OPEN ACCESS

Int. J. of Life Sciences, 2013 Vol.1 (1): 46-50 **ISSN: 2320-7817**

Farm Hedges: Hotspot for the Medicinal plants

***Bokhad M. N., Rothe S. P. and Kakpure M. R.**

Department of Botany, Shri Shivaji College of Arts, Commerce and Science, Akola -444001 (M.S.) India.

***Corresponding Author E-mail:** mob2551322@gmail.com

ABSTRACT

The present survey based investigation, on traditional farm hedges and presents status of medicinal plants found along the hedges were carried out in two districts i.e. Akola and Washim of Maharashtra State of India. A sum of total 61 plants were collected and identified. These plants are regularly used by the tribals, villagers and local medicine men's due to their medicinal importance as well as conserved and some of them were also planted. During investigation it was also noted that, most of the farmers clearing the farm hedges for the purpose of crop cultivation; that's why the most of the important medicinal plants are cleared from hedges. The present survey has resulted in the documentation of total 61 medicinal plant species found along hedges which are used for curing different ailments and also investigates the wealth of medicinal plants present along the farm hedges.

KEYWORDS

Farm hedges,
Hotspot,
Medicinal plants

INTRODUCTION

Akola and Washim is the northern most district of Vidarbha regions. Its total area is about 10,606 Sq. Km. The district is situated between the meridians of longitudes $76^{0}51'$and 27^{0} 44' east and between the parallels of latitudes $19^{0}51'$and $27^{0}17'$ north. There are considerable variations in the topography, geology and climate of these districts. The soil varies from Murrum to light black. The track shows a considerable variation in climate. Annual rainfall is about 760 mm in hilly tracks. The natural vegetation persists in certain protected valleys and on hill slopes, which is typical dry deciduous type. Botanically, the vegetation of Akola district was explored by Kamble and Pradhan (1988). Some new records were also made by Rothe (1997). In India, as there is no earlier work on record of hedge plants, but in Akola district of Vidarbha region of Maharashtra State; taxonomically hedges plants were first time explored by Bokhad *et al.,* 2011. At the beginning of civilization, man has started land under cultivation and comes together for farming. As the time passes, there were conspicuously increase in the populations and also the needs of man. Along with the needs, human being were cleaned the forest and covers more and more land for under cultivations which is one of the main reasons of the deforestation as well as destruction of natural habitats. At the earlier time, when man develops the land for cultivation, he did not cut the belt of 5-6 feet width around the land that is the boundary of that farm called "Hedges". On these hedges of farm, various timbers, fruit yielding trees, shrubs, climbers, grasses and several medicinal plants are grows naturally.

Due to ample use of modern techniques, these hedges became shrinks, farm boundaries are expanded which come results into the extinction of the hedges. Not only hedges, but also the flora and fauna found along/on the hedges are also on the way of extinction. Hotspot is a biogeography region with a significant reservoir of biodiversity that is under threat from the human. Therefore, traditional farm hedges are nothing but the hotspots for the medicinal plants which have to secure for many years.

MATERIALS AND METHODS

Repeated seasonal visits were conducted to covers different farm hedges in different vegetation zones i.e. villages nearer to forest areas, tehsil area and city area, so as to collect medicinal plants in flowering and fruiting conditions for the identification of specimens. Observations were noted in field book. Information collected from local inhabitants about

International Journal of Life Sciences
www.ijlsci.in
Research Article

the medicinal uses of plants by taking interview. Also studied the habit, habitat of plants from where it was collected. Plant specimens were identified by using standard floras (Cooke, 1908; Kamble and Pradhan, 1988; Naik, 1998; Singh et al., 2000, Singh et al., 2001 and Sharma, et al., 1996).

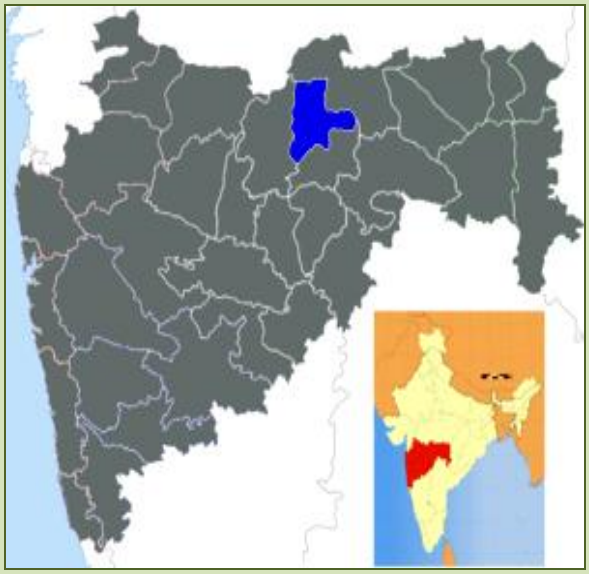

Fig: Map of Maharshtra Showing study area

OBSERVATIONS

Table 1: Enumeration of some medicinal plants found along farm hedges

S.N.	Botanical name	Family	Local name	Part used	Uses
1	*Abutilon indicum* (L.) Sweet	Malvaceae	Mudra	Seed, leaf	Seed laxative, leave-in dental problem, diuretic
2	*Abrus precatorius* L.	Fabaceae	Gunj	Leaf	Anti inflammatory, leaf decoction in cough
3	*Achyranthes aspera* L.	Amarantaceae	Aghada	Roots, seeds	Root Uterine stimulant activity ,stomach trouble, bladder stone, seeds nutritive
4	*Acacia chundra* Willd.	Mimosaceae	Kath	Bark	Bark in diarrhoea
5	*Ailanthus excelsa* Roxb.	Simaroubaceae	Maharukh	Bark	Fever
6	*Annona squamosa* L.	Annonaceae	Sitaphal	Leaves	Killing lice in hair
7	*Asparagus racemosus* Willd.	Liliaceae	Shatavari	Root	Root, Galactagogues
8	*Azadirachta indica* A. Juss.	Meliaceae	Kaduneem	Leaf	Skin disease
9	*Baliospermum montanum (*Willd.) Müll. Arg.	Euphorbiaceae	Danti	Seed, leaf	Seeds used as purgative, leaves in asthma & bronchitis
10	*Barleria prionitis* L. ssp prionitis	Acanthaceae	Katekoranti	Leaf	Cough
11	*Biophytum sensitivum* (L.) DC	Oxalidaceae	Lajari	Leaves , Root	Piles, kidney stone, Gonorrhea
12	*Blepharis maderaspatensis* (L) Roth.	Acanthaceae	Hadsan	Leaf	Rheumatism, joint pain
13	*Bombax ceiba* L.	Bombacaceae	Katesawar	Root, bark	Root in dysentery, bark used in skin disease,

Table 1: Continue….

S.N.	Botanical name	Family	Local name	Part used	Uses
14	*Butea monosperma* (Lam.) Taub. Var. monosperma	Fabaceae	Palas	Root , bark	Piles, diabetes, cough, ring worm, skin diseases, antiseptic
15	*Cadaba fruticosa* (L.) Druce.	Capparaceae	Habab	Root	Intestinal worms
16	*Caesalpinia bonduc* (L,) Roxb	Caesalpiniaceae	Sagargota	Seeds	Seeds are used in intestinal worm
17	*Capparis decidua* (Forsk) Edg.	Capparaceae	Nepati	Fruit	Joint pain, Dysentery
18	*Capparis zeylanica* L.	Capparaceae	Waghati	Root, fruit	Arthritis, Piles, Rheumatism
19	*Cardiospermum halicacabum* L.	Sapindaceae	Kapadphodi	Root	Root diuretic, fever
20	*Cassinine glauca* (Rottb) O.Ktze.	Celastraceae	Bhutkesi	Root bark	Anti-inflammatory
21	*Cassia fistula* L.	Caesalpiniaceae	Bahavaha/ amaltas	Leaves, Bark, Pod	Skin disease, Tonsils, Digestive problem
22	*Careya arborea Roxb.*	Myrtaceae	Kumbhi	Bark	Painful inflammation
23	*Celosia argentea* L.	Amranthaceaae	Karadu	Root	Urinary disorder
24	*Cissampelos pareira Linn.*	Menispermaceae	Pahadvel	Root	Fever, Urinary disorders, Heart disease, Jaundice, snake bite , Stomach pain
25	*Cordia dichotoma* Forst.	Boraginaceae	Bhokar	Bark, Fruit	Intestinal worm, Skin disease, Fever
26	*Clitoria ternatea* L. var. ternatea	Fabaceae	Gokarna	Root, leaves	Urinary disorder, Skin disease
27	*Cocculus hirsutus* (L.) Diels	Menispermaceae	Vasanvel	Leaves, root	Gonorrhea, inflammation, head ache, Urinary complaints
28	*Cullen corylifolium* (L.) Medik. Grah.	Fabaceae	Bavachi	Seed	Leucoderma
29	Cymbopogon martini (Roxb.) Will. Watson.	Poaceae	Tikhadi	Leaves	Rheumatism, diuretic
30	*Dioscorea bulbifera* L.	Dioscoriaceae	Varahkand	Tuber	Diarrhoea and Dysentery
31	*Diplocyclos palmatus* (L.) Jeffrey	Cucurbitaceae	Shivlingi	Seed	Contraceptive
32	*Enicostema axillare* (Lam.) A. Raynal	Gentianaceae	Nhavi	Whole plant	Fever
33	*Euphorbia hirta* L.	Euphorbiaceae	Dudhi	Whole plant	Skin disease
34	*Erythrina suberosa* Roxb.	Fabaceae	Pangara	Leaves	Ear & Teeth pain
35	*Gloriosa superba* L.	Liliaceae	Kadlavi	Tuber, leaf	Abortifacent, Killing lice in hair
36	*Gmelina arborea* Roxb. *ex* Sm.	Verbenaceae	Shivan	Leaf	Head ache, Gonorrhea
37	*Hemidesmus indicus* (L.) R. Br. *ex* Schult.	Apocynaceae	Anantamul	Root	Cough & cold
38	*Justicia adhatoda* L.	Acanthaceae	Adulsa	Leaf	Cough & cold
39	*Lawsonia inermis* L.	Lythraceae	Mehandi	Leaves	Healthy hairs
40	*Leonotis nepetifolia* (L)R.Br.	Lamiaceae	Dipmal	Flower	Skin disease
41	*Limonia acidissima* L.	Rutaceae	Kavat	Fruit, leaves	Indigestion

Table 1: Continue….

S.N.	Botanical name	Family	Local name	Part used	Uses
42	*Madhuca longifolia (Koen.) Mac Bride*	Sapotaceae	Moh	Flower	Appetizer
43	*Momordica dioica* Roxb. *ex* Willd.	Cucurbitaceae	Kartoli	Fruits	Diabetes
44	*Mucuna pruriens* (L.) DC.	Fabaceae	Khajkujali	Seed, Root	Paralysis, Rheumatism, Fever,
45	*Pergularia daemia* (Forssk.) Choiv.	Apocynaceae	Utaran	Root, leaves	Fever, cough
46	*Rotheca serrata* (L.) Steane & Mabb.	Verbenaceae	Bharangi	Root	Paralysis, Leprosy, back pain, scorpion bite, Asthma, Inflammation
47	*Ricinus communis* L.	Euphorbiaceae	Erandi	Seed	Purgative
48	*Sapindus emarginatus* Vahl	Sapindaceae	Ritha	Fruit	Healthy hairs
49	*Semecarpus anacardium* L. f.	Anacardiaceae	Bibba	Fruits	Appetizer
50	*Sesbania grandiflora* (L.) Pers.	Fabaceae	Hadga	Leaves, Root	Anti-inflammatory, Healing wounds, Joint pains
51	*Solanum anguivi* Lam.	Solanaceae	Ringani	Seed	Dental problem
52	*Soymida febrifuga* (Roxb.) A. Juss.	Meliaceae	Rohan	Bark	Diabetes
53	*Syzygium cumini* Skeel	Myrtaceae	Jambhool	Leaves	Diabetes, dysentery
54	*Tamarindus indica* L.	Euphorbiaceae	Ghinch	Fruit	Indigestion
55	*Tephrosia purpurea* (L.) Pers.	Fabaceae	Unhali	Root	Urinary disorder
56	*Terminalia bellirica* (Gaertn) Roxb. .	Combretaceae	Behada	Fruit	Intestinal worm, Diarrhoea
57	*Tinospora cordifolia* (Willd.) Hook. f.	Menispermaceae	Gudvel	Bark	Fever
58	*Tribulus terrestris* L.	Zygophyllaceae	Gokhshura	Root	Diuretic
59	*Trichosanthes tricuspidata* Lour.	Cucurbitaceae	Koudal	Root, fruit	Fever, Cough
60	*Vitex negundo* L. var. negundo	Verbanaceae	Nirgudi	Bark	Used in rheumatism
61	*Woodfordia fruticosa* (L.) Kurz.	Lythraceae	Dhayati	Flowers	Uterine contraction

(Ref. Bhattacharjee, 2008; Dastur, 1962; Jain, 1987; Naik, 1998 and Prajapati et.al., 2009)

Table 2: Major ailments cured by plant found along hedges plant

S. N.	Ailments	Number of plants used
1	Cough and cold	06
2	Skin diseases	08
3	Fever	09
4	Dysentery	04
5	Diabetes	04
6	Rheumatism	05
7	Anti inflammatory	06
8	Intestinal worm	05
9	Urinary disorder	06
10	Gonorrhea	03
11	Other	05

Table 3: Major plant parts used for the various ailments

S. N.	Medicinal plant part	Number of plant species	Percentage %
1	Bark	10	16
2	Leaves	21	34
3	Root	20	32
4	Flower	03	4
5	Fruit	12	19
6	Seed	10	16
7	Whole plant	02	3

RESULTS AND DISCUSSION

Different parts of medicinal plants were used by the local peoples as a natural medicine for curing different ailments. In the present survey, it was noted that the plant parts like leaf used in majority of cases (21 species), followed by roots 20 species (Table3). Different plant parts as a source of curing various ailments (Table2). The whole plant of 2 species [e.g. *Euphorbia hirta* L., *Enicostema axillare* (Lam.) A. Raynal] was used as medicine. These 61 medicinal plant species were used in curing about different types of 36 ailments, of which the highest numbers of plant 09 species were used for the treatment of fever. About 08 medicinal plant species were used for skin disease, 06 plant species used for urinary disorder, cough and cold and anti inflammatory, 5 plant species for rheumatism and intestinal worms, 4 medicinal plant species for diabetes and dysentery, 3 medicinal plants for gonorrhea (Table 2).

A total 33 plant families were found, out of which maximum 8 plants belongs to family Fabaceae, 4 plants belongs to family Euphorbiaceae. 1 plant each found in monocotyledone families i.e. Liliaceae, Dioscoriaceae and Poaceae.

CONCLUSION

Man clearing and utilized the forest resources day by day for their various daily needs i.e. food, shelter, cloths from ancient times. Main harm to the forest is due to the clearing of it for the farming purposes which results into destruction of habitat of many diverse' plant species especially economic and medicinal important which are mostly affected by the over exploitation by vaidoos, local practitioner as well as clearing of forest land for the cultivation. These medicinal plants are now somewhat secure along the traditional farm hedges for many years. So, the present inventory of medicinal plants present along the farm hedges opens new avenues to scrutinize such rich natural resources of its further analysis in order to develop the potential of herbal medicine.

REFERENCES

Bhattacharjee S.K. (2008). Handbook of medicinal plants Vth revised edition.

Bokhad M.N., Rothe S.P. and M.R. Kakpure (2011). Exploitation of Farm Hedges for the conservation of Biodiversity in Akola District J. Eco. Env. & Conservation, 17(3):527-530.

Cooke T. (1901-1908) The Flora of Presidency of Bombay Vol. I & II Reprinted ed. 1958. Botanical survey of India, Calcutta.

Dastur J.F. (1962). Medicinal Plants of India and Pakistan. Treasurehouse of Book, 210, Dr. D. N. Road, Bombay.

Hooker J.D. (1872-1897). The Flora of British India Vol. I-VII. Reeves & Co., London.

Jain S.K. (1987) A Manual of Ethnobotany. Scientific Publishers Jodhpur.

Kamble S.Y. and S.G. Pradhan (1988). Flora of Akola District, Maharashtra. Botanical Survey of India, Calcutta.

Kirtikar K.R. and B.D. Basu (2004). Indian Medicinal Plants. Vols. I-IV, 2nd ed. Dehradun.

Naik V.N. (1998). Flora of Marathwada. Vols. I &II. Amrut Prakashan, Aurangabad.

Naik V.N. (1998) Maratwadyatil samanya vanaushadhi. Amrut Prakashan, Aurangabad.

Prajapati N., Purohit S.S., Sharma A.K. and T. Kumar (2009). A Handbook of Medicinal Plants a Complete Source Book.

Rothe S.P. (1997). A new Plant record for Akola district J. Eco. Tax. Bot., 21(3):649-653.

Sharma B.D., Karthikeyan S. and N.P. Singh (1996). Flora of Maharashtra State. Monocotyledones, Botanical Survey of India, Calcutta.

Singh, N. P. and Karthikeyan, S. (2000). Flora of Maharashtra State. Dicotyledones, Vol. I, Botanical Survey of India, Calcutta.

Singh, N. P., Lakshminarasimhan, P., Karthikeyan, S. and Prasanna, P. V. (2001). Flora of Maharashtra State. Dicotyledones Vol. II, Botanical Survey of India, Calcutta.