

ISBN- 978-81-953847-8-5

# **Sustainable Development for Society, Industrial Development, Material, Energy and Environment: Key Issues, Opportunities and Challenge**

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Jyotikiran Publication, Pune  
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**Jyotikiran Publications, Pune**  
**International Publication**



**Title** : Sustainable Development for Society, Industrial  
Development, Material, Energy and Environment: Key  
Issues, Opportunities and Challenges

**Editor Name** : Santosh P Mane, Dr. Praveen G. Saptarshi, Dr. S. D.  
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**Publishing Agency** : Jyotikiran Publication, Pune

**Publisher Address** :Santosh Pandurang Mane  
Sr. No. 204, Sahajeevan Society,  
Bhekrinagar, Hadpsar, Pune-8  
Mob- 8888454089  
Email- [jyotikiranpublicationpune@gmail.com](mailto:jyotikiranpublicationpune@gmail.com)

**Printed By** :Amitsons Digital Copier 106, Paras  
Chamber, 1st Floor, Above Bank Of  
India, Near Laxminarayan Theatre,  
Swargate, Pune- 411009

**Edition Details** :1<sup>st</sup>

**ISBN** : 978-81-953847-8-5

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**Publication Date** : 15/03/2022

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### Published by –

**Jyotikiran Publication, Pune,**

**Publisher**, Santosh Pandurang Mane, Sr. No. 204, Sahajeevan Society, Bhekrinagar, Hadpsar, Pune-8, Mob-8888454089

Email- [jyotikiranpublicationpune@gmail.com](mailto:jyotikiranpublicationpune@gmail.com)

Web- <http://jkpublications.com/>

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## ETHNO -VETERINARY PLANTS OF KHED AREA, PUNE DISTRICT, MAHARASHTRA, INDIA

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### Abstract:

The study is an ethno-veterinary work to gather information usage of specific herbs for the treatment of various illnesses in livestock by tribal people. The various visits conducted at Khed region in Pune district. Locals were used herbs that would cure veterinary ailments that were common in the area. These individuals are skilled in administering plant-based herbal medicines and the dosages are quite successful in treatment. A total of 52 plant species from 32 families were documented for varied medical purposes for animals in the area, using plant parts such as root, stem, leaves, fruit, rhizome, and seed.

**Key Words:** ethno-veterinary, livestock, ailments, herbal.

### Introduction:

In India, the RigVeda is one of the ancient literatures that mention cattle and their management. Ethno-veterinary practices are especially used for curing animals. Livestock owners have a information of plant. Ethno-veterinary practices include the use of local medicinal plants to cure animals. Herbal medicine is made from a plant parts. Traditional information relevant to ethno-veterinary from various locations has recently been accorded prominence by researchers. Pandey et al. (2000), Reddy et al. (2000), Chitralkha and Jain (2006), Ravikumar R. K, Rao B. S, Bose S. C and Sudhakar K, (2004), Kulkarni and Kumbhojkar (2002), P. B. Kamble and D. K. Kulkarni (2013), Patole S. N. (2021), Pawar N. B. (2020), Patole S. N. (2021), Shivamanjunatha M. P. (2021) reported plants used to treat domestic animals.

### Methodology:

#### Study Area:

Khed tehsil is situated in the Pune District and lies between Lat. 18° 37' 1" - 19° 17' 4" N and Long. 73° 30' 51" - 74° 3' 5" E on the north - western part of Deccan plateau and is composed of undulating hilly country. It is bounded on the north by Ambegaon tehsil, on

the south by Maval and Haveli tehsils and on the east by Shirur tehsil. The western boundary is formed by the range of Sahyadris. Bhimashankar, Vandra, Tambarvadi etc. are some of the areas covered by Sahyadris in the tehsil. The crest of the hills is about 1,060 metres in these areas forming rounded buffs and clear cut ridges while in other places like Khed town, Mahalunga, Alandi, etc., it falls down to 600 to 625 metres above mean sea level.

The present study has been conducted in two steps:

Step I- A survey was conducted among the tribal peoples of Khed region Pune district during 2019- 2021 to gather knowledge on plants used for treatment on different disorders as used by them.

Step II- Plants of flowering and fruit were identified by the help of Cooke, T. (1958), Hooker, J. D. (1872-1897). The tribals of Khed tehsil shared their expertise of plant medicinal uses and the plant species they utilised to treat various ailments.

### Results And Discussion:

The present study brought knowledge of tribal for the treatment of different disorders of domesticated animals. The plant specimens

have been identified by the flora, the plants species are alphabetically arranged.

1. *Abelmoschus ficulneus* (L.) Wt. and Arn. Family- Malvaceae, Local name- Ran-bhendi, Part used- Stem bark, Use- Bark powder infusion is used as remedy for diarrhoea.

2. *Achyranthes aspera* L. Family- Amranthaceae, Local name- Aghada, Parts used- Seeds, Uses- Seeds juice is given in luke-warm water in gastric ailments.

3. *Adhatoda vasica* Nees. Family- Acanthaceae, Local name-Adulasa, Parts used- Stem and leaves, Uses- Decoction of leaf and stem are given to treat fever and cough.

4. *Aegle mormelos* (L.) Correa, Family – Rutaceae, Local name- Bel, Part used- Fruit, Uses -Crushed fruits are given in diarrhea.

5. *Allium cepa* L. Family- Liliaceae, Local name-Kanda, Parts used- Bulbs, Uses- Bulbs are given for retention of placenta

6. *Alove vera* Mill. Family- Liliaceae, Local name- Korphad, Part used- Leaf, Uses-Leaf juice and used on burns, itching and Wounds.

7. *Andrographis paniculata* Nees Family- Acanthaceae, Local name- Bhuineemb, Part used-Whole plant, Use- Decoction of whole plant is used to treat fever and cough

8. *Annona squamosa* L. Family- Annonaceae, Local name-Sitaphal, Part used- Leaves, Uses- Paste of fresh leaves is applied on wounds.

9. *Aristolochia bracteolate* Lam Family- Aristolochiaceae, Local name -Kidmari, Part used- Leaves, Use- Paste of leaves is applied on parasites on skin.

10. *Asparagus racemosus* Willd. Family- Asparagaceae, Local Name- Satavari, Part used- Root, Use-Roots are used to increase the milk in cows and buffaloes.

11. *Azadirachta indica* A. Juss. Family- Meliaceae, Local name- Kadu neem, Parts used- Stem bark, Leaves, Use-Decoction of leaves and bark is applied on itching and skin infections.

12. *Bauhinia variegata* L. Family- Caesalpiniaceae, Local name-Kachnar, Part used-Stem bark, Use- Bark powder is applied topically on wounds.

13. *Brassica campestris* L. Family- Brassicaceae, Local name- Mohri, Part used- seed, Use- Few drops of seed oil are poured

into the nasal cavity of animal to lubricate the nasal passage to enhances breathing.

14. *Bryophyllum pinnatum* (Lam.) Oken, Family- Crassulaceae, Local name- Panphuti, Part used- Leaves, Use- Paste of leaves are given in Urinary and stomach problems.

15. *Butea monosperma* (Lam.) Taub. Family- Fabaceae, Local name-Palas, Part used- Stem Bark, Use- Bark powder is applied topically on wounds.

16. *Calotropis procera* (Aiton) Dryand. Family- Asclepiadaceae, Local name- Rui, part used- Leaf, Use- Leaf is applied on joint inflammation, leaf latex is used to cure the wound and skin problems.

17. *Cassia fistula* L. Family- Caesalpiniaceae, Family-Amaltas, Part used- Seed, Use-Seeds are given for stomach problems.

18. *Cassia tora* L. Family – Caesalpiniaceae, Local name - Tarota, Part used- Seed, Use-Seed is mixed with water and ground into paste and applied to cure skin diseases.

19. *Cissus quadrangularis* L. Family- Vitaceae, Local name -Haddijodi, Part used- Stem, Use- Stem are used to treat the bone fracture and muscular pain.

20. *Citrullus colocynthis* L. Family - Cucurbitaceae, Local name - Indravan, Part used- Root, fruit, Use- Root is ground with water and the decoction obtained is given to cure cough. Dry Fruit powder is given in the treatment of diarrhea and dysentery.

21. *Cissampelos pareira* L Family - Menispermaceae, Local name - Pahadvel, Part used- Leaves, Use- An extract from tender leaves in warm water is given internally with a pinch of rock salt and also applied topically on the bitten region of goats and sheep for relieving pains of scorpion bite.

22. *Clematis gauriana* Roxb. ex., Family- Ranunculaceae, Local name-Morvel, Part used - Stem, Leaves, Use-Leaf paste and stem boiled in water and used to treat parasites on animals.

23. *Curcuma amada* Roxb. Family- Zingiberaceae, Local name-Ambe Halad, Part use- Rhizome, Use- Rhizome paste applied on joint inflammations, bone fractures.

24. *Curcuma longa* L. Family- Zingiberaceae, Local name- Halad, Part used - Rhizome Use- Rhizome paste applied as antiseptic on wounds

due to cut or any skin problem due to infection.

25. *Datura metel* L. Family- Solanaceae, Local name- Dhotra, Part used-Leaves, Use- Paste of leaves is applied on injuries of ankle bone

26. *Eclipta alba* (Lamk.) Hassk. Family- Asteraceae, Local name- Brungraj, Part used- Leaves, Use- Paste of leaves is applied topically on wounds.

27. *Ficus benghalensis* L. Family- Moraceae, Local name- Vad, Part used- Stem bark, Use- Paste of Bark applied on fractures.

28. *Ficus racemosa* L. Family- Moraceae, Local name- Umbar, Part used- Stem bark, Use- Paste of Bark is used on wounds.

29. *Ficus religiosa* L. Family- Moraceae, Local name- Pimpal, Part used- Stem bark and leaves, Use- Bark and leaves Juice is given for urino-genital problems.

30. *Gliricidia sepium* (Jacq.) Kunth ex Walp. Family - Fabaceae Local name- Undirmari, Part used - Leaves, Use- Leaves are crushed and paste is used to wash livestock's to remove external parasites.

31. *Holoptelia integrifolia* (Roxb.) Planch. Family - Ulmaceae, Local name- Papada, Part used -Stem bark, Use- Bark paste mixed with coconut oil and applied externally to treat inflammation and skin diseases.

32. *Mangifera indica* Lam. Family- Anacardiaceae, Local name- Amba, Part used- Stem bark, Use- Bark ash is given in cough.

32. *Mimosa pudica* L. Family- Mimosaceae, Local name - Lajalu, Part used- Leaves, Use- Leaf is ground with pepper, garlic and onion then fed to cows to cure fever.

34. *Murraya koenigii* (L.) Spreng. Family- Rutaceae, Local name- God neem, Part used- Leaves, Use- Leaves are given during diarrhea.

35. *Ocimum sanctum* L. Family- Lamiaceae, Local name- Tulas, part used- Leaves, Use- Leaves used as antiseptic and antibacterial.

36. *Plumbago zeylanica* L. Family- Plumbaginaceae, Local name- Chitrak, Part used- Root, Use- Root paste is externally applied on local inflammation.

37. *Pongamia pinnata* (L.) Pierre Family - Fabaceae, Local name - Karanji, Part used- Stem and leaves, Use- Leaf is ground with pepper and given to cure fever. Decoction of stem bark is given orally to treat dysentery.

38. *Prosopis julifera* (Sw.) DC. Family- Mimosaceae, Local name- Bangali Babhul, Part used- Leaves and pods, Use- Paste of leaves and pods applied on skin infections.

39. *Pueraria tuberosa* (Willd.) DC. Family- Fabaceae, Local name- Vidari kand, Part used- Tuber, Use- Tubers are given to increase milk production.

40. *Punica granatum* L. Family- Punicaceae, Local name- Dalimb, Part used- Fruit, Use Decoction of fruit is given in diarrhea.

41. *Ricinus communis* L. Family - Euphorbiaceae, Local name - Erand, Part used- Leaves, use- The fresh 50 gm leaves are given to the goat and sheep to get relief from the indigestion. 42. *Semecarpus anacardium* L. Family- Anacardiaceae, Local name- Bibba, Part used- Fruit, Use- Fruits are given to treat retention of the placenta.

43. *Solanum xanthocarpum* Schrad. & H. Wendl. Family- Solanaceae, Local name- Bhui ringani, Part used- Fruit, Use- Fruits are given for curing cough

44. *Syzygium cumini* (L.) Skeels Family- Myrtaceae, Local name, - Jambhul, Part used- Stem bark, Use- Stem bark is mixed with curd and made into a paste and given to cure dysentery.

45. *Tagetes erecta* L. family- Asteraceae, Local name- Zendu, Part used- Flower, Use- Paste of flowers are applied to cure wounds.

46. *Tamarandus indica* Family: - Mimosaceae, Local name- Chinch, Part used- Leaves, Uses - The leaves are used to treat the stomach problems in goat, cow, bull and buffalos.

47. *Terminalia bellirica* (Gaertn.) Roxb. Family- Solanaceae, Local name - Behada, Part used- Stem bark, Use- The dried stem bark powder is boiled in a water and the decoction obtained is given orally to the goats for curing blood dysentery.

48. *Tridax procumbens* L. family- Asteraceae, Local name- Unhali, Part used- leaves, Use- Leaves extract is applied topically on wounds

49. *Vitex nugundo* L. Family- Verbenaceae, Local name- Nirgudi, Part used- Leaves, Use- Paste of leaves applied topically for inflammation.

50. *Wattakaka volubilis* (L. f.) Stapf. Family- Asclepediaceae, Local name - Malkani, Part used- Leaves, Use- Leaf paste is mixed with

common salt and applied on affected places to treat all types of swellings and wounds.

51. *Withania somnifera* (L) Dunal in DC. Family- Solanaceae, Local name- Aswagandha, Part used- Root, Use- Mixture of root powder is given along with fodder for curing weakness and maintaining animal in healthy condition. 52. *Woodfordia fruticosa* (L.) Kurz. Family- Lythraceae, Local name- Dhayati, Parts used - Flower, Use-Fresh flowers extract given in treatment of dysentery.

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#### Conclusion:

Ethno-botanical research work is an enlist the plants for the treatments of different disorders to domesticated animals with the help of tribals. In this investigation 52 plants belonging 32 families have been documented.

#### Acknowledgments:

Authors are thankful to the Principal, A. A. College, Manchar for encouragement. The authors are also thankful to all tribals for providing necessary information at field survey.

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