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Phytogeographical Distribution of *Acacia nilotica* of Churu District, Rajasthan

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Abstract: ***As we know that the area under district i.e. Churu district belongs to the State of Rajasthan, the State of Rajasthan is located in north-western India . The district of Churu lies in the north-east of Rajasthan State at an altitude of 286.207 metres above the mean sea level.***

1. Introduction

From geographical spread point of view has extension from 27°24' to 29° north latitudes and 73°40' to 75°41' east longitudes. It is bounded by Hanumangarh in north, Bikaner in west, Nagaur in south and Sikar, Jhunjhunu districts and boundaries of Haryana State in the east. It covers six tehsils namely : Taranagar, Rajgarh, Churu, Sardarshahr, Ratangarh and Sujangarh. (Figure1-1)

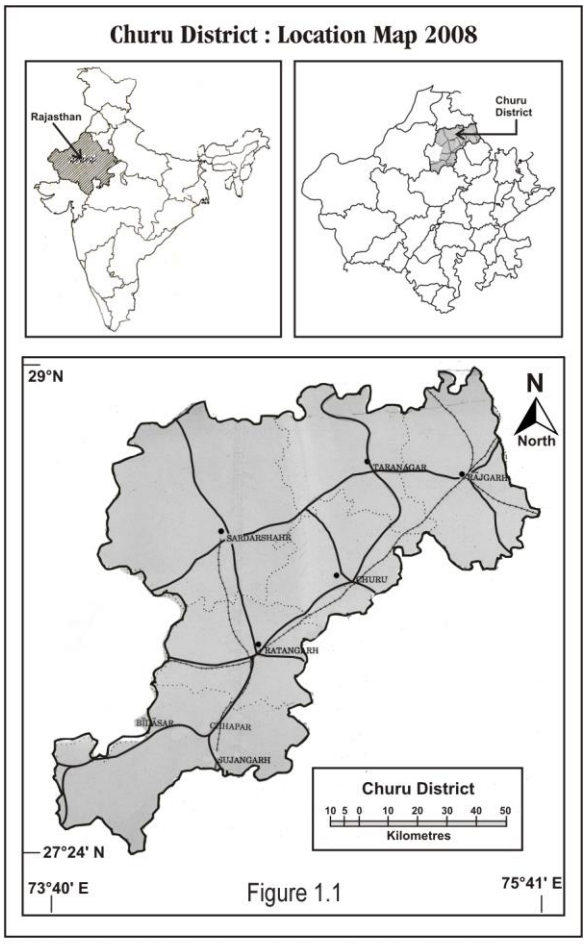


Figure 1.1

Source : Based on Survey of India Map with The Permission of the Surveyor General of India

2. Review Of Literature

The area under research work was studied by following botanists and time to time viz; first of all the Sekhawati region was touched from vegetational study point of view by Mulay and Ratnam (1950), Bikaner and pilani neighbourhood areas by joshi (1956 and 1958), vegetation of chirawa by Nair (1956), again Nair and Joshi for Pilani and neighbourhood areas (1957), vegetation of harsh nath in aravalli's hills was studied by Nair and Nathawat (1957), vegetation of Jhunjhunu, Manderella and neighbourhood by Nair (1961), vegetation of ajit sagar dam by Nair and Kanodia (1959); Nair, Kandodia and Thomas (1961) studied the vegetation of Khetri town and neghbourhood areas and vegetation of Lohargal and it's neighbourhood areas of Sikar district by Nair and Malhotra (1961). After the work of Nair and Malhotra (1961), i.e. four decades ago. the area was again left for any sort of further research work in the field of applied Botany.

A significant, very authentic taxonomic work was contributed in the field of botany by Bhandari with the publcation of a book Flora of the Indian desert (1990). From the field of applied phytogeography point of view. Charan gave a valuable contribution with a publication of a book on Plant Geography (1992). Bhattacharjee (2000) gave a very valuable autheontic contribution through the publication of a book on Handbook of Medicinal Plants in which he presented the medicinal plants of Indian Sub-continental back ground with their coloured photographs also and Sharma (2007) gave a very valuable autheontic contribution through the publication of a book on Medical Plant Geography.

3. Objectives

As the nature of the research work, it becomes the prime most duty of a phytogeographer to trace out to identify the plants and than their geographic interpretation from their origin point of view, their cartographic presentation from spatial distribution point of view and lastly also to prepare their layout planning

map for on going plantation programme at least for the applied plant species for the area under study. The study will covers also the change detection aspect in the green coverage of the area under study.

4. Hypothesis

Naturally, the present study will cover the present position of phytogeographic pattern of spatial distribution of applied plant species, so a phytogeographer can propose their allocation of sites of coinciding habitats from their conservation point of view for the welfare of future generation of the area under study.

we can conserve those plant species which have their appled values for the welfare of human beings inhabiting in that particular area or the area under study. for this purpose, a phytogeographer has to give an account of the layout maps of that area under study which covers the allocation of the sites with favourable habitats according the nature of the existing applied plant species for the area under investigation.

5. Methodology

Applied categorization of those listed applied plant spices will be carried out into their main applied categories, viz; plants for fuel purpose, plants for fodder purpose, plant species for medicinal use, plants for edible purpose, and plant species for commercial values.

To illustrate the frequency of distribution of particular plant species the prescribed method of Raunkier's will be exercised to show whether the particular plant species is rare, frequent, common or abundant for the area under investigation. The nature of habitats and the eco-climatic conditions will be dealt as a part and portion of the study to support the phyto-climatic account of the research problem for the area under study.

From phytogeographic study point of view, a cartographic interpretation of the multi-purpose plant species will be dealt at two levels i.e. at macro-level and at microlevel, basically it may be dealt phytogeographic sense.

PHYTO-GEOGRAPHY OF ACACIA NILOTICA

1. Name of the Specimen :

ACACIA NILOTICA

2. Local Name :

Desi Babool, Desi Kikar, Bawalio

3. Botanical Name :

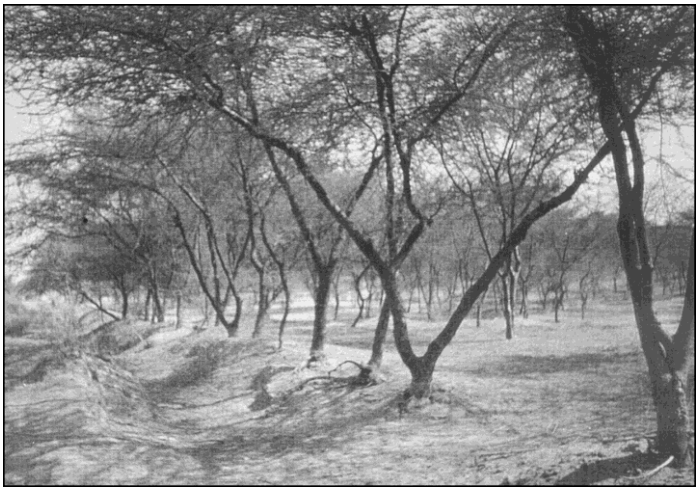
Acacia nilotica

4. Family :

Mimosaceae

5. Morphology :

The plant species belong to the family Mimosaceae. A moderate - sized, evergreen three with slender, terete, pubescent branches when young; bark on trunk fissured, grey or brown leaves, 2 - pinnate, 5-10 cm. long (Plate : 1.1).



6. Flowering and Fruiting :

During May to October months flowering occurs where as in winter from December to April months fruiting period.

7. Vegetation Group:

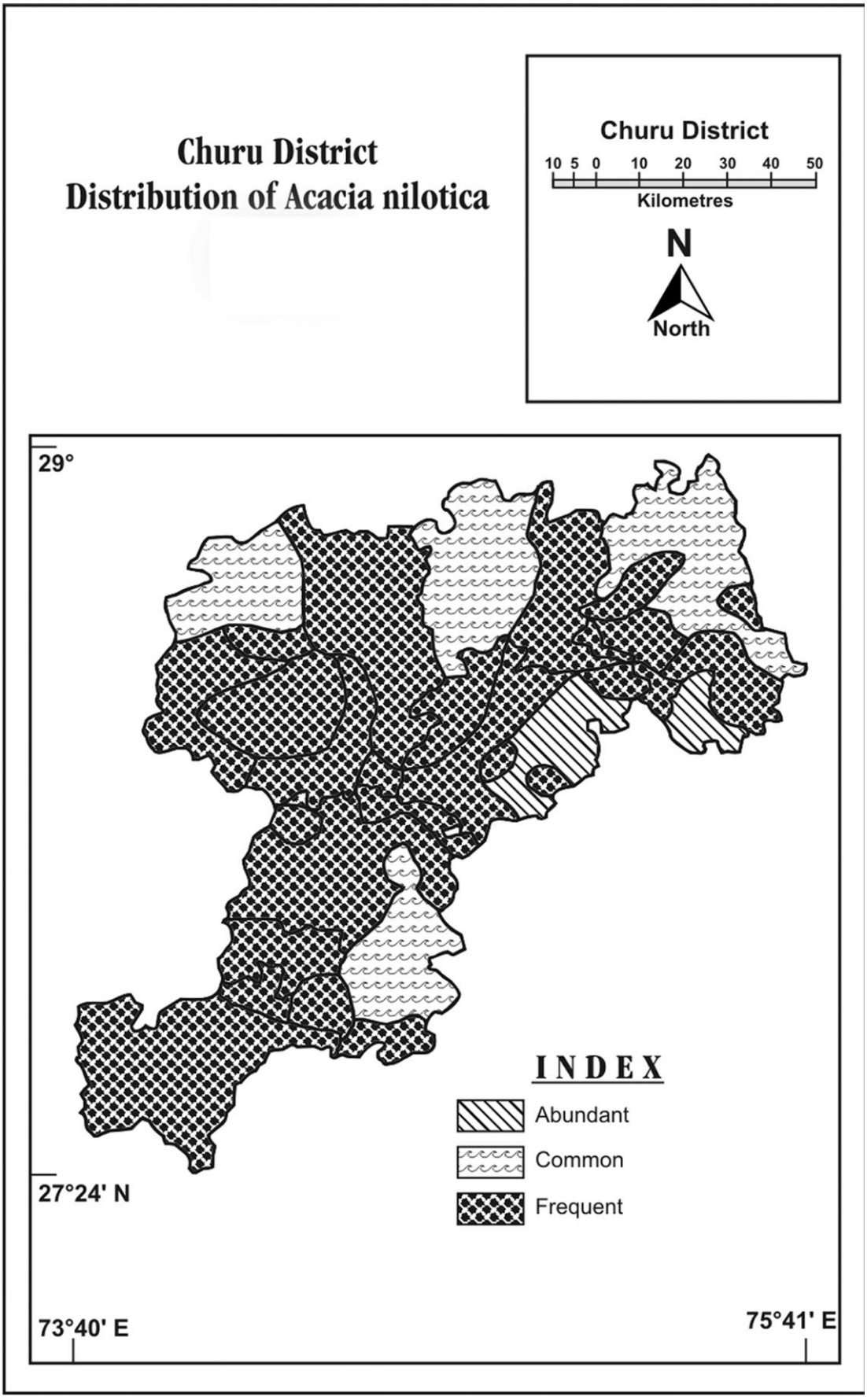
It belongs to the vegetation group of tree. From life-forms point of view the tree falls under 'micro-phanerophytes; and the leaves which are compound and bipinnate. From leaf-classes point of, view the plant falls under class of 'leptophylls'. Xerophytic-categorisation revealed that the tree by nature comes under the category of spiny and thorny', thus the stipules modified in to spines which work here as the organs of defence and reduce the rate of transpiration.

8. Eco-climatic Conditions and Habitat :

Observations based on selected study sites scattered throughout the area under study resulted that its distribution unequal by covering depend habitats - pure gravel, sandy plans, old Alluvial plains and aquatic habitats also in foot hill areas. It is mostly occur in semi-arid climatic conditions of the area under study. Mostly the distribution of trees generally prefer the rainfall areas in between 400 mm to 600 mm.

9. Applied Uses:

It is a multipurpose tree species and there fore out of five it covers three categories of applied categories of application or rather to say uses which are : fuel, fodder, and commercial.



Source : Forest Survey of India Dehradun, Forest Deptt. Govt. of Rajasthan, Jaipur & Field Survey

A. Fuel Purpose:

It is use as one the best fuel wood and its quality as fuel is of superior category thats why it burns gently so its durability as a fuel is medium.

B. Fodder Purpose:

All though its leaves are preferred by the domestic animals at very younger stage when there is no other fodder species on the surface or ground thus it is occasionally used by the villagers after sepration of the spiny and thorny by leaves at very younger stage, where as its pods are generally used by the sheep and goats, thus it has edible sense also.

C. Commercial Purpose:

Its wood is used for agricultural implements, bark is used as a source of fibre and provide tannig material, stem is a source of a soluble gum locally called as amrad, amka - watti, brown barbery gum, and the tree as a whole with its main trunk and branches its sale at local level as an economic value. Its timber is also used for making the doors, windows and furniture.

10. Phyto-geographical Distribution:

At global perspective it has phytogeographic distribution by covering Pakistan, Rajasthan, Punjab, Haryana, Delhi, and Sourashtra in India.

Figure : 1.1 shows a phytogeographic pattern of distribution of the tree for the area under study under four distributional categories. Although it has wide range of its distribution except higher steep stops and tops of the hilly area - foot hill areas are one of the most favourable habitat its distribution. Hence, it has Abundant distribution in eastern portion of the district . It has Frequent occurrence where pare vegetational association is found like Salvadora oleoides of Churu and Rajgarh. Wherever pure vegetational association of Kair patch is found it has frequent occurrence. It shows common occurrence in Sujangarh, Sardarshahr, Taranagar and Rajgarh It has frequent occurrence more or less throughout the area under study due to it's polyclimax nature. Rarely it may not be seen in any area of Churu district.

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