

Phytogeographical Distribution of *Anogeissus pendula* in Bhilwara District, Rajasthan

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Abstract: *Anogeissus pendula* exhibits a significant phytogeographical presence in Bhilwara District, thriving mainly in dry deciduous forests and rocky hill ranges characteristic of southern Rajasthan. Its distribution is affected by local climate, soil type, and anthropogenic influences such as grazing and deforestation. Field surveys reveal that *A. pendula* is often the most dominant species in its habitat, forming large patches and playing a crucial ecological role in the stability of forest ecosystems

Keywords: *Anogeissus pendula*, Phytogeographical Distribution, Bhilwara District, Dry Deciduous Forest, Dominant Species. Ecology

1. ANOGEISSUS PENDULA :

Local name -Dhonk, Dhonkdo

1.1. Vegetation Characteristics –

It is a medium sized gregarious tree, branches are pendulous, softly ad pressed pubescent. As far as leaf class is concerned it belongs to Nanophylls. Xerophytic categorization points of view the tree false under Trichomes covering category. The tree species belongs to the family Combretaceae. Its flowering period is in September month which is followed by fruiting period during October and November. From life forms point of view the tree false under Micro phanerophytes.

1.2. Ecoclimatic Conditions and Habitat

The tree from habitat coincidences point of view has monoclinal by nature. The observations over the survey spots as scattered in different habitats of the area under study revealed that the nature of distribution of the tree is some what unique or different. Basically the tree prefers its distribution over the hilly, stony and rocky patches. Although it has occurrence over hilly patches but within hilly habitat it shows more common frequency over the slopes of the hills rather than the foot hill areas of the hilly patches even at the hill top, it shows lesser frequency rather than the hill slopes, generally the tree has no or rare distribution in other types of habitat due to its monoclinal tendency of plant succession. Thus, open dry hilly habitat is the most suitable habitat for this community. As far as the range of rainfall distribution is in between 5 - 150cm. Besides its altitude is another essential factor in its distribution, so generally the community has occurrence on the areas having the height of 300 - 700 meter MSL (mean sea level).

1.3. Applied Categorisation –

It is also a dominant multipurpose plant species of the area under study. Out of 5 applied categories it has three viz; Fuel, Fodder and commercial.

1. Fuel -

Its wood is considered to with a best quality from fuel point of view; its wood durability for burning purpose is appreciable so, it has more value in this sense.

2. Fodder–

Although its leaves are not so much preferred by the domestic animals in presence of other fodder species but during famine period its leaves are used as fodder after drying and generally used to mix with “Pala” collation of *Zizyphus nummularia*.

3. Commercial–

The tree as a whole is valuable due to its main trunk and branches from which the cooking coal is prepared. The coal is used in many factories for eating and burning purpose, its coal is sale in the market which is costly, and thus it has great economic value. In this way the tree is very valuable from fuel aspect, generally the stalls of Rajasthan and Haryana possess its storage - thus it has commercial importance. Its wood in coal stage is more preferred rather than its wood stage, which is preferred from burning for domestic purpose. The wood is extremely hard that for useful, where hard wood is used in furniture making. The leaves are used in dying purpose, producing as a dark green color.

1.4. Phytogeographical Distribution –

A. Macro distribution -

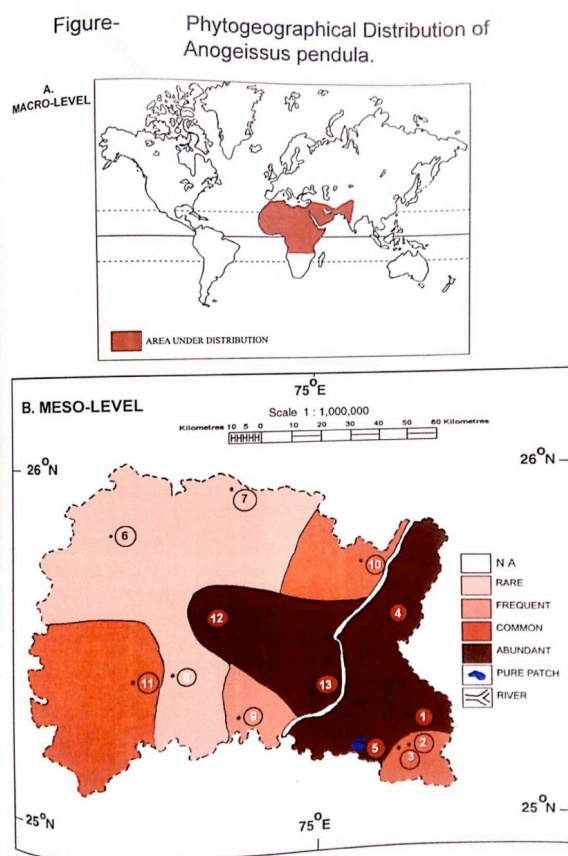
It has not so commonly spread tree species in Rajasthan state. In other states of India it has occurrence in Madhya Pradesh, Gujarat, and Delhi. Out of India it has west wide world distribution via Pakistan, Iran, Iraq, Saudi Arabia, northern and middle parts of Africa continental, as shown in **Figure-A**. It has no more spatial distribution at global level.

B. Meso distribution–

As shown in **Figure-B**. That its spatial distribution in Bhilwara district is unequal and it shows Phytogeographical distribution

more or less according its favorable habitat. Although it has through distribution in Bhilwara district more or less in all tehsils of the district. Its density is more observed on hilly areas of the district, the tree species is observed with two pure patches which are North West of Menal locality in Mandalgarh tehsil. These pure patches have tree density of more than 400 trees per sq km. area. About 40% area of the district is covered by abundant category of Phytogeographical distribution.

The tree species with abundant distribution has spread from north east to south east by including Nathun locality of Jahazpur tehsil, Beejoliya in Beejoliya tehsil and Menal in Mandalgarh tehsil. This whole part lies in the eastern side of main Banas River. This abundant patch further continues in west ward side of main Banas River in including part and portion of Banera tehsil including the Banera locality up to the Bigod locality of Mandalgarh tehsil. It is a big patch of abundant distribution extent west wards from middle part of main Banas river comparatively the density of trees is found more in eastern side of main Banas river where hilly areas are more rather than western side, respectively from common phytogeogaphic distribution point of view, it is observed that about 30% area is covered under this category of distribution the common occurrence is observed at three areas of the district.



The smallest common patch is found in south eastern part of Beejoliya tehsil by covering the localities of Ganeshpura and Govindpura. It covers 5% area of the district. The second common patch is located in northern part of the western abundant patch. It includes Pander locality of Jahazpur tehsil

and it covers 10% area of the Bhilwara district it also includes the western part of Shahpura tehsil. The third patch of common occurrence is located in south west part of Bhilwara district; it covers about 15% area of the district by covering Bagor locality of mandal tehsil and most of the parts of Raipur and Sahara tehsil. The tree has frequent occurrence in mid south part of the district which is located in south-eastern Bhilwara tehsil. The frequent patch covers 6% area of the district by including Hameergarh locality in Bhilwara tehsil.

The rare patch covers 6% area of the district. The tree shows rare distribution in the district which covers, 24% area by including more or less two tehsils Hurda and Asind by covering the locality of Asind and Gulabpura. The rare distribution further extends south wards up to western part of Bhilwara tehsil via Mandal tehsil including the Suras locality.

1.5. Conclusion

The study concludes that *Anogeissus pendula* is a key component of the flora in Bhilwara District, Rajasthan, especially within dry deciduous and rocky forest zones. Its dominance points to adaptability and ecological importance in combating soil erosion and supporting biodiversity. Effective conservation and sustainable management strategies are necessary to preserve this species in the face of increasing anthropogenic pressure and environmental change.

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