

# Trees Outside Forest near Important Tourist Spots in Rajgarh, Madhya Pradesh

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**Abstract:** Trees outside forests (TOF) in India, mainly growing on private land are the main source of wood in the country for industry and domestic wood fuel. These trees help in carbon sequestration and decrease adverse impact of green house gas emission and the consequent climate change. History has been witness that civilizations are born and develop only close to natural resources, particularly rivers and forests. The balance in nature is maintained by protecting these very resources.

The present study was undertaken to assess actual figure of trees outside forests near tourist spots in Rajgarh district of Madhya Pradesh. Different trees outside forest i.e. *Mangifera indica*, *Acacia nilotica*, *Syzygium cumini*, *Azadirachta indica*, *Aegle marmelos*, *Prosopis cineraria*, *Cascabela thevetia*, *Ficus religiosa* and *Ficus benghalensis* etc. were found to be planted at various tourist spots. These trees provide fresh oxygen and absorb carbon dioxide and decrease CO<sub>2</sub> of the area.

**Keywords:** Trees Outside Forest, Plant species, Environment, Genetic resources, carbon sequestration.

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## 1. INTRODUCTION

The state of Madhya Pradesh is known for its physical and natural diversity. Because of the number of experiments that have been tried out in this State for testing processes of development and social change, it has also been called a Laboratory for Development. The disputes related to revenue and forest land of the State are now resurfacing with new dimensions, and it is a matter of regret that instead of moving towards a solution, the disputes seem to be caught in never ending twists and turns. Being a disputed matter, it cannot even be ignored. The issue of forest generates a triangular conflict between power, money and community strength. History has been witness that civilizations are born and develop only close to natural resources, particularly rivers and forests. The balance in nature is maintained by protecting these very resources. However, in the present scenario, the definition of development being followed by the State is only creating new problems of ever increasing social inequality. Therefore it becomes a matter of prime importance to make concerted and wide-ranging efforts to find a solution to this problem having direct relevance to forests.

Forests play an important role in the global carbon cycle by removing more carbon dioxide from the atmosphere than they emit (Pan et al. 2011). They also comprise about 90 % of earth's terrestrial plant biomass (Pan et al. 2013) and account for 48.5 % of the terrestrial gross primary production (Beer et al. 2010). Trees outside forests (TOFs) are an important natural resource that contributes substantially to national biomass and carbon stocks and to the livelihood of people in many regions. Over the last decades, decision makers have become increasingly aware of the importance of TOF, and as a consequence, this tree resource is nowadays often considered in forest monitoring systems (Schnell et al. 2015). Trees outside forests (TOF) in India, mainly growing on private land, are the main source of wood in the country for industry and domestic wood fuel. The current growing stock is about 1.616 billion m<sup>3</sup>. The development and assessment of these resources over the years are shown.

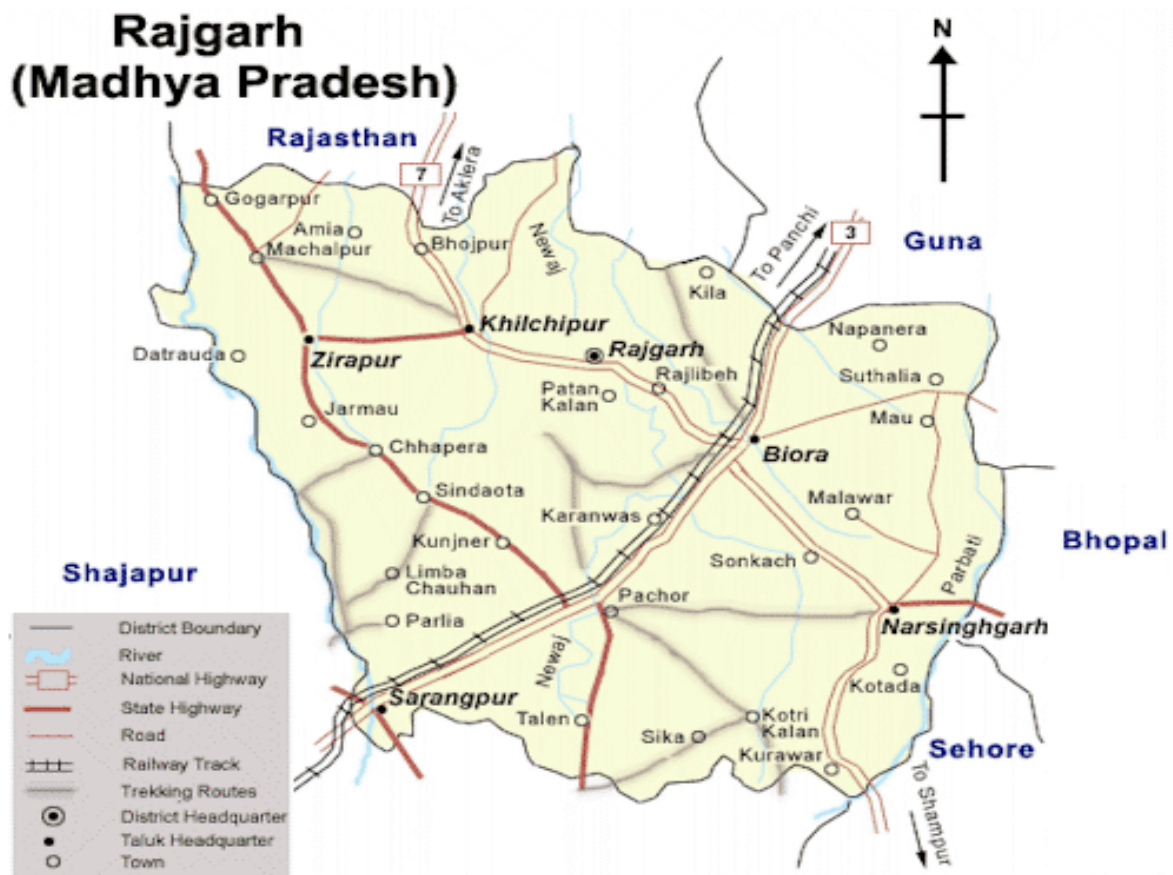
Rajgarh district extends between the parallels of North latitudes 23° 27' 12" and 24° 17' 20" and between the meridians of east longitudes 76° 11' 15" and 77° 14'. It has a quadrangular shape with the northern and western sides longer than the

southern and eastern sides, respectively. The district is well connected by road NH-3, NH-7 and railway network. The present study was undertaken to assess actual figure of trees outside forests near tourist spots in Rajgarh district of Madhya Pradesh.

## 2. MATERIALS AND METHODS

The tourist spots were visited with vehicle and a survey was conducted to collect the information regarding availability of TOF near tourist spots in Rajgarh district. Different parameters as local name of tree, botanical name of tree, use of tree at local level and category of tree were recorded during the study. A total of 7 tourist places namely Narsinghgarh town, Shyamji Sanka temple Narsinghgarh, Jalpamata temple, Dargah Shareif, Chidikho Narsinghgarh, Biora Mandu Narsinghgarh, and Khoiry Mahadev temple were visited during the study.

## 3. RESULTS AND DISCUSSION



### i. Narsinghgarh Town

The Narsinghgarh town is almost 300 years aged having been founded in 1681 by Dewan Parasram. The gorgeous pond in the township in which is reflected the old fort and palace still bears the name of the founder. The town is 83 Kms. from the Bhopal and is reached by a good road. The site of the town is the place of temple of Shiva - then known as Topila Mahadeo, for the persons who lived there manufactured topkis or basket. From the top of the Mahadeo temple the pleasant panorama is very appealing, with the lakes of full limpid water, with the land carpeted in lush green grass, with the small streams racing down the slopes of the hills and hills themselves covered with good vegetation. A lot of trees were found to be planted there as *Mangifera indica*, *Acacia nilotica*, *Syzygium cumini*, *Azadirachta indica*, *Aegle marmelos*, *Prosopis cineraria*, *Cascabela thevetia*, *Ficus religiosa* and *Ficus benghalensis*. The vegetation makes the spot very beautiful.

### ii. Shyamji Sanka Temple-Narsinghgarh

Sanka is a small village situated near the river Parvati and is about 5Km from Kotra, once its tehsil headquarter of Rajgarh State. Each year in the month of magh a mela is held here and is known as Shyamji-ka-mela. It has beautiful paintings on

the wall reflecting the Malwi and Rajashthani effects, the beautiful and well carved stones & bricks were used to construct the temple. Some of the trees were found to be present there. Among trees outside forest at Shyamji Sanka Temple-Narsingharh *Acacia nilotica*, *Aegle marmelos*, *Prosopis cineraria*, *Cascabela thevetia*, *Ficus religiosa*, *Butea monosperma* and *Tectona grandis* were recorded.

### iii. Jalpamata Temple

A beautiful temple is just 4 Kms. from Rajgarh. It is on the high hill & you can have a picturesque view of the town from the top. It is covered with dense forest having different varieties of plants. The devotees come from different parts in the navratri season. Various tree species were found to be planted at this spot. The trees were *Acacia nilotica*, *Ziziphus mauritiana*, *Aegle marmelos*, *Dalbergia sissoo*, *Butea monosperma* and *Emblia officinalis* etc.

### iv. Dargah Shareif

People of all communities from all over the India and some of other countries come in to the URS for spiritual gain at this spot. Different tree species were found to be planted around the spot. *Acacia nilotica*, *Aegle marmelos*, *Prosopis cineraria*, *Cascabela thevetia*, *Ficus religiosa*, *Butea monosperma*, *Syzygium cumini*, *Bombax ceiba*, *Dalbergia sissoo*, *Mangifera indica* and *Tectona grandis* etc. are main trees to be found there.

### v. Chidikho-Narsingharh

Wild Life Sanctuary of Narsingharh is among one of the 35 sanctuaries of M.P. established in 1978 under Forest Division Rajgarh Social Forestry. Sanctuary is situated on N.H.12 (Jabalpur-Jaipur) 70 Kms from Bhopal, 221 Kms from Indore, 35 Kms from Biaora and 278 Kms from Kota. (Latitude: 23<sup>0</sup>35' to 23<sup>0</sup>40' North, Longitude: 77<sup>0</sup>2' to 77<sup>0</sup>10' East, Height from Sea Level: 462.07 to 576.08 meter). It is covered 57.197 Sq. Km. (Reserve Forest) area. Due to its natural beauty it is one of the most beautiful place of Rajgarh district, so it is also known as "Kashmir of Malwa" region.

In the center of this sanctuary "Chidikho Lake" is situated which is one of the attraction among the tourists. This sanctuary is built by the rulers of the state and in the ancient time this sanctuary is used for hunting purpose by the rulers. Migratory birds from different places reach here in this sanctuary. The lake situated here is having special appearance due to which the local people named this lake as "Chidikho Lake".

Many tree species were found to be planted around the spot. *Mangifera indica*, *Syzygium cumini*, *Ziziphus mauritiana*, *Azadirachta indica*, *Dalbergia sissoo*, *Tectona grandis*, *Butea monosperma*, *Bombax ceiba*, *Emblia officinalis*, *Ficus racemosa*, *Ficus religiosa*, *Psidium guajava* and *Acacia nilotica* etc. trees (Table 1) are contributing towards beauties to the spot. Apart from these tree species various herbs and shrubs were also found there.

### vi. Biaora Mandu-Narsingharh

The village is said to be over 1000 years old having been named after a Kulmi Patel. The muslim troops used to be stationed here and legend has it, that it was from here that they saw the five sola Khamba at Bihar (Narsingharh). It is situated on the bank of Kali Sindh River and 10Km from the Sarangpur tehsil. Different tree species were found to be planted around the spot. *Acacia nilotica*, *Ficus religiosa*, *Butea monosperma*, *Syzygium cumini*, *Bombax ceiba*, *Dalbergia sissoo*, *Mangifera indica* and *Tectona grandis* etc. are main trees to be found there.

### vii. Khoiry Mahadev Temple

A beautiful temple of Khoiry Mahadev is just 1 Km from Rajgarh. It is one of the favorite picnic spot of the Rajgarh. Among tree species *Acacia nilotica*, *Aegle marmelos*, *Prosopis cineraria*, *Cascabela thevetia*, *Ficus religiosa*, *Butea monosperma* and *Tectona grandis* were recorded at this spot.

Trees outside the forest are increasingly recognized by policy-makers, planners and managers as an essential component of sustainable development. Advances are needed in practical approaches to the use of knowledge to assess the true contribution of TOF resources to economic needs, social demand and ecosystem maintenance. Trees found at different tourist spots in Rajgarh not only provide socioeconomic development but also have a special role in the ethos of people of India.

**Table1: Trees outside forest found at different tourist spots in Rajgarh**

S.	Scientific name	Family	Common name
1	<i>Acacia nilotica</i>	Fabaceae	Babool
2	<i>Mangifera indica</i>	Anacardiaceae	Mango
3	<i>Syzygium cumini</i>	Myrtaceae	Jamun
4	<i>Ziziphus mauritiana</i>	Rhamnaceae	Ber
5	<i>Azadirachta indica</i>	Meliaceae	Neem
6	<i>Artocarpus heterophyllus</i>	Moraceae	Jackfruit (Kathal)
7	<i>Aegle marmelos</i>	Rutaceae	Bel
8	<i>Dalbergia sissoo</i>	Fabaceae	Shisham
9	<i>Tectona grandis</i>	Lamiaceae	Sagaun
10	<i>Butea monosperma</i>	Fabaceae	Palash
11	<i>Bombax ceiba</i>	Malvaceae	Semal
12	<i>Prosopis cineraria</i>	Fabaceae	Shami
13	<i>Cascabela thevetia</i>	Apocynaceae	Kaner
14	<i>Emblica officinalis</i>	Phyllanthaceae	Aonla
15	<i>Ficus racemosa</i>	Moraceae	Gular
16	<i>Ficus religiosa</i>	Moraceae	Pipal
17	<i>Ficus benghalensis</i>	Moraceae	Bargad
18	<i>Psidium guajava</i>	Myrtaceae	Amrood

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