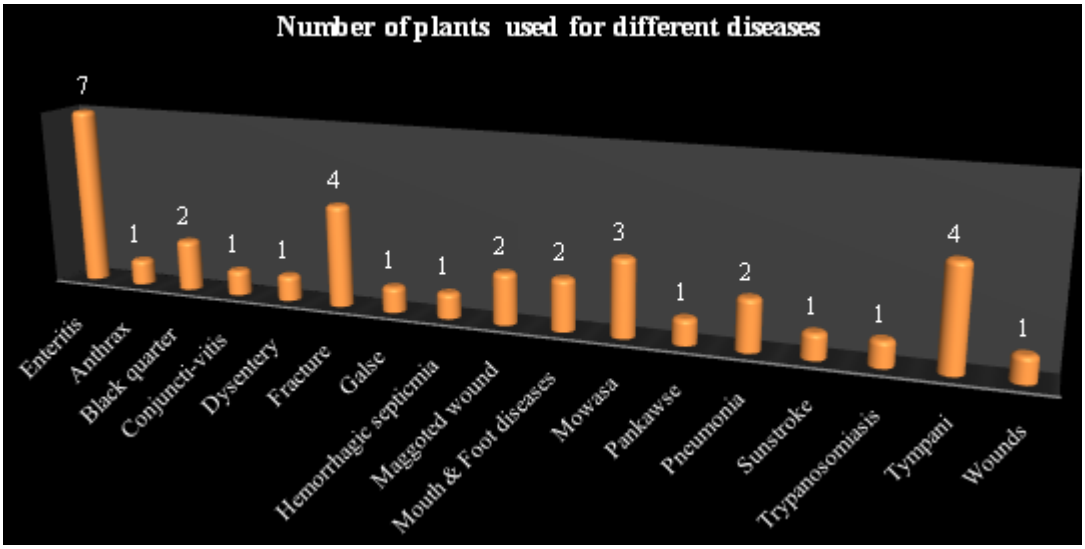

Figure 5: Number of plants used for different diseases

5. Conclusion

After reviewing the above mentioned studies of earlier workers the present investigators observed that only 06 species (*Alianthus excelsa, Azadirachta indica, Semicarpus anacardium, Vitex negundo, Butea monosperma and Madhuca longifolia)* from our recorded data were used in another regions also, while 22 species are used in Wardha district and plants belonging to family Anacardiaceae, Rutaceae and Meliaceae were frequently used. This study reveals that the leaves , roots, stems, bark, underground parts , flowers, fruits, etc. are used for curing the diseases However, all workers have observed the understanding of local people about ethno-veterinary uses of plants, their knowledge about ailments, method of preparation of medicine and the amount of appropriate doses for particular ailment. The plant parts used in specific diseases and their mode of treatment vary in different regions. But the common thing in all studies is, leaves were the most preferred part. In the opinion of present investigators, there is an urgent need to study the phyto-chemical, pharmacological and clinical aspects of ethno-veterinary plants for confirmation of their veterinary uses. Such collective work enriches the wealth of the traditional knowledge of medicinal plants and would explore potential for research and discovery of new medicines so as to cure the diseases of animals.

6. Future Scope

Twenty eight medicinal plants documented by the present investigators can be multiplied in order to meet the ethno-veterian uses by the local peoples in Wardha district. This can be achieved by creating awareness among villagers through local Government / Social agencies. The multiplication and conservation can easily be done on the field boundaries and barren land in villages.

7. Acknowledgements

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