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EDITORIAL

Human Resource Development : Some Key Issues

RAJAT KANTI DAS

Editor, Journal of Indian Anthropological Society

It is A.P.J. Abdul Kalam (2011) who has tried to see human resource development in the proper functioning of enablers. HRD's role in promoting enablers lies in the fact that it establishes connectivity between different fields like physical, electronic, knowledge base and economic. As a manipulative strategy, HRD connectivity through enablers can be established with the help of a suitable technology, fixed investments, community, aggregation (transport), and management. While the need for a development connectivity has to be recognized in any development programme, such an approach may fall short of people's expectations because here the voice of 'development operators' or 'enablers' is given prominence over others. The perceptions and behaviours of social actors should be given due importance because it is they who are supposed to be the main beneficiaries and as beneficiaries they may like to be assured that the developmental changes do not interfere with their 'instituted habits'. 'Instituted habits', according to Amin (2009), a South East Asian development specialist, "...are habits of culture-conditioned preferences, settled consumption patterns, trading conventions, cultures of social interaction, traditions of learning and knowing..." In order to study this domain, one has to focus more on formative and functional categories rather than on conventional economic categories associated with economic development.

One cannot but agree that people's behaviours are sometimes misguided and misconceived because they do not always react as expected by the developer and the developer loses no opportunity to come down rather heavily on them. But it should be remembered that more than development agents, the reaction of the concerned or targeted group of people should be the guiding factor. In a rural background, peasants or small farmers may make use of the services or opportunities provided and constraints supplied by development institutions according to their way of looking at things. Their actions may, however, fall short of institutional requirements. On the other hand, they may be subjected to pressure of various types from different quarters. As a result, their full potential may not be realized. The reactions of a group of people in a rural setting to an external intervention or to a 'development proposal' are partially structured by the way those concerned view the interveners or proposers. The recent functioning of panchayat may be a good example. The people may have suspicion concerning the interveners, or they may get frustrated by the hopes invested in them, or they may be fully satisfied with

the interventions initiated by the interveners. Where the government is strong enough or is able to play with the sentiments of the people, the differential note of expression may not get the chance to get fully expressed. Still, people's own logics for whether or not being a wholehearted participant of the development effort, initiated or dictated by government-run institutions, remain. In the contemporary situation, their only concern seems to be getting material life benefits by remaining loyal to the proposer and less so to the cause for which those benefits are made available. This is one form of degradation of their human resource potential in terms of their basic inherent capacity developed as a practical manifestation of community living.

From the development point of view, it is almost unthinkable to find a village or neighbourhood in which one does not encounter 'actions for change', which, in other words, mean that there are interventions originating from outside and initiated by the state, activists or private operators, though their degree varies. Once they enter into a people's life pattern, create a lasting impression on them. Even otherwise, there is always a possibility that people, particularly those who have a community structure, may not see eye to eye with the government. In such cases, when the people have no voice of their own or when their voices have been muted, there is again a possibility of the feeling of pauperization in terms of loss of cultural or moral values and self dignity gradually creeping in their mind. It will have destabilising effects, which get manifested in various types of immoral and questionable activities they now indulge in to derive immediate benefits or momentary relief. Probably this is the price the people as such have to pay for development. The government intervention also raises doubts. Development results in unequal exchange in respect of both goods and inputs. It sometimes acts as the instrument of exploitation in those areas where the people are facing the problem of adjustment in the face of increasing economic deprivation and political domination from outside. Then there are actors within the local group who take development as an object and a level of competence, or a personal end to which they devote their energy, time, money and even professional skill and capabilities that they might have acquired as a result of their exposure to situations with better economic opportunities. Their activities, though satisfying or rewarding at the individual level, in a way weaken the cause of community development as an integrated approach. There is another side of it. The controversy that developed some time back around the Jarawas being subjected to photographer's camera in lieu of some eatables has once again highlighted the need to clearly define the role of government in the affairs of a community which has its own unique way of living together. They fulfil the condition of 'Natural Man' and once they are delinked from nature, the balancing force behind their life gets completely disturbed, so much so that they become reduced to poor imitators. It will be a loss to humanity's multifaceted splendour if they are completely uprooted from their natural base, getting detached from their cultural moorings in the process.

Human resource development may have different implications. It can be the goal, the objective or it may be the means to achieve the ultimate goal, which is total and complete human welfare. Thinking human in terms of a resource has some particularities. The question of utilisation, replenishment, renewal and development of resource is involved with it. For some time social science approach to development of resources toed the line of natural science approach. Human resources were treated in almost the same way as natural resources. There was an element of spontaneity behind such developments. Following such a course in a limited but defined way may still provide scope for convergence of socio-cultural and environmental resource areas. Contemporary human phenomena, because of the application of manipulative strategies, have assumed altogether a different character. Development projects are now planned in such a manner that the damaging aspects of the proposed interventions at the local level are often overlooked for the sake of providing benefits to the majority. This leads to polarisation of societies and creates problems of a dimension which violates the social and cultural ethos of the people, prevents them from living with dignity and honour within the social and cultural milieu they represent. Giving scope to specific groups of people to live in harmony with their immediate environment may not be easy in a situation when induced changes have become the order of the day. Like spontaneous changes, induced changes are also felt-needs, but in this case the control is gradually taken away from the people. This also applies to human resource development as it is practiced today at the community level.

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Myths and Motives: Kodagu and the Story of the Kaveri Purana

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Abstract: This paper examines how specific myths are manipulated as 'histories' in order to assert supremacy, establish a hierarchy, and exercise power and control over people and resources. With specific references to the district of Kodagu in Karnataka, and the lesser known fact that Kodagu has recently raised a demand for a separate statehood, this paper takes a critical approach to the Kaveri Purana in particular, which is upheld as an undisputable theory of origin of the Kodavas. The paper examines the concept of 'myth-making', wherein the myth is repeatedly employed in the everyday life of the people of Kodagu to highlight assumptions of 'greatness' and 'uniqueness' that are attributed to their 'history', through a constant reiteration of the 'Kshatriya' motif. Through an analysis of the dramatized version of the myth presented by Kodagu's first poet and playwright, Haradas Appacha (1866-1944) and through specific examples of the manifestation of the Kaveri Purana in Kodagu's social and cultural life, this paper aims to interrogate how myths are manipulated in order to assert an authentic legitimacy by a concerted obliteration of the fine, yet definite line between myth and history.

This paper argues that myths usually have an underlying motive of aspiration to power and also validations of political identity. The Kaveri myth has entered the public domain vis-à-vis statues of Kaveri as well as of Haradas Appacha. Interestingly, voices of resistance against this 'grand Kodava narrative' are raised by several other *moolanivasis* or original inhabitants of Kodagu, who have highlighted a supremacist tendency on the part of the Kodavas. Political groups in Kodagu constantly employ references to Kaveri which help provide the cultural dimensions to the political movement of separate statehood, but it remains to be seen how far the cultural enactment of the myth assures the success of the separatist movement.

Key words : History, identity, Kodagu, legitimacy, masquerade, myth-manipulation, statehood

INTRODUCTION

Myths and folklore have enriched and enhanced the meaning of life for mankind around the world. While the two words may be sometimes used interchangeably, they continue to be evoked time and again, either as a reminder of the days gone by, or as a means to establish legitimacy of origins, customs and practices of a community. Thapar (2000:754) says that myths may be differentiated from folk tales by their focus on the 'grand events' of the past-the creation of the world, the origin of man and of the gods, the justification of kingship- whereas the folk tale is concerned with more restricted social preoccupations generally not involving any grand narrative.

Myths, therefore, are virtual depictions of the cultural landscape of a particular period, capturing the feelings, thoughts and beliefs of the people in that period. The grand scale and scope of the myth, however, indicates an

inherent power of the myth to be transported over generations cutting across time periods, in its original form, regardless of the changing cultural and social environment of the myth-consumers. The myth continues to exist with a 'sacredness' that was intended in its creation, being practiced even in modern cultural landscapes, which has evolved from the moment of myth-creation. These qualities of myths such as its obscurity, unverifiability, and sacredness render it a powerful tool for manipulation by its creators and users, sometimes helping it manifest itself as *history*, as shall be examined in the later sections.

My academic interest in the area of Kodagu stems from a strong personal connection with the land. My grandfather came to Kodagu from Malabar in the year 1934, and later on established himself as a coffee planter in Kodagu. As a Malayali, born in Kodagu, I was raised with both Malabar and Kodagu traditions.

During the research I undertook for my M.Phil dissertation on the topic, *Haradas Appacha Kavi: Birth and Ambivalences of Modern Kodava Theatre* (2011), I encountered several dimensions of the multi-layered culture of Kodagu that went beyond the referential context of the play texts. It emerged that a process of cultural revival and articulation, centering around a Kodava-land, owned and governed exclusively by Kodavas was revealing itself.

Vijay Thambanda Poonacha's (2004) book, *Conflicting Identities in Karnataka: State and Anti-separate State Movements in Coorg* is the most reliable work on the subject, providing a comprehensive, analytical and chronological history of separate statehood movements in Kodagu. Poonacha records that 'there was no serious debate on the statehood issue until the spread of the 'outsider syndrome' spearheaded by an organization called *Kodagu Moolanivasigala Samrakshana Samithi* (Kodagu Original Inhabitants Protection Committee) in 1982. There were also several other short-lived 'separatist' organizations that fought against the 'discriminatory policies' of the Karnataka Government between 1985 and 1991 such as *Yuvajanasabha*, *Janajagrithi Samithi*, *Navanirman Samithi* and *Kodagu Ekikarana Ranga / KER* (Kodagu Unification Front) and Liberation Warriors of Kodagu (LIWAK). Presently, LIWAK has transformed itself into Codava National Council (CNC) which is the foremost organization in Kodagu spearheading the separatist movement. CNC employs cultural tropes such as public celebrations of Kodava festivals and revival of long forgotten traditions and customs in the articulation of the demand for a separate statehood. Poonacha notes that the CNC aimed at constructing a history to mobilize the Kodava people in the name of 'culture' and 'identity' and took an oath to 'separate Coorg, the "sacred land of Kaveri," from the "gutter" of Karnataka' (Poonacha 2004: 21).

The political articulation of the statehood movement compelled me to engage with its cultural dimensions, particularly in the manifestations of the Kaveri myth in Kodava social and cultural life, which essentially seems to provide a social charter in validating a 'legitimization' of Kodava identity. My

methodology has involved a close reading of the Kaveri myth particularly in Haradas Appacha's plays, owing to my familiarity with the language and cultural associations. It is precisely my awareness of these cultural dimensions that enables me to read the myth in a specific and strategic way.

The objective of this paper is to examine the use of myths as a means to establish a 'glorious history', by interrogating how myths can be manipulated to provide an authenticity and legitimacy to a people or a community towards achieving a specific set of political goals. Some of the research questions addressed in this paper are: How does the notion of culture feed the mobilization and consolidation of a homogeneous political identity? How then, does the myth of Kaveri, for instance, translate into 'history' and does an application of that history to a community of people succeed in politicizing the identity formed in the process?

For specific purposes and by specific peoples, myths can be manipulated in order to masquerade as the 'history' of a people. Through examples from the small district of Kodagu/ Coorg in Karnataka, this paper argues how these 'histories' are 'manufactured' in order to assert supremacy, establish a hierarchy, and exercise power and control over people and resources. With specific references to the Kaveri Purana in particular, this paper examines the concept of 'myth-making' wherein the myth is repeatedly employed in the social and cultural life of the Kodavas (the people of Kodagu) to highlight assumptions of 'greatness' and 'uniqueness' that are attributed to their 'history'. Focusing on the use of myths as a means to establish a 'glorious history', this paper aims to interrogate how myths are manipulated in order to assert an authentic, undisputable legitimacy by a concerted obliteration of the fine, yet definite line between myth and history. In the following sections, the paper will first give a brief summary of the political upheavals in the district of Kodagu; the second part will delve into the myth of the Kaveri Purana and its linkages to the origin theory of the Kodavas; the third part will discuss the manipulation of the Kaveri Purana to 'masquerade' as the history of the Kodavas and the last section will discuss the various manifestations of the Kaveri Purana in present day Kodagu and will go on to understand how myths become a potent tool for accessing and retaining power and resources.

KAVERI PURANA AND THE HISTORY OF KODAGU

Kodagu is a small district in the state of Karnataka. The people of Kodagu are known as Kodavas, and the language they speak is known as Kodavattakk. Apart from the Kodavas, there are several other communities such as the Kudiya, Koyavas and Airis who also speak Kodavattakk and have belonged to the land of Kodagu since ancient times.

The district of Kodagu in Karnataka has witnessed several complicated political transitions throughout history. From the earliest known Nayakas, to the Lingayat kings of Haleri, from periodic attacks by Tipu Sultan to the

subsequent annexation by the British in 1834, the fabric of Kodagu's social and cultural life has seen many interventions. After the States Reorganization Act of 1956, there have been sporadic calls for establishing Kodagu as a separate state/ union territory.¹ The 'movement' is currently being spearheaded by the Kodava National Council (CNC) an organization that has been working towards this goal for the past twenty five years. The calls for separation from the state of Karnataka have been buttressed by an assertion of a 'uniqueness' of the Kodavas, in terms of their origins, culture and mannerisms, as one that is not seen in the rest of Karnataka or even India. This paper examines the use of the Kaveri Purana as an origin myth, in highlighting this 'uniqueness' that is upheld and performed repeatedly as a tool for accelerating the statehood movement.

THE KAVERI PURANA

Kodagu is a treasure-trove of myths and folklore. One of the most popular myths is connected with River Kaveri originating at Talacauvery in Kodagu. The Kaveri myth from the Skanda Purana is regarded by the Kodavas as the one undisputed story of Kodava origins that is upheld owing to its 'sanctitude' and also to its linkages to a Kshatriya lineage. The Kaveri Purana is retraced here in order to examine the reasons for its popularity as the origin myth of Kodavas, a concept which gets routinely performed from time to time in several ways. I argue that these performances that reiterate the Kaveri myth is a carefully processed product, especially designed to project a unique and legitimate Kshatriya identity for the Kodavas.

The Kaveri Purana forms chapters 11-14 of the Skanda Purana. In the narrative, Goddess Parvati assigns Lopamudre, an incarnation of Parvati to flow as a river and bring prosperity to the world. Lopamudre is born as the adopted daughter of Lord Brahma. Meanwhile, a sage named Kavera, deep in penance, prays to Lord Brahma to grant him a child. Pleased with his penance, Brahma offers him Lopamudre. Adopted by sage Kavera, she is henceforth known as Kaveri. Kaveri is pious and dutiful and is very much devoted to her father, assisting him in all his duties. One day, sage Agastya, passing by, sees Kaveri and is struck by her divine beauty and desires to marry her. Kaveri is hesitant because she knows that once she marries the sage, her purpose in life to bring prosperity to her people, would be lost forever. She agrees to marry him on the condition that Agastya should never leave her alone or covet another woman. They are thus married and Agastya keeps her safe in his sacred urn. One day, at Talacauvery (in Kodagu), Agastya goes to pay respects to River Kanake, asking his disciples to keep watch over Kaveri. Seizing this opportunity, Kaveri escapes from the sacred urn, and flows away as a river from Talacauvery. When the disciples try to stop her, she flows underground and reappears again at the foothills of Bhagamandala.

This is the story of the origin of River Kaveri, according to Skanda Purana. It must be noted that until this point, the story from Skanda Purana has nothing

to do with Kodagu or with the Kodavas, except for the point of geographical interest that Talacauvery is located in Kodagu. The Kaveri Purana is also known as the Kaveri *mahatmya*, which literally means the ‘greatness of Kaveri’. Thus *Kaveri mahatmya* is already an *upa*-Purana to the *Skanda* Purana. In these *upa*-Puranas too, there are several further interpolations where, in each case, the intent is to provide sanctity and credibility to the present by drawing upon the past. Thapar (2014) says that an identity is not created accidentally nor is it altogether innocent of intention thus indicating that all myths are born out of motive.² Let us see how the Kaveri Purana is embellished by specific ‘information’ or ‘sub-texts’ that translate into ‘motives’ to elevate the social status and assert the uniqueness of the Kodava identity.

SUB-TEXTS IN THE KAVERI PURANA

A related myth concerns the narrative of Kanake and Sujyoti, two rivers who, along with Kaveri, form the holy trinity of rivers. This is a reflection of the well-known tale of River Saraswati which is said to have been lost in the desert sands, but joins the Ganga and Yamuna, unseen, at their confluence in Prayag. River Sujyoti, is depicted as a boon granted to a devout Brahmin sage named Suyajna by Lord Vishnu. Lord Indra, taken in by her beauty, requests her hand in marriage. Sujyoti agrees hesitantly. She reveals to River Kanake that she wished to flow as a river and bring prosperity to the land. Accordingly, the two women set off as streams. Angered by this defiance, Indra curses Sujyoti that her waters shall disappear. Sujyoti, thus dry and barren, pleads with Indra who grants some consolation that when the river Kaveri comes flowing, she and Kanake may join her, and in her company, unite with the great sea.³

Another parallel story is that Goddess Parvati appears in the dream of the Kshatriya King Chandravarma of Matsyadesha and grants him a boon that he will rule the bountiful forested land justly and that he will have eleven sons who will populate the country. She further assures him that at an appropriate time, she will incarnate as River Kaveri and will redeem him of all his sins from his previous birth and bring peace and prosperity to the land. Parvati thus grants him a Sudra wife who bears him eleven sons. They were known as *Ugras*, born out of the union of a Kshatriya man and a Sudra woman. However, the children are raised as Kshatriyas because of the blessings of Parvati and their land was called Matsyadesha. These people dug up the barren land with their own hands like a boar (*kroda*), and hence the land came to be known as Krodadesha also. In due time, Kaveri flows as a river and reaches Valampuri (now, Balamuri), where the new king Devakanta⁴ and his subjects stand in obeisance. Kaveri blesses the king and his subjects and continues her onward journey thus fulfilling her vow to bring prosperity to the country. It is said that the force of the mighty river was so strong that the women’s sari pleats were pushed to the back. This is why Kodava women wear their saris till date, with the pleats to the back.⁵

Examining these two subtexts, one could say that the first sub-text is a strategic attempt to bring the River Kaveri at par with the Ganges by invoking the canonical idea of the Triveni Sangam at Prayag in Northern India. Sujyoti takes the role of River Saraswati, the unseen river that is said to be the third river in the holy Triveni Sangam. The second subtext relates to the origin of the Kodava people. Chandravarma is established as a Kshatriya King, with an allegiance to Goddess Parvati. Children born to his Sudra wife are raised as Kshatriyas. The Kaveri myth has been subtly appropriated to provide a glorious, Kshatriya lineage to the Kodavas.

A significant point of interest is that Kodagu is also referred to as Krodadesha. A myth surrounding Krodadesha is that Lord Vishnu, who had taken the avatar of Varaha, had turned into a fierce Kroda (wild boar) causing havoc and destruction to the land of Kodagu. So the people prayed to Lord Shiva, who promised to subdue the fearsome boar. Lord Shiva takes the form of a hunter and kills the wild boar, and thus the land came to be known as Krodadesha.⁶

Therefore, the references to a) two of Lord Vishnu's avatars (*Matsya* and *Varaha*) in the nomenclature of Kodagu, b) Lopamudre / Kaveri, as Brahma's daughter, and c) Parvati, the consort of Shiva as the deity the Kodavas, contribute towards creating a glorious past through constant references to the holy trinity of the Hindu pantheon. These repeated allusions to the canonical Puranas in the Kaveri myth and its association with the Kodavas, provide a 'sanctified', 'legitimate' and more importantly, 'Kshatriya' ancestry to the Kodavas by creating a plausible 'history' to legitimize the Kodava lineage.

MYTH-MANIPULATION - APPACHA KAVI AND THE KAVERI PURANA

It will be interesting to look at the dramatized version of the Kaveri myth to better understand the 'motives' of the myth. I argue that it was Haradas Appacha Kavi (1868-1944), known as the first playwright of Kodagu, who eternalized the Kaveri Purana through his seminal work *Kaveri Nataka* (1918) by using the Kannada script to write the Kodavattakk language.

Indeed, he has taken special care to glorify River Kaveri in almost all of his plays namely *Yayati Rajanda Nataka* (1906), *Subramanya Nataka* (1908) and *Savitri Nataka* (1908). In all these plays, Appacha describes the significance of River Kaveri through several examples as well as through songs in praise of the river. *Kaveri Nataka*, as depicted by the name, has an entirely different agenda. Kaveri Purana from the Skanda Purana, is the core plot of the *Kaveri Nataka*. However, Appacha has modified/ manipulated the plot to suit the Kodava ethos in more ways than one. Apart from glorifying the land and the people, Appacha's main aim with the *Kaveri Nataka* was to enlighten the Kodavas of their glorious past and to remind them of their sacred 'history'. In the introduction to the *Kaveri Nataka*, Appacha writes:

I highly doubt if our Kodava people know anything about Shri Kaveramma, Who is she? Where was she born? Why was she born? Why did she take the form of a river? How did this land become our *janma-bhoomi*? Who are the Kodavas? Who are the Amma Kodavas?⁷ The reason for my doubt is that the Kaveri Purana is written in Sanskrit and in our country, the knowledge of Sanskrit is negligible. We should depend on someone else for the translation. But, having dispelled these issues, having gone through the Puranas relating to the Mahadevi, and her relationship to the Kodava *vamsha*, and that every household should have this book, and by worshipping our reigning deity, Kaveramma, gain redemption from their sins, and for everyone to understand, the Kannada script has been used, and have made it into a play form...⁸

With this introduction of the play, Appacha unequivocally states his intention. On close scrutiny of Appacha's peculiar form of introduction we find that Appacha intended the *Kaveri Nataka* as his magnum opus with a hope to impress upon the people of Kodagu his literary prowess, but more importantly, to confer a glorious ancestry for the Kodavas through the creation of a 'legitimate myth' (or history) that was buttressed by borrowing heavily on various elements of the original Kaveri Purana.

In the play, the story of King Chandravarma takes an interesting twist and appears as follows:

Taking my army along, securing the *Chandraayudha* (*peehekathi*, the traditional knife of Kodavas) in my waist, I (Chandravarma) went to Bengal and conquered all the Kingdoms there. I heard that one of my uncles was going to marry the only daughter of the King of Nepal. Since there was a dearth of Kshatriyas in Krodadesha, I waged a war against him, killed him in the battlefield and kidnapped the mother and daughter of the Nepal King and brought them back to Krodadesha with me. Sage Kavera was delighted at the idea of me having a *kulapatni* to bring prosperity to my Suryavamsha lineage and advised a Kshatriya marriage. I said that I do not have any Kshatriya family members here, and the Guru is foremost in my culture. He thought awhile and suggested that a *gandharva* marriage be conducted, by Chandrakaantini, the mother of the bride, as the honorable person sprinkling the holy water from Lake Bakeshwara. Later, as per the sage's orders, I went back to Bengal with Chandrakaantini and declared her son as King, and brought back a great army of Kshatriya warriors, soldiers and laborers. With their help I built palaces and cities and forts aplenty. My second queen duly gave birth to my children, and the eldest, Devasharma is now the crown prince! And this is now the birthplace of my entire clan!⁹

This rendition of Appacha explaining the origin of the Kodavas is an important modification to the original Purana. The Sudra mediation, as recorded by Richter (1870), has been completely erased. In the original narrative, Goddess Parvati grants King Chandravarma a Sudra wife who bears him eleven sons who are known as *Ugras*, children born of the union of a Kshatriya man and a Sudra woman. The reason for Appacha's willful modification of the Kaveri Purana was to cleanse the Kodava race of the Sudra lineage and accord them the 'purity' of the Kshatriya lineage. One of the ways of ensuring this elevated status was through a clever employment of the mechanism of Sanskritization.

SANSKRITIZATION AND HARADAS APPACHA

Sanskritization was defined by M.N. Srinivas (1989) as the process by which a 'low' caste or tribe or other group takes over the customs, rituals, beliefs, ideology and style of life of a high and, in particular, a 'twice-born' (*dwija*) caste. The Sanskritization of a group has usually the effect of improving its position in the local caste hierarchy. It normally presupposes either an improvement in the economic or political position of the group concerned or a higher self-consciousness resulting from its contact with a source of the 'Great Tradition' of Hinduism such as a pilgrim centre or a monastery or a proselytizing act.¹⁰ These following examples examine how the phenomenon of Sanskritization becomes evident through Appacha's treatment of the Kaveri Purana in his play.

Here are some instances of Sanskritization in the Kaveri Purana:

a. *The removal of Sudra mediation*

An important instance of Sanskritization in the Kaveri Purana, as mentioned earlier, is the removal of the Sudra mediation to ensure a 'clean' genealogy or bloodline for the Kshatriya Kodavas. Thapar (2014: 49) is of the opinion that some dynasties of obscure origin supported their claim to being Kshatriyas by having genealogies fabricated for them linking them to ancient lineages, such as the Suryavamsha (the solar lineage) and the family of Rama, or the Chandravamsha (the lunar lineage) and the descendants of Puru. Such claims became quite fashionable after the sixth century AD when mention is made in the Puranas of the making of what are called 'New Kshatriyas'.¹¹ This idea confers a sort of royal descent to the Kodavas, emancipating them from a group of forest dwellers to that of what she calls 'New Kshatriya'. All these communities would hold steadfast to the idea that they are products of a 'historicized myth' which celebrates the actual occurrence of a systematic performance of events that are 'true', however illogical it may sound.

b. *The supremacy of Kaveri over Ganga*

By transposing the Triveni Sangam analogy in the Kaveri story, it lends an equal supremacy to both Kaveri and Ganga, thereby implying that

Kaveri is no less sacred than Ganga. An important point to note here is that in the original Purana, it is Goddess Paravati who incarnates as Lopamudre. However, in Appacha's version, it is Goddess Lakshmi who takes the form of Lopamudre. This seems natural since he called himself a '*hara-dasa*' or a 'devotee of Lord Vishnu'.¹² He uses this modification to his advantage to justify the supremacy of Kaveri over Ganga by including another sub-text in his play. In act 5, in scene 8, he introduces a scene where Ganga goes to pay her respects to Kaveri. Ganga says that she is, in fact, Kaveri's daughter. Since she was born at Lord Vishnu's feet, Vishnu is her father and Goddess Lakshmi, by extension River Kaveri, is her mother. Ganga also declares that once a year she takes a dip in the waters of Kaveri to rid herself of the sin of having pierced the earth so hard on her way down from heaven.¹³ Thus, the supremacy of Kaveri over Ganga is permanently etched in the Kodava psyche through the medium of this play.

c. *Linguistic Sanskritization*

Appacha employed a unique style of Kodavattakk, the language of Kodavas, which enriched the vocabulary of the language by leaps and bounds. Appacha 'invented' words that were never before used even in oral literature let alone, in common parlance. He was perhaps trying to establish an unquestionable 'purity' of the Kodava language, as not a 'derivative' or an 'offshoot' of some other major, mainstream language, but as a pure and ancient language of the Kodavas alone, like Sanskrit is to the Brahmins.

It can be seen that Kodavattakk has undergone ample Sanskritization at the hands of Appacha Kavi. I define linguistic Sanskritization as the way in which the vocabulary of any vernacular language is modified to sound like Sanskrit, an ancient language that is generally accepted worldwide as highly complex and refined, and dwelling in the realms of the erudite Brahmins. Drawing from Srinivas' explanation, the Sanskritization of a language too presupposes an improvement in the status of the language of a particular group resulting from its contact with a 'greater' language.

Having been exposed to temples, Brahmins, Puranas, prayers, *ragas* and *bhajans* during his days as an officer at the Bhagamandala temple division, Appacha's first mechanism was to use plots from ancient Hindu Puranas in his works. By adapting it to the Kodava ethos, he partially succeeded in his attempt to create a rich 'history' for the Kodavas. Secondly, he freely borrowed words from Sanskrit to suit the Kodava ambience, thereby enriching the existing Kodava vocabulary. Finally, he renders a 'Sanskritic' quality to the language through the extensive usage of metre and alliteration in his verses, and also the use of *ragas*, which was normally considered the forte of Carnatic music, then rendered usually by upper caste Brahmins whom he encountered during his formative years as a

poet and playwright. He not only scripted songs in Kodavattakk but also trained his actors to sing these songs in important *ragas* like *Kalyani*, *Hindustani*, *Kaapi*, *Ketaara*, *Behaag*, *Mohan*, *Khamaaj*, *Kharharpriya*, *Mayamaalavagoula*, *Shankaraabharana*, *Ghazal*, *Kamboji*, *Bilaahari*, *Poorva Kalyani*, and *Neelambari* among others.

Below are some examples of Sanskritization of Kodavattakk:

In *Kaveri Nataka*, the different names of Kaveri are listed by the *sutradhaara*:

Kapile Kalyaaniye! Kumudaa Devi Kauberi Shri Kaveriye! Vimaleye Vishweshwariye! Bhramaraambikeye!¹⁴

Ambaamahajaga! Shumbha Shumbha Samhaara Gauriye! Chanda Munda Daitya Naashini! Chandike Devi! Chamundidurgi! Shaktini, Kaamaakshini Meenakshi!

Bhagavatini! Raktha Beejasurana Nashini! Mahisha Mardini! Tharinimani! Dweepaavasini! Maari Maha Kaali! Yogeshwari! Bhairavi! Buvaneshwari! Shive!

Mahadevi, Mahakali, Mahamaaye, Maheshwari, Jaganmaya, Lokapoojya, Kavera's daughter, Kaveramme!¹⁵

This invocation song bears strong resemblance to some portions of Adi Sankara's *Soundarya Lahiri* eulogizing the beauty, grace and munificence of Goddess Parvati, and also to *Devi Sahasranaamam*, a text from the Brahmanda Purana of Hindu mythology invoking one thousand names of Goddess Parvati.

In all these verses, there are myriad references to the Hindu Puranas and to the gods of the Hindu pantheon. Appacha employed all the *Navarasas* from Bharata's *Natyasastra* in the creation of his plays. It was obvious to him that since there is limited vocabulary in Kodavattakk, it is difficult to create meaningful literature. But by pushing the limits of the language, which until then, was used only as a mode of banal, everyday communication, he has indeed propelled the language towards upward mobility through Sanskritization.

MANIFESTATIONS OF THE KAVERI PURANA

Quite often, myths become recorded as a historical truth and are proliferated through media like theatre, music, dance and festivals, which commemorate that myth through harvest festivals and even in marriage rituals. Let us now look at some examples of the manifestation of the Kaveri Purana in Kodagu's social and cultural life.

a. *Songs on Kaveri:*

Appacha's *Kaveri Nataka*, his magnum opus, was performed extensively in Kodagu and thus the invocation to river Kaveri became very popular in the collective Kodava psyche. The song '*Kaveramme Devi Thaayi Kaapaadaengala*' (*ka:veramme de:vi θa:ji ka:p:dengA(a:)*) which translates to, 'O Mother Kaveri, protect us!' composed by Appacha as an invocation to River Kaveri, has earned a special, divine status. This song later on became

one of the usual 'prayer songs' for almost all important functions in Kodagu. Kodava women also dance to this song in their traditional Ummathaatt dance, to the rhythm of cymbals. Songs on Kaveri are also recited for most public functions organized by the CNC (Codava National Council) or the Kodava Sahitya Academy. Such a reiteration of the myth through songs in the everyday lives of the community leads to a strong belief in the authenticity of the myth which then easily assimilates itself as the history of that community.

The rest of the song is translated as follows:¹⁶

O Kaveramme, Goddess, Mother Protect us!
 Show us the correct path and shield us from evil
 You became the adopted daughter of Lord Brahma
 With no sign of fear, you dared to leave the dreaded Sage Agastya
 At Bhagamandala, along with the River Kanike¹⁷
 You came to the blessed Balamberi¹⁸
 Saw all the Kodavas waiting for you in obeisance
 To the Ammas¹⁹ and the Kodavas you gave your faithful word.
 In our lives and to our land, you brought prosperity
 To the famous Ocean you finally join.
 For all the deeds the men on Earth had committed
 You cleansed them of all their sins with no disparity
 O goddess, full of Maya, I fall at your feet
 Reassure me and bless me and protect me O goddess!

In Kodagu, most festivals, rituals, public meetings, and sports events invariably begin with a prayer song in the form of an invocation to Kaveri who has been appropriated as the Mother goddess of Kodagu, designated as '*Kaveramme*'. Although there are variants of the Mother Goddess cult in Kodagu, in this particular instance, Kaveri is revered as the 'Mother' and all the people of Kodagu are her children.²⁰ As is seen in the lyrics, Appacha attempted to raise the morale and create a feeling of unity among the Kodava population by asserting the Kaveri myth as the legendary backdrop to the origin of the Kodavas.

b. Kaveri Sankramana

The *Kaveri Sankramana* is an important festival for the Kodavas. Apart from Kodavas, devotees from Karnataka and particularly from neighboring Tamil Nadu also visit the Talacauvery on the auspicious day of *Kaveri Sankramana*. Also known as *Kaveri Sankranti* or *Kaveri Changrandi*, this day celebrates the birth of River Kaveri in Kodagu. On the day of *Tula Sankramana*, which is the first day of the Kodava month of *Toleyar* around mid October, it is said that water surges up from the spring in the small

pond at Talacauvery at the precise moment when the sun enters *tula rasi* (Libra constellation). On that day, the holy water from Talacauvery is brought to every Kodava household and is stored with reverence and used as a cure for ailments and diseases, and also at deathbeds, much like the *Ganga jal* popular across India.

The Kodavas believe that the land belongs to Kaveramme and that they are the natural care-takers of the land. Every year, during *Kaveri Sankramana*, Mother Kaveri is said to visit Kodagu to inspect the progress of her country, and take back the land that is rightfully hers. Kodavas, in order to surmount the loss of their land, place a post called *bott* in their fields, on the banks of wells, near cattle sheds and other places as indicators to mark the flourishing cultivation of the land in their possession. *Bott* literally means, ‘to be frightened’, as the original owner (Kaveri) comes to claim the land. This tradition could indicate the fear that the caretakers of the land would have to relinquish their landownership to Kaveri, or as a mark of obeisance and submission to Kaveri.

The day after *Kaveri Sankramana* is observed as *kani puje*, or ‘worshipping the earth’. This tradition is nowadays barely followed in most Kodava households, with the members being content with a token gesture of tasting the waters of Kaveri. In some places, *kani puje* is celebrated on the Kodava New Year, or *Edamayar*, which falls in April—the same time as the festival of *Vishu* is celebrated in Kerala and *Bihu* in Assam.

c. *Ummathaatt*

The Ummathaatt is the only dance performed exclusively by women in Kodagu. Ummathaatt is a group dance performed by six or more women dancing around a lamp, keeping rhythm with their *tala*, or cymbals. This dance originally used to be performed in temple premises as a ritual. In due course, it was performed in village grounds during local festivities and also important family events in ancestral homes. Of late, the Ummathaatt has gained prominence as an important marker of Kodava culture, being performed on stages, competitions and entertainment venues. The attire for the dance is the Kodava style sari, usually red in color, with golden colored dots embroidered on it, worn with the pleats at the back. A *mandevastra* or a veil covering the head is also part of the attire. The jewels worn are the traditional Kodava necklace called *kokkethaathi*, a crescent shaped large sized pendant, and a *jomale*, gold beads strung on a black thread. The blouse is with full sleeves or three fourth sleeves with the wrists adorned with gold bangles. The movements are slow and according to the cadence provided with the clap of their cymbals, sometimes increasing in tempo and rhythm. The songs are usually in praise of Kaveri, or ‘welcome songs’, inviting friends and relatives for get-togethers.

There are at least three or four songs that are danced to in a typical Ummathaatt performance, with most songs praising Mother Kaveri. For some songs like *Bandira Bandira Bendukalellaa*, *Kaverammena Kondaadi* (bāṇḍi:ra bāṇḍi:ra bendukaḷella: ka:verammena konda:di, Come come, O relatives, let us celebrate Mother Kaveri), the steps involve a hop-skip motion, and a slightly faster beat, with the cymbals still keeping the rhythm of the song. There is a very 'local' feel to the Ummathaatt, something Bharata's *Natyasastra* would refer to as the *Lokadharmi*, which typically means one that refers to the 'loka' or worldly activity of the people. It does not draw on a prescribed codification of gestures (*hastas*) and gaits (*gatis*), but has its own modes of exaggeration and emphasis.

The sari pleats tucked in at the back, and the constant bending motions symbolize the agricultural work in the fields while transplanting paddy or while clearing forested land for cultivation of coffee and cardamom, or chopping firewood into smaller pieces. The skipping motions in the dance steps, the cymbals keeping rhythm, and the interaction with other members, and the addition of the lamp in the centre, add aesthetics to the realistic activity, making it a significant art form of the people. Over time, this came to be performed as a dance to welcome occasional, important visiting relatives. Those days, in joint families, there would be about at least twenty or thirty women performing the dance. Gifting the girls a pair of cymbals as a wedding gift was customary.

The music and songs that accompanied the dances have not received adequate documentation. The popular song *bandira bandira bendukale* is very recent and was composed by the poet Haradas Poovaiah in the early 1990s. The *Pattole Palame* (1924), a collection of oral literature and folksongs of Kodagu, first compiled by Nadikerianda Chinnappa, does not mention the specific compositions to which the Ummathaatt is supposed to be danced to. Bacheranianda Appanna, a litterateur and Kodava scholar believes that the *dudi*, or the traditional drum, is what the Ummathaatt was earlier performed to.²¹ The songs in praise of Mother Kaveri, such as *Kaveramme devi thaayi* by Appacha (1918) and *bandira bendukale* (1990's) began to be used for Ummathaatt only in recent times. Earlier, Ummathaatt was performed to the accompaniment of only the *dudi*, a traditional percussion instrument. Sometimes the drummers sing folk songs and the dancers sing along. One of the folk songs is translated as follows:

i: okka maṇekk beṇḍu ḷiṇḍzi bāṇḍi:ra

You have come to our *okka*²²

i: okkaḍa ka:roṇa ka:roṇaḍa:ja und

This *okka* has its own *guru kaarona*²³

a: okka mʌnel tʃenda ba:ʃe kʌnðole
 That *okka* has a great crop of bananas
 roṃṃakka perkkʌd kʌkkʌtra kʌllole
 Like the strong stones of the parapet wall, let the girls grow
 a:ŋa:ʃ na:ʃʌd ka:ve:ri mʌnʌro:le
 Like the sands in the Kaveri, let the boys grow
 nellakki perkkʌd mʌnʌpole
 Like grains of sand, let the rice grow
 igguθa mʌʌmode piṃṃundama:riʃʌd
 Let the granary be full like the Igguthappa hill
 ka:poʃel kʌllole aɔʒɔʒʌnʌɔʒɔʒi ba:vʌd
 Let the grandparents live long like the rocks in the river will
 pa:vakkera pu:pole pa:makka perkkʌd
 Let girls grow like the flowers of bitter gourd
 kaipakkera pu:pole kaimakka nʌliʃʌd
 Let the children grow like the flowers of bitter gourd
 pa:θoreda pu:pole pa:kunji bolijʌd
 Let the babies grow like the flowers of bitter gourd
 pa:baʃʃi ka:i pole okkʌkodi nʌʌʌ
 Let the branches of the *okka* grow like the fruits of bitter gourd ²⁴

This song has been handed down through generations orally and is almost impossible to date. The significant point to note here is that the Ummathaatt which used to be performed in village temples has undergone gradual transformation by being performed in ancestral Kodava homes known as *ainmanes*, and recently as competitive stage performances and as tourist attractions with the invocation to Kaveri as one of the main themes. The Ummathaatt is now performed as a competition event by different Kodava Samajas in Kodagu, and even as an entertainment section during the opening and closing ceremonies of events like the Kodava Hockey tournament. Inevitably, the Ummathaatt has transcended the sacred space of the temple and has comfortably settled into the profane or everyday space like a hockey ground, or a competition venue. A general protocol is now in place with the insistence on wearing matching colors of saris by the entire team, and sometimes even the insistence on attractive girls performing the Ummathaatt.²⁵

Some movements and steps of the Ummathaatt have even been modified to resemble Bharatanatyam with the use of hand gestures (*hastas*) as it transited from a sacred space to a secular one. The secular space also lends the freedom to experiment with the movements of the dance, and the music. Performances of the Ummathaatt on a competition scale or as entertainment, and also by giving it wide coverage in local and national media, is an attempt to present the Ummathaatt, the ‘dance of Kodagu’, as a unique feature of the Kodavas. The modification of movements in the Ummathaatt indicates a gradual

transition from the Lokadharmi to the Natyadharmi style, which I argue is an attempt at Sanskritization intended to ‘classicize’ Ummathaatt to be at par with other classical dance forms of India. By upholding the songs about Kaveri in the Ummathaatt, thereby stressing their strong affinity with the river and thus their status as Kshatriya Kodavas, the uniqueness of the Kodavas is asserted through a ‘classicized’ representation of the Ummathaatt.

MYTH AND POWER-PLAY

Thapar (2000) argues that in the *Ithihasa –Purana* tradition, as far as the origin myths are concerned, it is mainly the Kshatriya status that is sought to be validated.²⁶ Appacha, through his *Kaveri Nataka*, has done well in clearly locating places of importance in Kodagu like the Talakaveri and Bhagamandala and linking them to a myth that follows a ‘bloodline’ or a ‘lineage’ rendering Kshatriya legitimacy to the Kodavas, which is widely accepted as the ‘truth’ of the Kodava origin.

I argue that there is a prime reason for this stubborn claim to the ‘truth’ of the Kaveri Purana and its relationship to the Kodava identity. The grand narrative of the Kaveri Purana indeed provides the much needed legendary backdrop to the Kodava lineage. However, a more critical interpretation of the play text reveals the constant reiteration of the ‘Kshatriya’ motif in the projection of a legitimate Kodava identity.

In Appacha’s plays, as well as through other manifestations of the Kaveri myth, the ‘Kshatriya’ motif is employed to resonate signs of physical power, manliness, Domination and weaponry. This affinity to Kshatriyahood is not devoid of the question of power. As Thapar emphasizes, (2014: 279) an identity is not created accidentally nor is it altogether innocent of intention.²⁷ Power and power-play come into perspective when the issue of the politics of separate statehood is embroiled with the performance of the Kaveri myth in everyday life. The motif of the ‘Kshatriya Kodava’ is employed in political campaigns of the CNC through recitation of poems such as *Kodavaloo Thokkoo* (kodava|u: to:ku , Kodavas and the Gun) in which it states:

The Kodavas of Kodumale (Kodagu) are a warrior race
In every house there is a gun, that’s the sign of a Kshatriya
Kodavas know not several other castes
But only the heritage of a warrior lineage

Another instance of the propagation of the Kshatriya Kodava warrior can be seen through the image of the ‘Coorg Warrior 1839’.

Let us examine closely the ‘Coorg Warrior 1839’. This image is based on a medal that bears the stamp of a man wielding a gun and an *odikathi*, a short sword-like weapon, braced for attack, with a *peecekathi* neatly secured in the knot of his waistband. This image is now being circulated widely as a ‘marker’ of Kodava identity. These stickers are available in the market and are



Coorg Warrior 1839

seen displayed on most vehicles in Kodagu. Even some of the jerseys in the annual Kodava Hockey Festival have this image printed on them, along with their family names.

Another articulation of the 'warrior lineage' of the Kodavas can be seen in the political pamphlet of the CNC describing the celebrations of Public Puthari, the annual harvest festival of Kodagu, which states that 'The said celebrations are intended only to exhibit vibrant cultural heritage of Codava Warrior tribes from time immemorial and our unbreakable connection with the Codava Mother Soil.'²⁸

Thapar says that politics was an open arena and these claims to Kshatriya or aristocratic identities as part of legitimation were required only to legitimize the family currently in power.²⁹ Or, to elaborate further along Thapar's lines, the family/community that laid claims to aristocratic identities had an easy shortcut to the seat of power. On a larger scale, this is apparent in the Kodava scenario too, with the demand for a separate state completely under Kodava governance.

SOME TENTATIVE CONCLUSIONS

By way of a tentative conclusion, I would reiterate that any myth in its current form evolves through years of its usage in multiple social, political, economic and cultural contexts. Consequently, the 'truth' of the myth changes with

several modifications, manipulations and retellings of the same myth by different people or communities over the years. In Kodagu, as we have examined in this essay, events incorporating references to River Kaveri and enactments of her divine presence are held on to steadfastly even in modern times. Malinowski's (1948) view that myths were essentially charters of validation on which the aim was very often to provide a sanction for current situations becomes relevant in the study of the Kaveri myth. The myth is rooted in the present while drawing 'legitimacy' from the past, however 'authentic' the past may seem to be or not. The quality of the myth of being devoid of validity assessment, while at the same time, being accepted by a community with which the myth is concerned, gives the myth, or the 'myth-makers' a strange power. This power makes it possible to provide, a 'sanction' for the present, in addition to evoking a sense of nostalgia for better times as theorized by Malinowski.

It seems that the Kaveri Purana continues to help sanction an idea of a 'legitimate history' for the Kodavas and that the incorporation of the myth into their history and their everyday lives serves to solidify that 'history'. However, it is important to remember that the evolution of the myth is a constant phenomenon, and that as the myth evolves, it serves the motives of the 'users' of the myth in whichever way it is required to. When an attempt is made to associate a myth with the history of a community, it becomes particularly necessary to examine the evolution of a myth in order to understand why an identity was initially constructed and how it was subsequently used in public culture, and why it may have become redundant and also manipulative in nature. As Thapar observes, ostensibly, the myth may relate to race or religion, but implicitly, it may be connected with other intentions such as access to power or aspirations to status and validations of political identity.

While, on the one hand, the unverifiability factor of the myth makes it a powerful tool to be manipulated as history, on the other hand, the same factor makes it susceptible to criticism, thereby facilitating a resistance to it being accepted as the 'truth' of the people. The question of what constitutes 'the people' is as much a significant issue as 'the truth' that is upheld in their name. In this regard, one should point out that several communities of Kodagu such as the Kudiyas or Airis who speak the Kodavattakk language and who also claim to be the original inhabitants of Kodagu have pointed towards a supremacist tendency on the part of the Kodavas and have expressed dissatisfaction with the exclusion of their communities in the projection of the 'grand history' of the Kodavas. All these communities also revere River Kaveri even though many of their origin myths are not connected with the river. With such resistances in place at a local level, embedded within the minutiae of caste, the question of whether the resurrection of the Kaveri Purana ultimately succeeds in providing 'legitimacy' to a singularized Kodava political identity remains to be seen.

NOTES

- 1 Thambanda, Vijay Poonacha 2004. *Conflicting Identities in Karnataka: Separate State and Anti-separate State Movements in Coorg*. Hampi, Prasaranga.
- 2 Thapar, Romila 2014. *The Past as Present: Forging Contemporary Identities Through History*. New Delhi, Aleph Book Company, p57.
- 3 Rao, B.R. Ramachandra, 2011. *AgastyashramadindaKuberashramadedege* (From Agastyashrama to Kuberashrama), Udupi, Honnapadma Printers, p22-25. [Kannada].
- 4 In some accounts the name appears as 'Devasharma'.
- 5 Ponnappa, K.C. 1997. *A Study of the Origins of Coorgs*. Lt. Col. Kongetira Ponnappa, Chettalli, p14-15.
- 6 Rao, B.R. Ramachandra, 2011. *AgastyeshwaradindaKuberashramadedege* (From Agastyeshwara towards Kuberashrama) Udupi, Honna Padma Printers, p2. [Kannada].
- 7 Another community in Kodagu.
- 8 Appacha, Haradas 1998. *Haradas Appacha Kavira Naal Nataka* (Four Plays of Haradas Appacha Kavi), Madikeri, Karnataka KodavaSahitya Academy, p1. [Kodavattakk].
- 9 Ibid, p59-60.
- 10 Srinivas, M.N. 1989. *The Cohesive Role of Sanskritization and Other Essays*. New York, Oxford University Press, p56.
- 11 Thapar, Romila 2014. *The Past as Present: Forging Contemporary Identities Through History*. New Delhi, Aleph Book Company, p49.
- 12 The poet's name has been mistakenly printed as 'Haridasa' (meaning, devotee of Lord Shiva) in a newspaper article in 1928 as "Kodagu's Haridasa in Mangalore". Excerpt from Haradas Appacha Kavi's Autobiography.
- 13 Appacha, Haradas 1998. *Haradas Appacha Kavira Naal Nataka* (Four Plays of Haradas Appacha Kavi), Madikeri, Karnataka KodavaSahitya Academy, p143. [Kodavattakk].
- 14 Appacha, Haradas 1998. *Haradas Appacha Kavira Naal Nataka* (Four Plays of Haradas Appacha Kavi), Madikeri, Karnataka KodavaSahitya Academy, p4. [Kodavattakk].
- 15 Ibid, p109-110.
- 16 Translation, mine.
- 17 Kanike is another river that appears in the Kaveri Purana along with, Sujyoti, a third mystical river, fashioned on the lines of the Saraswati. The three rivers meet at Bhagamandala, just as in the Triveni Sangam at Prayag.
- 18 Earlier known as Valampuri, more recently as Balamuri, is the town in Kodagu where Kaveri is said to have blessed the Kodavas in the Kaveri Purana.
- 19 Ammakodavas, another Kodavattakk speaking community of Kodagu.
- 20 Of the Mother Goddess cult, Kosambi (2000:90) says that the goddesses are mothers, but unmarried. No father seemed necessary to the society in which they originated. It might be reminiscent of a matriarchal society that gave a lot of power to the women. The Kodava society has undergone a change from a matriarchal society to a patriarchal one. M.N. Srinivas (1952:45) says that it is probable that in the last 200 years, Coorgs have oriented themselves more and more towards the patrilineal Kannadigas and moved away from the matrilineal Nayars.
- 21 Interview with Bacheranianda Appanna, dated 12/03/2017, Kushalnagar.
- 22 Clan/ Family.

- 23 Ancestor
- 24 Bacheranianda Appanna recites from memory, dated 12/03/2017, Kushalnagar, [Kodavattakk]. Translation and transliteration, mine.
- 25 Interview with Bacheranianda Appanna, dated 12/03/2017, Kushalnagar.
- 26 Thapar, Romila 2000. *Cultural Pasts : Essays in Early Indian History*. Delhi, Oxford University Press, p778.
- 27 Thapar, Romila 2014. *The Past as Present: Forging Contemporary Identities Through History*. New Delhi, Aleph Book Company, p279.
- 28 Press release of the Codava National Council dated 13/12/2016
- 29 Thapar, Romila 2014. *The Past as Present: Forging Contemporary Identities Through History*. New Delhi, Aleph Book Company, p25.

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Blood Glucose Level and its Adiposity Related Correlates among Two Population Groups of Sikkim, India

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Abstract: Relationship between adiposity and high blood glucose level or hyperglycaemia is well documented. However, study examining the possible association of adiposity and hyperglycaemia is rare among the ethnic groups residing the Northeastern States of India. The present study examined the blood glucose profile, including the prevalence of hyperglycaemia, in two ethnic populations, namely Bhutia, a tribe and Rai, a Nepali caste group, residing in the Ranka Block of East Sikkim. The study further attempted to identify the adiposity related variables that significantly predicts blood glucose level including hyperglycaemia. 416 individuals (152 Bhutias and 264 Rais) of both the sexes were systematically selected from all the 237 households in the study village. Data on sociodemographic aspects, dietary practices, activity pattern and other behavioural features, viz. alcohol consumption and tobacco use were collected with the help of pretested questionnaires. Standard techniques were adopted to collect data on anthropometric variables and 12-hour fasting blood glucose (FBG) level. Adiposity measures were derived from the anthropometric variables. Informed consent was obtained from each study participant prior to collection of data. Results show that age adjusted mean value of blood glucose and prevalence of hyperglycaemia were found to be marginally higher ($p > 0.05$) among the Rais than those of the Bhutias. Data were pooled for sex and ethnicity as 2-way ANOVA did not show any significant effect of sex and ethnicity on FBG level. While multiple linear regression analysis identified fat mass as a significant ($p < 0.05$) predictor of adjusted FBG, forward conditional logistic regression analysis revealed waist circumference as significant ($p < 0.001$) predictor of hyperglycaemia. We conclude from the study that accumulation of body fat plays a substantial role in elevating blood glucose level and can concurrently lead to diabetes, among these two ethnic groups inhabiting a rural setting.

Key words : Hyperglycaemia, adiposity, Bhutia, Rai, Sikkim

INTRODUCTION

The World Health Organization (WHO) estimates that nearly 200 million people all over the world suffer from diabetes and this number is likely to be doubled by 2030. WHO observes that about 80% of the deaths owing to diabetes occur in middle-income countries (WHO, 2014).

In India, the prevalence of diabetes is alarming and every fifth diabetic in the world is an Indian. According to the International Diabetes Federation (IDF), the largest number of diabetic patients (50.8 million) resides in India for which, India continues to be the “diabetes capital” of the world, and by 2025, the expected number of diabetics in India is anticipated to be 68 million.

The disease is such that it cannot be cured; only managed. Diabetes, which was once prevalent only among adults, is now found commonly in even adolescents and children due to change in lifestyle and imbalanced eating habits.

Type 2 diabetes mellitus is now found in almost every population and epidemiological evidence suggests that without effective prevention and control programmes, the prevalence will continue to increase globally (IDF, 2006). Approximately 75–80% of people with diabetes die of cardiovascular disease. People with Type 2 diabetes have a two to four time higher risk of coronary heart disease than the rest of the population. The risk of cerebrovascular and peripheral vascular disease is also significantly higher (Tuomilehto et al. 2004). Type 2 diabetes is caused by a combination of genetic and lifestyle factors (Kaprio et al. 1992). Although genes that predispose an individual to diabetes are considered to be an essential factor in the development of the disease; and activation of a genetic predisposition requires the presence of environmental and behavioural factors, particularly those associated with lifestyle. These include changes in diet, and reductions in physical activity, with consequent increases in the prevalence of overweight and obesity (Zimmet, 2001). For example, in India, the fast food culture and sedentary lifestyle are the two main drivers responsible for diabetes epidemic Mohan et al. (2007). The other significant factors are overweight, abdominal obesity and physical inactivity (Stumvoll et al. 2005). Several studies indicated that waist circumference or waist-to-hip ratio, which reflects visceral (abdominal) fat, may be better indicators of the risk of developing Type 2 diabetes than body mass index (Ohlson et al. 1985 & Rexrode et al. 1998). Studies from India suggested obesity as an important factor for hyperglycaemia and diabetes has already been reported in many studies (Ramachandran et al., 1997; Misra et al., 2001; Ramachandran et al., 2001; Gupta et al., 2003).

On the other hand, the nature and extent of association between higher level of adiposity or obesity and hyperglycaemia is less studied among Indian ethnic groups. Such study is even rare among the Northeastern tribal and non-tribal groups, exposed variously to modernizing forces. Hence, the objective of the present study is to assess blood glucose profile, and the prevalence of hyperglycaemia among two ethnic populations, namely Bhutia and Rai, residing in Sikkim. The study further attempted to identify the adiposity related variables that significantly predict both blood glucose level and prevalence of hyperglycaemia.

MATERIALS AND METHODS

Study locale

We selected the Bhutias, a tribal population and Rais, a Nepali caste population residing in Ranka, (a peri-urban area of Sikkim) as the study populations. We selected Ranka Block, which is situated about 16 Km. away from the town of Gangtok as our study area for the following reasons:

- i. Both the Bhutias and the Rais are predominantly settled here for generations.
- ii. Ranka is continually being developed in infrastructure over a decade or so as an extended township close to Gangtok and thus, possibilities of relatively increased exposure to factors relating to modernization.

Study populations

The Bhutias

The Bhutias migrated to Sikkim and other parts of India and Bhutan sometime after the 17th century (Risley, 1928). The name Bhutia, sometimes spelt as Bhotia, is derived from their original habitat '*Bhot*' (Tibet). The Bhutias of Sikkim as a whole can be denoted as Denzongpa, or inhabitants of *Denzong*. The Bhutias live in remote rural areas as well as in the capital town of Gangtok and its neighbourhood. They speak a language of their own which is known as '*Sikkimese*'. However, they also speak in Nepali. Many Bhutias, especially the educated section can speak Hindi and English languages as well. Bhutias are traditionally rice eaters. They consume rice with animal fat, fried vegetables or meat (usually pork, and beef, and occasionally mutton or chicken). They practice Buddhism. *Losong* is the main festival celebrated by the Bhutia community in Sikkim. *Chhyang* (traditional millet beer) is the favourite drink of the Bhutias. The other aspects of sociodemographic profile of the Bhutias have been reported earlier (Sarkar and Mukhopadhyay, 2008).

The Rais

The Rais, also known as Kirant/Kirantis, are one of the major communities amongst the Nepalese in Sikkim. They are also known as *Jimdars* and in some places as *Khambus*. '*Jim*' means 'land' in the dialect of the Sherpas. As their traditional occupation was cultivation so they were called Jimdars. Rai is generally used as their surname, however, some use their clan (*thar*) name as surname. The Rais have different clans like the Bantawa, Chamling, Thulung, Kulung, Loharung, Bangdel, Dungmali, Nechali, Khaling, Chhinamkhong, Rajolim and Dumi, Dukhun. They have reportedly been settled in Sikkim from the seventeenth century (Mishra et al. 2010). In Sikkim they are distributed in all the districts, with fewer of them in the North District. Though Buddhism is their traditional religion, many of the Rai families have embraced Christianity. The *Rai Kura* is their own dialect, but these dialects have now become out of use, and they presently use only the Nepali language and the Devanagari script. Some of the educated people can speak in English and Hindi languages as well.

Maize and millet have been the traditional staple food of both the Bhutias and Rais. However, in Sikkim, rice is their staple cereal, but at the time of scarcity of this cereal, maize and wheat are consumed. The Rais are both vegetarian and non-vegetarian. In remote areas, a kind of brew, popularly known as *janr*, is being used, which is basically a local drink, is made out of

fermented maize and millet. They also consume liquors available in the market. Both men and women smoke cigarettes prepared from locally grown or imported *katwa* tobacco. Chewing nut and betel has become a regular practice.

Study participants

Bhutias and Rais of both sexes aged 18 years and above were considered for the study. The present study covered all the 237 households in the village. All the individuals of the referred age group were approached during the time of data collection and finally, a total 416 adults (152 Bhutias and 264 Rais) voluntarily participated in this study. Informed consent was collected from all the study participants.

Data types

A pretested questionnaire was used to collect data on sociodemographic aspects of the participants. These include age at the time of interview, educational and occupational status, monthly income and expenditure (in Indian Rupees), dietary practices, activity pattern and behavioural features, viz. alcohol and tobacco use. Data on monthly household income and expenditure were categorized under two heads, viz. d" Rs. 5000 and above Rs. 5000. Data on perceived notion on daily activity pattern and frequency of physical exercise per week were collected, while data on dietary practices included their food habit, and frequency of out of home food consumption. The perceived notion on physical activity was categorized under three heads, namely heavy, moderate and light. Information on daily/weekly alcohol consumption with the help of a questionnaire and that on tobacco use (smoking and tobacco chewing) was also collected. Standard protocols were followed to collect data on anthropometric variables i.e., height (cm.), weight (Kg.), and waist circumference (cm.) (WC) (Lohman et al., 1988). The body mass index (BMI) was computed as weight/stature^2 (kg/m^2). Prevalence of obese and overweight individuals was identified following the classification recommended by WHO and International Diabetes Federation (IDF) (James et al., 2001). Bioelectrical impedance, i.e., percent body fat (%) (PBF) as well as fat mass (Kg.) (FM) were estimated using Omron body fat monitor HBF-300, manufactured by Omron Corporation, Japan.

Blood glucose estimation

12-hours fasting blood sample was collected from each study participant and the glucose level was estimated with the help of a glucose monitor (Accu-Check, Alpha) from whole blood. The use of glucose monitor in estimating the blood glucose level has been reported elsewhere (ADA, 2010; Sacks et al., 2011). A value ≥ 110 mg/dL was considered as hyperglycaemia (Alberti and Zimmet, 1998).

All statistical analyses were done with the help of SPSS 16.0 for windows software. We divided the study participants into four groups, namely Bhutia

male (BM), Bhutia female (BF), Rai male (RM) and Rai female (RF). Descriptive statistics of fasting blood glucose were calculated for each of these groups. t-test was done to know the significance of difference in the mean values of fasting blood glucose between BM and BF, RM and RF, BM and RM and BF and RF independently. Test of equality of proportion was also done to know the significance of difference between prevalence of three categories of glucose level, by sex and population groups. Two-way ANOVA was done for evaluating the effect of sex and ethnicity on blood glucose value. Since no significant effect of sex and ethnicity were found on FBG, the inferential analyses were performed on total population. Linear and logistic regression analyses were performed to find out the significant predictors of FBG and hyperglycaemia, respectively. The value of FBG was adjusted for age and other socioeconomic and behavioural variables. In linear regression, FBG was used as dependent and adiposity related variables, such as BMI, WHR, WC, percent fat and fat mass as independent variables. Further, adjusted multiple logistic regression (forward: conditional) analysis was performed to find the significant predictor of hyperglycaemia. The significant level was fixed at ($p < 0.05$).

RESULTS

Table 1: Sex distribution of the study populations

Population	Male	%	Female	%	Total	%
Bhutia	65	15.63	87	20.91	152	36.54
Rai	124	29.81	140	33.65	264	63.46
Total	189	45.43	227	54.57	416	100.00

Table 1 depicts the sex distribution of the study populations. Total 416 adult Bhutia and Rai individuals participated in this study, of which 36.54% was Bhutia. Around 54% of the total population comprised female participants in the present study.

Table 2a shows the socioeconomic profile of the study populations, by sex. Irrespective of population groups and sex, most of the study participants were found to be ever married and literate. Majority of them have attained an education up to secondary level (not shown in table). While government and non-government services were the primary occupation of the males, irrespective of population groups, an overwhelming majority of the females were homemakers. Higher monthly expenditure has been found among the Bhutias than that of Rais, irrespective of sex.

Table 2b shows the result of test of equality of proportions to evaluate the sex as well as ethnic group difference pertaining to SES variables. Sex difference are evident for most of the variables ($p < 0.05$), irrespective of ethnic groups. Illiteracy is found to be significantly higher ($p < 0.05$) among the males of Bhutias than their Rai counterparts, while significantly higher ($p < 0.01$) Rai females are spending less than Rs. 5000 per month than their Bhutia counterparts.

Table 2a: Socioeconomic profile of the study populations, by sex

Variable	Bhutia (n=152)				Rai (n=264)			
	Male (n=65)	%	Female (n=87)	%	Male (n=124)	%	Female (n=140)	%
Marital status								
Ever married								
Unmarried	52	80.0	73	83.9	87	70.2	123	87.9
	13	20.0	14	16.1	37	29.8	17	12.1
Literacy status								
Non-literate	12	18.58	34	39.1	12	9.7	54	38.6
Literate	53	1.5	53	60.9	112	92.3	86	61.4
Occupation								
Agriculture	24	36.9	5	5.7	33	26.6	19	13.6
Service	23	35.4	12	13.8	45	36.3	17	12.2
Others	18	27.7	70 #	80.5	46	37.1	104 §	72.2
Monthly household expenditure								
≤ Rs. 5000	37	56.9	34	39.1	87	70.1	112	80.0
> Rs. 5000	28	43.1	53	60.9	37	29.9	28	20.0

including 57 homemakers § including 78 homemakers

Others: homemakers, older non-working family members, retired, business, unemployed

Table 2b: Result of test of equality of proportions for SES variables, between sex and between ethnic groups

Variable	Test of equality of proportion (z) value			
	BM vs BF	RM vs RF	BM vs RM	BF vs RF
Marital status				
Ever married	0.62	3.58*	1.86	0.93
Literacy status				
Non-literate	2.90*	5.90**	2.05*	0.08
Occupation				
Agriculture	4.81*	2.65*	1.80	2.21*
Service	3.09*	4.70*	0.15	0.39
Monthly household expenditure				
≤Rs. 5000	2.21*	1.86	2.24*	7.39**

Note: z-values are same where the sum of percentage is 100, i.e, for marital status, literacy status and monthly household expenditure variables. z-value of "others" in table 2b was not obtained as most of the individuals are homemakers. * significant at $p < 0.05$ level and ** significant at $p < 0.01$ level.

Table 3 shows that the Rai males showed the highest mean fasting blood glucose value (92.63 mg/dL), while the Bhutia females showed the lowest mean value for the same (85.78 mg/dL). However, none of the comparisons BM VS BF (t value 1.57, df 150, $p > 0.05$), RM VS RF (t value 1.03, df 262, $p > 0.05$), BM VS RM (t value 0.54, df 187, $p > 0.05$), BF VS RF (t value 1.24, df 225, $p > 0.05$) was found to be statistically significant.

Table 3: *Descriptive statistics of fasting blood glucose value, by sex and population groups*

Participant	Mean (mg/dL)	SD	SEM
Bhutia male (BM) (n=65)	90.12	20.98	2.60
Bhutia female (BF) (n=87)	85.78	13.07	1.40
Rai male (RM) (n=124)	92.63	34.55	3.10
Rai female (RF) (n=140)	89.00	21.92	1.85

Table 4: *Descriptive statistics of anthropometric and adiposity related variables, by sex and population group*

Anthropometric and adiposity related variable	Bhutia		Rai		t-test value			
	Male (n=65) Mean (s.e.)	Female (n=87) Mean (s.e.)	Male (n=65) Mean (s.e.)	Female (n=87) Mean (s.e.)	BM vs BF	RM vs RF	BM vs RM	BF vs RF
Weight (Kg.)	62.48 (1.58)	55.16 (1.02)	62.48 (1.58)	55.16 (1.02)	1.78	3.09*	1.63	2.56*
Height(cm.)	163.29 (0.81)	152.95 (0.68)	163.29 (0.81)	152.95 (0.68)	6.76**	12.17**	2.40*	2.45*
Waist circum- ference (cm.)	84.05 (1.64)	79.48 (1.09)	84.05 (1.64)	79.48 (1.09)	0.25	1.74	1.53	3.48*
Percent fat (%)	24.38 (0.05)	29.81 (0.86)	24.38 (0.86)	29.81 (0.86)	4.93**	7.75**	0.50	1.63
Fat mass (Kg.)	15.58 (0.95)	16.80 (0.71)	15.58 (0.95)	16.80 (0.71)	2.06*	3.06*	1.07	2.15*
BMI (Kg/m ²)	23.40 (0.53)	23.55 (0.38)	23.40 (0.53)	23.55 (0.38)	1.50	2.23*	0.85	1.69

* significant at $p < 0.05$ level; ** significant at $p < 0.01$ level

Table 4 depicts the descriptive statistics of anthropometric and adiposity related variables. Irrespective of sex, it has been found that the mean values of all the measurements were found to be higher among the Bhutias than that of the Rais, except for percent fat among the females. T-test shows significant sex difference in most of the variables except for waist circumference, irrespective of ethnic groups. Significant difference ($p < 0.05$) in most of the adiposity related variables has been evident among the females of between the ethnic groups.

Dietary practices, along with alcohol consumption and perceived notion on daily activity pattern have been shown in Table 5. A majority of the participants was found to consume snacks out of home. While significantly higher ($p < 0.05$) number of Bhutia males are found to consume alcohol than Bhutia females, Bhutia females show significantly higher ($p < 0.05$) frequency of out of home snacks consumption. Significantly higher number of Bhutia males ($p < 0.05$) consume tea with salt than their Rai counterpart. The practice

Table 5: *Prevalence of different dietary practices and perceived daily physical activity pattern, by sex and population groups.*

Diet and physical activity variable	Bhutia				Rai Test of equality of proportion (z value)			
	Male (n=65)	Female (n=87)	Male (n=124)	Female (n=140)	BM vs BF	RM vs RF	BM vs RM	BF vs RF
Consumption of food/snaks out of home	46 (70.77)	78 (89.66)	102 (82.26)	118 (84.29)	2.92*	0.43	1.76	1.21
Consumption of alcoholic beverages	45 (69.23)	33 (37.93)	72 (58.06)	65 (46.43)	4.05*	1.91	1.53	1.27
Consumption of tea with salt	59 (90.77)	70 (80.46)	86 (69.35)	98 (70.00)	1.85	0.11	3.91*	1.83
Physical activity pattern	18 (27.69)	37 (42.53)	37 (29.84)	55 (39.29)	1.93	1.63	0.30	0.48
Heavy/moderate	47 (72.31)	50 (57.47)	87 (70.16)	85 (60.71)	1.93	1.63	0.30	0.48

of consumption of tea added with salt was common among the study participants, irrespective of sex and population groups. Consumption of alcoholic beverages was found to be more frequent among the males, irrespective of population groups; while a majority of the participants perceived that their daily activity pattern was light in nature. All the study participants were found to be non-vegetarian and rarely did physical exercises, and hence the figures were not mentioned in the table.

Table 6: *Prevalence of normoglycaemia, border line and hyperglycaemia, by sex and population group*

Population group	Normoglycaemia (≤ 94 mg/dL)	Border line (95-109mg/dL)	Hyperglycaemia (≥ 110 mg/dL)
Bhutia male (65)	69.2	23.1	7.7
Bhutia female (87)	86.2	6.9	6.9
Rai male (124)	73.4	14.5	12.1
Rai female (140)	74.3	17.1	8.6

Table 6 depicts the prevalence (percentage) of three stages of blood glucose level, by sex and population groups. The highest prevalence of hyperglycaemia was found among the Rai males (12.1%), while the lowest was found among the Bhutia females (6.9%).

Table 7: *Results of test of equality of proportion showing difference in prevalence of glycaemic stages between sex of the same population group and between population groups of same sex*

Population group	Normoglycaemia		Border line		Hyperglycaemia	
	z	p	z	p	z	p
BM VS BF	2.49	<0.05	2.75	<0.05	0.19	>0.05
RM VS RF	0.17	>0.05	0.58	>0.05	0.93	>0.05
BM VS RM	0.60	>0.05	1.41	>0.05	1.00	>0.05
BF VS RF	2.28	<0.05	2.44	<0.05	0.47	>0.05

Table 7 shows that the difference in prevalence in case of normoglycaemia and border line groups was found to be significant ($p < 0.05$) between BM and BF, and between the females of two ethnic groups (BF and RF). No significant difference was observed between any sub-groups in case of hyperglycaemia.

Table 8: Result of two-way ANOVA for evaluating the effect of sex and ethnicity on blood glucose value

Source	Type III Sum of Squares	df	Mean Square	F	p
Corrected Model	2462.194 ^a	2	1231.097	1.983	0.139
Intercept	3051673.605	1	3051673.605	4.915E3	0.000
Ethnicity	811.521	1	811.521	1.307	0.254
Sex	1555.192	1	1555.192	2.505	0.114
Error	256448.862	413	620.942		
Total	3597443.000	416			
Corrected Total	258911.055	415			

a. R Squared = .010 (Adjusted R Squared = .005)

Table 8 depicts the results of two-way ANOVA showing the effect of ethnicity and sex on the FBG value. Neither ethnicity nor sex was found to have any significant effect on FBG value. Therefore, inferential statistical analyses were done on data pooled for sex and ethnicity.

Table 9: Result of adjusted multiple linear regression analysis, using age adjusted blood glucose value as dependent variable

Independent variables	Unstandardized Coefficients (B)	p	95% CI for B		R ²
			Lower Bound	Upper Bound	
BMI	0.637	0.527	-1.345	2.620	0.281
Weight	0.571	0.248	-.399	1.541	
Waist circumference	0.585	0.201	-.313	1.484	
Fat percent	1.055	0.182	-.496	2.607	
Fat mass	-2.582	0.047	-5.128	-.037	
WHR	17.005	.660	-59.039	93.049	

a. Dependent Variable: FBG

Table 9 depicts the result of adjusted multiple regression analysis using fasting blood glucose as dependent and adiposity related measures as independent variables. Only fat mass ($B = -2.582$; $R^2 = 0.281$) was found to be a significant predictor of FBG.

Result of adjusted multiple logistic regression analysis (forward: conditional) has been shown in Table 10. Hyperglycaemia was used as dependent, and adiposity related variables along with SES, physical activity pattern, dietary practices and alcohol consumption were used as independent variables. Only WC was found to be a significant predictor of hyperglycaemia (Exp B=0.944; 95% CI 0.898-0.991) in the step 1, while household expenditure became the other significant predictor in the step 2. However, the Wald statistics and Exp (B) for WC (3.945 and 0.950, respectively) were found to be higher than that of household expenditure (3.720 and 0.643, respectively), suggesting a comparatively stronger association of WC with hyperglycaemia.

Table 10: *Result of adjusted multiple logistic regression analysis (forward: conditional), using age adjusted hyperglycaemia status as dependent variable*

Step of regression analysis (forward conditional)	Variable	Wald statistics	p	Exp(B)	95.0% C.I. for) Exp(B)	
					Lower	Upper
Step 1 ^a	WC	5.303	0.021	.944	0.898	0.991
	Constant	7.251	0.007	216.827		
Step 2 ^b	Household expenditure	3.720	0.054	0.643	0.411	1.007
	WC	3.945	0.047	0.904	0.999	
	Constant	6.809	0.009	196.809		

a. Variable(s) entered on step 1: WC.; b. Variable(s) entered on step 2: Household expenditure.

DISCUSSION

WHO declared that 80% of the total Indian population would be diabetic within the year 2030, it is extremely imperative to know the prevalence of diabetes in different populations and implement appropriate population specific awareness and treatment programmes. However, additional attention is to be given to those individuals who are at the borderline pertaining to hyperglycaemia and help them in adopting necessary preventive measures for not becoming a patient of diabetes. Awareness about the preventive measures is possible only when the population specific lifestyle related risk factors of hyperglycaemia are identified. It is well documented that obesity in general and central obesity in particular, affects various types of chronic diseases. The present study examined the possible association of body fat related measures with fasting blood glucose and hyperglycaemia among two populations of different genetic ancestry, residing at a medium altitude.

The mean value of fasting blood glucose and the prevalence of hyperglycaemia were found to be marginally higher among the Bhutias and Rais, respectively, among both males and females. While prevalence of hyperglycaemia was found to be low in both the populations, a fairly large number of study participants have shown relatively higher FBG value. Both the populations are residing in hilly terrain of Sikkim. Habitual physical activity level of the people was found to be higher as they need to walk up- and downhill on a regular basis to fulfil the requirement of their daily livelihood (Sarkar and Mukhopadhyay, 2016). This regular habit of physical exercise helps them in spending energy and consequently burning of glucose. On the other hand, consumption of fat rich fast food has increased substantially as they frequently visit the capital town of Gangtok for work related purposes, or for purchasing necessary goods as well as for mere entertainment like watching movies and so on. The changing food habit along with other behavioural factors may influence accumulation of fat in their body, which in turn makes them obese. Perceived psychosocial stress may also act as an important factor for the occurrence of overweight and obesity in the present situation of increasing

cost of living. It has already been reported among the Bhutias that psychosocial stress is related to higher adiposity level (Sarkar and Mukhopadhyay, 2008).

Data were collected regarding their daily activity where we found that the females, both gainfully employed and unemployed are doing major household works, while the male members of the family do very little household work. During the leisure time, most of the females, irrespective of population group, like to enjoy watching movies, while the males prefer playing cards and remain engaged in gambling. Most of them are unaware about the adverse effects of sedentary lifestyle and consumption of fat rich food on blood glucose level. Consumption of beef and pork is very much frequent among them. Moreover, consumption of homemade liquor or millet beer (*jnaar or chhang*) is a regular practice among them, irrespective of sex and population group. Additionally, males drink a local alcoholic beverage known as “*roxi*”. Those with higher socioeconomic status can afford to have hard liquor of commercial make. This double effect of high fat and alcohol consumption might be important factors playing a positive role in increasing their body fat, level of blood glucose.

The inferential statistical analyses were done on total population, pooled for sex and ethnicity, because the results of two-way analysis of variance did not show any significant effect of the said variables. FBG value adjusted for other confounding variables was used. Fat mass were found to be the only adiposity related variable predicting blood glucose significantly, but inversely. This inverse relationship, in this analysis, might be the effect of multicollinearity, as the variables used in the independent list are having lack of independence, or of the presence of interdependence, which signified by high inter-correlations within a set of variables. Under this view there can exist a dependency relationship between independent and a dependent variable (Farrar and Glauber, 1964). However, we have reanalyzed with multicollinearity diagnosis with the same set of variables and found fatmass is the only significant variable.

Again, multiple logistic regression analysis predicts waist circumference as a significant predictor of hyperglycaemia. Positive association between obesity and hyperglycaemia was also reported by (Dowse et. al., 1991). Waist circumference is one of the most important central obesity related measures having effect on many chronic diseases like hypertension, dyslipidaemia, diabetes and so on. Present study corroborates with Zhu et al. (2002) where, WC was found to be a significant predictor of high blood glucose level among the Whites.

To conclude, the present small scale cross-sectional study, while making an attempt to examine the effect of certain obesity related measures on hyperglycaemia demonstrated the effect of central obesity, measured by waist circumference, on high fasting blood glucose level. A community based programme for possibilities of body fat reduction for adults will be necessary urgently for the study populations.

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Multiple Roles of Maibis in Meitei Society and Culture: Are they Still Important?

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Abstract: Art and culture are the important hallmarks which characterize Manipur, a small North-Eastern state of India to the world. *Maibis* are little known, often misinterpreted religious functionaries who play crucial roles in the religio-cultural life of the Meitei people. The paper seeks to get a deeper understanding of these little-known personalities who have significant roles and responsibilities in Meitei society. The insights presented in the paper were collected through interview and observation methods. *Maibis* are multifaceted religious functionaries who have several traits combined together in a single personality. They have characteristic features of a priestess, female shaman, fortune teller, clairvoyant, ritual expert, ritual singer and dancer, ritual healer. The majority of them are chosen individuals for their sacred duty by a particular deity who possesses them. They have been a part of Meitei social life since the early period. They are under the institution of *Maibi Loishang* which classifies them into three groups and hierarchical positions. The intended individuals or the chosen ones go through a long process of training under the guidance of an experienced *Maibi* during which they learn about various skills and way of life of *Maibi*. They have a distinctive way of life, food habit, dress code and social behavior. *Maibis* have been and still are an indispensable part of the Meitei society, who continue to play crucial roles in the religio-cultural life of the people. The paper makes an attempt to know about these multitalented religious functionaries of Manipur.

Key words : Art and culture, Manipur, *Maibis*, chosen individuals, sacred duty, religious functionaries, religio-cultural life.

I

Who are the Maibis?

Maibis are generally translated as priestesses of Meitei traditional religion called Sanamahism of Manipur, one of the North-Eastern states of Indian union at the easternmost part bordering Myanmar. Meitei or Meetei¹ are the major ethnic group of the state². McCulloch (1859), Hodson (1908), Shakespear (1913) and other early scholars described *Maibis* as priestesses of Meitei traditional religion. Ray (2004) considered them as female Shamans. However, these translations do not get the complete meaning of the word from the cultural context of the people. No doubt, they have the characteristics of a priestess or female shaman, but they are more than that. *Maibis*, like priestess belong to *Maibi Loishang*, an institution of *Maibis* (except for those few who do not register at *Loishang*) and there is a hierarchy of positions in the *Loishang*. However, they also get into a trance and act as an intermediary or medium between the spirits and people as the Shamans do. The term *Maibi* has no exact equivalent

word in the English language. It is better to retain the original term so as not to lose its cultural meaning. They are at the same time priestess, invoking the *Lais* (deities) and making offerings to them; mediums receiving oracles from the *Lais* and giving them out to the people; they are also expert singers and dancers. They also act as fortune tellers by communicating with the spirits. Thus, a *Maibi* is like a female shaman, priestess, clairvoyant, ritual dancer, singer, fortune-teller, ritual expert, ritual healer and one of the guardians of Meitei traditional religious lore. They are addressed as *Ima Maibi*. *Ima* is mother in Manipuri language. No matter what the age of the *Maibi* is, persons of all ages use the term *Ima Maibi* (mother Maibi) regardless of their actual names, gender and age.

There are some similarities between the *Maibis* and female shamans, especially those of Korea. Korean Shamans are called *Mudangs*. Most of them are women. Male shamans are called *Paksu Mudang*. They act as a medium between humans and spirits (Khstrimayum 2009). Like the *Maibis* of Manipur there are two types of *Mudangs*: *Kangshinmu*, who becomes a shaman through training and *Seseummu* who becomes a *Mudang* after being possessed by a deity. However, it would be misleading to apply the term female shaman to the *Maibis*. *Maibis* do not wear typically shamanistic dress or decorations, such as animal skins or masks. They do not claim to bear away misfortunes of their clients nor do they exorcise. *Maibis* also do not seek to solve human problems by organizing a meeting between men and spirits to be mediated by them like the Korean shamans do.

Maiba (male) and *Maibis* (female) are religious functionaries of Sanamahi religion but they are more than traditional priests and priestesses. There is another kind of *Maiba* and *Maibis* too. A *Maiba* who has priestly and ritual functions is different from a traditional physician or medicine man. Both of them are called *Maiba* but with different roles and responsibilities in Meitei society. Likewise, a *Maibi* who has priestly and ritual functions is different from a midwife. The former is generally addressed as *Ima Maibi* while the latter is known simply as *Maibi* or *Wangon Amaibi* (*Maibi* of the delivery hut, the one who acts as a midwife). Unlike the former *Maibi*, *Wangon Amaibi* does not get possessed by a particular deity in order to become one among them. They acquire their skills mainly through practice with experienced practitioners. Here we will be dealing with priestly *Maibi*, not the other one. *Maibis* are mostly chosen individuals for their sacred duties. There are also those who become *Maibis* by training, without being chosen or possessed by a deity but their number is very few.

II

In order to get more insights and deeper understanding of their lives, roles and responsibilities, interviews were conducted with 30 *Maibis*. The respondents were selected according to their availability and willingness to be part of this study, to share their experience, life stories and about their

profession with the researcher. Some of them were met randomly in *Lai Haraoba*³ (a religious festival) and some of them at Kangla, the ancient capital (palace) of Manipur and some were contacted at the Maibi Loishang at the palace compound. Interviews were conducted with the help of semi-structured interview schedule during the month of March and April 2015. This data were also substantiated by the information collected through observation and case studies for the doctoral research of the researcher in the later period. Out of thirty respondents, only one became a *Maibi* after getting proper training only, which was by her own choice without getting possessed by a deity. She is around 46 years of age, divorced. She has a son (11 years) and a daughter (8 years). She is the sole earner of her family. The rest of the informants became *Maibis* by getting possessed by their particular deities. Nine of them got possessed by the deity before the age of 10 and twenty of them had that experience after they attained the age of 10. Thirteen informants out of 30 got possessed before their marriage, nine of them became *Maibis* after their marriage; seven of them were unmarried and one did not get possessed. All the interviewed informants were females.

The age group and literacy level of the participants was as follows- four respondents belonged to the age group of 10-19 years, of which three were literates and one was non-literate; eight of them were from the age of 20-39 years, three of them were literates and five were non-literate; twelve informants were from the age group 40-59 years, four of them were literates and eight of them were non-literate; six respondents were 60 years and above, of whom only one was literate and five were non-literate. The marital status of the participants was as follows- fifteen were married, seven of them were unmarried, five of them were divorced and three were widowed. Among the study participants, twenty two reside in rural areas and eight in urban areas. With regard to the occupational pursuits of the participants, fourteen of them rendered service to the deities, four of them were farmers, two of them were weavers, four were engaged in other economic activities and six of them have no source of income.

History of Maibi tradition

McCulloch (1859) records an earlier belief according to which the *Maibi* was descended from a princess who lived in ancient times. There are different ideas, opinions about their origin. However, these ideas are at best speculative. The meaning and origin of the *Maibis* are obscure (Parratt 1980). What we know for sure is that they have been a part of Meitei religious life since long. It has been reported that the institution of *Maibi* was there in the royal palace since the period of *Meidingu* (an old term used to address the Meitei kings) Thawan Thaba, who was the ruler of the Meitei kingdom from 1195 to 1231 AD. It is also reported that Chakpa Lamlang Amaibi was the oldest *Maibi*, who was also the head of the institution. It is possible that *Maibi* tradition was already there in Meitei society before the opening of its proper institution in the Konung

(royal palace). Their proper institution in the palace could possibly be created only after the acceptance of their roles and responsibilities by the King for himself and his subjects. Moreover, when we see the roles and responsibilities of *Maibis* in *Lai Haraoba*, it is very clear that they are indispensable ritual functionaries of this ceremony from the very beginning. History of *Lai Haraoba* goes back at least up to the period of King Naothingkhong who reigned in the Meitei kingdom from 668 to 763 AD according to Cheitharol Kumbaba⁴ (the royal chronicle of Manipur). Maiba Loishang (institution of the *Maibas*), Pena Asheiba Loishang (institution of the *Pena*⁵ singers) and Maibi Loishang were three parts of religious institution in the royal palace throughout the monarchical history of Manipur.

Knowledge about the *Maibi* tradition was basically passed down from one generation of *Maibi* to the next mostly in oral form. Without proper authentic written records, it is not possible to trace the origin of *Maibi* tradition. But it is quite clear that they have been an essential part of the Meitei social system since time immemorial and they are very much within the Meitei social structure of *Sageis*, also known as *Yumnaks* (lineage groups, i. e. family groups bearing the same surname which share a common ancestry) and *Yek*^{vi} (clan) system. There is another interesting fact that all the *Maibis* come from different *Sageis* of seven exogamous Meitei clans but not from the families of Manipuri Brahmans known as *Bamons*. Today when we say Meitei, that includes Manipuri Brahmans as well. They have been given family names (*Sageis*) and are completely assimilated into the Meitei social system long time back, since the 18th century to be precise. But they do not belong to the seven clans (*Yeks*) of Meitei society. It is reported that females from the Brahman families do not become a *Maibi*. In some exceptional cases, should a member of a Brahman family get possessed, then necessary rites are performed to suppress 'the call', but she does not become a full-fledged *Maibi*.

Types and classification of Maibis

On the basis of their chronological order and mode of functioning, *Maibis* can be divided into three groups namely: (i) *Shanglen* (ii) *Nongmai* and (iii) *Phura*. *Shanglen Maibi* group is reported to be the oldest one. These three groups also perform the rites of particular *Yeks*. The *Shanglen* group officiates for the *Ningthouja Yek*, the *Phura* group for the *Khuman* and *Khaba-Nganba Yeks* and *Langmai* for the other four *Yeks*, i.e., *Luwang*, *Angom*, *Moirang* and *Sarang Leishangthem Yeks* (Parratt 1980). The Maibi Loishang categorize *Maibis* into three ranks. They are: *Hanjabi*, *Sanglakpi*, and *Asuppi*. *Maibi Asuppi* holds the highest rank in the *Loishang*. There is one *Maibi Asuppi* in the Maibi Loishang. She is the head of the *Loishang*. At present, Oinam Ongbi Dhoni is the *Asuppi* of the *Loishang*. There are three *Ngamthang Asuppis* (assistant *Asuppis*) below her rank. They are, Nameirakpam Hemolata, Thingjam Ropobati and Oinam Memcha. Next to these three assistants, there are four *Sanglakpis* of four *Pana*, an old administrative unit in Imphal area. They are, *Khurai Pana*, *Wangkhei*

Pana, *Khwai Pana* and *Naharup* also known as *Yaiskul Pana*. Then, there are ordinary *Maibis* with no rank as yet, who are called *Hanjabis*. If *Asuppi* is not well or unable to perform her functions, then one of the *Ngamthang Asuppis* replaces her as head in-charge. When the *Asuppi* expires, the senior most *Ngamthang* becomes the next *Asuppi*. Then, one from the *Sanglakpis* becomes *Ngamthang Asuppi* again. Their position climbs up eventually according to their service period, experience, achievements, age and training.

III

Becoming a Maibi

The process of becoming a *Maibi* goes through three distinctive phases. They all go through the processes of separation, marginality/liminality, and aggregation. In the first phase, the person gets a divine call from a particular deity or decides herself/himself to become a *Maibi*. In this first phase, the person leaves her/his previous status. The next phase is the stage of marginality or liminal period where the person undergoes intensive training. In this stage, the person has no state or status. This stage is the doorway between statuses. They are often expected to be obedient, receptive and passive. This is followed by the stage of aggregation. In this stage, the person comes back to her/his state but as a transformed one, as a full-fledged *Maibi*.

An individual may become a *Maibi* through two different processes. She/he may become a *Maibi* after being possessed by a particular deity. In this case, the individual gets 'a sacred call' from their particular deity for their sacred duty. They are the 'chosen ones'. Each *Maibi* is attached to one particular *Lai* who has reached out to choose them. It is reported and found that female *Maibis* are likely to get possessed by a male deity like Thangjing, Pakhangba, Khoriphaba, Khamlangba, Puthiba, Loyarakpa, while male *Maibis* are more likely to get possessed by female deities like Panthoibi, Yumjao Lairembi, Ereima. It is their fate. If they try to resist and suppress 'the call' they become physically and mentally disturbed and fall ill. In the second case, an individual becomes a *Maibi* by training. In this case, they do not get the 'the call' from a particular deity. Here, it should be made clear that both of them, even the 'chosen ones' go through intensive training before they become full-fledged *Maibis*. In the earlier days, a woman might also become a *Maibi* by getting selected in a ritual called *Lai Nupi Thiba* (taking a wife for the deity) at the *Lai Haraoba* festival. The selected woman goes through intensive training under the guidance of her *Ima Guru* (mother teacher), an experienced *Maibi* and becomes a full-fledged *Maibi*. However, at present, this ritual of taking a woman at random has stopped. In all the *Lai Haraoba* I observed I could see how a *Maibi* or an apprentice was selected during the process of *Lai Nupi Thiba*. This slight modification of the rite eliminates the chance of selecting undesirable persons.

Out of above two types, the percentage of becoming a *Maibi* after getting the 'the call' from a particular deity is much higher than those voluntary ones. According to a senior *Maibi*, more than 95% of them are the 'chosen ones'.

Again, it is higher among the male *Maibis*. In the case of male *Maibis*, all of them are 'chosen ones' as reported by the informants. Those males who are not 'chosen' but wish to serve the deities get their training and become a *Maiba*, loosely translated as a priest of Meitei traditional religion but not a *Maibi*. A girl may become possessed at a very young age as young as six/seven years old. Such cases are usually believed to produce better *Maibis*, when they get matured and experienced. An older woman may also become a *Maibi* even as late as 50/60 years of age. However, becoming a *Maibi* at a younger age is found to be more common than those at an older age in both males and females.

When an individual becomes possessed, she/he starts looking for her/his mother teacher. Such a person is reported to be very anxious and restless, even violent during this period. Only their *teacher* can calm them down when they start showing signs of possession. On one occasion I could see a new *Maibi* treating her husband and family members ferociously like complete strangers when she was possessed. She was very polite and obedient only to her *Ima Guru* who only could calm her down at that time. It is reported that the urge, the 'inner call' to meet her mother teacher drives her regardless of the time gap and distance from her teacher. The *Maiba* can suppress the symptoms by performing appropriate rites called *Ngakthaba* or *Yeithaba*, meaning to suppress, for some time. They have some kind of a connection with the deity which possess them and give an impression that know each other even before they actually meet each other for the first time. The new *Maibi* addresses her teacher as *Ima* (mother) regardless of her age.

Sanatombi (name changed) a female, married *Maibi* of 35 years narrated,

"When I first started showing symptoms of possession my family members did not like it. They consulted a *Maiba* and performed many rituals to suppress 'the call'. Everyone thought it would be difficult for the family if I become a *Maibi*. We already had three children at that time, two sons and a daughter. But after few months the bout of possession became more frequent. All the family members began to worry about me and my children. They brought another senior *Maiba* from a distant village and performed some rites. For some time it helped. Everyone in the family was happy. But after two/three months it started again. I cannot recall much of that day. Later my husband told me that they could not stop me that night. It was a rainy, dark night. They said I started pulling my hair, trembling, speaking in different, unintelligible language. Later that night when everyone was tired and fell asleep I ran away. Early next morning they got the news about me in the house of *Ima Guru*. That night I felt almost nothing despite running more than two hours to the house of *Ima*. Later I could discover some small cuts in my leg. My husband and mother-in-law also came. Since then I stayed for some months in their house with my mother-in-law and began my training."

The selection of the *Ima Guru* depends on the particular deity which has possessed the new *Maibi*. Neither the new apprentice nor the teacher could apply their personal choice. The apprentice usually stays at the house of her/his *Ima Guru*. The training period lasts for months or even years in some cases. During this period the apprentice learns the specific 'way of life' of a *Maibi* over and above their professional skills and artistic talent. In this training the *Maibi* learns the ritual oration (*Lairon*), use of ritual herbs, making of ritual offerings, songs and different dance forms of *Lai Haraoba*. All full-fledged *Maibis* have experienced erratic behaviors, mental and health problems as results of possession. Once their training has begun these symptoms slowly go away. They also learn to harness and channel the energy of the particular *Lai* (deity) who has actually possessed them. It is said that they become full-fledged *Maibis* once they have learnt to control and balance these supernatural forces.

They also learn the art of *Senmit Yengba*, a kind of fortune telling by using coins and use of the most important divine instrument of their profession, a brass bell called *Sharik*. They always use *Sharik* whenever they get possessed or utter chants or perform a rite. When it is not in use it is wrapped up by a sacred white cloth or keep on a piece of sanctified plantain leaf. It should never touch the ground. After their training, the ability to fall into a trance when it is necessary becomes ritualized. With the completion of a period of intensive training, the *Ima Guru* takes the novice to different places of *Lai Haraoba* festival to observe and begin to practice their sacred duties. Thus, the new *Maibi* gains experience with her/his teacher in the *Lai Haraoba* festival. Eventually, with more experience and practice, they become full-fledged *Maibis*. However, their relationship with their *Ima Guru* is a life-long one. It continues as mother and child even when they become independent full-fledged *Maibis* staying at different places to serve different deities.

The novices among the *Maibis* go through a transformation process during this training period. They are reunited with the society carrying with them their new identity and status along with new roles and responsibilities after this period. Their life, both personal and social, dress, food habits, social behaviors change since then. Before this transformation process she/he was a victim, a person possessed by a deity, an individual who was in need of help, a person whose physical, mental and spiritual life was disturbed by the interference of a supernatural force. In the process of their training, they learn to control and channelize this supernatural energy. After this training process under the guidance of her/his mother teacher, the person gets transformed from a person who needs help to a person who helps people with her/his service.

IV

Life of the Maibi

Maibis live a simple and sacred life. Most of their time is dedicated to the service of deities. The chances of getting possessed and falling into a trance anytime, anywhere besides their sacred duty to the deities also reduce their opportunity

to work in different sectors. Moreover, they have certain restrictions in mingling with other people along with maintaining dietary restrictions. The sole purpose of their life is to serve the deities and be the connecting link between man and deities from the day they were chosen. As a consequence, their source of livelihood also mainly comes from the service of the deities, donations, offerings, fees made by the clients or devotees for performing rituals and festivals. It is reported that generally, they used to get Rupees 500-1000 per day for taking part in *Lai Haraoba*. For individual rituals, the fee depends on the economic condition of the client. However, they do not bargain for the fees; they always accept what their clients offer with gratitude. Some of the *Maibis* are found to be sole earners of their families. They take care of their family expenses, children's education and other requirements from the resources they could mobilize by serving the deities. Even in those cases, however, it would be improper to categorize *Maibi* tradition as an economic activity. None of them becomes a *Maibi* to earn by serving *Lais*. It is more of a sacred duty and they are trying to support their families by the nominal resources they get in lieu of their services.

The life of a *Maibi* is slightly compartmentalized from the rest of the society as a result of their relationship with the *Lai*. The married life of the *Maibi* is complicated by her relationship to the *Lai* by whom she is possessed (Parratt 1980). Parratt considers the relationship between the *Maibi* and the deity as intimate, even to the extent of a husband and wife. She writes, "On particular nights of the month, the *Lai* visits the *Maibi* at night. She has to sleep alone on those nights. The *Maibi* actually feels the sensation of copulation during those occasions (Parratt 1980:99). However, their relationship is reported to be that of friendship by the interviewed *Maibis*. One of the senior *Maibis*, *Ngamthang Asuppi* of the Loishang expressed, "How can human beings be the partner of gods? Gods are gods. *Maibis* are just a medium, the messengers or connecting link through which the deities express their will. They are servers of the deities." In no case, they are married to the deities they serve. Majority of them, like any other ordinary woman, are married and live with their husbands and children. She has also expressed that if they are partners of gods, how can they still live among the humans with their husbands and children? Actually, there are certain restrictions in their married life since they are associated with the deities. They cannot have physical relationship with their husbands on specific days of the month called *Lai Saphongba Numit*, the day in which the deity comes into contact with them. Apart from these days, they are like an ordinary woman even though they follow some restrictions in their life.

Maibis have certain dietary restrictions. They restrict themselves from eating in public places. Generally, they share their food only with other *Maibis* and *Maibas*. Most of them are reported to be vegetarians. Even those who are non-vegetarians do not take meat other than fish. They do not take fishes with whiskers like *Ngakra* (catfish), *Ngasep* (a kind of small catfish found in Manipur).

They also do not take *Chanam* (garlic) and other vegetables with vine, like pumpkin, cucumber and squash. The *Maibis* have a distinctive dress code. Their *Phanek* (a traditional ankle-length lower garment of females which wrap around, tied at the waist) and *Inaphi* (an upper garment to wrap around the upper body like a shawl) are pure white. They also use an additional waist wrapper called *Khwangchet*, also pure white and another half-length white cloth which is worn on top of the *Phanek*. They usually wear a full sleeved white blouse and often decorate their hair with flowers called *Nachom* or *Samjirei*. Here, it is worth mentioning that male *Maibis* also wear the same dress as their female counterparts in *Lai Haraoba*.

Roles and responsibilities of Maibis in Meitei society

Maibis have significant roles and responsibilities in Meitei society. Their roles and responsibilities can be put broadly into two categories: domestic and communitarian. At the domestic level, they perform various rituals, give oracles and act as a medium between the realm of the spirits and this physical world of man. They also act as fortune-tellers of their clients. At the community level, they are the key players of *Lai Haraoba* festival. Some important domestic rituals performed by the *Maibis* are, *Apokpa Khurumba* (ancestral worship), *Thoutouba* (appeasement), *Khayom Lakpa* (a kind of appeasement rite for the well-being of an individual or family), *Laishang Hongba* (inauguration of the shrine).

Meiteis also worship their ancestors in addition to other gods and goddesses. It is called *Apokpa Khurumba* meaning worship of ancestors. Every Meitei *Sageis* have their *Apokpa* (deified progenitor of the *Sagei*). The ceremony of *Apokpa Khurumba* is generally performed annually. It is based on the belief that human soul survives in an afterlife and our ancestors continue to exist with their personal identity beyond death. It is generally believed that deceased family ancestors possess the ability to influence the fortune of the living. So, Meiteis worship their ancestors to pay their homage to the ancestors and at the same time seek their guidance and blessings. *Apokpa Khurumba* is a one-day ceremony. It is performed at the *Apokpa Laishang* (shrine of ancestor deity) on a selected day. The ritual is officiated by a *Maibi*. First of all, invocation of the soul of the deity is carried out by the *Maibi* in a nearby pond or river. Offerings with rice, vegetables, flowers, sweets etc. are made to the ancestral deity. Then a *Maibi* gives *Laipao* (message of deity) to the *Sagei* members. After that, a *Maiba* performs *Wari Liba*, the ritual narration of stories about the ancestors. A grand feast is then served in honor of the ancestral deity.

All the members of the *Sagei* can take part in this ceremony. But in some specific cases, only the male members of the *Sagei* are treated as its members. For example, the fruits (mostly banana) offered to this deity are allowed to be taken by the male members of the *Sagei* only. Females are also members of the group but they are treated as non-permanent members. Unmarried female members become members of another *Sagei* after their marriage. Even the

married female members are not considered as fully permanent members of a *Sagei*. Only their male siblings become permanent members of the *Sagei*.

Thou-touba and *Khayom Lakpa* are appeasement rites performed by the *Maibis* for their clients to save them from the wrath of the deities. The purpose of these rites is to prevent unwanted incidents which could happen to them as a result of a breach of taboos or ill will of deities. In these rituals, the *Maibi* makes appropriate offerings to the concerned deity/deities and seeks forgiveness on behalf of their client, the concerned individual or family. This practice is found to be more common in rural areas of Manipur than in urban areas. *Thou-touba* and *Khayom Lakpa* are also part of magico-religious healing of Meitei traditional medicine. They are very helpful in curing a number of illnesses, particularly those culture-bound syndromes. Culture specific or culture bound syndromes are the combination of psychiatric and somatic symptoms that are considered to be recognizable disease forms only within a specific society or culture. There is no objective biochemical or structural alterations of body organs or functions and the disease is not recognized in other cultures (Chhabra et al 2008:15). *Hingchabi Changba* (possession of evil spirits, evil eye), *Heloi Oknaba* (possession by the female spirit), *Potsem Jadu Touba* (witchcraft) and *Lai Oknaba* (contact with malevolent spirits) are some common manifestations.

It is found that modern medicines have very little or no desirable effect on these complaints. On the contrary, the modern form of biomedicines gives adverse effects in some cases. So, the sole responsibility of treating these cases still lies in the hands of *Maibas* (traditional healers who have magico-religious healing ideas) and *Maibis*. The symptoms of these conditions, locally known as *Laiokpa*, exhibit some common features in all cases. A sudden change in the behavior of the patient is observed in most of the cases. Changes into excitement or depression, laughing or crying without any significant reason, keeping on murmuring to oneself occur. Sometimes, the patient gets some kind of epileptic attack. After checking *Meehul Kanglon* (pulsation) and symptoms, the cause and way of treatment are derived by the *Maiba* or *Maibi* by identifying the spirit which is causing the harm and the purpose of it. After deriving these necessary information, the *Maiba* or *Maibi* makes appropriate offerings to the particular spirit to appease it and persuade it to leave the body of the patient. In some cases, healing rituals like *Saroi khangba*, *Yelhing Thaba* are performed. These rituals are also offerings made to appease the concerned spirit or deity, to negotiate with them and to seek forgiveness from them.

It is reported that in most of the cases the spirit causing the harm tries to hide and deny the intervention, disturbance created to the body and mind of the victim. After knowing their presence, the *Maiba* or *Maibi* begins to negotiate, bargain with the spirit to leave the body of the victim. In almost every case, as reported, the spirit makes unusual demands which are not usually possible to meet. So they are not prepared to leave the victims when they are asked to

do so. The job of the healer here is to bring those demands down to a feasible level like fruits, ornaments, and other food items. It is usually settled after a long negotiation. When it is settled, offerings are made with those agreed components for that concerned spirit or deity. The patients come back to their senses only after the spirit leaves their body. The patients claim to have no memories of the whole process of making demands and negotiations between them and *Maiba* or *Maibi*. If the symptoms of *Laiokpa* are developed by a patient who is undergoing treatment with modern biomedicine, healing rituals or offerings are performed by the *Maiba* or *Maibi* to settle the supernatural aspect of the ailment and then her/his further treatment follows.

Maibis also officiate in the ceremony of *Laishang Hongba* (inauguration of the shrine), *Pukhri Hongba* (inauguration of the pond) and other religious inaugural ceremonies. In Meitei belief, before its formal inauguration, a shrine or a pond does not have a presiding deity or its soul. After its coronation or inauguration, it becomes alive with their soul or presiding deity. The role of the *Maibis* in these ceremonies is to evoke the concerned deities or spirits and install them in their proper places. Only after performing these rituals the shrine or a pond is open to the public.

Maibis also act as fortune tellers. They predict the future of their clients by using different methods. *Sen Hunba* is a method they use to see the future of their clients. In this method, the *Maibi* uses 3 or 4 small coins to predict the future of their client. *Khubak Mayee Yengba* is another method. The *Maibi* predicts the future of their client by observing their fingerprints on the palm. In some cases, the *Maibi* tells the nature of the problem of their clients, their cause etc. by consulting the deity they are possessed with. *Maibis* are also consulted by the people when they lose their valuable items or property. They are consulted to find the whereabouts of the stolen or lost items. Newly possessed *Maibis*, locally called '*Maibi Lainou*' are believed to deliver more accurate information during the fortune telling or secret finding rituals.

Among their various roles and responsibilities, the role of *Maibi* in *Lai Haraoba* is the most significant one. Despite more than two and half centuries of Hindu influence and dominance in the Meitei society and culture, the *Maibis* and *Maibas*, largely through this festival have successfully preserved the essence of Meitei civilization, religion, culture, and worldview. It is performed once in a year in honour of the concerned deities. The festival may last for days or even weeks in some cases. *Maibi*, *Maiba* and *Pena Khongba* (*Pena* player) are central figures of this intricate festival. Among these three, the role of *Maibi* is the most important one. It is the *Maibi* who evokes the spirit of the deities who are being worshiped in this festival. On the first day of the festival, the spirit or the soul of the deities are called up from a nearby pond or river by the *Maibi*. This rite is called *Lai Eekouba* (evocation, calling up the soul of the deities from water). *Lais* then become active with their souls and the worshipping ceremony begins.

Maibis have been playing a key role in shaping the Meitei culture that we see today since the very early period. Culture is like a hallmark of a group identity. It defines their roots, determines who they are and shows how different they are from other groups. Religion is one of the most important components of culture. It influences and determines the overall way of life of the group: food habits, dress, arts, beliefs, customs, traditions and other social behaviors. *Maibis*, being the major carriers of indigenous custom and traditions with traditional religion even during the period of Hinduization in Manipur contributed significantly in the process of developing the present Meitei culture which is the product of syncretism of cultural traits of Hinduism with those of indigenous Meitei religion. Their roles cannot be replaced or substituted by any other member. Although Meiteis have a long written history, at least since the beginning of the first century AD, the sacred lore and tradition of *Lai Haraoba* exist in oral form. They have been passed down from one generation of *Maibis* to the next through their oral tradition. *Maibi* dance of *Lai Haraoba* also projects the Meitei culture to the world. Manipuri dance also known as Ras dance, one of the few classical dances of India, was derived from *Lai Haraoba* dance. Elements of games and sports are also found in different rites associated with festivals like *Phibul Jagoi*, *Lai Nupi Thiba*.. Over and above this, a separate event of games and sports used to be held on the next day after the conclusion of *Lai Haraoba* in the olden days. Thus, art and culture, games and sports, which may be regarded as the two major characteristics defining and showcasing the Meitei personality and uniqueness to the world, are found to be connected with *Maibi* and *Lai Haraoba* in one way or another.

Lai Haoraoba maintains a complete indigenous nature despite a strong Hindu influence in Meitei society and culture now and then. Social, religious, philosophical life of the Meitei people is depicted thoroughly in this festival. Tradition, beliefs, perceptions and philosophy of life of the people are also preserved and allowed to continue since the very early period through this ceremony. It depicts the stories of creation cosmogony of the universe, all the living and non-living beings including mankind on the earth by the god Ashiba as per the instructions of his father, the supreme almighty (Tengbanba Mapu, also known as Yaibirel Sidaba). The creation of mankind, development of human life form, birth, beginning of the human habitation, making house, making fire, beginning of cultivation, making clothes, are also depicted with different rites and dance forms in this intricate festival. It shows the religious and spiritual life of the Meitei people and demonstrates other aspects of Meitei culture like agriculture, literature, sports, tradition through its rites and procedural details.

The tradition of *Lai Haraoba* occupies a special place in the hearts of the people. Every Meitei village in Manipur is under the jurisdiction of one these celebrating deities, collectively known as *Umanglais*. People feel connected to these *Umanglais*; they have a sense of belongingness to these deities and

feel as *Macha Manais* of it, i.e., people living under the care of these deities within their respective areas or villages. They think it is the tradition laid down by the ancestors, which now have become divinities that cannot be broken. This ceremony also promotes social solidarity among the people. It brings the people together to a common platform and makes them participate in the collective act, which is for a common cause, i.e. the well-being and prosperity of the people. It also helps the tradition keep alive and thriving. The earlier tradition created by the ancestors are brought back to the present constantly through this ceremony and thus, making the lives of the people, their tradition connected to the past, to their roots.

All married informants including divorced and widowed have claimed to have their professional satisfaction. They are glad that they had been chosen for their sacred duty. All of them have their offspring as well. However, none of them wants their children to follow their footsteps to become a *Maibi*. They do not want their sons/daughters to get married to another *Maibi* or children of *Maibi*. Sometimes their children get difficulties in their marital life just because their mother is a *Maibi*. When it comes to marital relationships, their offspring are not always considered by other members of the society as 'preferable' according to their past experiences. Marital complications are found to be higher among those *Maibis* who became one after their marriage. It was reported that their husbands and family members did not want them to become full-fledged *Maibis*. Their main issue was not the sacred duty of deities but remaining away from their home for that duty. To avoid their family problems, they try to suppress 'the call' when they start showing the symptoms. It was informed that it is the case with the majority of the families when one of their members starts showing signs of possession. But it is not a long-term solution. When they are unable to suppress 'the call' or having difficulty in maintaining family affairs, then many a times only two options remain for her, if it happens to be a married lady: whether to answer the sacred call with the approval of her family or get divorced. The situation becomes more complex if she has a young child or her husband is the only son of the family. In some cases they get their necessary training from their *Ima Guru* and stays at home, serving her deity at home without going to other places. In this way, she reduces the complexities of leaving home for her sacred duty. By doing so, she continues to be an ordinary housewife or daughter-in-law. But her life is never going to be the same. It has changed with extra responsibilities and restrictions since the first day she was chosen.

A prominent Manipuri filmmaker A. Shyam Sharma recalled, 'none of the Manipuri actresses of that time was willing to act as the lead actress in my film *Ishanou* (The Chosen One).' *Ishanou* is an award-winning Manipuri film based on the story of a young housewife who is becoming a *Maibi*. This movie was the first ever film from northeast India to be screened at Cannes Film Festival of 1991. It was a descriptive, detailed role and the actress had to learn from the actual *Maibis*

by living with them for that role. And none of the actresses did want to become a *Maibi* by any means. At last, a *Bamon* (Manipuri Brahmin) girl accepted to play the role. She went through a short training from the actual *Maibis*, learned about their lives. As it has been mentioned before elsewhere, *Bamon* ladies do not become a *Maibi*. As mentioned earlier, none of the children of *Maibis* interviewed, nor their parents want them to become *Maibis*. An interesting question arises here, why they all consider their profession as a burden with extra responsibilities even though they claim to have professional satisfaction and feeling of it as a gift, blessing from God? It calls for further study with more probing data, suggestive of more information on their life, experiences, prospects and challenges they have in relation with the cross-currents of beliefs, views and attitudes of other members of the society about them.

V

CONCLUSION

In Meitei society of Manipur *Maibis* have a distinctive place. They are distinguished religious functionaries of Meitei traditional religion who have the ability to be the medium, who could bridge the gap between this physical world of ours and that of deities. They possess different attributes, that of the female shaman, priestess, clairvoyant, ritual healer, fortune-teller, besides being expert ritual dancer and singer. They have been part of Meitei religio-cultural life since the early period. They function under the Maiba Loishang, the surviving religious institution, which was started on the 12th Century as an organ of the administrative unit by the monarch. There are three groups of *Maibis* which are classified according to their mode of function and chronology. They are Sanglen, Nongmai and Phura groups. The Maibi Loishang categorize them into three hierarchical positions: Asuppi, Sanglakpi and Hanjabi. Maibi Asuppi is the head of the institution. There are three assistant Asuppis below her. Sanglakpis are in the next position. Then there are Maibi Hanjabis, those ordinary ones with no rank. Their rank in the institution climbs up eventually according to their training, service period, experience, achievements and age.

An individual becomes a *Maibi* through two different processes; after getting possessed by a particular deity (the chosen ones) or by training without getting possessed. The majority of them are those chosen ones. They, both the chosen ones and intended ones, undergo an intensive training under an experienced *Maibi*, whom they call *Ima Guru*, the mother teacher. They become full-fledged *Maibis* after this training period, after learning the complete way of life of a *Maibi* including ritual norms, various dance forms, sacred oral traditions, ritual healing practices, the ability to get into a trance and connect with the deity which possesses them. They get a new position, a new identity that of a *Maibi* and get transformed from individuals who need help to persons who can help other people after this training. They live simple and sacred life spending most of their time to the service of deities. They have certain dietary

restrictions and distinctive dress code. *Maibis* have their important roles and responsibilities in Meitei society, both at domestic and community level. Their roles and responsibilities cannot be replaced or substituted by those of other members of the Meitei society. Their role in *Lai Haraoba* festival is the most significant one. Despite strong Hindu influence in the Meitei society since the 18th century, the *Maibis* and *Maibas* have successfully preserved the essence of Meitei tradition and culture through this festival. They also take a major role in ritual healing practices of Meitei traditional medicine. *Maibis* are multitalented religious functionaries of Meitei traditional religion who have been indispensable for the continuation of Meitei religio-cultural life.

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NOTES

- 1 Meitei or Meetei carries the same historical meaning. They mean the same ethnic group. They are simply free variations of this language like any other language so permits.
- 2 Geographically, the state can be divided into two: central valley, which is mainly inhabited by the Meiteis and *Pangans* (Manipuri Muslims) and its surrounding hill ranges which is the home of various 'Naga' and 'Kuki' tribes.
- 3 *Lai Haraoba* also known as *Umanglai Haraoba* is one of the most important ceremonies of Meitei traditional religion. It depicts the core of Meitei culture with almost every aspect of it. It also shows religious and spiritual life of the Meiteis. It has its own distinct place in Meitei traditional religion and that religion itself is the soul and backbone of this festival.
- 4 It records the events of the Meitei kings and their nation. It claims to trace the history of the kingdom back to 33 AD, the reign of Pakhangba and ends with the last king, Bodhachandra, in 1955. The earlier parts of the chronicle is questionable and need to deal with healthy scepticism. However, the entries of the chronicle become more comprehensive and reliable from the reign of Kyampa (1430- 1508) onwards. With the introduction of the Cheithapa system by the king in 1485, the entries of the Chronicle began to the year, day and month of each event.
- 5 *Pena* is a traditional musical instrument of the Meiteis. This musical instrument is indispensable part of Meitei culture and religion. Since the time immemorial this instrument has been an important trait of Meitei culture and folk music. It has two parts. The body part, which is held by the left hand while playing represents the mother goddess (*Lairema*) and another part called *Cheijing* represents supreme almighty (*Lainingthou*).
- 6 *Yeks* are exogamous Meitei clans. There are seven *Yeks* in Meitei society. They are: Ningthouja/Mangang, Luwang, Khuman, Angom, Moirang, Khaba-Nganba and Sarang Leisangthem.

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Factors Affecting Maternal Care Utilization in Empowered Action Group (EAG) States of India: Evidences from Annual Health Survey 2012-13, India

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Abstract: India has made an impressive progress in maternal and child health (MCH) outcome indicators in the past three decades. However, inequities in access as well as utilization of MCH services persist, particularly among the economically marginalized and socially excluded sections of the society. We used data on Annual Health Survey, 2012-13 in congruence with Census 2011 of nine Empowered Action Group (EAG) states, to understand the role of village level supply-side factors and contextual variables in addition to the conventional demand side factors in utilization of three aspects of maternal health care. Binary logistic regression has been performed to understand the effect of supply and contextual factors over response variables controlling for other socio-economic and spatial variables. The study unveils that apart from demand-side factors, supply-side and contextual factors, such as availability of grassroot-level community health providers, community-level media exposure, contextual level variables, namely, place of residence and availability of all-weathered roads in the village have significant bearing on the utilization of maternal healthcare in EAG states of India. Multipronged strategies combining demand-supply-context can play an important role to reduce inequities in utilization of maternal healthcare.

Key words : Maternal Care Utilization, Empowered Action Group (EAG), Annual Health Survey (AHS) data, India

INTRODUCTION

Over the last three decades, India has shown significant improvement in maternal and child health (MCH) outcomes at the national level (although narrowly missed MDG 4 and 5). Maternal mortality ratio (MMR) has declined from 398 to 167 per 100,000 live-births between 1997-1998 and 2011-2013 with an average annual reduction of 4.5% (Sample Registration System, 2014), although it is far from the achieving of 2015 Millennium Development Goal (MDG). India still accounts for 20% of global maternal deaths and under-five mortality (WHO, 2014) corresponding with an uneven and inequitable progress. Evidences suggest that high rate of maternal, neonatal and child mortality are associated with inadequate uptake and poor quality of maternal health care services (Filippi et al., 2006).

The utilization of maternal healthcare services is a complex phenomenon influenced by several factors. For example, literature reveals that perceived

quality of care, distance to health facility, availability of transport facility, economic status of households, age, socio-religious affiliation, educational attainment of care-seekers, women's agency, and cultural norms are some of the key determinants which are associated with utilization of maternal health care services in different settings across the world (Gabrysch and Campbell, 2009). The uptake of antenatal care (ANC) is not only for sustaining better maternal health but it also largely help to mitigate the risk of maternal mortality and morbidity (Bloom et al., 1999). A number of studies on the determinants of ANC utilization have largely focused on individual and household-level demand-side factors, neglecting wider contextual and supply-side variables (Simkhada et al., 2008). In India, according to National Family Health Survey (NFHS)-3, only half of pregnant women had received at least three ANC visits, prescribed mandatory by the government norms of ANC (IIPS, 2007).

Skilled attendance at birth (SBA) remains another important intervention in reducing maternal mortality and complications. Owing to the central role of professional care at birth, skilled birth attendance was chosen as an indicator for monitoring progress towards the maternal health MDG-5 of reducing maternal mortality ratio by three quarters between 1990 and 2015 (Ministry of Finance and Economic Development, 2004). Studies indicate that despite the ready availability of SBAs in developing countries, expectant mothers continue to use traditional birth attendants (Yanagisawa et al., 2006). Utilization of SBA depends on several factors such as adequate antenatal care (ANC) (IIPS, 2007), obstetric complications, quality of care, and proximity to a health facility (Gabrysch and Campbell, 2009), educational attainment (WHO, 2008), age at parity (IIPS, 2007), and economic accessibility (Addai, 2000). However, higher birth order (IIPS, 2007), socially disadvantaged communities (IIPS, 2007), and lower economic status of households (Gabrysch and Campbell, 2009) are negatively associated with SBA utilization.

Timely provision of postnatal care to women and children would also reduce maternal and child mortality (WHO, 2014). Literature reveals that women's PNC utilization is sometimes associated with utilization of ANC (Tarekegn et al., 2014). Studies also revealed that delivery at a health facility is positively associated with PNC utilization (Tarekegn et al., 2014). Other factors, like age (Dhakal et al., 2007) and educational attainment of women (Babalola and Fatusi, 2009 and Tarekegn et al., 2014), decision making ability (Sipsma et al., 2013), and financial and geographical barrier to health care (Babalola and Fatusi, 2009) are significantly associated with the utilization of PNC.

It appears from the above review that most of the earlier studies focused only on demand side factors, such as individual level and household level factors that affect the utilization of three aspects of maternal health care: antenatal care, skilled birth attendants and post-natal care in India (Dhakal et al., 2007; Babalola and Fatusi, 2009 and Tarekegn et al., 2014). Few number

of works have been carried out in India to estimate the effects of community and district level characteristics on the utilisation of maternal health care services (Singh et al., 2012). However, to the best of our knowledge, none have attempted to focus on supply side factors affecting the utilization of three aspects of maternal health care in the empowered action group (EAG) states. The present paper attempts to bridge this gap by analyzing data from the Annual Health Survey (AHS): 2012-2013 in congruence with Census 2011 in the nine high focused states of India. These nine Empowered Action Group (EAG) States with relatively high fertility and mortality account for about 48 percent of the total population in our country. These states are Rajasthan, Uttar Pradesh, Uttarakhand, Madhya Pradesh, Chattisgarh, Bihar, Jharkhand, Odhisa and Assam. The principal hypothesis is that the village level contextual and supply side factors independently influence utilization of three aspects of maternal health care in addition to the demand side factors. In this study, physical accessibility and availability (essential health care services and trained human resources), all-weather roads and transport at the village level are considered as supply side variables. Place of residence and villages having all weather roads are taken as a contextual variable.

MATERIAL AND METHODS

Data

The unit-level data of an Annual Health Survey (AHS: 2012-2013) pertaining to nine EAG states were used. To note, Annual Health Survey (AHS) is the largest sample survey conducted in India. AHS has the distinctive ability to map changes in access and utilization of MCH services annually by virtue of being a panel survey. It was expected that AHS would, thus, enable better capturing of the health-seeking behaviour of the people as compared to other periodic cross-sectional surveys, and also help needed corrections in the strategies. For understanding the factors associated with utilization of three aspects of maternal health care (antenatal care, skilled birth attendants and post-natal care) among women aged between 15 and 49 years preceding the survey were considered. In all, there were 39,596; 62,419; 23,690; 26,086; 36,539; 80,685; 21,160; 22,286 and 31,135 women aged 15-49 years in Assam, Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Uttar Pradesh, Uttarakhand, Rajasthan and Odisha respectively. District Census Handbook (2011) of all the districts of corresponding states were also been used to compute supply side/contextual variables like: doctors per 100,000 population, degree of availability of health care providers and percentage of villages having all-weather roads.

The outcome indicators were 'at least three antenatal care (ANC) visits', 'full ANC', 'skilled birth attendant (SBA) at delivery' and 'post natal care (PNC) within 48 hours of delivery from any sources'. A woman was said to have a full ANC, if her indexed pregnancy was registered within three months of conception, had made three ANC visits, received at least one dose of tetanus

Box 1 The data source

District Census Handbook

Degree of media exposure (Composite Index)

Proportion of villages having self-help groups

Doctors per 100,000 population

Degree of availability of health care providers (Composite Index)

Percentage of villages with all-weather roads

Annual Health Survey 2012-2013

At least three antenatal care (ANC) visits

Full ANC

Skilled birth attendant (SBA) at delivery and

Post natal care (PNC) within 48 hours of delivery from any sources among women aged between 15 and 49 years preceding the survey

toxoid (TT) injections and consumed at least hundred iron folic acid (IFA) tablets/syrup during the pregnancy period. WHO (2004) defines a skilled attendant as “an accredited health professional such as a midwife, doctor or nurse-who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth, and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns” (WHO, 2004). In the present study, SBA utilization has been defined as a delivery assisted by a qualified public or private doctor, nurse or ANM.

Variables

Predictor variables used in the analyses primarily fell into four categories: individual level, household level, and community-level exposure and contextual/supply side variables. Individual-level variables included age, birth order of child, educational attainment (Non literate, up to primary, middle, secondary and higher secondary and above), working status (not working and working) and media exposure. Household-level variables incorporated socio-religious category (Hindu general caste, Hindu SC, ST, Muslims and other minorities) and household asset index (poorest, poorer, middle, richer and richest). Caste and religion were pooled together to form a single categorical variable and categorized as Hindu general caste, Hindu SC, ST, Muslims and other minorities. As information on household income or expenditure was not directly asked in the survey, the asset index was calculated by using principal component analysis and was used as the proxy for household economic status. The asset index consisted of the following indicators: type of house, toilet facility, main fuel for lighting and cooking, main source of drinking water, use of separate room for cooking and ownership of assets such

as a house, agricultural land, irrigated land, livestock and other durable goods. On the basis of the composite score related to these characteristics as obtained from principal component analysis (PCA), the household wealth was divided into five groups- poorest, poorer, middle, richer and richest on the basis of five quantiles.

The community-level variable was proportion of villages having at least a self-help group, which was considered as proxies of community-level interactions. A self-help group (SHG) is an informal group of 5–20 persons of the same low level of economic condition, belonging to the same locality or hamlet. They are subject to open and voluntary membership, democratic control of members, participation of members in economic activities of the group, autonomy and independence, education, training and information, co-operation amongst different groups and concern for the community.

Availability of grassroots-level community health providers including doctor in the village were included as supply-side variables. The variable 'health providers' was calculated by using factor analysis [principle component factoring (pcf)]. It includes: number of in-station doctors at Primary Health Centres per 1,00,000 population, number of in-station para-medical staff at Primary Health Centres per 10,000 population, number of in-station para-medical staff at Sub-Centres per 10,000 population, percentage of villages with ASHAs, & percentage of villages with Anganwadi Centre. Place of residence (rural and urban) and availability of all-weathered roads in the village was taken as a contextual variable.

Media exposure was calculated by using factor analysis. Media exposure consisted of the following indicators: proportion of households has transistor/radio, television, computer with internet facility and mobile with internet facility.

Statistical analysis

To identify background characteristics of the respondents, descriptive statistics were used. We used the binary logistic regression analyses to find out the factors affecting 'at least three ANC visits', 'uptake of full ANC', 'utilization of skilled birth attendant (SBA)' and 'uptake of PNC within 48 hours of delivery'. Predictor variables used in the binary logistic regressions are individual level, household level, contextual/supply side variables as discussed earlier. Community level variable has not been used as predictor variable.

A *p* value of ≤ 0.05 was considered statistically significant and all the predictors were presented with odds ratio and 95% confidence interval. Data were analysed using STATA version 14.0.

RESULTS

Table 1 presents sample characteristics of the respondents of different EAG states as obtained from the AHS 2012-2013 and Census 2011. The coverage of full ANC check-up and/or at least three ANC visits were found

Box 2 List of predictor and response variables used in analyses of maternal health care Utilization outcomes.

List of Response Variables	List of Predictor Variables
i. Uptake at least three antenatal care (ANC) visits	<i>Demand side factors</i>
ii. Uptake of full ANC	Individual level: i. Age [continuous] ii. Birth order (categorized as single child, two, three & more than three) iii. Maternal education (categorized as : Non literate, Up to primary, Middle, Secondary and Higher secondary & above)
iii. Women who had skilled delivery assistance	iv. Maternal work status [Working/Not-working (Binary)] v. Degree of media exposure [continuous]
iv. PNC check-up within 48 hours of delivery	Household level: i. Socio-religious category (categorized as : Hindu general caste, Hindu SC, ST, Muslims and Other minorities) ii. Household Asset [composite index] (Categorized as: poorest, poorer, middle , richer and richest)
	<i>Contextual/ supply side factors.</i>
	i. Place of residence [Rural/Urban (Binary)] ii. Villages having all weather roads (Binary) iii. Availability of Doctors (continuous) iv. Availability of other health providers (continuous.)

to be highest in Odisha among all states. Percentage of safe deliveries by skilled birth attendants was found to be quite high among women in Madhya Pradesh, whereas, highest proportion of women (80.02%) from Uttar Pradesh received post-natal check-up (PNC) within 48 hours of delivery. Women were predominantly living in rural areas, poor, unemployed and with low levels of education almost in all states. Hinduism is the largest religious tradition in these states with more than half of the population identifying themselves as Hindus, while Muslims comprise around one-fifth of the total population. Availability of doctors per 100,000 populations was quite low, whereas, availability of those of ASHA workers was found in a good number of all respective states. More than half of the villages have all-weather roads and three-fourth of them have anganwadi-centre.

Table 1 Characteristics of participants in different EAG states, AHS 2013

Background characteristics	EAG states (Total)	Uttarakhand	Rajasthan	UP	Bihar	Assam	Jharkhand	Odisha	Chhattisgarh	MP
Women received at least three ANC* visits (%)	51.11	55.56	53.32	39.97	39.27	67.42	55.00	79.67	67.06	73.26
Women received full ANC (%)	8.57	11.29	5.98	5.55	5.39	14.68	5.60	21.29	18.52	11.61
Women have had skilled delivery assistance (%)	69.71	63.79	84.92	62.51	68.98	70.49	53.46	79.52	63.05	88.32
Women received PNC**check-up within 48 hours of delivery(%)	76.28	66.80	79.50	85.43	60.40	69.41	71.76	84.68	71.85	80.02
Women from Rural (%)	83.48	68.80	83.92	81.19	91.08	85.94	85.15	87.83	83.46	73.34
Mean age of respondents (SD)	26.40 (6.87)	26.05 (4.42)	25.78 (4.94)	27.02 (5.31)	26.95 (5.60)	25.80 (4.92)	25.95 (5.37)	26.03 (4.75)	26.48 (5.47)	25.86 (5.15)
Educational attainment of women (%)										
Non literate	41.62	22.54	47.32	42.74	58.78	25.16	45.51	22.66	27.45	30.10
Up to primary	25.66	20.87	26.57	21.35	21.82	32.44	26.02	35.26	34.54	33.36
Middle	14.94	20.46	12.65	14.89	7.83	23.20	11.68	23.02	20.34	18.26
Secondary	7.20	10.46	5.46	6.91	6.02	8.96	7.87	10.17	7.95	7.82
Higher secondary & above	10.59	25.67	7.99	14.12	5.57	10.24	8.92	8.89	9.72	10.45
Working status of women at the time of survey (%)										
Working	17.42	10.67	29.17	9.95	11.68	15.06	21.41	22.48	41.09	32.34
Not-working	82.58	89.33	70.83	90.05	88.32	84.94	78.59	77.52	58.91	67.66
Socio-religious category (%)										
Hindu general caste	50.83	52.19	51.12	52.85	54.22	36.76	40.65	49.42	51.49	51.01
Hindu SC	19.26	21.77	19.11	23.48	19.10	8.47	14.97	18.83	12.83	16.96
ST	9.53	2.87	17.45	1.45	1.43	11.86	13.82	26.71	32.50	23.73
Muslims	17.13	20.20	10.61	21.00	18.07	39.89	16.60	2.34	1.51	7.45
Other minorities	3.24	2.97	1.71	1.21	7.18	3.01	13.96	2.69	1.67	0.85
Wealth quintiles (%)										
Poorest	23.47	25.75	28.04	20.84	23.63	28.66	23.76	32.46	20.31	20.94
Poorer	18.73	19.38	18.00	20.48	16.47	13.92	15.94	20.25	19.48	20.60
Middle	18.16	13.06	16.62	18.58	16.94	18.70	20.45	15.81	20.27	20.01
Richer	19.75	18.61	18.64	19.81	21.57	19.16	19.23	16.40	20.35	19.40
Richest	19.89	23.20	18.70	20.30	21.39	19.57	20.61	15.08	19.59	19.05
% of villages having self-help group [Range]	60.1 [5.5,96.8]	35.8 [30.8,44.8]	7.1 [5.55,9.61]	54.0 [16.4,76.1]	53.1 [16.3,60.7]	83.2 [69.8,88.8]	33.4 [30.2,39.6]	86.7 [80.7,96.8]	84.8 [80.0,88.0]	83.1 [70.7,91.5]

Table 1 continued

Table 1 (continued) Characteristics of participants in different EAG states, AHS 2013

% of villages having PDS*** shop [Range]	55.8 [21.07,82.3]	48.1 [41.09,59.26]	25.6 [21.0,30.6]	58.8 (41.1,78.9)	64.9 (49.8,82.3)	70.2 (40.6,79.7)	44.1 [40.1,47.9]	49.6 [29.3,61.1]	59.8 [39.1,66.8]	52.1 [40,63.7]
Mean number of doctors per 100,000 population [Range]	9.5 [0.85,32]	12.1 [2.9,25.9]	8.9 [.3,38.8]	8.3 [52,44.5]	10.1 [1.0,24.1]	10.6 [0.3,22.7]	6.3 [0.3,22.7]	10.3 [0.3,22.7]	10.8 [0.3,22.7]	8.9 [0.3,22.7]
% of villages with ASHAs**** [Range]	78.2 [17,100]	83.5 [41,97]	80.8 [41,98]	79.7 [41,98]	80.9 [17,100]	81.7 [33,98]	80 [41,98]	82.3 [41,99]	80.7 [41,97]	81.5 [41,100]
% of villages with Nutritional Centres-Anganwadi Centre [Range]	77.6 [2,100]	81.6 [44,97]	77.8 [40,100]	75.1 [44,98]	79.6 [41,98]	80.7 [39,98]	80.3 [44,98]	80.5 [2,981]	80.7 [44,97]	74.7 [44,100]
% of villages with all-weather roads [Range]	61.1 [0.98]	57.1 [21,87]	57.3 [15,98]	56.1 [0,88]	59.2 [18,90]	58.9 [15,87]	61.82 [21,87]	57.8 [16,87]	55.7 [11,87]	57.1 [10,87]

*ANC: anti natal care; **PNC: post-natal care;***PDS: Public distribution system, ****ASHA: Accredited Social Health Activist

Table 2: Odds ratio of Women who received at least three Antenatal Check-ups according to respondent's selected background characteristics; EAG states; AHS 2013

Background characteristics	Likelihood of receiving at least three Antenatal Check-ups Odds Ratio (Significance)	95% CI.	
		Lower	Upper
Age [continuous]	0.98***	0.98	0.98
Birth order			
Single child(ref)	1.00		
Two	5.29***	5.20	5.38
Three	6.42***	6.30	6.53
More than three	5.65***	5.55	5.75
Maternal education			
Non literate (ref)	1.00		
Up to primary	1.35***	1.34	1.35
Middle	1.53***	1.52	1.53
Secondary	1.66***	1.65	1.67
Higher secondary & above	1.80***	1.80	1.81
Maternal work status			
Not working (ref)	1.00		
Working	1.10***	1.09	1.10
Socio-religious category			
Hindu general caste (ref)	1.00		
Hindu SC	0.93***	0.93	0.93
ST	1.40***	1.39	1.40
Muslims	0.90***	0.90	0.91
Other minorities	1.22***	1.21	1.23
Asset index			
Poorest (ref)	1.00		
Poorer	0.90***	0.90	0.90
Middle	0.96***	0.96	0.97
Richer	1.02***	1.02	1.02
Richest	1.11***	1.11	1.12
Place of residence			
Rural (ref)	1.00		
Urban	1.48***	1.48	1.49
Degree of media exposure ^a	1.13***	1.13	1.13
Availability of Doctor ^b	1.01***	1.01	1.02
Availability of other Health providers ^c	1.39***	1.39	1.39
Availability of All-weathered roads ^d	1.01***	1.01	1.02
Number of Women = 9,229,957			
Pseudo R2 = 0.067			

***p<0.01,¹at least three visits for antenatal check-up, at least one TT injection received and 100+ IFA tablets/ syrup consumed.,^afactor scores of household having media exposure [continuous],^bdoctors per 100,000 population [continuous],^c factor scores of number of in station doctors at Primary Health Centres per 1,00,000 population ,number of in station para medical staff at Primary Health Centres per 10000 population, number of in station para medical staff at Sub- Centres per 1, Percentage of villages with ASHAs, & percentage of villages with Nutritional Centres-Anganwadi Centre,^dpercentage of villages with all-weather roads.

Table 2 shows that age, birth order, place of residence and working status of the respondents, and household socio-economic status was found to be significant determinants of receiving ANC course. Further, the likelihood of completion of ANC course increased sharply with increased levels of education of respective respondents. Respondents belonging to the Hindu SCs and Muslim communities were least likely to receive full ANC compared to Hindu general caste, a reverse trend has been seen in case of STs and other minority communities. As expected, respondents from urban areas were more likely to complete ANC course compared to their rural counterparts. The socio-religious affiliation was significantly associated with the completion of complete ANC course. Result also reveals that respondents belonging to households with higher level of media exposure were more likely to receive complete ANC course compared to their respective categories. In addition, the likelihood of completing ANC course was found to be higher among those villages which have all weather roads. The availability of grassroots-level community health workers and doctors per 100,000 populations was positively associated with the completion ANC course. Table 3 shows the similar trend as described in table 2, barring the variable 'age'.

Table 4 describes that demand side factors like age, birth order, education and working status of the respondents, household socio-economic status and socio-religious affiliation was found to be significant predictors of using skilled birth attendants during delivery. Our results further elucidates that not only demand-side factors but also contextual (place of residence and all weather roads in the village) and supply-side factors like, availability of grassroots-level community health providers including doctors per 100,000 populations were also significant predictors of using skilled birth attendants during delivery. Table 5 shows that demand side factors, contextual factors and supply side factors were also significantly associated with the utilization of PNC. However, it is surprising that villages having all weather roads and availability of health providers in the respective villages were negatively associated with the utilization of PNC services. In addition, an increase in birth order decreased the chance of receiving PNC after delivery.

DISCUSSION

The findings of the present study reveal that apart from individual level factors (such as, age, birth order, education, working status and degree of media exposure of the respondents) and household-level factors (such as, socio-economic status and socio-religious affiliation), supply-side factors (such as availability of grassroots-level community health providers) and contextual level factors (such as, rural-urban residence) and availability of all-weathered roads in the village have a significant bearing on the utilization of such care. Studies in different developing countries suggest that health practices during and after pregnancy are largely regulated through individual and household level factors (Chandihok et al., 2006).

Table 3: Odds ratio of Women who received full Antenatal Check-up (ANC) according to respondent's selected background characteristics; EAG states; AHS 2013

Background characteristics	Likelihood of receiving full Antenatal Check-ups 95% CI.		
	Odds Ratio (Significance)	Lower	Upper
Age [continuous]	1.05***	1.05	1.06
Birth order			
Single child(ref)	1.00		
Two	4.79***	4.75	5.14
Three	4.71***	4.69	5.08
More than three	3.80***	3.77	4.09
Maternal education			
Non literate (ref)	1.00		
Up to primary	1.30***	1.29	1.31
Middle	1.45***	1.44	1.46
Secondary	1.65***	1.64	1.67
Higher secondary & above	2.14***	2.12	2.16
Maternal work status			
Not working (ref)	1.00		
Working	1.13***	1.12	1.14
Socio-religious category			
Hindu general caste (ref)	1.00		
Hindu SC	.916***	.91	.92
ST	1.29***	1.28	1.30
Muslims	.80***	.78	.81
Other minorities	1.03***	1.01	1.06
Asset index			
Poorest (ref)	1.00		
Poorer	.95***	.94	.959
Middle	.97***	.96	.98
Richer	.98***	.97	.98
Richest	1.15***	1.14	1.16
Place of residence			
Rural (ref)	1.00		
Urban	1.54***	1.53	1.55
Degree of media exposure ^a	1.06***	1.05	1.06
Availability of Doctor ^b	1.01***	1.01	1.01
Availability of other Health providers ^c	1.26***	1.26	1.27
Availability of All-weathered roads ^d	1.02**	1.02	1.03
Number of Women = 9,229,957			
Pseudo R2 = 0.057			

***p<0.01,¹at least three visits for antenatal check-up, at least one TT injection received and 100+ IFA tablets/ syrup consumed.,^afactor scores of household having media exposure [continuous],^bdoctors per 100,000 population [continuous],^c factor scores of number of in station doctors at Primary Health Centres per 1,00,000 population ,number of in station para medical staff at Primary Health Centres per 10000 population, number of in station para medical staff at Sub- Centres per 1, Percentage of villages with ASHAs, & percentage of villages with Nutritional Centres-Anganwadi Centre,^dpercentage of villages with all-weather roads.

Table 4: Odds ratio of women who had skilled delivery assistance according to respondent's selected background characteristics; EAG states; AHS 2013

Background characteristics	Likelihood of receiving skilled delivery assistance 95% CI.		
	Odds Ratio (Significance)	Lower	Upper
Age [continuous]	0.98***	0.98	0.98
Birth order			
Single child(ref)	1.00		
Two	5.26***	5.19	5.34
Three	6.53***	6.44	6.61
More than three	6.07 ***	5.99	6.16
Maternal education			
Non literate (ref)	1.00		
Up to primary	1.25 ***	1.25	1.25
Middle	1.43***	1.42	1.43
Secondary	1.55***	1.54	1.56
Higher secondary & above	1.74***	1.72	1.75
Maternal work status			
Not working (ref)	1.00		
Working	1.07***	1.06	1.08
Socio-religious category			
Hindu general caste (ref)	1.00		
Hindu SC	0.95***	0.94	0.95
ST	0.97***	0.97	0.98
Muslims	0.71 ***	0.71	0.72
Other minorities	0.80***	0.79	0.80
Asset index			
Poorest (ref)	1.00		
Poorer	0.90***	0.89	0.90
Middle	0.98***	0.98	0.99
Richer	1.02***	1.01	1.02
Richest	1.09***	1.09	1.10
Place of residence			
Rural (ref)	1.00		
Urban	1.47***	1.43	1.44
Degree of media exposure ^a	1.02***	1.02	1.03
Availability of Doctor ^b	1.02***	1.02	1.03
Availability of other Health providers ^c	1.22***	1.22	1.23
Availability of All-weathered roads ^d	0.99***	0.99	0.99
Number of Women = 9,229,957			
Pseudo R2 = 0.046			

***p<0.01,¹at least three visits for antenatal check-up, at least one TT injection received and 100+ IFA tablets/ syrup consumed.,^afactor scores of household having media exposure [continuous],^bdoctors per 100,000 population [continuous],^c factor scores of number of in station doctors at Primary Health Centres per 1,00,000 population ,number of in station para medical staff at Primary Health Centres per 10000 population, number of in station para medical staff at Sub- Centres per 1, Percentage of villages with ASHAs, & percentage of villages with Nutritional Centres-Anganwadi Centre,^d percentage of villages with all-weather roads.

Table 5: Odds ratio of Women who received Post-Natal check-up (PNC) within 48 hours of delivery according to respondent's selected background characteristics; EAG states; AHS 2013

Background characteristics	Likelihood of receiving Post-Natal check-up 95% CI.		
	Odds Ratio (Significance)	Lower	Upper
Age [continuous]	1.03***	1.03	1.03
Birth order			
Single child (ref)	1.00		
Two	9.41***	9.28	9.55
Three	8.24***	8.12	8.36
More than three	8.08***	7.96	8.20
Maternal education			
Non literate (ref)	1.00		
Up to primary	1.25***	1.24	1.25
Middle	1.65***	1.65	1.66
Secondary	1.67***	1.67	1.69
Higher secondary & above	2.08***	2.07	2.09
Maternal work status			
Not working (ref)	1.00		
Working	1.03***	1.03	1.04
Socio-religious category			
Hindu general caste (ref)	1.00		
Hindu SC	0.95***	0.95	0.96
ST	0.99***	0.99	1.00
Muslims	0.94***	0.93	0.94
Other minorities	0.61***	0.60	0.61
Asset index			
Poorest (ref)	1.00		
Poorer	1.03***	1.02	1.03
Middle	1.05***	1.05	1.06
Richer	1.03***	1.02	1.03
Richest	0.97***	0.97	0.98
Place of residence			
Rural (ref)	1.00		
Urban	1.36***	1.35	1.37
Degree of media exposure ^a	1.52***	1.52	1.53
Availability of Doctor ^b	1.02***	1.02	1.03
Availability of other Health providers ^c	0.79***	0.79	0.79
Availability of All-weathered roads ^d	0.99***	0.99	0.99
Number of Women = 8,843,934			
Pseudo R2 = 0.059			

***p<0.01,¹at least three visits for antenatal check-up, at least one TT injection received and 100+ IFA tablets/ syrup consumed,^a factor scores of household having media exposure [continuous],^b doctors per 100,000 population [continuous],^c factor scores of number of in station doctors at Primary Health Centres per 1,00,000 population ,number of in station para medical staff at Primary Health Centres per 10000 population, number of in station para medical staff at Sub- Centres per 1, Percentage of villages with ASHAs, & percentage of villages with Nutritional Centres-Anganwadi Centre,^d percentage of villages with all-weather roads.

Some researchers suggest that older women are more likely to use ANC and PNC services compared to those who are younger; as observed in our study. It is possibly that younger women lack the knowledge of the benefits of ANC compared to their older counterparts. Additionally, pregnancy among younger women could be mistimed or unwanted and they might be careless in availing ANC service. (Simkhada et al., 2008).

In the present study, educational attainment appeared to be a significant predictor of maternal health care utilization during pregnancy as well as at the time of delivery and post delivery, corroborating with the findings of another study (Mengesha et al., 2013). Our result indicates that educated respondents were more likely to take antenatal and post natal care than non-literate or lesser educated respondents. In case of utilizing skilled attendance at birth, respondents with higher secondary level of education were about two times more likely to receive care facilities than non-literate respondents (OR=2.04). The reason might be that educated women are more aware of the benefits of skilled birth attendance and also would likely to influence decision-making processes within the household regarding these issues.

Birth order has been found to be another important factor, which significantly affects the use of safe delivery services (Bloom et al., 1999 and Singh et al., 2012). It is quite natural that the likelihood of accepting antenatal care and utilization of delivery care decreases among grand multipara (Gabrysch and Campbell 2009), however, our findings contradicts this study. One explanation could be that women with higher parity are more knowledgeable regarding the benefits of safe delivery. However, such finding calls for qualitative investigation, which is beyond the scope of the present study.

Factors like respondents' occupation, household socio-economic status and religious affiliation have been found to be significant predictors of antenatal, delivery and post-natal care in our study. Respondents, who are involved in wage earning sector activities were more likely to obtain antenatal and post natal care as well as 1.07 times more likely to avail skilled attendance at birth, compared to their non-working counterparts. Factors which determine a women's own status such as her level of education and her occupation, have decisive influence in health-related practices as found in earlier studies (Singh et al., 2012). Therefore, it may be argued that a woman's decision-making capacity about her own health is crucial for maternal health care practices.

The likelihood of ANC and SBA during delivery increases with increased household asset quintile, which corroborates with other studies (Arthur, 2012). On the other hand, the use of PNC services has been increased from poor to fourth asset quantile, richer and then declined for highest asset quantile, richest. Incidentally, in Bihar, the percentage of receiving PNC services has been increased up to fourth asset quantile and then decreased for highest

asset quantile, which is difficult to explain and such trend in Bihar evidently affects the results of other states. This calls for further micro-level study on this issue in Bihar.

As in the line of earlier studies (Singh et al., 2012), the present study also reveals that media exposure is positively associated with utilization of maternal health care services. The simple reason might be that use of public media sources like listening to radio, watching television and reading newspapers, use of internet, etc. increases the awareness of women regarding entitlements and rights on health related matters on one hand and knowledge regarding safe maternal healthcare practices on the other.

Health care seeking may be influenced by the cultural backgrounds, beliefs, norms and values of specific ethnic groups and religion. Especially, religion is often thought to influence beliefs, norms and values in relation to pregnancy, childbirth and utilization of services (Gabrysch and Campbell 2009). In our study, Hindu SC and Muslim respondents were less likely to use maternal health services than Hindu general caste. The possible reason is that the respondents belonging to these socio-religious categories may be more inclined to traditional beliefs and custom.

Our study also shows that the respondents from urban areas were more likely to receive maternal health care services than their rural counterparts. It might be due to the increased availability of infrastructure (shorter distance to health facilities, better roads and transportation) in urban areas than rural areas. Also, the availability of grass root level community health providers in a village and/or urban area enhances the odds of utilization of ANC services.

Additionally, availability of doctors per 1, 00,000 populations were positively associated with the utilization of maternal healthcare services. Although, Scott and Shanke (2010) have concluded that grass root level health providers can bring significant behavioural changes in health-related attitude and behaviour of the mothers, surprisingly, our study has found that availability of all weathered road and grass root level health workers decrease the odds of utilization of SBA and PNC services. One has to keep in mind that we could not control for physical quality of the all weather roads. It could be the case that the physical conditions of the roads are so poor that expectant mothers do not take the chance to travel by road to the hospital for delivery, thereby preferring home delivery. In such cases, the likelihood of utilization of PNC services also diminishes.

There are few limitations of this study, which must be acknowledged. First, cross-sectional data are not suitable for finding out cause-effect relationship. Furthermore, we could not control some important variables (such as cultural beliefs, roles of husbands in maternal health decision-making, and perceptions about whether pregnancy is a medical issue warranting clinical visits) because data on these issues are neither collected

by AHS nor by Census. Moreover, there is a lack of data on quality of services, which is a supply side factor and could have influenced the MCH services.

As the predictor variables are from different levels in our data set, multilevel analysis would be the best suited. However, we could not carry out multilevel analysis because of certain methodological issues inherent in multilevel analyses using discrete data. To note, the AHS data set has huge number of observations (N= 9,229,957). Due to this high 'N' the time frame while performing multilevel analysis would approach geologic as well as there are thousands of groups nested within it. This is one of the limitations of the present study. We recommend to the future researchers to carry out such analysis when faster computing facility would be available to handle large-scale survey data. Despite the above limitations, the design of the study (being a community based) and the relatively larger sample size together enriched the study.

We conclude from this study that both demand side and contextual/supply side factors (like essential health care services and trained human resources) are likely to play an important role in the utilization of three aspects of maternal health care among women of EAG states in India.

Implications for Interventions and Policies

The multidimensionality of the upshot of maternal mortality lead us to converge in an inclusive health policy which can achieve the "effective coverage" in MCH care. The National Health Policy, 2017 aims to inform, clarify, strengthen and prioritize the role of the Government in shaping health systems in all its dimensions. But for the proper implications of the policy, Government must adequately focus on strengthening the availability and accessibility of initial MCH services ranging from physiographic 'access' to several other dimensions of 'access' such as accessibility to knowledge, availability of services, accessibility to health personnel, initial utilization of services (or contact with health personnel) and continuity of access. We argue that there is no identifiable factor that can reasonably be called 'pure' demand-side factor. The demand-side factors are generally influenced by the supply-side factors as well. For example, ANC care visits, institutional delivery, PNC check-ups are usually seen as the result of an individual's choice, which is explained by the individual and household level factors. However, individual's choice to avail a particular service depends on their past experience of deprivation and thus be addressed by deferential intervention by state agencies. Therefore, widening the quality and quantity of health services as part of programme implementation plan of NHM and refilling of vacant posts and interaction of frontline health workers with community will help to increase the utilization of maternal health care services. Owing to such 'quality' issues, out-of-pocket expenditure (OOP) has been increasing as demand for services shifted from public to private. These factors, in turn, have critical implications for finishing the 'unfinished

agenda' of MDG 4 and 5 and moving towards Universal Health Coverage (UHC) as a part of Sustainable Development Goals (SDGs). Thus, identification of 'bottlenecks' on supply-side, demand-side and contextual factors, viz., availability of essential health commodities and human resources, physical accessibility, initial utilization and continuum of care are essential prerequisites to ensure the 'effective coverage' in MCH care which in-turn leads to achieve UHC with equity.

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Culture, Epidemiology and Traditional Knowledge about Malaria: A Study among the Idu Mishmi of Arunachal Pradesh

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Abstract: The root of malaria lies deep within the human culture. The perception of this disease varies across societies depending on the belief system. Thus, examining the cultural aspect of malaria is important for formulating successful eradication policy of it. The present study aims at understanding the perception of Idu Mishmi tribe of Arunachal Pradesh towards malaria. The Idu Mishmi tribe inhabit the Lower Dibang Valley of Arunachal Pradesh. This area is one of the malaria infested areas of Arunachal Pradesh. In-depth interviews were conducted among the key informants to get a clear understanding about the different aspects of malaria among the Idu Mishmis. A total of 50 key informants representing four villages were interviewed. Results of the study reveal that the Idus use the term *ahade* for malaria and believe that this disease is caused by a supernatural spirit called *heta*, which resides in certain water reservoirs. The cure for this disease depends on the knowledge and expertise of the *Igu* (Shaman). The *Igu* confirms the illness and accordingly the healing rituals are performed. Sometime the *Igu* also administers folk medicine extracted from certain flora and fauna available locally. Although most of them visit hospitals and clinics for the treatment, traditional way of healing is also simultaneously practiced by the Idu Mishmis.

So understanding the local perspective of occurrence of malaria among Idu Mishmi will help in formulating a comprehensive policy to eradicate this disease from the community.

Key words : Malaria, Ethno-medicine, Idu Mishmi, Arunachal Pradesh, folk healing, *Igu*

INTRODUCTION

Malaria is an endemic disease that affects around 214 million people globally (WHO, 2015). The cases of malaria are more prevalent in the developing countries. Most of the cases of malaria occur in African region (88%), followed by South-East Asia (10%) and Eastern Mediterranean Region (2%) (WHO, 2015). The reference of malaria was found in the medical literature of China and India which dates back to 2700 BC. In the Vedic literature this disease is referred as “King of diseases” and in China as “Mother of Fevers” (Bruce-Chwatt, 1988). The word ‘malaria’ has a Roman origin. It is derived from the miasma theory of causation as ‘mal’ (Bad or evil) ‘aire’ (air) (Heggenhougen et al., 2003).

The root of malaria lies deep within the human culture. Introduction of agriculture is considered to be the main reason of the origin of this disease (Livingston, 1958). Every society, in course of their history, has developed their own way of understanding the etiology of the disease and its management.

This is how diseases like malaria is perceived differentially across the cultural groups (Bruce-Chwatt, 1988).

Various attempts were made to control and prevent malaria in almost every endemic area. Often, these attempts underestimate the importance of local beliefs, concepts, treatment and management of the disease (WHO, 1969; IMC-SMPC, 1989). But these local concepts and knowledge about the illness criteria may sometime enhance or interfere with the effectiveness of the control programs (Klein et al., 1995). Understanding and recognizing the communities' perception of malaria and behavior is not only crucial for adopting a successful malaria control program but also for making it more applicable, much easier and more effective (Ahorlu et al., 1997). Therefore, any malaria eradication program needs to consider people's understanding of the disease and treatment and preventive knowledge of the target population (Nuwaha, 2002, Adongo et al., 2005, Beiersmann et al., 2007).

The present study aims at understanding the perception of malaria and various treatment methods among the Idu Mishmi tribe of Arunachal Pradesh. This may be useful for developing an effective control strategy, which will be acceptable to the people.

MATERIALS AND METHODS

The Idu Mishmi with a population of about 10,000 is one of the major tribes of Arunachal Pradesh who live in the Lower Dibang Valley, Lohit, East Siang and Upper Siang districts. They belong to the Mongoloid ethnic group and speak a dialect belonging to the Tibeto-Burman group of languages (Encyclopedia Britannica, 2016). They are animist, but some of them have embraced Christianity. Nuclear family exists alongside vertically extended families. They are patriarchal and inheritance is traced through male line only. The Idu Mishmis mostly depend on agriculture and practice traditional method of shifting or *Jhum* cultivation. Most of their basic requirements, like bamboo and thatch for building houses and firewood, cane for making mats, basket and other household articles are fulfilled from the forest in and around the village. The major crops grown in the area include paddy, maize, millet, ginger and orange.

The present study was conducted among the Idu Mishmis living in the Lower Dibang Valley district. This is the area where most of the population of this community live. In-depth interviews were conducted among the key informants to get a clear understanding about the different aspects of malaria. A total of 50 key informants representing four villages were interviewed. The villages were randomly selected, but the key informants were recruited using purposive sampling. The villages included in the study were Kebali, Asalli, Dello and Mayu. Non-participant observation was also applied to understand the factors enhancing malaria transmission. Qualitative data were analyzed and discussed under certain themes.

RESULTS

Etiology

The term 'Malaria' is alien to many of the aged illiterate members of the Idu Mishmi tribe. The closest equivalent word for malaria in their dialect is *ahade* or *ahade angu*. Here *angu* means fever. The Idu Mishmi people became familiar with the term malaria only in the mid 20th century. Here it may be mentioned that the first health clinic in the Lower Dibang Valley was established in 1960. The cause for *ahade* is also different from the way malaria is explained in biomedical system. Although the young generation of the Idu Mishmi agreed that *ahade* and malaria are the same, yet a good number of older generation people did not agree. To them *ahade* has nothing to do with mosquitoes, rather the disease has relations to certain water reservoirs. They believe that *ahade* is caused by the spirit of water. This water spirit is called as *ahade heta* and is described as '*apashuhandu la unji*' in their dialect, which means 'a very good looking and mesmerizing female or bride'.

They believe that when *ahade heta* casts her gaze upon a person, the person is sure to go through the episodes of fever called *ahade angu*, characterized with periodic shivering, chills to intense fever to drenching sweats but the person will not die out of it. They also believe that a person will die if *ahade heta* touches the person. This explains why some people with *ahade* die and some survive.

According to the Idu Mishmi, *ahade* spreads from two directions. First, it comes from the *eluthrubru*, which means water tributaries possessing *ahade heta*. They consider a stagnant water body or a marshy place to be the abode of *ahade heta*. If someone takes bath or drinks water from that particular water body then it is believed that the person will get into the trap of the evil web, which they called it as *episa*. The other places of abode for *ahade heta* are the water bodies surrounded by bamboo plantation (they call it as *ebupa*), and meadows (they call it *whudipa* and *endupa*). They believe that the water bodies possessing *ahade heta* carry the *episa* and spread *ahade*.

Secondly, Idus believe that *ahade* also spreads from the plain areas. They consider *ahade* to be seasonal and most of the incidents occur during summer. So, Idus avoid going to the plains during summer fearing an attack from the *ahade*. Even within their own territory they also usually don't go to *boda* (forest) during summer. Only during winter they prefer to go for hunting or trapping or fishing. Incidentally, direct association with water bodies, forest and its surroundings, seasonal impact have a scientific basis so far as malaria is concerned.

Socio-Cultural Factors Enhancing Malaria Transmission

Malaria parasite and its vector require a favorable physical environmental condition for breeding. The State of Arunachal Pradesh experiences heavy

rainfall during the months of May to September. The average rainfall of this area ranges from 80 to 450 centimeters. As the Lower Dibang valley is situated at the foot hill region, the water bodies in this area remain mostly stagnant. Moreover, heavy rainfall also results in the growth of rich vegetations, mainly bamboo and other grasses. This is a favorite breeding ground for the *Anopheles* mosquitoes. Similar situations were also reported from Uganda where cases of malaria increased with the onset of rainy season (Odongo-Aginya et al., 2005). Moreover, the Lower Dibang valley, being on the lower belt of Arunachal Pradesh and experiences hot and humid climate, further add to the favorable condition for the breeding of mosquitoes.

Besides physical environmental conditions, socio-cultural factors might also enhance the spread of the disease. For example, studies revealed that living in a concrete house with brick and plaster walls and tiled roofs reduce malaria transmission compared to poor housing type (Gamage-Mendis et al., 1991). Most of the Idu Mishmis live in their traditional house. A traditional Idu house is built up of bamboo or wood and thatch. It is elongated and rectangular in shape. The walls are built up of bamboo mats and split bamboos woven together. The roof is thatched with dry grass. The house is raised about two to three feet above the ground on wooden posts. The base or platform of the house is also made up of bamboo mats woven together. As such, the gaps and spaces in the split bamboo wall and floor give easy access to mosquitoes entering inside the house.

Every Idu's traditional house has a basement of about 2-3 feet high. In most cases, it has no wall on all four sides. This space is used for many different purposes. Some parts of it are used for storing firewood, while maximum portion is used for animal husbandry. They keep their domesticated animals like goat, pig, and fowls. The gaps in the split bamboo floor and animals beneath might increase the chance of animal to human and vice versa transmission of malaria parasites. Most of these houses also have latrines built in one corner or side of the house or as an extension of the house. These lavatories have no pits for the waste to collect but the outlets directly enter into the pigstall. Moreover, all the kitchen waste is also thrown beneath the house through split bamboo floor. Thus, the poor housing type, practice of agriculture, nature of animal husbandry and poor sanitation might have enhanced the spread of malaria parasites.

Traditional treatment/ healing method

Treatment of illness depends on the way illness is explained. For instance, where malaria is thought to be of supernatural origin, treatment is usually within the domain of folk healing. At times, illnesses are thought to be due to natural reasons that can be cured through modern medication. There are government hospitals and clinics in and around the villages with facilities for treating malaria in the Lower Dibang Valley. Malarial drugs and other protective items, like mosquito nets are distributed free of cost by the government

agencies in Arunachal Pradesh during the season when malaria takes the form of an epidemic. Awareness programmes are being organized to educate the people about malaria. Most of the Idu Mishmis respond to the government programmes and rely on biomedical system for treating malaria. However, still a good number of them prefer traditional way of treatment as the first or initial choice. Even among those who prefer biomedical system, majority go for traditional method of treatment simultaneously. Apart from biomedical system, Idu Mishmis use different traditional methods of treatment for *ahade* or malaria. This can be categorized into two types: through rituals, propitiating supernatural beings and by ingestion of folk medicine prepared from local flora and fauna.

Each major aspect of Idu life revolves around their shaman known as *Igu*. Idus believe that *khinyu* (spirit) rules the entire world. They believe in *Inni* (Sun) as a supreme creator. It is *Igu* who works as the mediator between the Idus and the world of supernaturals by performing various rituals, magico - religious acts. The whole social system of Idu Mishmi still moves with the divine power of the *Igu* (shaman). Like many communities of the world, Idus believe that everything has its own spirit like *golo*, the spirit of hills and mountain, *asha*, the spirit of the forest and burial ground, *apimishu*, the spirit of land and so on. To them, any form of illness is somehow related to spirits. Since Idu Mishmis believe that malarial fever (*ahade ango*) is caused by the spirit of water (*ahade heta*), they take up ritualistic practices known as *ango sha yu* or *ahade sha yu*, which literally means 'pull out the web of fever existing in human body', to get rid of this disease. As discussed earlier, Idus do not link malaria with mosquitoes rather they believe it to be caused by the supernatural spirit. They explain it from their own personal understanding and belief.

The Idu Mishmis depend on the *Igu* for treating *ahade*. In the Idu community, an *Igu* is not competent to treat all the diseases. Some are specialised in treating *ahade*, others are specialized for treating diseases like jaundice and other common diseases. Again, there are *Igus* who specialize in performing rituals related to different life cycles, such as good harvest, successful hunting, construction of traditional houses and even to settle disputes. *Igu* is specialized in a particular area and can only trace or treat particular illness. In case of *ahade* also it is believed that *Igu* who specializes in *agno sha yu* can only heal *ahade*.

The treatment of *ahade* starts with the verification of symptoms. If a person finds discomfort with the symptoms, like high body temperature/ fever, body ache, vomiting, sweating, headache, dizziness, loose motion and convulsion, then the person is considered to be suffering from *ahade*. After analyzing the symptoms, the *Igu* confirms it as *ahade*. Then the *Igu* may prescribe *ango sha yu*, a healing process where *episa* (evil web) that causes *ahade* is pulled out from the body of the patient. *Episa* is described as web of thin and shiny

thread like substance visible only to *Igu*. The whole process of *ango sha yu* starts with the chanting by the *Igu*. The patient (*mengi*) sits beside the *Igu* throughout the *ango sha yu* process; the *Igu* alone performs all the rituals. While chanting, the *Igu* beats a sacred instrument called *ripu* rhythmically. After a while, he comes closer to the patient with a piece of charcoal in his hand. He places the charcoal over the head of the patient and then slowly rotates it. It is believed that *episa*, the shining thread like substance comes out from the head of the patient. The *Igu* has to be very careful while removing the *episa*. It is also believed that if *episa* breaks at the time of removal then it indicates that it still remains in the body and will never be able to cure the *ahade*. So the *Igu* slowly moves the charcoal rolling until the entire portion of it comes out from the head with utmost caution. The same process is repeated over the knees of the patient as *ahade* patient may also suffer from acute joint pain. So by removing all the *episa* from the joints of body and head, the *ahade* can be cured totally.

Meanwhile, the *Igu* will identify the water body from where the spirit comes by asking the patient's movements in the past few days. Once it is known, the *Igu* asks one of the patient's relatives or friends to collect a pebble from that particular water reservoir. After the chanting and successful removal of *episa* from the patient, the pebble is kept in the hearth of the family. It is kept there until the *ahade* is cured completely. It may be mentioned here that this knowledge of traditional healing is learned and transmitted from generation to generation as oral tradition and some youths of the present generation seek to learn it from the experts.

Besides chanting and other rituals, Idus also use various folk medicines prepared from local fauna and flora. Idus have the tradition of consuming various animals and birds to treat malaria. *Anji pom bra* (earthworm soup) is popularly used by the Idus to treat many diseases including malaria. The fresh and live earthworms are collected with the instruction of the *Igus*. These are boiled with water till they get completely dissolved and is cooled down to the drinkable temperature and is served to the patient.

The various body parts of the otter (*apibu*), porcupine, swift and bat are believed to have medicinal value and are usually served to the patient suffering from malaria. The meat of these animals and birds are collected and stored in dried form in many households. Some of this fauna are not available throughout the year. So, Idus collect and store these flora and fauna when they are available. For example, swift are available just before the monsoon season. So, they will try to catch swifts as much as possible during the monsoon. Other than the meat, skin of otter is believed to cure *ahade*. So, as a treatment method the patient is advised to lie down on the carpet made from the skin of otter. Moreover, the tail part of chameleon and the bones of crow are also believed to have medicinal value. So they

collect these parts and keep them in dried form to treat *ahade*. Among Idus, consumption of crow's meat is considered a taboo and they usually don't take it as food, except for medicinal purpose.

The bile of various animals is also used to treat *ahade*. For example, the fresh bile of fish and chicken were administered whenever someone suffers from *ahade*. Among the flora, the root of *Coptis teeta*, though pungent and bitter in taste, is used for lowering fever at the time of malaria. *Paederia foetida* (*elikhisu*) is a wild plant with foul smell. Its leaves are finely chopped and ground till it turns into a fine paste and mixed with water is consumed as a medicine to cure malaria. *Cherodendrum glandulosum/ tupurna* are easily available as a wild plant. During summer the taste of *tupurna* is bitter compared to those available in winter. Idus use *tupurna* in their diet to protect themselves from malaria. Other than ingestion, some plants are used as an armlet or amulet to treat *ahade*. *Curcuma aromatic* (*kalita*), commonly known as wild turmeric, is mostly used as an armlet during the healing process among the Idu Mishmis. Not all the curcuma is believed to be sacred; only those provided by the *Igu* are considered as sacred.

CONCLUSION

Health and illness are part and parcel of a culture which is intricately linked with the nature. The prevailing belief system pursued by the community is the outcome of man-nature close interaction. Idu Mishmis have been living in the malaria endemic region since time immemorial. Thus, we find that in the battle to survive from this dreadful disease, the Idus have developed their own survival strategies. Traditionally, the disease is known by the term *ahade* and, according to their belief system, has no link with the mosquitoes. They believe *ahade* to be caused by water spirit adobe in some certain water bodies. It is also observed that the traditional housing style and unhygienic sanitation might enhance the spread of the disease. The treatment is performed by the *Igu* (shaman) through rituals. They also use certain plants and animals for the treatment. The Idus concept of malaria and the methods of treatment are not in concordance with the biomedical explanation about the causation and management of the disease. Though modern medical system is available, many Idus still prefer their traditional healing method as the first resort. Even if they are being treated by modern medicine, they still take the help of *Igu* alongside. So, we cannot totally ignore the traditional knowledge about malaria and its healing methods as prevalent among the Idus and incorporating it with the modern medical system may make the process of eradicating the disease from the region a smooth affair.

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BOOK REVIEW

Danda, Ajit K. 2017. *TRIBES AND ECONOMIC TRANSFORMATIONS : INDIA*. Indian National Confederation and Academy of Anthropologists, Jhargram. pp.284(Preface IX – XIV), Tables 7, Price Rs. 2500/-

The book under review is a welcome contribution to the study of Indian tribes and their economic transformations for more than one reason. First of all, the author of the book, with his rich experience about tribes in varied situations, was involved with this project for quite some time even though it was forced on him due to reasons not within his control. The long time gap could be taken as a boon in disguise since it has given him the opportunity to feel for himself the need for bridging the gap between the priorities of our premier research organizations and individually-oriented research activities which are far discrete and disparate to have any common appeal or acceptability. Further, it is heartening to note that when the matter is about tribe and its transformations, anthropology or anthropological consideration has been given its due importance. After all, the author himself is a renowned anthropologist and is deeply committed to anthropological way of doing research. This is commendable and more in the interest of anthropology as such because our experience suggests that in social science research today, more than anthropology, greater emphasis is given on economics and sociology. Of course, in these days of flexibility and breaking of boundaries across disciplines it is not desirable or possible to remain closeted to one's own discipline, but very often we do not get much anthropological insight from such studies.

Methodologically, it would have been a truly satisfying and profitable exercise if the process of transformation could be seen in a time frame. Even people's responses might change over a period of time. The approach followed by the author is more selective. Individuals have been targeted to provide information on change of priorities or preferences. But the same individuals are also a part of historical changes or historically determined changes by acting on pre-existing social structure so as to transform it or reproduce it. One of the acts of transformation is material production and any attempt to study social reality needs to take cognition of the production process. This does not imply mere economic and technological determinism but involves a definite conception of the world around the individual. Here the author seems to be concerned more about economic transformation rather than seeing changes in the broader context of social mode of production. However, his attempt to use information not merely to record facts but also to interpret them on a broader canvas deserves appreciation.

No doubt, economic choices of individuals are indicative of economic transformation. Side by side, it is expected that factors influencing economic choices are properly identified and analysed. Of course, the author has recognized the importance of transformation process as revealed by individuals belonging to tribes as independent categories. Their specific characters suggest some broad economic pattern and it is for the researcher to unfold it. The book has been designed with specific objectives which lay stress on highlighting 'the transferral process in non-specific terms' rather than highlighting 'the salient features of individual cases'. Following author's line of thinking, what is non-specific comes within the purview of general category and what is general loses the merit of an independent analysis in favour of 'generalized but precise categories'. The writer submits,

"Since in view of certain constraints, we feel overwhelmingly compelled to confine the scope of the present discussion within the bounds of arbitrarily defined limitations,

the very awareness of this fact is likely to add support to our analysis and whatsoever interpretation possible.”

Frank enough confession, but what is the overwhelming compulsion so much so that one has to confine himself ‘within the bounds of arbitrarily defined limitations’? Is it the ultimate realization that time has come for anthropology to speak for the whole lot of people from a general plane and not simply bogged down with specific details of each and every case? Or, is it the demand of our government-controlled research organizations to toe their line of approach? In any case, the author is quick to point out the constraints imposed by individual cases when he writes,

“...exaggerated emphasis on the special merit of each case brings about an element of subjectivity in the assessment and thus stands in the way of generalized but precise categories.”

One is inclined to believe that here Danda is following the line of broad economics purely from a typological consideration. The approach may come for criticism from the professional economists who have also reservations about the methods of economic anthropology. However, the known stand of economic anthropology about tribal economy has its own merits. It has at least succeeded in asserting the inner dynamics of tribal economy and the underlying values of what basically comes within the purview of tribal economic system. The present author is no less aware of these values when he writes,

“Elements of formal economic system have often been allowed to diffuse indiscriminately into interior tribal areas through governmental and private agencies, without taking their nature and degree of compatibility with the local system into consideration...Their characteristic mechanism of control over resources and distribution of goods and labour, being generally devoid of the spirit of competition, promotes equality, harmony, and discourages accumulation of wealth beyond a certain limit that results in segmentation of the society...”

But Danda has reservations about economic anthropologists for their rigid stand. Neither he is with the formalist group of economic anthropologists who are more or less convinced about a general applicability of economic principles, nor is he quite comfortable with the substantivists who are rather hesitant to consider ‘the distribution mechanism important enough to receive adequate reference’. Probably at this stage Danda is not prepared to take in his stride any theoretical position based on the production mechanism alone. If his argument is that the tribal production mechanism has its own particularities which cannot be explained under the banner of the general theory of production, this is also the stand of some economic anthropologists. The author has tried to fix his main objective on a different plane, which is to work out ‘a scheme of economic typologies highlighting the trends of the transformation process’. And he believes that such a scheme has to be developed from the livelihood activities taken together. Again, he makes a distinction between ‘typologies of livelihoods’ and ‘economic typologies’ on the ground that the latter ‘lacks comprehensiveness’. This seems to be a safer proposition, but can it be a valid enough reason for avoiding economic categorization? It cannot also be said that the author has wholly succeeded in maintaining this distinction. The uniqueness of the present study lies in the method of collecting information to make interpretation at a broader level possible. This could very well be the referral point before undertaking specifically designed intensive studies at the local and regional level, and in community-specific situation.

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Rajat Kanti Das



Satadal Dasgupta
(September 25, 1937 – May 27, 2018)

Dr. Satadal Dasgupta, Professor Emeritus of Anthropology at the University of Prince Edward Island (UPEI) passed away on May 27, 2018 in Halifax, Canada, at an age nearing 81. He was born in Kolkata on September 25, 1937 and an alumnus of the Department of Anthropology, Calcutta University; and did his B.Sc., M. Sc., and D.Phil., in Anthropology from this institution.

Satadal Dasgupta by name is not all that a known figure in the circle of present generation of Anthropologists in India. The reason is, he had spent the major part of his professional career in teaching in USA and in Canada, and in pursuing research initially in the areas that did not fit well in the domain of mainstream Anthropology in India at that time. He was, however, known to many others as the elder brother of Prof. Biplab Dasgupta, a noted economist and Marxist leader in India.

I came in contact with Prof. Satadal Dasgupta in the year 1978 when he was in Kolkata on sabbatical to make a restudy on Dule Bagdis in Jaynagar area. At that time I was a JRF in the Anthropology department, Calcutta University, and in the mid way of my Ph.D. work. Satadal babu used to visit the department more or less regularly and kept him engage in work in a room allotted to him from the department. Within a few months we became close to each other and ultimately turned as good friend, possibly because our common interest in Agrarian Anthropology. My relation with Satadal Dasgupta continued over four decades and till his death. If I can remember correctly, in 1979 he took the main initiative to organize a re-union in Anthropology department (CU) after a long gap, and afterwards a seminar on 'Anthropology Today' in memory of Prof. K.P. Chattopadhyay.

Prince Edward Island (PEI) was Prof. Dasgupta's second home where he spent the grater of his life as a devoted professor and passionate researcher spanning almost 50 years. He was in chair of the PEI Museum and Heritage Foundation for some period. In a condolence message the Dean of Arts of UPEI notes – "Dr. Dasgupta shaped the Sociology and Anthropology department. During his accomplished and influential presence in the Department and Faculty of Arts, Dr. Dasgupta touched the lives of countless students, colleagues and friends. He has left a huge legacy and was a potent source of inspiration of UPEI". The note is certainly a great tribute to Prof. Dasgupta and we feel proud of him.

* I hardly thought that an e-mail message received from Prof. Satadal Dasgupta on January 2, 2015 is going to be a reality in near future. The text of the mail was: 'Just finished your well written but sad obituary of Shyamal. I hope you will write my obituary as well when times come. I will consider it to be a great honor..... Satadalda.'

Dr. Dasgupta's D.Phil. was on the 'Social Organisation of the Dule Bagdis in 24 Parganas'. And for which he did an intensive fieldwork in Naryanpur and in adjoining villages, in Jaynagar area of West Bengal. As an Anthropologist, his professional career began along with his appointment as a Research Officer in the Socio-Agro-Economic research Unit of the Department of Agriculture, Govt. of West Bengal in 1962. Later he served as a Lecturer in Rural Sociology at Kalyani University, West Bengal for the period 1963-65. He was in faculty as Assistant Professor in Anthropology in Mississippi State University, USA (1965-69). Afterwards he was appointed as Professor in Department of Sociology and Anthropology at UPEI in Canada in 1969. Since then he in different capacities served that Department spanning almost 50 years and helped shaping that institution located far away from his own country.

Prof. Satadal Dasgupta is noted for his research and publications in transmission of agricultural practices and community organization done in India, in the United States and in Canada. His interest in the diffusion studies with reference to agricultural innovations began when he came in contact with Mr. Santi Priya Bose, the then Joint Director of Agriculture, Govt. of West Bengal, and who was his immediate supervisor. Prof. Dasgupta is also known for his work on peasant societies, rural social change, community sociology, and family and kinship studies. He continued to pursue his research interest on India and spent a year in 1985-86 in West Bengal conducting fieldwork on his project 'Conflict and Social Change in West Bengal Villages.' I was lucky enough to get involved in that project as his associate and in doing fieldwork together in Arambagh Sub-Division of Hooghly District.

Besides contributing numerous papers in national and international periodicals, Prof. Dasgupta was an author or co-author of following books: *Villages Upward Bound: A Study of Technological Change in Six Punjab Villages* (1975); *Community and Agriculture in two Indian Villages* (1978); *The Garden Transformed: Prince Edward Island, 1945-80* (1982); *Caste, Kinship and Community: Social System of a Bengal Caste* (1986); *Rural Canada: Structure and Change* (1987); *Diffusion of Agricultural Innovations in Village India* (1989); *The Community in Canada: Rural and Urban* (1995); and *Rural Canada: Rural Sociological Perspectives* (2001).

Among the major works of Prof. Dasgupta, to me, his monograph on *Caste, Kinship and Community* (1986) is a classic contribution to the field of structural anthropology. The study offers an ethnographic account of the Dule Bagdi, at the same time it has a sound theoretical base. In this study he has made an attempt to theoretically examine the social organisation of the Dule Bagdi community from the Parsonian paradigm embedded in his concept of 'social system'. As per that theoretical frame, and according to Dasgupta, 'caste' constitutes the elements of 'goal attainment' and 'integration', 'kinship' to 'pattern maintenance', and 'tension management', and 'community' to 'adaptation'. It was undoubtedly a novel attempt on the part of him in offering a functional analysis of the social structure and organization of the Dule Bagdi.

In the UPEI Prof. Dasgupta was highly regarded as a teacher and adviser of his students. He was equally respected as a researcher and an efficient administrator. To his colleagues, he was quite cordial and supportive. Satdalbabu was a man of pleasant personality, at the same time he was friendly and witty. He always kept in smiling and had a strong sense of humor. Along with his death I have lost a well wisher, a nearest and dearest friend, and a potent source of inspiration. Above all Prof. Dasgupta's death is certainly a considerable loss to the academic community and to the discipline as well.

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Rajatsubhra Mukhopadhyay

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Danda, Ajit K. and Rajat K. Das (eds.) 2012. Alternative Voices of Anthropology. Kolkata, The Indian Anthropological Society.

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Barthes, Roland 2009. Mythologies. [Selected and Translated by Annette Lavers.] London, Vintage Books.

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Keot, Baijayanta 2007. *Folklore and Nationalism with Special Reference to Assam*. Ph. D. thesis submitted to Department of Cultural Studies, Tezpur University, Assam.

Paper presented at a meeting or conference

Adelman, Rachel 2009. "*Such Stuff as Dreams Are Made On': God's Footstool in the Aramaic Targumim and Midrashic Tradition*." Paper presented at the Annual Meeting for the Society of Biblical Literature, New Orleans, Louisiana, November 21-24.

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McCutcheon, W. A. 1983. Industrial Archaeology: A Case Study in Northern Ireland, *World Archaeology*. 15: 161-172 <http://www.jstor.org/stable/124649>, accessed on February 23, 2012.

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ERRATUM

“Please read the word Tripuri instead of Tipuri as printed in some portions of the text of Article 3, of JIAS, Volume 53, No.1, 2018.”

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