

Rata: A Traditional Folk Instrument in Central India

NABAKUMAR DUARY[‡]

*Anthropological Survey of India
North East Regional Centre,
Shillong 79302, Meghalaya
Email: nabakumarduary@gmail.com*

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ABSTRACT: Traditional knowledge, technology and method all are ancestral gift to the present generation in rural societies in India. Traditional folk instruments are outcome of extensive long time experiment and time-tested tools. There are thousands of folk instruments invented by rural folk for their need and use in day-to-day life for survival. This instrument varies from one place to other due to environmental factor. Present paper discuss about RATA, one kind of folk instrument in Madhya Pradesh, India; use at the time of digging a new well. The study shows the method of making and operational aspects of RATA for pulling up the soil/ stones/ or rocky soil from deep surface to upper surface of the earth. This is very useful and eco-friendly tool in any part of rural Madhya Pradesh and its adjoining parts of India.

INTRODUCTION

India is a land of bio-diversity and ecological diversity as well as diversity of human languages and culture. It is a treasure land of traditional knowledge since time immemorial. This is an outcome of the long experiment and based on vast experience. This is being an ancestral gift, which is transmitted from one generation to another through oral tradition and practice in day-to-day life (Duary 1997, 2008, 2012 and 2014). The variety of cultural landscape of the traditional societies in India is very suitable in each distinct ecological setup i.e. from high land to plain, desert to delta, plateau to plain, *tarai* to terrain and in riverine to coast since long past. There people adopt the local situation and utilize the surrounding nature for survive. They accumulate a whole wealth of empirical knowledge on the basis of their experience dealing with nature and natural resources. Such understandings result is cultivating the knowledge. This is the result of cumulative experience of a community about the relationship of living organisms with one another and with their environment and

[‡]Assistant Anthropologist (Cultural)

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immediate resource areas (Sarkar2008). Their culture and society as well as their economy are decided by the local environment and ecological set-up. So, community/local knowledge is the essence of social capital of the rural people and plays a significant role in conservation of nature. People use the natural resources available to them with certain limitations following the prescriptions of traditional manners, customs, values and belief. They use the resources up to a certain limit to sustain the resource base for future generations as well as to ensure survival of the age-old culture.

During in recent decades, different international and national organizations have shown much concern about the rapidly decaying traditional knowledge of various populations, especially those who still recent past lived outside the realm of impact of urbanization and industrialization, but now are being exposed to such forces. The organizations like the United Nations, World Intellectual Property and Intellectual Property Right urged the need of preservation and protection of such knowledge. The World Intellectual Property Organization document on traditional knowledge and

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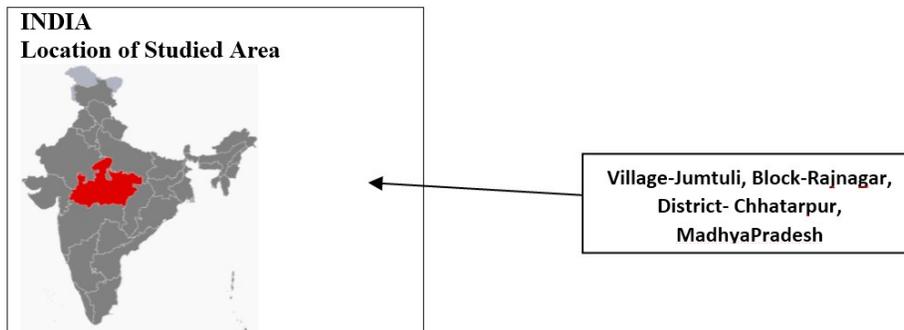
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says, “Communities justly cherish traditional knowledge as a part of their very cultural identities.

Maintaining the distinct knowledge systems that give rise to traditional knowledge can be vital for their future wellbeing and sustainable development and for their intellectual and cultural vitality.....” So, there is a lot of scope to study the traditional knowledge. In recent times, many disciplines are studying the traditional knowledge and natural resource management in general and social anthropology in particular. As for example, *Rata* is a common folk instrument, which is used in rural Madhya Pradesh for pulling soil during digging of a new well or *kunya**. Present paper deals with this instrument with following objectives.

Objectives: (i) To know about the socialization process of people in studied village (ii) To know the traditional knowledge about making *Rata* (iii) To know about selection a suitable spot for making a proposed well (iv) To know about use of instrument and ecofriendly use

Study area: The study village Jhamtuli is located in Rajnagar block in Chhatarpur District in Madhya Pradesh, India. The district named after the headquarters town, Chhatarpur. It is also named after Raja Chhatrasal Bundela who founded it in 1707. Chhatarpur were the hunting reserves of the erstwhile rules of Panna, Chhatarpur and Bijawar, the princely states in the past. The district extends between the parallels of latitude 24°6’ and 25°26’ north and the meridian of longitude 79°0’ and 80°27’ east. It is elongated from south- west to north-east. It resembles the shape of a fish. Adorned with greenish meadows scattered with ever-green trees, undulating forests, hills and rocks. The under laying rock formation and local topography play important role in the formation of soil. Major underlying rock formations of the area are sand stone, traps, granites and the gneisses. Majority of the area is covered by lateritic soil. There common trees are like *Bel* (*Aeglemarmelos*), *kattiBel* (*Ampelocissuslatifolia*) *Neem* (*Azadirachtaindica*), *Gunja* (*Abrusprecatorius*), *Babul*, *Dh*



aba(*Urariapicta*), *Jamun* (*Syzygiumcumini*), *Arjun* (*Terminaliaarjun*), *Pipal* (*Ficusreligiosa*), *Sagun*, *Sijua*, *Chilla*, *Mohua*, *Chula*, etc.

According to 2011 census the total numbers of villages in Chhattarpur district in Madhya Pradesh is 1187 of which 1085 villages are inhabited and 102 villages are uninhabited. There are living many communities which are belong to three religions like Hindus, Tribals, and Muslims. They have their distinct cultural identity and in few cases have

**Kunya* or well: A hole sunk in the earth to obtain a natural deposit of water, which is one of the earliest forms of source of drinking water and made by people through long time experiment, employs the age- old

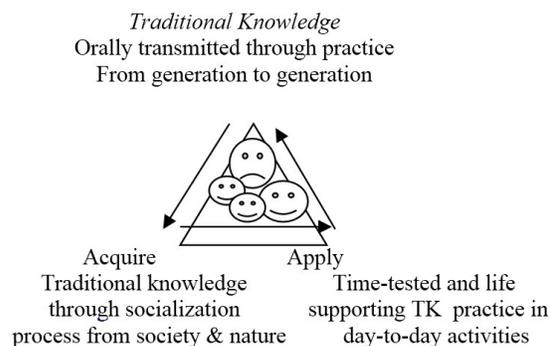
knowledge and experience. It has an importance significance role in domestic, cultivation and life cycle rituals in many Indian societies.

also linguistic identity. Their common or bridge language is *Bundelkhandi*. Most of the people are practicing cultivation as their livelihood. People produce paddy in rainy season and the winter they produce crops and vegetables. They followed their age-old traditional knowledge in cultivation work, traditional technology, traditional method of cultivation and traditional irrigation system.

Learning Process of Traditional Knowledge

Some forms of traditional knowledge express

through stories, legends, folklore, rituals, songs and customary laws. Traditional knowledge is orally transmitted from generation to generation. The people of the studied village depend on traditional knowledge for survive. The learning process of traditional knowledge is through socialization process, which is one of the important aspects of this study. People learn the traditional knowledge along with other aspects of society like social norms, values, customs, belief, practice, etc. through socialization process since their childhood. The age-old traditional knowledge of the people in rural area is transmitted from older generation to young generation through oral tradition as well as practice.



The children of the society learn all sorts of traditional knowledge from their family members, neighbouring people, kin members and playmate through practice in trial and error method in day-to-day life. They gathered knowledge through practice since their childhood. Their age-old traditional culture and knowledge is very important for surviving their life as well as for conservation of surrounding nature for future generations.

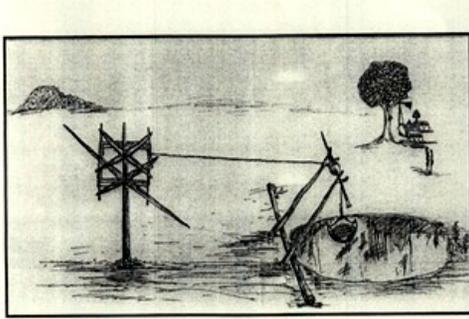
Rata

Rata is made on basis of full mathematical calculation and measurement which is used as a folk technology following the method of pulling of rocky soil and stone during digging of a new well. It is made up of wood and look like a *charka* or pool. This is a heavy (100 kilogram) and strong instrument used only one time. This instrument is made by *Barhai* or carpenter; in a few cases common villagers also made

it. *Rata* placed in erect position in vertically near to proposed well. It is a composite tool, assembling of different size of wooden polls and wooden pieces, rope, digging rod, bow shape iron hook, bowl shaped big aluminum/iron container and discarded tire of by cycle, a small piece of old f cloth.

The selected spot for a new well is demarcated by an experience person or local *pandit* (priesthood caste). He firsts visit and observe the proposed area for selection of a particular spot in habitation area (for drinking water) or selects a particular spot in agricultural field (for irrigation) based on following criteria-

- a. Firstly, he minutely observes the surrounding area, soil, upper surface of the ground, type and colour of stone or rock. Then he thinks about availability of good water throughout the year for drinking or irrigation purpose for about two decades or more. Therefore, he observes the nearest large timber trees, its growth and normal health which indicate the level and availability of underground water.
- b. In case of red colour rocky soil there is less chance of landslide during digging of well and possible for good quality of water throughout the year.
- c. Do not select highest land in selected area.
- d. Prefer a particular spot where rain water stay sometime in rainy season
- e. They prefer comparatively little high land in corner of the habitation plot or agricultural field. Because they know about the nature of water and proper water flow towards sloping area of the field and less wastage of land for well.
- f. Easy to go in the place of well and fetch water
- g. They measure a distance from the upper diameter of the proposed new well to *pakuiya/khunta* of the *Rata* for placing.
- h. Decide the direction of a site for placing *Rata* for proper and smooth functioning during whole work and storing or dispose the soil and stone.



A complete set of Rata

Worship

After selection of spot, measurement of distance from proposed well and measurement for placing of *Rata*, the owner arrange a worship in an auspicious day at his residence on or before of beginning of digging of well. Owner called the *Pandit* (priest), neighborhoods and kin members for their participation in this occasion. The priest worships and performs *hom-jogyo* in the name of goddess *Dharitrimata* and *Gangadevi* with some offerings (like flowers, *bel leaves*, *durba*, *tulsi*, *sindur*, *agarbati*, varieties of fruits, sweets, coconut etc.) for smooth digging work for making a well, fruitful result without any problem. It is in belief that the availability of water in well is a blessing of *Gangamaiya*. After this worship they distribute the offerings among the girl children first.

They follow some restrictions and taboos on the day of beginning of digging work of the new well and on the day of worship. This family does not take the non-veg items and menstruation lady not to touch the objects of the *Rata* and offering of the deities. In case of death or birth pollution the date of worship will be deferred to next suitable date accordingly.

After the worship is over they follow the next stage of work accordingly. This instrument is completed through some stages from selection of tree, making, assembling and installation. It is required about ten days for making a *Rata*. These stages are like-

Stage-I: Selection and collection of wood: An experience male person selects trees from local (jungle) area on the basis of required size and number of pieces

of polls. For the making of *Rata* they prefer the *sagun* or *sijua*, *chilla*, and *dhaba*. They cut the trees by the axe and then he carries it to the house or near to proposed place within 2-3 days.

Stage-II: Make the required sizes of wooden pieces or polls: Firstly, they make the equal size polls (5ft.) in 3 pieces for *pakhuiya*, one long size (9ft.) *gadheo* as handle for holding two end and moving by two/three persons, 4 pieces (2.5ft.) of poll for connecting vertically with horizontal *pakuiya/khunta* and one strong long wooden poll called *Pakhoria Khunta*(9.5ft) which is vertically and centrally locate the *Rata* and all wooden polls are crisscross connected with it. There is no use of iron nail. But all distal ends of *pakhuiyas* are connected through perforation and fitted tightly. It is made within 8-10 days with the help of *basula* or chisel, *nehan*, *nehani* and *kulhari* or axe. For measurement they use paddy straw or thin long leaf of the grass and also use his own hand i.e. from tip of middle finger to elbow.

Stage-III: Collection of other accessories of Rata: After completion of making the structure of *Rata* then they also make one pair of wooden pool *thunia* (length 9ft., its one end look like 'y' shape), *arord* one heavy wooden long poll (15ft.length & 2ft.diameter), make a *garra* or wheel (Length 10"Xdiameter 1'-6"), collect a thick and strong iron rod called *gainti*(4 ft.), and a discarded tire of by cycle as well as purchase other essential accessories like one bow shape hook called *galua*(length 2ft.),thick and one strong plastic rope *bararu/rashi*(Length 50') and one alluminium *tasla*(radius 1'-6"). After that they make a plan for carrying the *Rata* and placing it in exact point of the proposed place for digging a new well.

Stage-IV: Function of the accessories of Rata: They assemble essential accessory parts as an extension and essential part of *Rata*. They have separate names and have separate functions of each part. Primarily it has three parts namely one pair of wooden pool *thunia* (length 9ft., its upper end look like 'y' like natural shape) for holding one thick digging iron rod called *gainti*(length 4ft.) along with one wooden *garra* or wheel (length 10 inches and diameter 1 ft.6 inches), one end of a thick and strong rope *bararu /rashi* is connected with the *galua* i.e. iron hook for hooking the rubber handle of *tasla*, one heavy wooden long poll (15ft.length & 2ft.diameter)

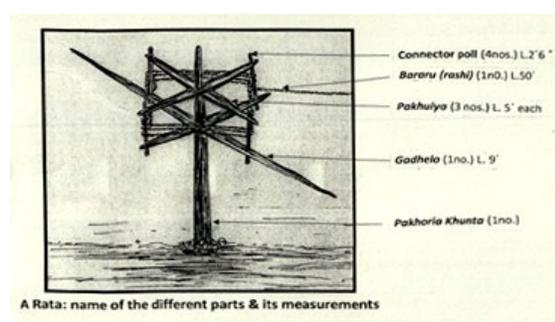
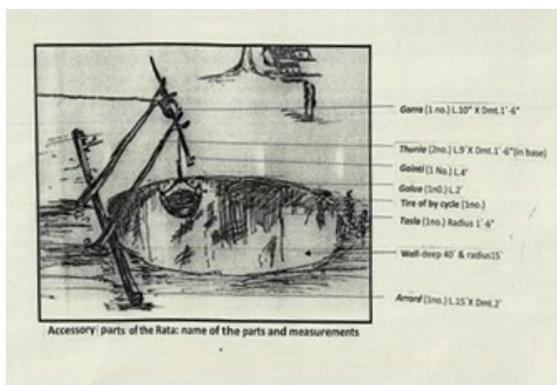
is laying on the legs of two *thuni as* to support, to reduce and to shake during work as well as go down and climbing by a rope and other function of the rope is pulling of soil from deep of well and pulling the *tasla with soil/ stone/ stone slab* from base of well to upper surface of the ground. However, they also use for the climbing up for taking food or other purposes and in end of the work every day.

Stage-V: Installation of Rata and fitted accessories: Firstly, they make 3ft. depth hole on the ground from 10ft. distance (diameter) of proposed well. It is made by an iron-digging rod. After that there

placed *Rata* in vertically and finally see the water level measurement. The lower end of the *pakuiya/ khunta* of the *Rata* placed in 3 ft. hole and tied up with stone and soil. Then placed one pair of wooden pool *thunia* in inclined 45R” angle towards well from its diameter. After that one wooden *Garraor* wheel placed with an iron rot on Y like distal end of the *thunia*. Lastly, they tight up one end of rope with *Rata* and another end is go to parallel way to ground through wheel and make a knot to this end of the rope and connect with the *galua* for hanging rubber handle of *tasla*.

TABLE 1
Different parts of a Rata and its accessories objects

Sl. No	Name of the parts	Number	Material	Measurement	Remarks
1.	<i>Pakhuiya</i>	3	Wood	L. 5’ each	All wooden parts made of following trees like <i>Sagun, sijua, chilla,</i> and <i>dhaba</i> . These trees collect from local area
2.	<i>Gadhelo</i>	1	Wood	L. 9’	
3.	Connector poll	4	Wood	L.2’6	
4.	<i>Pakhoria Khunta</i>	1	Wood	L.9’ X Dmt.1’ (in base)	Essentially <i>dhaba</i> tree
5.	<i>Thunia</i>	2	Wood	L.9’ X Dmt.1’-6” (inbase)	<i>Sijua</i> tree, upper end Y shape
6.	<i>Garra</i>	1	Wood	L.10” X Dmt.1’-6”	Prefer <i>sagun/chilla</i>
7.	<i>Arrord</i>	1	Wood	L.15’ X Dmt.2’	Prefer <i>sijua</i> tree
8.	<i>Gainti</i>	1	Iron	L.4’	Both items purchase from blacksmith, <i>galua</i> a bow like structure use as a hook
9.	<i>Galua</i>	1	Iron	L.2’	
10.	<i>Tasla</i>	1	Iron	Radius 1’-6”	purchase
11.	<i>Bararu (rashi)</i>	1	Plastic	L.50’	For 35 ft. deep well, purchase
12.	Tire of by cycle	1	Rubber		Discarded tire
13.	Old cloth	A small spice			Use for attaching the <i>galua</i> with the end of <i>bararu</i>



Digging of Earth and Use of Rata

Firstly, they demarcate the diameter of the proposed well with a spade and then starts cutting soil with spade, *geta* or bi-dent digging rod and *gainti* or digging rot and carry the soil in baskets from this

spot to nearby by two to three persons on head loading. In initial stage of cutting and digging of the well they are not using *Rata* but they use small stair for carrying of soil from 5-6 feet deep of well. After that they discard the stair and then use *Rata* for pulling

soil from the base of the deep of the well.

On the basis of space and situation three to four persons get down in well one after another with the help of rope of *Rata* and also receive three main instruments like spade, *geta* and *gainti* through the same rope. Then they start digging the earth with these instruments. Then they to fill the *basla* and keep it on a tire pad. One person follow from the upper level of the ground and observe the situation of basement of the well. This person also instructs two persons for moving *Rata* smoothly. Then they move it anti clock wise with holding two ends of the *gadhele* or handle. As a result the rope gradually rolls up on *Rata* and the filled *tasla* reach to upper end of the well. Two people remove *tasla* from hook and placed immediately an empty another *tasla*. These two persons carrying *tasla with soil* near by for unloading and parallel two operators of the *Rata* loose the rope and it reach to base of well for pulling soil one after another as a continuous process. For this kind of operation it is required ten adult people.

During digging, they minutely observe the nature of the soil, texture, colour, type of rocky soil, etc. When they first observe percolate water then instantly do the test and colour. Sweet test and crystal colour water is good for both drinking as well as irrigation purposes. And sometimes they observed a few insects and frogs floating on water in pleasantly which indicates the good quality of water. They use small motor pump set for pulling water and dry up water for making deeper for sufficient good quality of water for a long period of time. During work in *Rata* people pay folk songs in Bundelkhandi language and with a typical tune and rhythm.

Making Circular Wall and Use of Water

They make a circular brick wall from base to upper end in inner part of the well for protecting from land slide, to save the life of the domestic animals and man and also for smooth use during fetching water. People pull water with the help of a bucket or metal water vessel attached with long rope. People construct this kind of wall of the well which is use for drinking water and domestic purposes. In case of irrigation people use water pump set for irrigating all sorts of crops in winter and also other season except rainy season.

Making Cost and Time

It is a time taking and painstaking job. It will take minimum 2-3 months. It starts from end of winter season i.e. from end of December and continue up to March. The cost of a new well is depending on nature of earth, measurement of radius/ diameter as well as depth. Average total cost is about rupees 4-5 lakh (deep 35-40 ft. and radius 15ft.).

Use of Well Water

Rural people fetch water from well in habitation area for drinking and other domestic purposes. This kind of well is deeper than well for irrigation. The radius of the second category of well is more; depth is not as much as previous one. Its water use for irrigation in winter crops by electric pump set.

DISCUSSION & CONCLUSION

From the above discussion it is stated that Indigenous science and technology developed in the history of our civilization, along with the development of our society. It was very much a part of our social and cultural growth. The roots for the modern technology are the indigenous knowledge and folk knowledge of different human groups. Scientific and technological knowledge is essential for our livelihood and betterment. There are the innovations of man over a period of time. Primarily, human beings made use of both scientific and technological knowledge in exploitation of resources for their subsistence and survival. In the past the tribal and rural folk have used their own knowledge to conserve natural sources and maintain in natural imbalance. In course of time, over exploitation of natural resources with the advanced or modern technologies natural balance in some tribal and rural areas are in imbalance situation. However, in many rural folk societies in India are still practising their age-old traditional knowledge for livelihood practice as well as daily life in the digital era.

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