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ETHNOMUSICOLOGICAL STUDY OF A TRIBAL MUSICAL INSTRUMENT: MANDAR MAKING IN JHARKHAND

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Abstract: Classifying musical instrument into various categories has been the main preoccupation of the organological studies for quite many years. It is in recent years the field has been viewed from various perspectives connecting it to ethnomusicology. Just as any other social phenomenon, musical instruments, and the process of making them are integral part of socio-cultural melee of tribal society. This article focusses on Mandar, a most common percussion instrument found among the tribal communities in Jharkhand. It delves deep into the ingenuity and indigenous knowledge of the community that makes mandar. While doing so, it elucidates socio-cultural context of the community that makes Mandar. The exploratory research is based on primary data collected over a period; the paper assumes importance in absence of such research on tribal musical instruments.

Keywords: Mandar, Tribal musical Instrument, ethnomusicology, Organology of tribal musical instrument and indigenous knowledge.

Introduction

This article focusses on Mandar, a bi-facial percussion instrument ubiquitous among the Oraons, one of the indigenous communities in Chhotanagpur plateau that covers present day States of Chhattisgarh, Orissa, and Jharkhand. The Santals call it Tumdak and the Mundas, Dumang. It is popularly known as 'Mandal' among both tribal and non-tribal communities of Eastern and North-Eastern India. Though a word like Mandar occurs in the melodic composition of Rohit Pandey in the raga Bhupali; the first sentence of which runs as follows: *Jhanjh Mandar va Baje Ri Mora*[1] (My Jhanjh and Mandar are Sounding). The mandari or mandar mentioned in the lyrics could be some instruments like mandar itself . The Ghasis, a traditional musician community, handcraft the entire Mandar which is the focus of this article from the ethnomusical perspective. The orientation of organology as a field that studies musical instruments has been mainly towards classification of musical instruments in various cultures. Bharata Muni mentions several musical instruments in the Natyashastra (200BCE), however he does not deal with how the instruments are made. The first major documented work on organology is Sebastian Virdung's *Musica getuscht und ausgezogen* (1511), a musical treaty of the musical instruments. Among all else, it provides rudimentary instruction on playing three instruments: the clavichord, the lute, and the recorder. 'Virdung's illustrations therefore reflect a central interest on his part in depicting not so much the instruments themselves as the categories into which they are to be grouped'

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(Beth 1993, 23). The individual and joint publications of Curt Sachs and Eric von Hornbostel have been a monumental addition to the study of musical instruments was first published in 1914. Following this, we have Margaret Kartomi's "Part One: On the Nature of Classification of Musical Instruments" (1990). She goes out of her way to add the emic and etic perspectives in classifying the musical instruments. This has brought in the social aspect of musical instrument. Around the same time, Sue Carole DeVale published a volume of an ethnomusicological journal titled "Organizing Organology" in which she attempts to provide a more comprehensive system for defining the study of organology, particularly within the context of ethnomusicology. Among the three primary branches she proposes are, classificatory, analytical, and applied, that serve as the basis for the study of organology. In an Analytical branch, according to her, a sound instrument can be analysed in its cultural context. It is for the first-time cultural context has been taken into consideration in organological studies. In recent years, Henry M. Johnson (1995) emphasized the connection between organology and ethnomusicology. The four facets that he specifies include the form, context, performance environment, and the interrelationship between instrument, performer, and sound object. According to him, Ethnomusicology can produce a study of an instrument that includes an examination of the interrelationship between the material object, its context, and its music, together with an understanding of the meanings connected with each of these areas in specific and general environments (i.e., the contexts in which a sound-producing instrument is played or understood). Further to this, Eliot Bates (2012) approaches the ethnomusicological study of musical instruments by focusing specifically on what he terms "the social life of musical instruments". Bates laments that, 'the social' has not been adequately studied and theorized because of a paucity of attention given to how social relations are mobilized around material objects and the thing-power that they possess." Bates further states that material objects often hold significant social value. It is important to study the object not necessarily for the sake of categorization or understanding the way that it is played or how it works but the meaning that it holds for the musician and the audience. Many of these scholars do not mention instrument making. It, however, can be considered as part of the social-cultural aspect they have posited in their organological approaches.

Libin (2014) therefore argues that, since music is an essential part of culture, a better understanding of musical behaviours through the interpretation of musical instruments can unveil many symbolic and cultural aspects that would be impossible to detect through other types of material. This can also be taken as interpretation of making of musical instrument.

This article focusses on Mandar (see Fig 1) making from the ethnomusicological perspective. It tries to delineate the mandar making process in the musical culture of the Ghasis; to understand the 'knowledge of rules, trustworthy recipes and interpretation schemes for constructing musical meaning…and beliefs, values held about music…

the social conventions or rule governing behaviour in musical settings...'(Wright, 1975). As a preliminary research article, it assumes importance, particularly, because Mandar occupies a significant space in the tribal cultural memory. The Oraons are seen using Mandar extensively as they carry it along to places where they have migrated, namely, Assam, Andaman Nicobar Islands and in recent times to Maharashtra and other parts of India. Among the other musical instruments, it is also used in most of the Churches in Jharkhand and in other States where the Christian tribals gather for prayers. In fact, there is a dire need to conduct scholarly studies in indigenous music from various perspectives including the way the musical notes are combined to make a melody and the way the rhythms is understood and used in music making, etc. It is hoped that this article may inspire more indigenous scholars to pursue research in the direction.

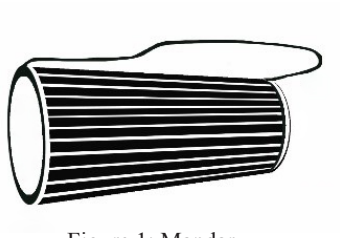

Figure 1: Mandar

Source: From the collection of photographs from the filed taken by the researcher.

Research Methodology

Among the numerous musical instruments, the indigenous communities in Jharkhand use for making music, Mandar is most used instrument. At the backdrop of Jharkhand's rich musical heritage, mandar occupies enormous space in the tribal consciousness. During my seven years of living in Jharkhand, I often saw people dancing to the rhythm of mandar, not only on every festive occasion but also on an ordinary working day, during the lunch break. It astonished me when I saw people playing music and dancing during the break on a hectic working day particularly during the most busy transplanting and harvesting seasons. Looking at all those instances, one obviously wonders, why a tribal makes music and dances even after exhausting work? This research basically stems from such questions. Intrigued with such question, Anthony Seager (2004) explored singing among the Suyas, an indigenous community in Brazil and discovered how it is connected to their social, cultural life. However, this as preliminary research in organology I faced several limitations. It was difficult to reach the community that is spread far and wide in the forests away from the main villages. Language was another difficulty. The Ghasis speak different language than the main tribal communities. And, engaged in full time teaching I could not live with the community. I carried out the research on my own volition without any financial support.

The initial explorations began with several visits to the Ghasi clusters of homes at various locations where I spent a lot of time interacting with the individuals and community, and in addition observed the process of mandar making. As the research progressed from its preliminary phase to the secondary and further,

difficulties emerged one after the other. One among them was, whether and how to geographically locate the research? For, we were not aware of the size and the geographical spread of the community. Moreover, we could not find any previous studies to go by. In absence of all these, we thought it would be best to use a sampling technique and were quick to realize its irrelevance. After some rounds of discussion among the scholars, we finally arrived at using Peer Esteem Snowballing Technique (PEST). This has helped us reach the key informants; with their help we reached the Ghasis who make mandar without facing selection bias (Dimitrios, 2007). We used individual unstructured interviews, causal conversations, and observations as tools for data collection. Whenever possible and conducive, we also used group discussions. The data was collected over the prolonged period from 2019 to 2022. Sometimes, I interacted with the Ghasis as they carried out their work; and while doing so, I also audio/video recorded the conversations. This has enabled me to listen to / view the recordings over and over for several times to gain clarity and insight into the process, understand the skills, and techniques. Since, mobile phone-cameras are commonly used even in tribal areas these days, using audio reorder or camera during data collection were not found obtrusive or distracting to the subjects. In fact, I could often capture candid conversations on the audio recorder as well as video record some ongoing activities. The spontaneous actions and expressions have certainly added immensely to the quality of the data.

The Socio-cultural context of the community that makes Mandar

The Ghasis are the traditional musicians who make musical instruments. They are the community that serve the tribal communities as musicians who are the part of the conglomeration of communities living in Jharkhand that constitutes tribal society. A glimpse into the history of the Chhotanagpur plateau will make us understand how the community is an integral part of the social structure of the indigenous society in Jharkhand. We know several groups immigrated into the Chhotanagpur plateau of which Jharkhand is a part, during the Middle Ages. They lived together symbiotically for centuries, giving rise to several languages, social institutions, and an unusual indigenous social structure (Devalle, 1992). Historians surmise that the Jharkhand region was inhabited already sometime between the late Stone Age and Copper Age as shown by several cave paintings (Singh, 2008). Based on their cultural descriptions, many researchers have tried to decipher the identity of those historical people. No one so far has arrived at any conclusive answer. Thapar and Siddiqi (1979, 20-21) refer to these hoe-using people who they say are to be identified as Munda immigrants. If it is so, then they would be the first farmers of early Neolithic age, somewhere around 10,000 to 4500 BCE. The erudite anthropological researchers S. C. Roy (1912) and the archaeologist Subhashis Das (2013) attests to this view, for according to them the Mundas settled in Chhotanagpur around sixth century BCE.

After the Mundas, the other tribal groups seem to have arrived approximately a century or so later. They began clearing forest and cultivating a patch of land, commonly known as 'slash and burn' agriculture method. Agriculture was the primary occupation in persuasion of which the indigenous communities gradually spread across the Chhotanagpur plateau that stretches over today's Jharkhand, Orissa, and Chhattisgarh States.

The communities lived in proximity amidst the land, forest, and the natural resources with which they have retained the connectedness over the centuries. The social structure thus evolved in the context of their habitat, particularly in the context of agriculture, their main occupation, and the land holding system. The descendants of the founding clan of the village are known as the *khūntkattīdārs*, those who control the land and secure the right to it under the customary inheritance laws. The individuals integrated into the community through 'adoption' could have the usufruct of lands allotted to them for maintenance but did not have other rights over them (Roy SC, 1912: 166ff., 433, 435; Hoffmann 1961). The adopted communities were the service communities. According to the oral history that has been told and re-told over the years through folktales and folk songs, the farming communities invited service communities, the artisan groups, to help them in various allied tasks. Thus, the *Lōhārā* (the black smith) were called in to make iron agricultural implements, the *Mahlïs* (the bamboo artisans) were invited to weave bamboo baskets, winnowing fans and other articles that were needed for agricultural processes, the *Chik-Badāïk* (the weavers) were called in to weave clothes, the *Kũmhārs* (potters) were invited to make pots for household and ritual purposes and the *Ghāsïs,* among other things, to play music at wedding and on other life cycle occasions.

The service communities

The bunch of service communities performed allied tasks aiding the agricultural communities in their cultivation work. Each service community carried out its duties with the knowledge they obtained according to their understandings, skills, and philosophies developed based on long histories and experiences of interaction with their natural surrounding (Hiwasaki et al., 2014a). Therefore, the artisan communities accompanied the farming communities wherever the latter moved. This social-cultural weave nurtured communities into a society as an organic whole. The exchange of services and sharing of the agricultural produce marked the peculiar barter economy among the communities. The system prevailed till currency was introduced with the colonial intervention (Raj, 2021). The society was a conglomeration of various groups (Singh KS, 1983: 19) that had shared life-ways amidst which, each group maintained its own distinct social and cultural identity. So, all the communities lived together harmoniously and every community had its own socio-cultural space. Later, the colonial government brought in the new revenue system in which the *Jamïndārs* (Landlords) played a pivotal role in the economy.

With such economic system, the social structure of the indigenous communities was disturbed though not destroyed. Even though the tribal communities were reduced to paupers, the social-cultural weave was maintained. The Ghasi was one such community. Among other services they render, one of them is that they function as the traditional musicians to all the other communities. Having acumen for playing music, they also make musical instruments.

The Ghasis

The Ghasis are the landless labourers who do all the agriculture related work, from paddy plantation to its harvesting and many other. In addition to these seasonal occupations, the Ghasis carry out many odd and sundry jobs in the village. They clear the carcasses, cure raw hides, cut grass and do scavenging work (Dalton, 1872; Risley, 1892; Russel and Lal 1916) even now. They are invariably found wherever the tribal communities are. They live in clusters of eight to ten families on the fringes of villages or *Tōlās*. The reason for their seclusion is, we were told, due to the menial work they do. Although, untouchability or strict hierarchy based on purity and pollution does not exist in the indigenous society, the seclusion of the Ghasis is merely due to the nature of their job. From our observation for prolonged period, we did not find community specific superiority or inferiority in their daily interaction nor did we find any term used in this regard to refer to each-other among the communities. However, the Ghasis are construed somewhat low compared to the other service communities. Their economic backwardness stems from their worldview: Live for the day. This understanding prevents them to put their children in the schools and those who do go to school soon drop out of it. Illiteracy plays a huge deterrent in availing any government welfare scheme or even in obtaining entitlement documents. Therefore, they cannot register a house in their name where they have been living for years, nor they can register a plot of land they have been tilling for generations. They can only be hired as unorganised labourers or as farm hands for a meagre wage. Many migrate to various places within the State or across the States. As a miniscule minority, Ghasis have not been able to make their presence felt in the electoral politics. Therefore, they have not been able to assert themselves or fight for their rights. Though the situation is changing slowly. In some places where they are in number, some of them have become active in local politics.

Musical culture of the Ghasis

Why the Ghasis make musical instruments and play music was the question often haunted me in my fieldwork. Whenever we probed to find some information directly or indirectly, I only received the reply that ‘we do not know; how can we know what our ancestors made to go into this profession?’ We tried contacting the most elderly persons but to no avail. ‘I only know that my grandfather did this and

my father continued' was another reply. This brought us to a realization that the struggling community lives in the present, 'one-day-at-a-time' and has no time to view their history. They are also far removed from their culture as they constantly migrate from place to place in search of livelihood. They have acquired the local ways of living. Whenever we spoke to them about god and deities they revere or perfrom puja etc., they always maintained that they are "Hindus". 'We worship Shiva, Bajarangbali and other gods', they said. We could not find the answers culturally coherent.

Our extensive expedition into the area led us to understand that the concentration of the community is in Chainpur and Dumri blocks of the Gumla district of Jharkhand. Therefore, another stint of focussed field work was carried out in this area. We found the settlement of the community rather old and most of them are involved in tilling a small patch of land they own. No one migrates to other places. Sub-clans consisting seven or eight families live as a well knit community in the village. We met Malli Nayak, a key informant who told us the myth prevalent in the community that explained why the Ghasis make musical instruments and play music.

The Command of *Bahuchandi*

There was a family with one male child who was starving for many days in the forest. Upon learning this the *Bahuchandi (*the Tiger god) came to visit the family. Only the woman was at home. Bahuchandi told her that "if you go without food like this, how long will you live? One day you are going to perish". The lady was confused and however, she asked for solution as to what can be done. The Bahuchandi then proposed to her that she learns to make musical instruments, play music with which the family can earn *dhaan* (rice) and *roji-roti* (daily food). Then he took some clay from the nearby river and showed the lady how to make a musical instrument, particularly Mandar, step by step in detail. Then he gave her the commandment that by making musical instruments and playing music, she will not only make her living but also can live with prosperity. Bahuchandi then taught the lady the art of making musical instruments as well as playing music. When she mastered the art to near perfection, she taught her son the same with every intricate aspect of it. After few days, her husband, took his family and moved to the village nearby here, Malli Nayak pointed out to the area as he spoke. He constructed his house. Later both, he and his son started making musical instruments and playing music as well. The boy grew, got married and had children. He then taught the art to his children and later, it was taught to successive generations. Since then, the Ghasis are engaged in making musical instruments and playing music. Referring to himself, Malli said, 'My father learnt it from his father and taught me too. That is how I am into this profession.

Malli continued the story further. 'Bahuchandi stays and moves in the forest' he

said. We worship him once a year during harvesting time at a particular location in the forest where he appears to us and blesses us. The spot is not fixed. It depends on the movement of the Bahuchandi. We offer him white goats or chicken according to our ability. All the men present for the worship eat the flesh but not the women. The seat of Bahuchandi need not be in every house. It is always established at one of the households of a clan. When people move from place to place the seat of the Bahuchandi has not to be moved as often. It is therefore, many of the people do not have the seat of our god in their houses. Referring to his own house behind him Malli Nayak said while pointing out with his hand, " I don't have the seat of god in this house as I have recently constructed this house after purchasing this plot".

In an informal and spontaneous group discussion, a Ghasi family in Kasir Bazar village explained to us how Ghasi musicians take up contracts on weddings counting the number of days and the kind music to be played they play. The charges depend on the number of number of musicians and the number of days music to be played. The kind of music to be played remains the choice of the host. Though few prefer tunes from Hindi cinema, the traditional tunes are the choice of the majority. The tunes from the Hindi cinema and other compositions are easy to play as their notes are fixed already. The notes of the traditional music go by its own *niyam* (rules). We cannot spell out the rules of the music; it is to be learnt from the elders. This learning they referred to was the primordial teaching by Bahuchandi. Thus, for Ghasis, the origin of the music and musical instrument making is divine.

From our close acquaintance with them, we learnt that, the Ghasis are versatile in many works. With acumen, ingenuity, and hard work, they accomplish almost any task they have been assigned to. Their high degree of resilience that helps them to adapt to various conditions is admirable. They can withstand in the toughest of situations. As known for these qualities, the Ghasis are sought after for their services.

As traditional musicians, the Ghasis possess an innate sense of music. For they seem to understand every musical sound and know how to produce it on various instruments with equal proficiency whether it is *Dhāk*, *Nagādā* or any other. From the way they play these instruments, it is certain that they know the music syllables and the terms subconsciously so well that they do not ever miss the sequences either in rhythm or tune. However, they are not able to articulate orally the same. When we asked them about how they play the music, they only point out to the centre of the chest to indicate that it all come from heart.

Their astonishing versatility in playing tunes spans across the *mōūsami dhūns*, the seasonal tribal tunes that are common among the tribal communities as well as the tunes that are popular among each individual tribe. It requires another research to study all these tunes that make the tribal music.

The modern-day fashion of using digitised electronic musical instruments has not spared the tribal areas. The new trend, however, has not posed any threat to

the Ghasis, because the Ghasis have adopted to the change so marvellously well that they play the traditional tunes on the new instruments at equal ease. In fact, the repertoire of the instruments they play has only widen it. It has helped entertain clients of varied musical tastes. This was evident when we saw how a Ghasi group played electronic instruments for a political outfit in the public rally on a day; the same group performed at a village wedding on the traditional instruments on the next day. It is not only playing music but as musicians they also know how to make good musical instruments.

Craftsmanship of the Ghasis

The Ghasis do things with knack and knowledge. Based on this fundamental orientation, they apparently approach almost everything they do; be it playing music, carrying out agricultural work or making musical instrument. Our visits to their clusters in various locations were thus revealing. We found carefully grown kitchen gardens in the backyards of the houses. Similarly, we noticed how they tend to the domestic animals with affectionate care and understanding in treating them as animal-friends. In the same manner they make intricate traditional fishing traps and fishing nets, or even the musical instruments including mandar. It is a delight to see how diligently they work their way through every stage with undivided concentration and wholehearted dedication. In the same manner, they almost hand-craft entire mandar. It is this reason that the mandars they make differ in its timbre.

The process of Mandar making

The occupations the Ghasis engage themselves in, including Mandar making, are seasonal in nature. In fact, it is an allied occupation taken up especially during the summer when there is hardly any work in the fields. It is the time usually the clay is collected and transported from the fields or river banks to their homes and deposited in the household workshops. The work of making mandar begins after paddy transplantation is over, till the paddy crop is ready. Then comes harvesting, a hectic time again when no other work can be done. Obviously, mandar making is suspended for the time. It is resumed when there is no agricultural work. Often, we found predominantly men involved in mandar making because it is a heavy work. Now a days, we find not only women but also the entire family is involved in some mandar making process or the other.

The clay

Just as any other tribal community, the Ghasis are organically connected to their environment. It is from this perspective one needs to understand their close association with rivers, ponds, and various other waterbodies. They are thus familiar with the clay that gets deposited on the banks of the river and in the farmlands in

the nearby areas. They traditionally know its characteristics well. It is soft, freely bound, soluble in water. It turns as hard as a rock when dried. From the scientific point of view, clay is a natural product that comes from decomposed granite rocks. This occurs when water erodes the rocks, breaks it down and deposits it on the bank of the river and adjoining places. There are two types of clays, the primary and the secondary. The primary clay is found in the same place where the rock is from which it is derived. It is heavy, dense; therefore, is not transported by water and thus not mixed with other forms of sediments. Whereas the secondary or the sedimentary clay is formed of lighter sediments that is carried farther in water and deposited. It is finer and lighter. Clay is widespread in the world.

> Clay minerals such as kaolinite, smectite, chlorite, micas are main components of raw materials of clay and formed in presence of water. Many clays used to form the different structure which completely depends on their mining source. They are known as hydrous phyllosilicate having silica, alumina and water with variable amount of inorganic ions like Mg^{2+}, Na^{+}, Ca^{2+} which are found either in interlayer space or on the planetary surface. Clay minerals are described by presence of two-dimensional sheets, tetrahedral (SiO_4) and octahedral (Al_2O_3). The particle size of clay minerals is <2 microns which can be present in form of plastic in presence of water and solidified when dried. The small size and their distinctive crystal structure make clay minerals very special with their unique properties including high cation exchange capacity, swelling behaviour, specific surface area, adsorption capacity, etc. (Neeraj and Chandra, 2016).

Ghasis call the clay as *Nagādā Mïttï* and use it for making Mandar *Khōl* (earthen sleeve). A heap of such clay is stocked in the Ghasi household workshops, usually covered with a plastic sheet to maintain its moisture content. A sizable lump of clay is taken out from the heap. It is first mixed well by beating it and sometimes by pressing, kneading, and rolling it. It helps to spread moisture uniformly all throughout the clay-lump while it removes air pockets.

The Khol making

The well-mixed *lōndā* (clay-lump) is then placed on the plain ground in front of the household workshop. It is then given a solid cylindrical shape of a little more than a foot in height and approximately of 12-

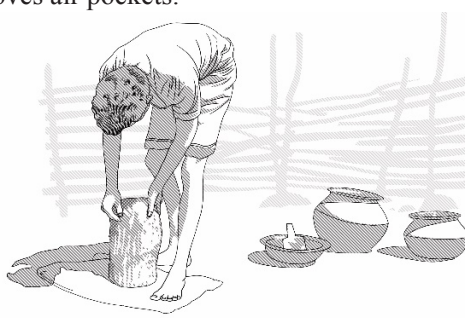

Figure 2: Khol Making – I

Source: From the collection of videos from the field taken by the researcher.

inch diameter, a little more than the size of the *péndā or disnā* (the large side of a Mandar) by scratching out the clay from the sides using fingers of both the hands. With the finger marks, the surface remains rough. (See Fig 2)

Now, the clay from the centre of the cylinder is dug out with hands, little by little. It is rolled on the palms, making it into a *lambā lōnd.ā* (clay-roll). The lamba londa (clay-roll) is then placed on the edge of the cylindrical shape. Thus, the cavity in the cylinder is formed both by digging of clay from the centre of the cylinder and by putting layers of clay-rolls on one top of the other on the edge of the cylinder. In this way, almost half the hollow of the cylinder (approx. 1.5 ft) is attained. The surfaces, both inside and outside of the cylinder, are made plain by first taking out the extra clay on the curvature of the rolls and filling it in the gaps in between the rolls. The outer surface is smoothened by *pïtnā* (beating it) with wooden baton. It is further smoothened by moving a water drenched cloth over it. The inner surface is kept rough, because that helps create good sound. Thus, the finished part of the cylinder is now left open for *bārané* (air-drying). Whereas, the base, which is still a solid state, is covered with a wet cloth to maintain its moisture content. (See Fig 3)

By morning of the next day, the finished part of the khol dries and becomes hard. In view of working on the other part, the finished part is put on the ground and the solid base which is still wet goes up. Now, clay from the centre of solid wet part is scratched and taken out. It is rolled-up on the palm to make it into lamba londa (clay-roll). Then it is placed on the edge of the cylinder. The process continues till the whole cylinder is made into a khol (hollow sleeve). The small end of the khol is known as *mũ̄kh (comment 5)* (Toppo, 1977/2009). The sizes of both the endings are maintained (11 and 8 inches respectively) while the khol-making is in process. The final finish smoothening of the outer surface is done by moving a wet cloth over it. The inner surface is kept rough. The raw khol is left at the place for another day for *bārané* (drying). All the process, from mixing of the clay till the completion of the khol is carried out with hand. It leaves some tiny air-pockets in the raw khol which add to the making of mandar sound. (See Fig 4).

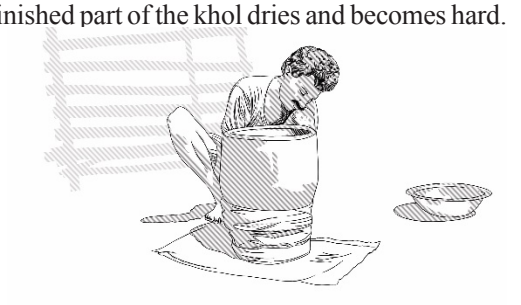

Figure 3: Khol Making – Ii

Source: From the collection of videos from the field taken by the researcher.

Khol baking

As the moisture in the raw khol naturally dries, it becomes as hard as a rock. It is then baked. Unlike the potters who bake their clay weirs together in a *āvā* (kiln) at certain temperature for a period, Ghasis do it using a simple method by just putting

some twigs and dry grass in and around a khol and then light the fire. The fire lasts for about 10-15 minutes which provides sufficient temperature for the khol to be baked. In this way each individual khol is separately baked. During rainy season, baking is done on the household *chūlhā* (hearth). The timbre produced from such khol will be peculiar to mandar that is, low, base rhythm that is synchronous to the natural surroundings. If baked in a kiln together with other earthen weir, mandar khol is baked like any other earthen pot at high temperature. Hence, it produces different sound that is noticeable to those who have a sense of music.

Leather membrane Preparation

a. ***Procuring the skins***

Animal skins are used as membrane for mandar. In the former days, the skins used to be procured from the carcasses of dead animals found in the villages or in the nearby forests. Since this is in line with their traditional occupation, it was easy for the Ghasis to find skins in and around the villages. Now, the Ghasi population has increased considerably, and in contrast, the animal population in the forests has decreased far more than expected. This imbalance has created acute skin scarcity. Nevertheless, this way of procuring the skins remains the reliable and stable source of getting animal skins, because, it is claimed that only a small number of the Ghasis indulge in making Mandar.

Hunting has been another source of procuring animal skins. In the days when hunting was common practice among the tribal communities where the entire village would participate in chasing the game animal. The kill was then shared by all the families in the village, and the skin was passed on to the Ghasis. Similarly, the forest-dwelling nomadic communities such as the Birhors who also hunted animals for consumption (Roy, 1925; Nadal, 2014). After consuming the flesh, they would 'sell' the skin to the Ghasis in exchange against salt or other necessary commodities. Hunting has been legally curtailed considerably these days, obtaining skins from this source has become scarce.

Carnivorous as they are, the tribal communities regularly slaughter domesticated animals to celebrate some occasions or the other. This has been another reliable source of getting animal skins. After slaughtering animals, the skins are passed on to the Ghasis in the village as a token of the services they render. This is mired by a recent trend of inviting a butcher for the job who stake a claim on the skins, leaving the Ghasis high and dry. Even though the situation is rather challenging, the Ghasis still manage to obtain skins from this source too. Animal skins are still preferred choice for the musical instruments, particularly for mandar.

b. The process of Curing the raw hide

Figure 4: Badhi making

Source: The collection of Videos from the field taken by the reseracher

There are several ways of curing chāmdī (raw skins), the Ghasis do it in a very simple and a eco-friendly way. They just apply salt all over the raw skin and sun-dry it in the open space. For this, the skin is stretched and fixed on the ground, approximately four inches above with the help of wooden pegs for sun-drying. It remains there for at least a week or so, till it is completely dried all over. Salt serves dual purpose; it acts as a preservative that it protects the skin from rotting and it prevents insects or ants attacking the skin. While it is put for drying, the family guards it by keeping an eye on it while carrying on their work. The skin, after it is completely sun-dried is rolled up and stored in a room in the house where all the implements, tools and accessories are kept.

c. Making the diaphragms

Before the skin is used it is cleaned of the hair with a help of a *chhūrï*, a sharp knife used as a scraper. It is straightened while it is cleaned. The freshly cleaned skin looks a plain bright white sheet of leather. Spreading it on the levelled ground, the Ghasi takes a good look at it carefully examines the entire leather-sheet for locating the portions from where he can cut out good pieces for diaphragms. He then measures and marks the radius on the sheet with the help of a thread or a thin rope using his handspan and fingers. He holds one end of the thread at a point and draws a circle holding a lead-pencil at another end. With the help of chhuri, the diaphragm is cut out. Another diaphragm is cut using the same method. Usually, the diaphragms measure approximately 11 and 8 inches respectively, the measurement can vary according to the length of the mandar.

d. Mounting the diaphragms on the khol

Before the *pudiya* (Plural of *pūdï*, diaphragm assembly unit) are mounted on the khol, the khol is whitewashed and dried. A decorative red colour plastic ribbon of about 4 mm width is wound around its circumference for the entire length of the khol, keeping the space of about 4 mm between the two ribbon rounds, so that khol wears a different look with white and red stripes. In the earlier days, natural materials with natural colours were used. Now a days, these things are purchased from the local market which are invariably made of some synthetic materials. Ghasis like the red stripes. The similar pattern is found on their clothes the *chïk barāïk* (weaver community) make for the tribal communities.

After cutting out diaphragms, the remaining sheet of leather is used for making leather-strip (*Bādhï*). There are two types of badhis, one that is used for knitting

together grass-rolls with the supportive leather along the circumference of the diaphragm. The supportive circular leather piece envelops into its fold the two-inches of the edge of the diaphragm along the entire circumference. This way each diaphragm becomes a unit by itself and it is known as *pũdï*. The grass roll that forms a rim around the diaphragms makes it sit firmly on the either mouth of the khol. (See Fig 5)

Another type of badhi is used to hold the diaphragms on both the ends of the khol, is a one-piece longest badhi produced by cutting the leather spirally from a circular shape piece with the help of *jattar*, the indigenously made fixture. It is woven through the holes along the circumference of pudiya supported by another layer of leather, pulled several rounds around across the length of the khol. Each round of the badhi is then pulled applying full strength to hold tightly the pudiya on both the ends of the khol. It takes few rounds of pulling the badhis so that the pudiya are held under sufficient tension. This is a time-taking and laborious work. Referring to the similar process in Mridangam making, Venkat Raman (1935) says that, the loading of the drum-head greatly increases the energy of vibration and is therefore a factor which favours the emission of a sustained tone.

Figure 5: Mounting Diaphragm

Source: From the collection of photographs from the field taken by the researcher.

Applying *Kharan* and Mandar tunning

To obtain a quality sound, *kharan* needs to be applied on the mandar diaphragms. It is indigenously made paste; commonly known as *syâhï* (literally, ink). There are two types of kharan, one that is applied on the large diaphragm is a mixture of *Nagada mitti* (a type of clay used in making the body of *Nagādā*, a kettle drum) and boiled rice; the other that is applied on the small diaphragm contains the mixture of boiled rice and iron ore particles (See Fig 6).

The preparation of the first type of kharan begins with boiling a handful of rice. The boiled rice is ground on stone to make it into a paste. The paste is kept aside till the other preparations are made. Meanwhile, hard pieces of nagada mitti rocks of approximately double the measure of rice is wrapped in a piece of cloth and soaked in a tumbler of water. It almost instantly turns into soft clay. The nagada mitti and the boiled rice paste are ground together repeatedly for numerous times to make sure that it is well-mixed and becomes fines paste. The paste then is applied on the diaphragm uniformly with the help of three fingers held together. A small margin

about an inch left free along the circumference. The kharan applying process, in fact, begins at the centre of the diaphragm, then gradually moves to cover the rest of the membrane. Initially, the finger movement spans back-and-forth in a curvature shape. The hand movements change occasionally to a linear, back-and forth movement. This is to make sure that not even a smallest gap is left in applying the layer. When the layer is complete, it is sun-dried and subsequently tested for the quality of sound. Several such layers are applied in the same manner mentioned above. After every layer, it is sun-dried and subsequently tested for sound quality. When the diaphragm begins to produce somewhat satisfactory sound, sounds from each quadrant carefully heard and verified for its appropriateness. To make micro changes in sound quality, a minute measure of paste is applied wherever deemed necessary, and is tested for sound after it is dried. This is done till the prefect sound is obtained from each of the four quadrants of the diaphragm. It is through knowing every bit of the surface of diaphragm, the Ghasis achieve the accuracy in sound quality.

Figure 6: Applying Kharan.

Source: From the collection of photographs from the field taken by the researcher.

The tunning of the mukh begins only after the penda is tuned. The preparations for making kharan for the small diaphragm begins with grinding the iron ore particles into fine paste. The *lōhā-mïttï* (iron ore particles) come down flowing with water along the riverbed. While it flows with water, it gets mixed with sand, clay, and other impurities as it gets deposited along the river edges under slow moving water, away from the main stream. Ghasis collect the loha-mitti together with impurities and bring it home. The iron particles are separated from the impurities with the help of strong magnet. Usually, magnets from discarded audio speakers are seen used for this work.

About 20% of boiled rice is ground several times together with 80% iron ore paste to mix it well. The paste is then applied on the area covering about 3-inch diameter from the centre of the diaphragm. As a rule, every layer of the kharan is sun-dried, rubbed over with *lōrāhï* (round smooth stone) for quite some time to make it stick properly to the diaphragm. The black kharan shines as it sticks well to the diaphragm. Rubbing has dual purpose; it helps kharan to bond well to the diaphragm; in addition, it also makes micro changes in the diaphragm affecting its sound quality at micro level. The diaphragm is tested for sound at every quadrant, one by one. And then at the final stage, minute measure of kharan is applied only

at the places necessary. It is allowed to dry and after it is dried it is then rubbed over with lorahi. The process continues till the perfect quality of sound is obtained from all the parts of each quadrant.

Percussion instruments, such as, Tabla and Mridangam are tuned by tightening the diaphragms by pulling the badhis, whereas, mandar is tuned by applying kharan. The pudiya are held on the khol with the help of badhis at sufficient tension.

Outsiders obviously ask a question, "How do you tune a mandar without using a standardised tuner?" In a characteristic response a Ghasi invariably points out to his chest to say, "it's all inside". Meaning to say that it is inner musical sense that a Ghasi uses while tuning mandar. There are members from other service communities may indulge in mandar making. They may even make good mandars, however, they will not match the skills and acumen of the Ghasis, leave aside its quality of sound.

Conclusion

Life in tribal society is essentially organic in nature in many ways, that the symbiotic relationships among the constituent elements of nature we broadly term as natural environment are much more complex. Among the large conglomeration of communities in Jharkhand, the Ghasis apparently are insignificant and invisible community; hardly anyone knows that it is they who are the traditional musicians, who make mandar. To contain the discussion on mandar making we have focussed on the limited area of tribal society and the place of the Ghasis in it. We have also viewed Ghasi personality traits that which contribute to mandar making. We have presented the complex and lengthy process of mandar making in a simple descriptive form to make this preliminary research paper comprehendible to readers. We have avoided to present the mandar making process into the worldview and socio-cultural context of the Ghasi community as it is complex in nature and that goes beyond the purview of this article.

Endnote

1 https://gaana.com/song/raag-bhup-mora-zanz-mandilra-baje.

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