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VEGETATION IN SINDH:
AN ANALYTICAL AND LITERARY STUDY

Abstract

The region of Sindh is positioned atop a fertile land making conditions suitable for farming and irrigation. Being centrally connected to the River Indus has gained an advantage in horticulture and farming over the years. The wide variations in geographical conditions, altitude, soil, climate and culture have created a rich floristic diversity in Sindh. The soil of Sindh land is considered fertile and productive for vegetation. The vegetation of Sindh is naturally beautiful scenic for everyone. Vegetation is also considered part of our literature. Poets and writer always refer the beauty of our nature through the vegetation and green fields of homeland. There are multiple uses of vegetation which are commonly employed by local inhabitants as medicine, fodder and fuel even for agricultural purpose. Since a long time the people of Sindh have used different plants including herbs, shrubs and trees for the treatment of diseases locally. It is investigated that local or traditional medicines are cheaper and easily available for common use. The natural vegetation and greenery is vanishing due to overgrazing of domestic animals, salinity, water-logging and floods. Rapid growth of population is also a principal cause of diminishing the vegetation. The precious knowledge of flora is rapidly vanishing due to the illiteracy among the local people and also due to destruction of the medicinal plants. Therefore, it is an urgent need for our local communities and educated people that they should be directly involved in creating the awareness about

the importance of vegetation of Sindh. The present study was designed to convey the knowledge and importance of medicinal flora as well as traditional uses of such plants in daily life and create the awareness about vegetation of Sindh.

Keywords: Vegetation, Sindh, Literature, Flora, Traditional Flora

INTRODUCTION:

Sindh is historically important province of Pakistan. The population of Sindh is immensely depended on the river Indus. In addition it is also described as that it is centrally connected to the river Indus to gaining the advantage of horticulture and farming (Fig. 1). Sindh is located on the western corner of South Asia, bordering the Iranian plateau in the west. It is bounded by the Thar Desert to the east, the Kirthar Mountains to the west, and the Arabian Sea in the south. In the centre is a fertile plain around the Indus River (Weiss *et al.,* 2012).

Sindh is considered tropical and subtropical region of the Pakistan. It is very hot in summer season and mild to warm during winter. The annual rainfall is 7-10 inches during July to mid of the September. The wide variations in geography, altitude, soil, climate and culture have created a rich floristic diversity of vegetation in Sindh (Nasir and Ali, 1970-89). Sindh is considered as a promising agricultural Province of Pakistan. It has fertile often covered with dense vegetation. There are several medicinal species recorded from various districts. Local people are using commonly available plants for the treatment of many diseases and maintenance of their health. However, introduction of allopathic and homeopathic drugs have decreased human dependency on medicinal plants for their folk uses (Hussain *et al.,* 2012; 2014).

Majority of medicinal plants are available in these districts where they grow naturally but due to lack of knowledge in common man there is devastation and degradation of these valuable medicinal plants. Therefore, this study is performed to document folk remedies and uses of a few important and commonly available plants to save their destruction and to invite pharmaceutical chemists and pharmacognosists to evaluate the ethnomedicinal and ethno pharmacological aspects of these medicinal plants scientifically (Memon *et al.,* 2008).

MATERIALS AND METHODS:

The study was thoroughly undertaken in the different rural areas of Sindh Province. Thirty four families, 52 genera and 54 species were identified and recorded (Table.1). Not all these belong to the flora of Sindh. Only the common plants which are distributed over the entire divisions and districts of Sindh Province. The collection of medicinal plants was undertaken during June 2013 to Januray 2014. Common name of plants, folk names, habit, parts used, medicinal uses and traditional uses were documented

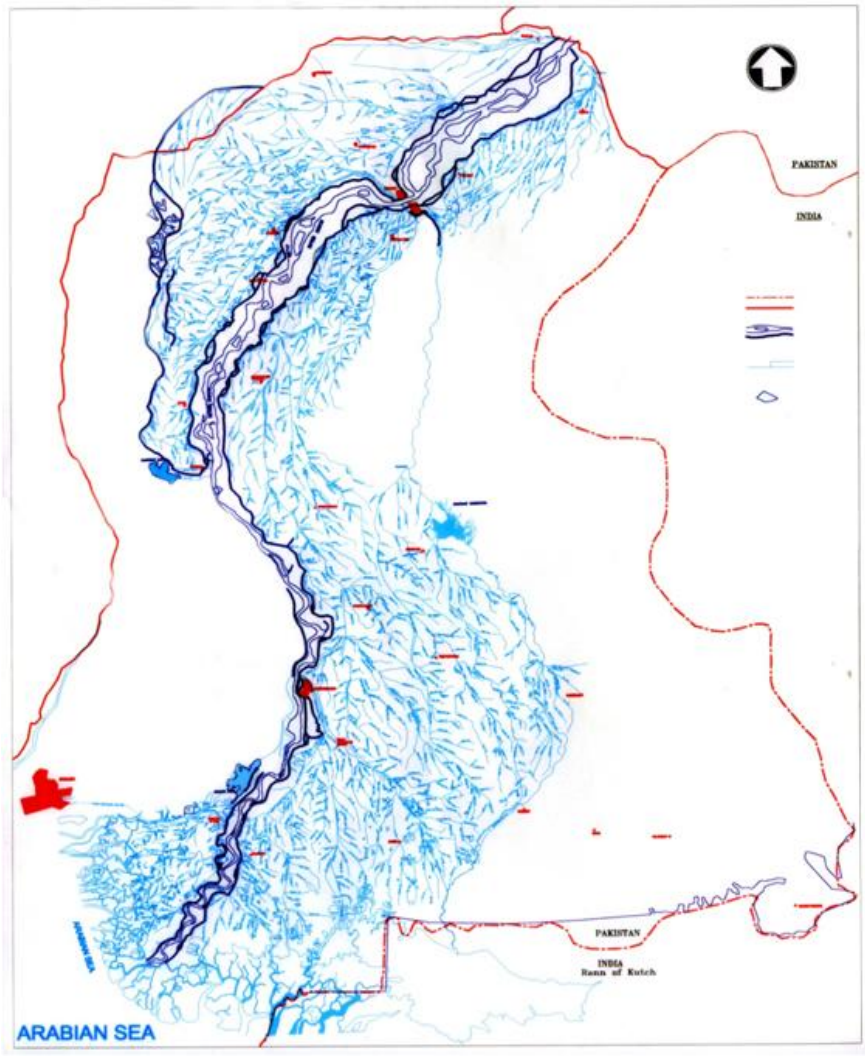

Fig. 1. Map showing the river Indus and light blue color showing the vegetation (Layout by SIDA)

through the interviews of local Hakeems and experienced growers of field crops. All species of medicinal plants were identified and photographs taken in the Department of Botany, Federal Urdu University of Art, Science and Technology, Karachi. All species were further identified and confirmed with the help of flora of Pakistan (Nasir and Ali, 1970-95).

RESULTS:

The data for habits and life-forms of plants including herbs, shrubs, climbers and trees were recorded and given in Table 1 separately. The highest number of species were recorded in the family Fabaceae (9 spp.), followed by Poaceae (5 spp.), Solanaceae (4 spp.), Moraceae (3 spp.), Myrtaceae (3 spp) and Apiaceae (2 spp.) respectively. While the other families had single species (Fig. 2.).

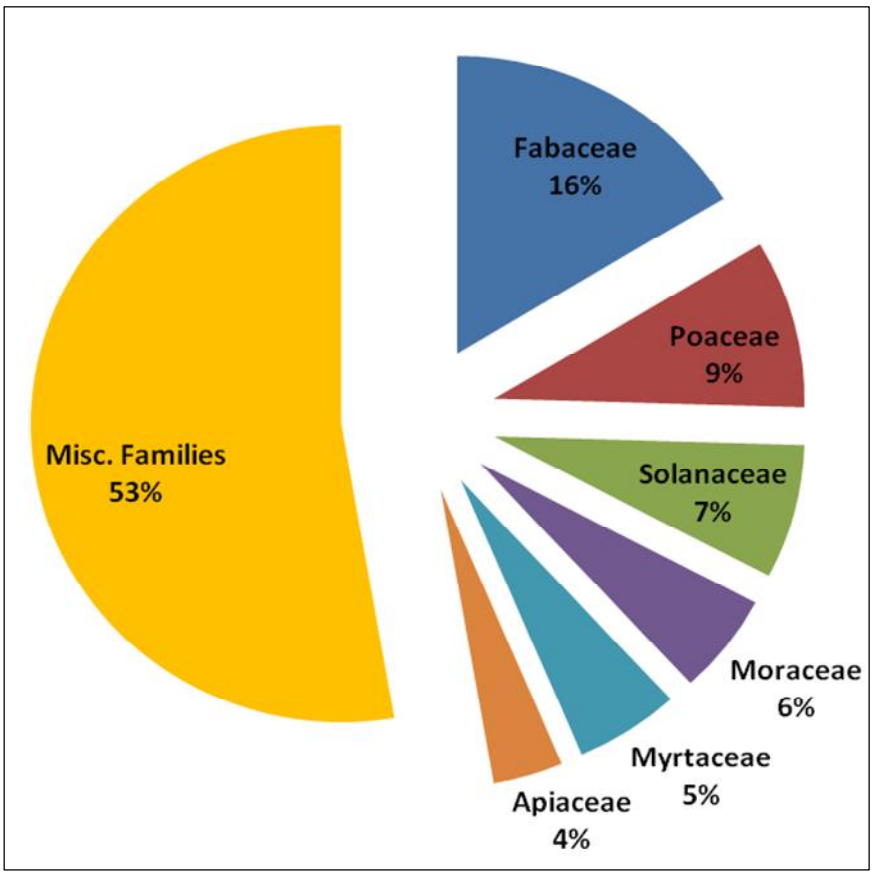

Fig. 2. Important and common families are recorded form Sindh province

Table 1. Some important and very common vegetation of Sindh Province

Family	Genus	Botanical name (Species)	Life-form	Local name
Alliaceae	*Allium* L.	*Allium sativum* L.	Cryptophyte	Thoam
Anacardiaceae	*Mangifera* L.	*Mangifera indica* L.	Phanerophyte	Amb
Apiaceae	*Coriandrum* L.	*Coriandrum sativum* L.	Therophyte	Dhana
	Foeniculum Mill.	*Foeniculum vulgare* Mill.	Therophyte	Saunf/Wadaf
Apocynaceae	*Nerium* L.	*Nerium oleander* L.	Chamaephyte	Gul Zingi
Asclepiadaceae	*Calotropis* R. Br.	*Calotropis Procera* subsp. hamiltonii.	Chamaephyte	Akk
Asphodelaceae	*Aloe* L.	*Aloe vera* (L.) Burm. f.	Cryptophyte	Kunwar Booti
Brassicaceae	*Eruca* L.	*Eruca sativa* Mill.	Therophyte	Janhabo
Boraginaceae	*Cordia* L.	*Cordia gharaf* (Forssk.)	Phanerophyte	Gaeduri
Cactaceae	*Opuntia* Mill.	*Opuntia ficus-indica* (L.) Mill.	Chamaephyte	Thohar
Cannabaceae	*Cannabis* L.	*Cannabis sativa* L.	Therophyte	Bhang
Capparidaceae	*Capparis* L.	*Capparis deciduas* (Forssk.) Edgew.	Chamaephyte	Karir
Chenopodiaceae	*Suaeda* Forssk.	*Suaeda fruticosa* Forssk. ex J.F. Gmel.	Chamaephyte	Laani
Cucurbitaceae	*Citrullus* Schrad.	*Citrullus colocynthis* (L.) Schrod.	Hemicryptophyte	Tooh
Cuscutaceae	*Cuscuta* L.	*Cuscuta epithymum* (L.)L.	Therophyte	Bay Paari
Euphorbiaceae	*Ricinus* L.	*Ricinus communis* L.	Chamaephyte	Heeran
Fabaceae	*Acacia* Lam.	*Acacia nilotica* Lam. Willd.	Phanerophyte	Bubar

Family	Genus	Botanical name (Species)	Life-form	Local name
Fabaceae	*Albizia* Durazz.	*Albizia lebbeck (Linn.) Benth.*	Phanerophyte	Sareehan
	Alhagi Adans	*Alhagi maurorum Medik.*	Chamaephyte	Kandiro
	Dalbergia L. f.	*Dalbergia sissoo Roxb.*	Phanerophyte	Talehi
	Mimosa L.	*Mimosa Pudica L.*	Chamaephyte	Sharam Booti
	Prosopis L.	*Prosopis juliflora* (Sw.) DC.	Phanerophyte	Deevi
	Prosopis L.	*Prosopis cineraria (L.)* Druce	Phanerophyte	Kandi
	Tamarindus L.	*Tamarind indica Linn*	Phanerophyte	Gidamari
	Trigonella L.	*Trigonella foenum-graecum* L.	Therophyte	Hurbo
Lamiaceae	*Ocimum* L.	*Ocimum basilicum*	Chamaephyte	Nazbu
Lythraceae	*Lawsonia* L.	*Lawsonia inermis* L.	Chamaephyte	Mehandi
Malvaceae	*Grewia* L.	*Grewia asiatica* L.	Phanerophyte	Pharva
Meliaceae	*Azadirachta* A. Juss.	*Azadirachta indica* Adr. Juss.	Phanerophyte	Nim
Moraceae	*Ficus* L.	*Ficus benghalensis* L.	Phanerophyte	Barr
	Ficus L.	*Ficus religiosa* L.	Phanerophyte	Pipal
	Morus L.	*Morus alba* L.	Phanerophyte	Tout
Musaceae	*Musa* L.	*Musa paradisiacal* L.	Therophyte	Keela
Myrtaceae	*Eucalyptus* L'Hér.	*Eucalyptus camaldulensis* Dehnh.	Phanerophyte	Safeedo
	Psidium L.	*Psidium guajava* L.	Phanerophyte	Zaeton
	Syzygium P. Browne ex Gaertn.	*Syzygium cumini* (L.) Skeels	Phanerophyte	Jamuon

Family	Genus	Botanical name (Species)	Life-form	Local name
Oleaceae	*Jasminum* L.	*Jasminum sambac* (L.) Ait.	Chamaephyte	Motayo
Palmae	*Phoenix* L.	*Phoenix dactylifera* L.	Phanerophyte	Khaji
Pedaliaceae	*Sesamum* L.	*Sesamum indicum* L.	Therophyte	Tir
Poaceae	*Bambusa* Schreb.	*Bambusa glaucescens* (Willd.) Merr.	Phanerophyte	Baans
	Desmostachya Stapf.	*Desmostachya bipinnata* (Linn.) Stapf	Hemicryptophyte	Drubh
	Pennisetum L.C. Rich.	*Pennisetum glaucum* (L.) R. Br.	Therophyte	Bajhari
	Triticum L.	*Triticum aestivum* L.	Therophyte	Kanik
	Zea L.	*Zea mays* L.	Therophyte	Makai
Rhamnaceae	*Ziziphus* Mill.	*Ziziphus mauritiana* Lam.	Phanerophyte	Beer
Rosaceae	*Rosa* L.	*Rosa indica* L.	Chamaephyte	Gulab
Rutaceae	*Citrus* L.	*Citrus aurantium* L.	Chamaephyte	Lemo
Salvadoraceae	*Salvadora* L.	*Salvadora persica* L.	Phanerophyte	Khabar
Sapotaceae	*Manilkara* Adans.	*Manilkara zapota* (L.) P. Royen	Phanerophyte	Chaiko
Solanaceae	*Capsicum* L.	*Capsicum annum* L.	Therophyte	Chilli
	Cestrum L.	*Cestrum nocturnum* L.	Chamaephyte	Raat Je Rani
	Datura L.	*Datura fastuosa* L.	Therophyte	Daturo
	Solanum L.	*Solanum Surattense* Burm. f.	Therophyte	Patt Payron
Tamaricaceae	*Tamarix* L.	*Tamarix passerinoides* Delile ex Desv.	Chamaephyte	Layee

During the study it was observed that following species were under threat and rapidly vanishing. Certain species such as *Prosopis cineraria* (Kandi)*, Acacia nilotica* (*Vachellia nilotica*) (Babur), *Cordia gharaf* (Gaeudari), *Albizia lebbeck* (Sareenhan), *Dalbergia sissoo* (Talhi), *Tamarindus indica* (Gidamari), *Ficus religiosa* (Pipal) and *Grewia asiatica* (Pharva) are disappearing day by day in Sindh province. The traditional medicine and knowledge of herbal medicine are under threat due to various impacts.

Impacts of Vegetation on the literature:

The changing seasons, varying colors of the skies, the bright shining sun, the silently glowing moon, the winds, the rains, all are manifestations of the beautiful nature and vegetation, deeply influenced thoughts of poet. From the time of last two centuries, it has been commonly assumed that Nature (trees, flowers, birds, mountains, and so on) must necessarily form the subject of a large part-perhaps even the chief part-of all poetry.

'There are two great subjects of poetry',

- 'One of these [is] the natural world....
- The other... is human nature.

Each and every human being is part of nature and vegetation, even if we live all of our lives in a huge city. Everyone who sits under a tree in summer, smells flowers in a field, climbs a mountain, crosses a desert or valley or walks through a grassy patch is inspired by the vegetation in some way.

The eye of the poet or any prose writer is fixed steadily enough on his object (it may be flowers, trees, birds, animals, mountains, rains and so on) by adapting his mood and treatment to his theme the poet is able to deal with a surprisingly wide range of human actions.

Mostly poets and literary scholars include descriptions of nature in their poems. They describe the world around them in writing for a purpose. They not only try to *show* us what they see, they try to make us understand how they *feel*. Not only are they connected to nature but they see life reflected in it. There is more meaning in the vegetation than just the plants, flowers and their associated animals including birds, insects, etc.

Selected poetry of famous Sindhi poets about vegetation

Some famous poets and writers always refer to the beauty of our nature through the vegetation and green fields of homeland.

Shah Abdul Latif Bhattai (1689-1752)

Shah Abdul Latif Bhattai is famous Sufi Sindhi poet. His poetry and verses are symbols of love and humanity for all communities of people. His poetry is very famous in the entire Sindh province and Pakistan. His famous book of poetry "Shah Jo Risalo" is translated into more than ten languages. His few verses about vegetation and for natural beauty are given below in Sindhi language (Advani, 1996; Tunio, 2011).

ٿر ٿوهر، گهر جهوپڑا، ٻارڻ جنين ٻوهه
ونا مينهن مليرِ، ٿهڪي نڪتا ٿوهه
رات ٻه منهنجي روح، ستي سانگي ساريا.

- - - - -

جنين ڏاند نه ٻج، تنين تنهنجو آسرو
اول ڏيڻ انهن کي، پوءِ ايارين سج.

- - - - -

نه سي وونئڻ وڻن ۾، نه سي ڪاتاريون
پسئو بازاريون، هينئڙو مون لوڻ ٿئي.

Shaikh Ayaz (1923-1997)

Shaikh Ayaz is considered romantic, mystic and revolutionary poet of Sindh. His poetry is famous in progressive movements. His poetry has variations for example Bait, Waye, Azad Nazam, Ghazal, Choosito and some other formats.

His poetry shows different imagination of vegetation and views of natural phenomena (Junejo, 2006; Tunio, 2011). Some lines of poetry are as following.

ڇڻ ڪا ڇيي واءَ ۾، آهي ڪنڊيءَ وڻ!
ايا ڇا سانوڻُ، وسندو نه ساڻيهه ۾؟

- - - - -

وري تاريءَ تي روهيڙيءَ جا گلڙا!
ڪيڏو واري تي، آهي رُت قري وئي!

- - - - -

وليون ٻوٽا ڪيترا، هڪ سرنگهوءَ وڻ،
برسي ٿوسانوڻ، پرسان لانڊين جي متان.

- - - - -

اَڪ، ٿوهر ۽ ڀاڳيون، ارٽي ۽ گگراڻ،
سيئي مينهن ڪاڻ، ڏسڻ پيا اُپ ڏي.

- - - - -

وڻ بہ ڪيڏا وڻ!
مٽان ٻٻرن چانو آ،
هينان ٻڪرين ڏڻ.

- - - - -

ڪنڊي نہ سگهري، ٻٻر بہ پلڙو،
سائو نہ سلڙو، چانگو نہ چيلڙو،
مارو اڪيلڙا ... ...

- - - - -

ٽڙي پوندا تارئين، جڏهن ڀاڙها گل،
تڏهن ملندا سين ... ...

Ustad Bukhari (1930-1996)

Ustad Bukhari was the poet of romance, nationalism, humanity and peace. His poetry is unforgettable treasure for Sindhi literature and people. He was known as poet of masses and remained like candle for them till he breathed his last. He has ruled over ordinary people through his art has been sung by local singers to beautify the local events (Laghari, 1997; Junejo, 2006). Here are some verses of his poetry given below.

ويجهو تکبو وڻ وڻ تنها،
وڻ ڇا وڻ جو پن پن تنها،
گهور پري کان گهاتو ٻيلو،
ميلو- ميلو

- - - - -

ڪنول، هزارو، عقيق ٿهڪيو، رتن، چنبيلي، گلاب مهڪيو،
پتي پتي ڪير ڇا پٽيندو، بٽي بٽي وئي قطار بٽجي.

- - - - -

منا مشڪ، عنبر مڪي، آئي موسم،
سرينهن ۾ سونفن جي سرهاڻ آئي.

- - - - -

وري وري فبروري، ڦگڻ ڦريو، رُتون وريون،
ڏيڻي تي ڪٽڪ ٽي، ڪڪوريا ٻير ۾ ڦريون ڦريون
وٽون وڌيڪ سوڪڙيون ڪري رکيون اٿم سڃڻ!
اچي به وڃ ... ...

- - - - -

اسين سرهاڻ جا گيسو صبا بٽجي سنواريون ٿا،
ڪندا شبنم جي قطرن کي، نگاهن سان سلام آهيون
نه ڪتابن کي ٿا کيڪاريون، نه ٿوهر سان رکون ياري
مگر رابيلن جا نوکر، گلابن جا غلام آهيون.

Haleem Baghi

Haleem Baghi is a revolutionary poet of the beloved homeland. His poetry for Jamshoro is very famous in youth due to unforgettable memories of university life. His verses have been sung by local singer Shafi Fakir to entertain the local programs. His poetry is symbol of love, romance and natural phenomena for social life (Hussain, 2004). Some of his verses about nature are given below.

ڪٽ ڪٽ ڪونيٽ توتيا ڇاڙيا، ڪٽ ڪٽ لامن لٽڪن پلڙا
ڏس ته گگيري ڳاڙهي ٽي آ، ڳاڳي جا ٽيا ڳاڙها ڳلڙا
گولاڙو به جار سان ٻڪجي، پن پن ڦيٽا ڏي ٽو ڇلڙا
ٽر ٽر ٽرکن ٽوهر ڏونريون، هير ٽڏي جو ٽي هٻکارو
هاءِ هنيلا هوڏي پريتم، مند ملهاري تون ريسارو.

- - - - -

اَڪ اڃارا، ٻُوهه اڃارا، مرگهه اڃارا نيٺ
ڳوڙهن ڳوڙهه اسان جيون ڳالهيون سڏ اوسارا نيٺ
هونئن تہ لڙڪ لکئي جا ليکا پر متوارا نيٺ
ڇپر ڇمر جو حال جي پڇندين روئي پوندين
منهنجي ٿر جو حال جي پڇندين روئي پوندين

Multiple uses of vegetation in usual life:

There are multiple uses of vegetation which are commonly utilized by local inhabitants as medicines, fodder and fuel for agricultural purpose. The people of Sindh use different plants including herbs, shrubs and trees for the treatment of different diseases locally. Our investigation disclosed that local or traditional medicines are much cheaper and easily available for common use than the allopathic medicine. The natural vegetation and greenery is vanishing due to the following factors.

Factors inducing the vanishing of vegetation

There are various factors rapidly inducing the vegetation and natural beauty of Sindh province. Some important inducing factors are given below.

Shortage of water:

The world's third ancient Indus civilization is facing droughts and menaces due to the shortage of water. The modern Indus is under tremendous pressure and its lower riparian going towards the vanishing of vegetation and to other areas. The drinking water has also degraded and polluted by several biological contaminants. There are several diseased in epidemic proportions in many parts of Sindh. Some of them can be detected from water samples. The incidences and mortality percentage of diseases related to drinking of polluted and contaminated water have increased significantly.

There are approximately 242,830 hectares of riverine forests that are being rapidly affected and going towards local extinction due to shortage of water. A major damage to the vegetation (trees, herbs, shrubs and several climbers) and wildlife were also highly threatened. Beside, the deforestation, followed by soil degradation, salinity and erosion which will eventually lead to

desertification, rendering fertile lands to barren desert. Many natural lakes are becoming dry. Lakes are source of drinking water, fishing, agriculture and a contributor of economy for local people. Several lakes are considered host of many species which may be species of birds, flora, freshwater algae and fauna.

Shortage of water is directly affecting the productivity of Mangroves which are known as shelter and back bone of fishery industry is also under threatened. Mangrove forests in the Indus Delta spread over approximately 263,000 hectares which is the sixth largest mangrove forest in the world. The Mangrove forests support vegetation, wild life, fish and source of survival for local people. Due to decreasing fresh water recharge into Indus delta the salinity of seawater and sediments is increasing rapidly. It may be the starting point where the mangroves have started to deplete and may diminish forever if the environmental and ecological devastation due to water problem is not properly managed.

Due to the shortage of water, the salt-water intrusion has been recorded up to 100 kilometers north of the sea. It is also revealed that Manhora was part of land but now it is island due to the sea intrusion towards surface. Furthermore, seawater renders fertile agricultural lands as useless, which results the economic devastation. At present, several villagers from Badin and Thatta districts have migrated to some other areas due to sea water intrusion (Magsi and Atif, 2012).

Deforestation (Cutting of trees):

The environmental pollution and climate change have become burning issues throughout the world and natural and human made disasters such as land erosion, flooding, agriculture, urbanization, unemployment (theft due to poverty), drought and global warming, have contributed to deforestation (Lee and Joung, 1998). During recent decades the large scale deterioration of forests and natural resources is an eye opener. The degradation of forests and other natural resources has affected the ecology, environment, health and economy. The ecological problems with living organisms such as animals and plants and environmental problems such as increase in temperature and carbon dioxide, these factors have contributed to change in regional climate, health problems such as skin, eye diseases, sunstroke and economic problems such as loss of income to rural population and resources which depend on forests such as

livestock (Abbasi *et al.,* 2011).

Deforestation is rapidly increasing owing to several reasons particularly for fuel wood, furniture, timber mafia, land developer and big land holder depriving the forest for gaining profit. Deforestation is the primary cause of decline in agriculture productivity and significantly affecting the livelihood of rural communities.

Soil erosion, breach in canals and rising temperatures are main cause of deforestation. At present, there are no trees or vegetation available on both the sides of canal. Only stone pitching is found in some urban or complicated populated areas which are degrading, soil-erosion and breach in canal is rapidly increasing. During the British period, various trees were planted both side of canal bank for example Babur *(Acacia nilotica),* Sareenhan *(Albizia lebbeck),* Talhi (*Dalbergia sissoo*), Nim (*Azadirachta indica*) and some other trees for holding soil and provide strength to banks. But now they are vanishing due to illiteracy, poverty or may be strong wood mafia factors are affecting the vegetation of Sindh.

Salinity and water-logging:

Salinity can be described as an indicator rise in water table creating the problem of oxygen deficiency in plants root and salt build up in the soil profile. It is a cause of excess of irrigation water which contains salt, sea water intrusion (e.g. Thatta and Badin), poor drainage and seepage from irrigation canals.

Overgrazing of animals:

Overgrazing is also main factor inducing responsible for vanishing of vegetation. There are no fixed rules and regulations for management of grazing of vegetation that leads to overgrazing in rural areas of Sindh. It is revealed that plant communities are destroyed and change into deserts. Subsequent to this soil degradation occurs due to overgrazing. This activity is highly threatening to medicinal and herbal plants and disappearing of medicinal flora from plant community. There are several factors such as causing of soil erosion, increasing of dust storms and animal starvation and death of humans and domesticated animals, e.g. recent Thar disaster which provides clear examples of overgrazing and deforestation.

Water Pollution (Surface water pollution):

It is also considered as a main factor for decline of vegetation. It is affecting the growth of vegetation, creating several hazardous materials and living things via food webs and biogeo-chemical cycles leading to health of human beings. Ground water contamination is another consequence of soil pollution. Biodiversity of fresh water fisheries is also affected.

Floods:

Sometimes severe floods are also cause of destructions to plant communities. They also cause the loss of crops and trees all types of cultivated vegetation. There are several causes of floods such as breaches in canals and river, high losses of vegetation particularly crops that are heavily affected due to floods, damaging food and seed-stock, rapidly increasing of biological contamination, degradation of soil and soil erosion can be included as main consequences.

Rapid increase in population, poverty and illiteracy:

Illiteracy and poverty among the local people are cause of serious threat to vegetation. Industrialization/ urbanization causes' denuded vegetation and making land totally degraded (e.g. Nooriabad). The extensive growth of human population on fertile land and industries is playing important role to vanishing of vegetation.

DISCUSSION AND CONCLUSION:

Many species including herbs, shrubs or trees are medicinally important and used in the ingredient of medicines. It is expected that most plants have active principles against diseases and pathogens. It is documented that local or traditional medicines are cheaper and easily available for common use. But allopathic medicines are not affordable to everyone particularly poor people who cannot afford them.

The traditional medicines and knowledge of herbal medicines are under threat due to various impacts. A number of species are vanishing due to overgrazing by domestic animals, salinity or floods. Due to the illiteracy and poverty, people also cause destruction of the medicinal flora /vegetation for the purpose of fuel, thatching and other uses. At present 50-60% area of Sindh is significantly drier (Fig. 3). Vegetation is rapidly going towards destructions.

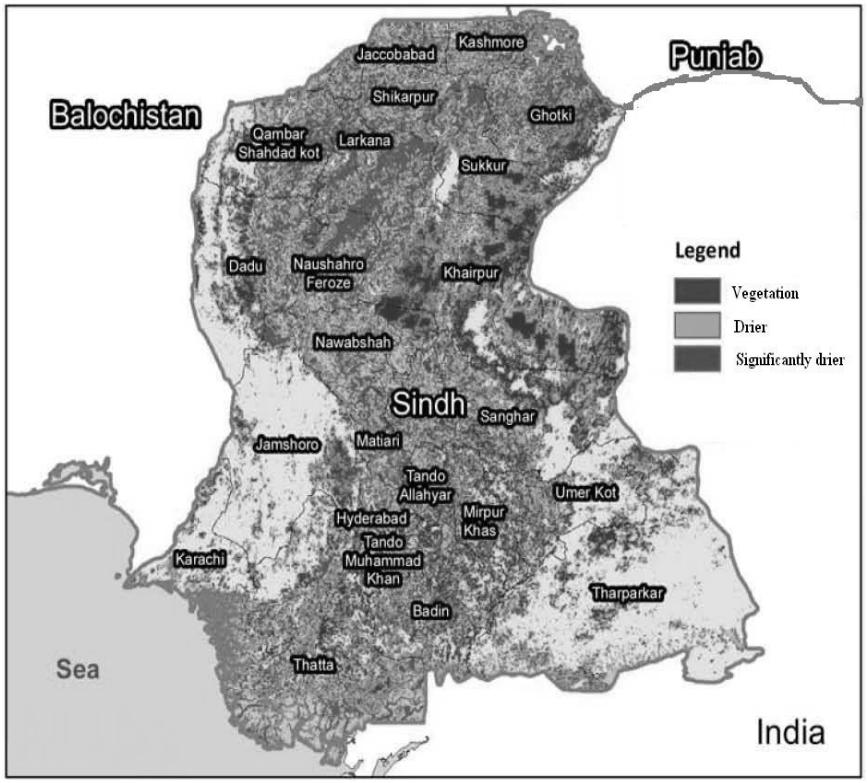

Fig.3. Map showing the vegetation of Sindh province

Rapid population growth is also the principal cause of diminishing the medicinal plant vegetation. Certain species such as *Acacia nilotica* (Babur), *Cordia gharaf* (Gaeudari), *Albizia lebbeck* (Sareenhan) and Dalbergia *sissoo* (Talhi) are disappearing day by day in Sindh province. The documentation and survey indicates that Sindh has very high potential flora for medicinal purpose. Therefore, it is an urgent need for us to take some necessary steps for the saving of vegetation of Sindh. Some recommendations for saving of vegetation are given in the sequel.

RECOMMENDATIONS:

Following are the recommendations based on the analysis of this study and observations.

- The precious knowledge of flora is rapidly vanishing due to the poverty, illiteracy among the local people and also due to destruction of the medicinal plants
- Several documentations and surveys indicate that Sindh province has very high potential flora for medicinal and other multipurpose uses.
- Afforestation (establishment of forest) should be promoted near canals and streams of water.
- Dripping irrigation system should be planted in desert areas for saving of vegetation.
- *Eucalyptus* or neem plants tolerate the saline and water logging lands and so these may be grown in affected areas.
- *Moringa oleifera* (Suhanjaro) trees should be planted. They provide nutritious pods that can be used as food. Also the leaves provide fodder for domestic animals.
- Effective grazing management or limited grazing areas should be designed for people.
- Therefore, it is an urgent need for our local communities and educated people that they should be directly involved in creating the awareness about medicinal plant vegetation and their significance.

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