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CONSERVATION OF MEDICINAL PLANTS OF KASHMIR J&K (UT) BY EX-SITU CONSERVATION TECHNIQUES

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Abstract

The present study reports the conservation strategies of medicinal plants of Kashmir (UT) in the year 2022-2023. World Health organization has listed about 21000 plants species used worldwide for Ayurvedic medicinal purpose. In our country about 2500 plant species are being used in native system of medicines. As per Red book data, 427 Indian medicinal plants entries on endangered speices,28 are considered extinct. 125 engendered,82 rare and 35 insufficient known. As medicinal plants are used as first aid treatment by the tribal and local people of Kashmir (UT). Medicinal plants have played a very significant role in the health and live hood security of the people of Jammu and Kashmir (UT) therefore their conservation is also necessary. Many ways of action can be taken for the conservative and sustainable use of medicinal plants. Some of them are undertaken directly at the place where the plants are found. While other are less direct relating to commercial system. Ex-situ conservation, one of which is conservation of medicinal plants by floating garden and Hydroponic technique has not only conservation value but also recreation and aesthetic value
Keywords: Conservation of medicinal plant, floating gardens, hydroponic technique

Introduction

According to WHO (world health organization) estimates that 80percent people of the world rely on the traditional system of medicines for some aspects of the primary health care needs and our

Kashmir region is not lagging behind. It is well known fact that medicinal plants and their system offer minimal side effects and relatively affordable to common people than other systems of medicine. India is amongst the most important medicinal plant collection centers it has 27% of the total medical plant species of the world (Kumar and Katakam2002). Kashmir Himalayas where PIr Panjal Range fall one of the most beautiful parts of IHR harbors' as large number of medicinal plants (Singh1995).

Therefore, the present study was carried out to

i. Assess conservation status of medicinal plants.

ii. To understand the market chain of medicinal plants in South Kashmir (Pir Panjal range)

iii. To conservation technique of medicinal plants e,g floating garden and hydroponic technique

Material and methods:

Conservation of medicinal plants are very important as for biodiversity is concerned. Conservation strategy (UNEP, WWF and IUCN,1980) defines conservations "the management of human use of the biodiversity so that it may yield the greatest sustainable benefit to present generation and will keep its part for future generation. It is also saying 15th century by supreme spiritual poet that

AN POSHI TELI YELI WN POSHI (Sheikh Noor ud Din also called Nund Rish) Food will thrive only till the words forest and plants service to imagine so one is thinking about the conservating the environment in the lush, verdant landscape in 15th century. There are two main types of conservation of medicinal plants.

i) IN – situ conservation ii)

Ex- situ conservation

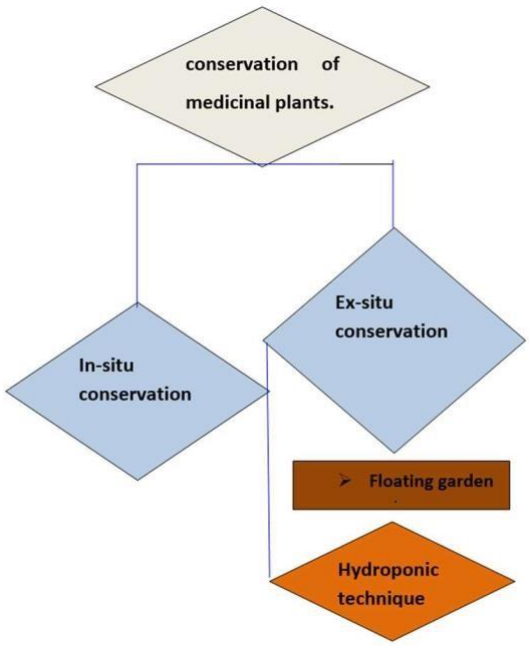

Fig. 1 shows types of conservation methods

But in this research articles practice Ex-situ conservation deals with 'offsite' conservation out from Pir panjal Range of Himalayas where I study these medicinal plant for which I have already published my research work in annals of plant science Journal, It includes the collection, preservation and maintain of certain medicinal plants from pir panjal Range of Himalayas (J&K) UT. Ex- situ method of conservation is a complementary action to conserve the medicinal plants therefore reducing pressure on the wild medicinal plants form any wild medical plants their plants and plant parts in on life threatening stage. The ex-situ method of conservation will provide livehood to education youth by the selling the plants and plant parts for their medicinal uses.

1. To conserve medicinal plants by floating garden technique

It is one of the Ex- suta conservation method in this type of conservation plants are defined as a planting medicinal plant on soil buoyed up (As on the surface of water bodies) In this technique the fallen twinges or dead logs of *Cedrus deodara* plants particularly (with 6feet and length 23 feet) Constructed from water, mud, hyacinth and *Cedrus deodara*. The bottom of the bed is made with paddy stream inter winded to form a mesh. Then the substratum in the form of soil, leaves and straw are place on it to grow medicinal plants n it. A Kashmir Division UT (J&K) is gifted with water bodies (Like Dal lakes, nigeen lake wular lake) etc. by nature. Once the floating bed is kept fro decomposition the top layer water hyacinth and straw for 20-25 days. When the top of the bed turns black, the bed is ready for sowing seeds and seedling transplantation.

The floating garden technique can not only conserve medicinal wealth of Jammu and Kashmir (UT) by also gives recreation and aesthetic value of the water bodies on which floating garden are prepared.

Fig.1 showing

Floating garden

2. To conserve medicinal plants by hydroponic technique

In this technique of conservation of medicinal plants by solid medium culture differs

from solution in that medical plant are grown on solid substrate to which nutrients solution are added. The hanging bags technique just like drying of vegetables and fruits for winters in Kashmir is well aware of this technique. In this hanging bag technique around one-meter-long media filled polythene bags are used. Medicinal in net pts are placed into holes cut into the sides of the politeness bags. Nutrient solution is then added to the polythene bag when the grow bag technique is used, polythene bags contain media are place on the ground and small holes are made into the bag and seeding or seeds are the placed inside it and nutrients solution is fed to them on regular basis. In this way we can conserve medicinal plants of Kashmir UT as this is the simple technique which is just like cultivation of plants in pots instead this polythene bags are used.

A)

B)

Figs2. (A-C) showing how hydroponic bags are prepared for cultivation of medicinal plants Result

A purposive study of medicinal plants was used to select about 50 respondents of Pir Panjal Area. During the survey the detailed information including the botanical name, local name, family, source of raw material, conservation status and traditional knowledge and practices which part of the plant used, mode of dosages) used by people of pir panjal area of Kulgam. A sum of 47 species of Asteraceaea 11, Ranunculaceae 5, Jamiaceae4, Pinaceae 4, Solanaceae 3, Rosaceae3, Brasicaceae 2, Fumariaceae2, Rubiacea2, Broaginaceae 2 Euphorbiaceae 2, Conefiraceae 2 were dominant genus in the pir panjal area and their conservation status was discussed with the traditional healers, Hakeems and gujjar and bakerwalls of that area.

In the recent years the demand of the medical plants has increased considerably at the global level particularly after pandemic in Kashmir region. Our country India in second largest export of raw medicinal plant ot global markets. (lange1997) keep above in the view Kashmir region has put its hands in this trade of medicine of r the wild population of medicinal plants has target which are the main source of first aid treatment in the pir panjal area of Kulgam.

The pir panjal area of Kashmir (UT) were visited regularly for 8-9 months with special emphasis of conservation of medicinal plants with special emphasizes of conservation of medicinal plants during April – oct 2023. Hakeems, occasional practioners and educated persons were under taken and interviewed with them. To avoid macerate identifications, knowledge persons and herbalists were taken to for form how to conserve the medicinal plants wealth in the natural habitat and by ex situ conservation technique. Person observation including range of existent, area of occupancy, exploitation level, plant availability, habitat alter nation. And mainly conservation efforts, plant parts collection technique, threats (pollution, urbanization, lack of awareness deforestation natural firs) were also discussed in the field. Based on the above observation the medicinal plants species were categorized into critically endangered (CR), Endangered (EN), Vulnerable (VU) and Rare ® according to field survey of particular area.

Discussion:

Conservation of medicinal plants aims at sustainable development of environment. It includes measures such a collection, propagation, evaluation, disease identification and eliminating storage and distribution. Conservation of medical plants

can be done by in-situ and ex situ conservation ways. I employed ex situ conservation like floating garden technique and hydroponic because this technique required less material and substratum to grow medicinal plants on a commercial scale and generate employment in Kashmir

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REFERENCES

1. Jammu and Kahmir. Asian J. Plant SCI, 2:680-682 IUCN WHO and WWF, Guide Lines on conservation of medicinal Plants IUCN. Gland, Switzerland, ISBN: 2-8317-0136-8.

2. Ambasta S. P. (Ed.). (1986): The Useful Plants of India. Publication and Information Directorate, C. S. I. R., New Delhi.

3. Batugal, P A, J. Kanniah, S.Y –Lee & J. T. Oliver, 2004 medicinal Plant research in Asia: The Frame work and Project Work Plans.Vol. 1, International Plant Genetic Resources Institute, Regional Office for Asia, Serdang, Selangor, Malaysia, pp:221

4. Chauhan N. S. (1999): Medicinal and Aromatic Plants of Himachal Pradesh. Indus Publishing House, New Delhi.

5. Dhar, U. And P. Kachroo, 1983, Alpine Flora of Kashmir Himalayas. Scientific Publishers, Jodhpur, pp:280

6. Hooker J. D. (1872-1897): The Flora of British India Vol. I-VIII. Lalit Mohan Basu, Allahabad.

7. Joshi V. and Joshi R. P. (2013). Some Plants used in Ayurvedic and Homeopathic Medicine. Journal of Pharmacognosy and Phytochemistry, 2(1):269-275.

8. Khan J. A. (2013): Folk Medicinal uses of Some Medicinal plants Used among the Tribal people of Poonch District of Jammu and Kashmir. PhD Thesis Submitted to Choudhary Charan Singh University Meerut.

9. Khan J. A. and Kumar S. (2012a): Ethnoveterinary value of some plants used against snake bite in Poonch district of Jammu and Kashmir (India. Journal of Plant Development Science, 4(2):111-114.

10. Khan J. A. and Kumar S. (2012b): Ethno medicinal uses of some medicinal plants among the tribal people of Poonch district of Jammu and Kashmir North West Himalaya India.JournalofPlantDevelopmentScience,2:305-310.

11. Khan J. A. and Kumar S. (2012c): Ethnomedicinal uses of some Medicinal plants used against snake bite in Poonch District of Jammu and Kashmir North West Himalaya India. Life scienceLeaflets,10:123-132.

12. Khan J. A. and Paul R. (2017): Folk medicinal plants used on diabetes and blood purification in Poonch district of Jammu and Kashmir North West Himalaya India, Asian Journal of Agriculture and Life Sciences, 2(1):1-5.
13. Khan J. A., Wani T. A., Kumar S. and Ram G. (2012): Ethnomedicinal plants used for Tooth ache in Poonch District of Jammu and Kashmir. Asian. J. Exp. Bio. Sci., 3(2):415-449.
14. Khare C. P. (Ed.). (2007): Indian Medicinal Plants: An Illustrated Dictionary. Springer Verlag Berlin/Hei delberg.
15. Kumar N. (2014a): Survey on Medicinal Plants used in Indian System of Medicine Tehsil Joginder Nagar, District Mandi, H. P., India. International Journal of Environmental Biology, 4(1):82-86.
16. Kumar N. (2014b): Unani Medicinal Plants Used in Gynological Disorders from Tehsil Joginder Nagar, District Mandi, H. P., India. International Journal of Scientific and Research Publications,4(4):1-8.
17. Kumar N. P., India. International Journal of Research in Pharmaceutical and Biosciences, 4(2):15-21.
18. Kumar N. (2014d): Some Medicinal Plants of Tehsil Joginder Nagar, District Mandi, H. P., India. International Journal of Basic and Applied Medical Sciences, 4(1):210-222.
19. Kumar N. (2014e): Some Plants Used in Ayurvedic and Unani Systems of Medicine, Tehsil Joginder Nagar, District Mandi, H. P., India. International Journal of Food, Agriculture and Veterinary Science s,4(1):73-80.
20. Kumar N. (2014f): Seeds of Some Plants Used in Unani System of Medicine from Tehsil Joginder Nagar, District Mandi, H. P., India. International Journal of Geology, Earth and Environmental Sciences, 4(1):211-215.
21. Kumar N. (2014g): Studies on Medicinal Plants used in Ayurveda, Unani and Sidha System of Medicine, available in Tehsil Joginder Nager.ResearchinPharmacy,4(3):1-8.
22. Prajapati N. D., Purohit S. S., Sharma A. K. and Kumar T. (2003): A Handbook of Medicinal Plants. Agrobios Publisher, Jodhpur, India.
23. Prasad L. V. (2002): In: Indian System of Medicine and Homoeopathy Traditional Medicine in Asia. Chaudhury Ranjit Roy, RafeiUton Muchatar., editors. New Delhi: WHO-Regional Office for South East Asia; pp.283-286.
24. Ravishankar B. and Shukla V. J. (2007): Indian System of Medicine: A brief profile. Afr. J. Trad. CAM, 4(3):319-337.
25. Sharma M. J. and Jamwal P. S. (1998): Flora of Upper Lidder Valley of Kashmir Himalaya. Botanical Sciences Division Regional Research Laboratory Jammu, Scientific Publishers India.
26. Wani T. A., Kumar N., Khan J., Shah N. S. and Chandra S. (2016): In, vitro cytotoxic activity of *Skimmia anquetilia* Taylor and Airy Shaw Essential oil on various Human cancer cell lines. International Journal of Research and Pharmacy and Chemistry, 6(1):89-94.

27. Paul, R. and Khan, J. A. (2017) Ethnomedicinal plants used in Kangra district of Himachal Pradesh Western Himalaya. Asian Journal of Agriculture and lifesciences, 2(1) Pp6- 9.

28. WHO, 202 Worth Health Organization Traditional Medicinal Strategy 2002-2005, WHO, Geneva pp:11