



## WOODS USED FOR MUSICAL INSTRUMENTS FOUND IN THE REGION OF SIKAR DISTRICT

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### ABSTRACT

During ethnobotanical study of Sikar district (Rajasthan), observations were made on the timbers used by the tribals for making musical instruments. The district of Sikar is located on  $74.44^{\circ}$  –  $75.25^{\circ}$  E and  $27.21^{\circ}$  –  $28.12^{\circ}$  N, longitudes and latitudes respectively. Most of the area comes under arid and semi-arid climate. Music and dancing are important part of Meena and Garasia tribals inhabiting region of Sikar district. These tribals make different musical instruments such as Bansuri (Flute), Dholak (Tabor or Tom-tom), Dhol (Drum), Ghunghroo (Ankle bell), Papiya (Whistle), Poongi (Been) and Sarangi (Violin) using 18 tree species.

**Key Words:** Tribals, Sikar district, timber, musical instruments.

### INTRODUCTION

Musical instruments are constructed and used world wide for joy, happiness, festivals, celebrations, expression of sentiments etc. From ancient times audio and beat have been an intricate part of human day to day life, and it does not depend on the region, religion, caste and culture. In 1871 Darwin wrote “It appears probable that the progenitors of man, either the males or the females or both sexes, before acquiring the power of expressing their mutual love in articulate language, endeavoured to charm each other with musical notes and rhythm. ....”

Recently vast research has been done on material sciences, despite this; wood is all time preferred material for the construction of musical instruments. If we compare materials such as plastic and metal with wood, it has very distinguishing features such as light weight, intermediate quality factor (Yoshikawa and Waltham 2014) and more over acoustic properties such as the speed of sound, the characteristic impedance, the sound radiation coefficient and the loss coefficient (Wegst 2006).

About 35,000 years ago, when the oldest surviving cave paintings and sculptures were made in the Geibenlosterle cave in south western part of Germany, flutes were played (Conard 2004). The oldest surviving musical instruments discovered by the scientists are made of bone and ivory, because organic materials decay more quickly than their mineralized forms (Wegst 2006).

Von Hornbostel and Sachs (1914) grouped all the present and past musical instruments into five categories viz;

1. Idiophones – instruments that make sound by oscillating themselves, without the use of membranes or chains (Ex. Xylophones).

2. Membranophones – tools that uses a extended membrane to produce the sound (Ex. drums).
3. Chordophones – instruments that rely on a stretched string (Ex. Violins, guitars and pianos).
4. Aerophones – instruments that rely on a oscillating wind pillars for sound creation (Ex. Flutes, clatinets and didgeridoos).
5. Electrophones – tools that create sound by electronic means (Ex. Keyboard synthesizers).

Other than wood, a large number of natural materials have been used for the construction of musical instruments such as bone, skin, hide, bladder, horn, gourds, calabashes, sea shells and armadillo shells. For strings and in bows, green fibres, silk, gut, and animal hairs are used (Wegst 2008).

### MATERIALS & METHODS

In the present study a survey was conducted among the tribals of Sikar district which included the use of different musical instruments by the people, the wood (tree species) which was used for the construction of these instruments and its availability in the region.

### MUSICAL INSTRUMENTS

The musical instruments which are manufactured and used by the people and became characteristically unanimous with the tribals of Sikar district are listed below:

1. **Bansuri (Flute):** Also called as flute is a aerophone. In this instrument as the air passes through the wooden column it produces vibrations; these vibrations are heard in the form of music. The audible range is high and can be heard clearly at far distance. The flute is prepared with 1-2 feet long hollow bamboo (*Bambusa sps.*) stick.

2. **Dholak (Tabor or Tom-tom):** Dholak comes under the class Membranophone. It is a barrel shaped hollow wooden cylinder over which leather parchment is tightly stretched. *Ailanthus excelsa*, *Azadirachta indica*, *Butea monosperma* *Ficus benghalensis* or *Mangifera indica* are the common tree species whose wood is commonly used for preparation of Dholak. The parchment membrane is held tight with the help of cords and metal rings. Wooden blocks are used to alter the tension on the cords.
3. **Dhol (Drum):** Dhol is also a membranophone like dholak but is bigger in size and the parchment membrane used is also comparatively thick. The wood commonly used for its construction is of *Mangifera indica*, *Azadirachta indica* or *Ficus benghalensis*. Dhol is played by a pair of sticks like a drum which are made of *Zizyphus mauritiana* or *Dichrostachys cinerea*.
4. **Ghungroo (Ankle bell):** The dried fruits of *Acacia nilotica* subsp. *indica* are used as Ghungroo. Basically Ghungroo are worn on the feet during dance. As the feet moves during dance the Ghungroo creates sound in the same rhythm.
5. **Papiya (Whistle):** The basic mechanism behind Papiya is that the tree leaves are folded in such a way that when air is blown between the folds it produces whistling sound. The leaves of *Ficus racemosa*, *Ficus benghalensis*, *Phoenix sylvestris*, *Holoptelia integrifolia*, *Ailanthus excelsa* and *Argemone maxicana* are used for making Papiya.
6. **Poongi (Been):** It is also known as 'Been'. For its construction the dry fruit of *Lagenaria siceraria* is joined to a small hollow bamboo (*Bambusa sps.*) pipe at the lower portion. Two holes are provided on the lower portion of Bamboo as in a flute. The upper portion of the fruit is formed into a blow pipe.
7. **Ravanhattha:** The Bamboo (*Bambusa sps.*) forms the main body of the instrument. Coconut shell is covered with parchment and tied which forms the belly of the instrument. It has 3 pegs. Coconut shell chamber becomes the resonator. The bamboo is fixed perpendicular to it. The strings are tied to the pegs directly coming from bridge holes. When the strings are plucked the sound moves from bridge to the parchment and from then to hollow belly causing the reverberations.
8. **Sarangi (Violin):** It consists of a single wood block of *Grewia tenax* or *Dalbergia sissoo*. It has a head and pegs carved out from the wood of *Tectona grandis*. It comes under the class Chordophones as it relies on a stretched string.

#### Tree species used for making musical instruments

Following are the main tree species found in the study area of Sikar district which are used for making tribal musical instruments (Table 1).

**Table 1.** Tree species used for making musical instruments

S.No.	Name of the plant	Part used	Musical Instruments
1.	<i>Acacia leucophloea</i>	Timber	Dhol
2.	<i>Acacia nilotica</i> subsp. <i>indica</i>	Fruit	Ghungroo
3.	<i>Ailanthus excelsa</i>	Timber	Dholak, Chang
4.	<i>Argemone maxicana</i>	Leaves and Petals	Papiya
5.	<i>Azadirachta indica</i>	Timber	Dholak, Dhol
6.	<i>Bambusa sps.</i>	Stem/ Stick	Bansuri, Ravanhattha, Poongi
7.	<i>Butea monosperma</i>	Timber, leaves	Dholak, Papiya
8.	<i>Cassia tora</i>	Leaves	Papiya
9.	<i>Dalbergia sissoo</i>	Timber	Dhol, Sarangi
10.	<i>Dichrostachys cinerea</i>	Timber	Dhol
11.	<i>Ficus benghalensis</i>	Timber, Leaves	Dhol, Dholak, Papiya
12.	<i>Ficus racemosa</i>	Leaves	Papiya
13.	<i>Grewia tenax</i>	Timber	Sarangi
14.	<i>Holoptelia integrifolia</i>	Leaves	Papiya
15.	<i>Lagenaria siceraria</i>	Dry fruit	Poongi
16.	<i>Mangifera indica</i>	Timber	Dhol, Dholak
17.	<i>Phoenix sylvestris</i>	Leaves	Papiya
18.	<i>Zizyphus mauritiana</i>	Timber	Dhol Sticks

## CONCLUSION

Since the ancient times tribals are using musical instruments and this race has been a source of inspiration. The aim of this contribution was to recognize the tree species found in the Sikar district of Rajasthan which are used for the construction of local musical instruments used by the tribals. This also provided a glimpse of their cultural life and mode of entertainment.

The simultaneous optimization of the shape and material at a given time and in a given culture results in the construction of best musical instruments known to date. Despite of the modern and scientific technologies, we still rely on the skills of local instrument makers from one generation to another as they have experience, art and knowledge.

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