

**SYMPOSIUM  
ON  
PEOPLE OF INDIA**

*Edited by*  
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## PEOPLE OF INDIA

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India, one of the most noticeable countries of the world, which the great Australian historian, A. L. Basham, would like to call 'The Wonder that was India' is an amazing geographical entity in the first place. Surrounded in the north by the mighty Himalayas which almost stand as impregnable wall giving unprecedented security to the southward populations and in the south the vast Indian Ocean make it beyond the reach of the enemies. The Himalayas as the water towers of the world stores water in the form of glaciers, watersheds and mountain streams releasing it continuously to the perennial rivers quenching the thirst of the farmlands in the plains and filling the granaries with abundance of food. The association of Himalayas and the Indian Oceans is also important for another reason, in creating the unique monsoon system which is responsible for the surplus food and consequently for the emergence of the Indian civilization. India therefore is a country where one may find all types of ecosystem from tropical to tundra with associated vegetation and fauna.

The Indian civilization and its great people inhabit the land sandwiched in between Himalayas and the Indian Ocean which can be conveniently called a 'World in Miniature'. Like for the great epic Mahabharata, it is said "*Yade Hasti Tadanyatra Yanne Hasti Natat Quachit*" what is not here is no where else, similarly, one can say for India as well – what is not in India is no where else. India contains all types of biological forms, social forms, religious forms, cultural forms and linguistic forms. India has been a home to human beings since time immemorial and there is continuity of human habitation in India as is clearly known from the prehistoric archaeological records available right from paleolithic period to historical period. For centuries together, people from all and sundry places have been coming to India bringing with them their unique culture, customs and traditions and India has been a great place in accommodating and adjusting with the new forms of life and traditions always giving respectable space to the differences and amalgamating the new style and form in a syncretic manner. People, who were hounded from all over for their differences and diverse practices got refuge and respectability only in India. For example, the Jews, the Chinese, the Armenians and the Parsis have never had any problem in their stay in India and they have never been discriminated for their differences. In fact, it is true that they have

dissolved themselves into the mainstream India like sugar dissolves into the milk.

Indians have also ventured outside to distant places of the world - in the north, northeast, southeast and west. The Roma or the Gypsies of Europe are Indians migrated to Europe centuries ago, the traces of which can be found in their language and customs. Similarly India has been a home for the spread of Hinduism, Buddhism, Islam and Christianity to North, East and Southeast Asia. Whether it is the Angkor Wat temple complex of Cambodia, or the Shaolin Temple of Dengfeng in China, there is distinct Indian influence. The essence of India therefore lies in its capacity as a country of people who are tolerant of diversities and accommodative of differences. This central value has made India what it is today, a country of immense diversity and plurality where people of dissimilar trait, habits, beliefs and customs can be assured of a peaceful, calm and meaningful existence. The essence of Indian civilization then is pluralistic and unique unlike the American and Chinese civilizations. The American and Chinese kind of civilizations emphasize upon homogenization and in its character can be compared to an Indian dish *khichri* wherein all the ingredients dissolve into the whole and lose their distinctive identity. The Indian civilization, on the contrary is like, *biryani* giving space to all the ingredients having its distinctive fragrance, characterizing the accommodativeness and tolerance to the differences along with encouragement and promotion of diversity.

People of India, a mammoth document describing 4635 communities of India, is a very unique exercise in comprehending the pluralistic reality of India. The entire length and breadth of India was traveled by a large number of anthropologists and other specialized scholars to meticulously collect ethnographic information about different communities. Although such an exercise was also done in the beginning of 20<sup>th</sup> century by the title Ethnographic Survey of India, the sheer scale of People of India project was colossal. The only comparable exercise equivalent to the People of India is the Yale University initiative called Human Relation Area File which contains detailed ethnographic information on over 300 cultures of the world. In comparison, the People of India describes nearly 15 times more cultures than the HRAF. The People of India project was launched on 2<sup>nd</sup> October, 1985 and the data collection ended on 31<sup>st</sup> March, 1992.

One of the most remarkable findings of the report was the fact that there is hardly any community which has not migrated from its original location. This constant movement of populations from one place to another due to war and conflict, famine, epidemic, disasters, royal invitation and other factors has been responsible for the intermixing of linguistic, cultural, culinary and ritualistic traits from one region to another. For example, the Potnulkaran weaving community of Tamilnadu has migrated from Saurashtra region of Gujarat and they still speak the Saurashtri language while living for

generations in Tamilnadu. Another interesting example of migration is the Brahui language which is a distinctly south Indian Dravidian language spoken by the Brahui people of Central Baluchistan in the present day Pakistan and Afghanistan.

Another important point worth noticing is that there are no permanent identities for the ethnic groups and rather there is constant change of identity that one may witness in India. The number of castes, tribes and communities kept on changing with changing times. There was simultaneously upward and downward mobility of caste and community groups. Furthermore, the castes and communities in India had no biological basis but have assumed identity and hierarchy primarily on the basis of social and political grounds. Communities and caste groups which have assumed economic and political power were able to enhance their status in the hierarchy of caste system. The caste system in a nutshell was a system of accommodating diverse occupational groups for the large scale production society post neolithic period. Thus, of the total communities, there were 461 communities which were scheduled tribes, spreading over the entire length and breadth of the country except the states of Punjab and Haryana. The scheduled tribes were showing enormous diversity in biological, cultural and linguistic features. The scheduled castes in India numbered 751 having pan-India presence barring few Northeastern states. The other backward classes were a very large group of people numbering 1536 communities.

India is a unique country in terms of its religious diversity. In fact, India is the birthplace of Hinduism, Buddhism, Jainism and Sikhism. The other great religions of the world have arrived in India in their early stages and India has been instrumental in spreading these religions to other places as well. The People of India counted 3539 communities which were Hindus, 584 communities which were Muslims, 339 Christian communities, 130 Sikh communities, 93 Buddhist communities, 100 Jain communities, 9 Parsi communities, 7 Jew communities and there were 411 communities which were claiming their distinctive tribal religion. For example, there are communities in central India who would like to term their religion Sarana religion or the Manipur community would like to call their religion Sanamahi religion.

One of the very interesting findings of the People of India report was its attempt to uncover the identities that people associate to their group. A total of 57,401 identities were discovered in the report. It was found that there are 7403 synonyms, 18,888 exogamous clans, 2571 lineages, 3270 gotra, 74 moieties, 172 phratries, 12,893 surnames and 2492 titles making India a country of vast plural character. Linguistically, the four major linguistic groups in India are the Indo-Aryan spoken by 2549 communities, Dravidian spoken by 1032 communities, Tibeto-Burman spoken by 175 communities and Austro-Asiatic spoken by 44 communities. Besides these major language groups, there were 5 communities speaking Indo-Iranian language, 4 communities speaking

Andamanese language, 15 communities speaking other language families like the Siddis of Junagarh and finally there were 25 communities speaking unclassified languages.

Culturally, the entire country can be divided into 91 eco-cultural zones with each zone having its own distinctive linguistic, cultural, social and political identity. In many places the difference was between hill and plain inhabitants, for example the hill and plain areas of Manipur state. In Jammu and Kashmir, for instance, there are three distinct eco-cultural regions – Ladakh, Kashmir and Jammu. In Haryana, there are five zones, namely, Nardak, Khadar, Bagar, Ahirwal and Mewat.

India is a country and it is at the same time a subcontinent as well as a civilization. It has not only given the concept of zero to the world but has also been a home for the birth of spirituality and non-violence. Some of the most tolerant religions of the world have originated from India. It is also a country which has been the harbinger of cultural and biological diversity and as such can teach the world lessons in peaceful co-existence, the lesson that the world needs most desperately.

## PALAEO-INHABITANTS OF INDIA

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Indian populace is a mixture of a number of largely endogamous groupings consisting of a variety of tribal, religious, and caste groups. Our country witnessed several waves of migration and internal population movements, which eventually gave rise to the existing ethnic composition. But who were the initial inhabitants of India is not certain. If we look back in time, there are evidences that our country was inhabited by humans at least by the middle pleistocene. These evidences are in the form of stone and other artifacts that have definite proof of human workmanship. There are numerous sites all over India, which have yielded stone artifacts that clearly point towards the fact that the Indian subcontinent was well-populated during palaeolithic times. However, the hard evidence of human existence in India, in the form of fossilized remains of our extinct ancestors is extremely meager. Though we have evidence of prehistoric existence of human populations in the form of stone artifacts but the problem with these is that a huge majority of stone artifacts are surface finds and cannot be assigned exact ages. All our estimates of aging of these artifacts are based on typology or drawing age parallels with those from other parts of the world where ages are better known, mainly through radiometric dating methods.

The oldest of these tools are acheulian artifacts which probably emerged in Africa about 1.6 million years ago. One of the few palaeomagnetically and radiometrically dated stone artifacts come from South India from a site known as Attirampakkam near Chennai. The hand axes from this site have been dated by Shanti Pappu and colleagues to around 1.07 million years with a pooled average of about 1.5 million years. These finds published *Science* indicate that Acheulian people were present in south India before 1.07 million years. Their results further suggest that by early Pleistocene, India was already occupied by human populations which were fully conversant with an Acheulian technology including handaxes and cleavers. Thus, India was fairly inhabited by palaeolithic people by early Pleistocene.

Though we now have stone artifacts as evidence of human occupation of India during early Pleistocene, there are only a couple of unequivocal fossil human remains. One of the earliest finds of a fossil human ancestor from India is that of a partial skull from Narmada Basin near Hathnora, a village

in Hoshangabad District of Madhya Pradesh. The find, popularly known as the “Narmada Man”, was discovered in 1982 by a geologist Dr. Arun Sonakia of Geological Survey of India from Middle Pleistocene deposit in the central Narmada valley and was assigned to the new taxon *Homo erectus narmadensis*. Subsequent studies indicated that it could be an archaic *Homo sapiens*. This find has been dated to Middle Pleistocene about 0.73 million years before present by Sonakia and Biswas. Though there are reports of a fossil clavicle and rib from Narmada deposits of a pigmy man but the only unequivocal confirmed human fossil from India remains the Hathnora skull. It is intriguing that while in Africa, stone tools were found along with fossilized human skeletal remains but all over India we recover prehistoric stone artifacts, but no fossil evidence, except for the ‘Narmada Man’. It is possible that future researches and explorations may reveal more fossil evidence. Thus it can be concluded that the available archaeological evidence suggests that India was inhabited by Acheulian people by early Pleistocene. However the hard evidence of Indian occupation, in the form of fossilized human remains is available, as of now, from Middle Pleistocene only.

## PREHISTORIC POPULATION OF INDIA

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It is difficult to say with certainty when, where and how the habitation of the Indian subcontinent started. Due to the tropical weather conditions most of our evidences are in the form of stone tools rather than any organic matter like fossil findings. The bearers of these cultures are conspicuous by their absence in the prehistoric account of the people of India. Therefore, we have to talk about them more in terms of technological features of the group rather than any social, physical or any artistic characteristics. Studies done by archeologists indicate that the earliest evidences of habitation in Indian subcontinent is tentatively dated back to nearly 1.5 to 1.7 million years ago (mya), at a time when climatic conditions were changing from dry and wet period to more habitable stable seasonal changes and the upper Shivaliks in India and Pakistan, came to be inhabited by a group of tool making proto-human type called *Homo erectus*.

In prehistory, there is bent towards explanation of changes through direct migration of people over evolutionism or cooperative syncretism. If we look at the early habitation pattern we can see clearly that abundance of raw material in terms of stones which prehistoric people used for making tools, was a deciding factor that facilitated the settling down and subsequent movement of these people to many other parts of the country. Thus we find that except the plains of Ganga, the coastal areas of the Western Ghats and parts of North East India, our Paleolithic ancestors had colonized all parts of the country.

The stone tool finding indicates that Rajasthan and Madhya Pradesh in central India and southern part of the Eastern Ghats emerged as the most important center in terms of innovation of technology and settlements. Archeologists have tended to see two broad divisions: one constituting the peninsular India going up to the northern edges of Ganga valley forming a complex with the *Acheulian* Industry of Africa and Europe and the second constituting the Pebble based-chopper-chopping complex of Sohanian industry covering the western part which has a similarity with eastern and south Asia; India thus forming the meeting point for the two cultural divisions. Our early ancestors seemed to have preferred sites near a perennial source of water like a lake or hill slopes or caves to make their homes. They showed a zeal for transformation in the use of stone tools and better and new types of tools were added over the course of time to their tool repository.



By the end of Pleistocene, some of our ancestors had started using various types of traps, nets and snares. Large number of scrapers also indicated use of wood and woods based tools for various purposes. By 30,000 to 40,000 before present, we see beginning of religion and painting by our ancestors.

It was around this time the modern human being or *Homo sapiens* gradual took over from the proto-humans and started settling down. Around this time change in climatic conditions and a period of heavy rainfall brought about changes in ecological conditions. By the end of the Pleistocene, fishing and fowling had emerged as new sources of livelihood. Our ancestors had added microliths to their tool repository. It was also the time they had spread to Ganga valley and gradually heavy concentration of population emerged in parts of Madhya Pradesh and Uttar Pradesh, in places like Varanasi and Allahabad. The abundance of food supply also enabled them to lead more sedentary life. It was around this time that the practice of burial of dead started in Rajasthan, Madhya Pradesh and Uttar Pradesh, and death ritual emerged as the first rituals. We also get evidences of first shrine from Bagor, Rajasthan. There was an effervescence of cave paintings in Bhimbetka, Madhya Pradesh and perhaps our ancestors were quite oriented towards spirituality and esthetics.

With the onset of agriculture, settlements spread far and wide with local tradition taking roots in different parts of the country. Therefore the diversity we see in Indian population was taking shape since that time. V.N. Misra has divided them into Kashmir valley, the northern Vindhya and the middle Ganga valley, eastern India, north-east India and the South India (megalithic cultural complex). We also find emergence of specialized traditions like the *Ahar* culture in the Mewar region of Rajasthan with their distinctive pottery style and technological features.

The beginning of agriculture and subsequent transformation was not uniform for all places and people. There were centers which remained isolated and continued with the earlier tools and technology and maintained a non-sedentary existence. The rural, tribal and urban dimensions of Indian civilization were taking shape simultaneously and by 2500 B.C., the first urban civilization had come into existence along the bank of river Indus and in the states of Gujarat and Rajasthan. It further moved northwards, reached up to the state of Haryana in north India. Many people have attributed this first urban civilization to external influence especially from Mesopotamia, but if we look at archeological records, evidences indicate that there was gradual emergence of an urban based large scale civilization. The diversification and distinction between village based agrarian groups and nomadic hunting groups based in forested areas and slopes of hill was happening since the Neolithic times and the food groups were themselves divided those using copper called as Chalcolithic and others who could be labeled as pure Neolithic. This was a clear indicator of a progression towards the emergence of state and an urban

based specialization of groups. The same could be said about the decline of this civilization and a new form of social organization that emerged and in days to come formed the central axis of Indian social structure, the caste system. The rich resources and climatic condition in the subcontinent were always favorable towards migration of groups and their settling down, but this should not be equated with an introduction of an alien social organization. The indigenous development was more appropriate model to look at these transformation rather than looking for an explanations of an import of whole scale influence from outside.

## GENETIC EVIDENCES OF THE ANCESTRY OF THE PEOPLE OF INDIA

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In general, until recently it is a common understanding that 'Human Evolution' is a millions of years of story. Advent of Human Genome project has revolutionized this understanding. It is now believed, with abundant evidences coming from genetics and archaeology that 'HUMAN EVOLUTION IS VERY RECENT'. Here one qualifying statement is required – that is, Human Evolution is of Anatomically Modern Humans (AMH). AMH are defined as those who possess besides all other attributes of Homo sapiens, the capacity to speak. The genetic basis of this speaking capacity is now known. The AMH emergence took place in Africa, and all the present day Humans out side Africa, i.e, Asian, European, American continents represent, as a result of 'out of Africa expansion' around 1,60,000 years before present (bp).

In this scenario, out of Africa expansion of anatomically modern humans and Palaeolithic continuity of the present day Indian populations is the most parsimonious explanation as of now, based on maternal and paternal haploid DNA lineages and high density autosomal DNA markers. Archaeological dating corroborates with DNA clock of expansion to about 1, 60,000 ybp. The route of this expansion, whether north via Levant or south via Horn of East Africa to Indian coast to East-Asia to Euro-Asia is an intense debate. However, large amount of empirical data from India generated on complete mt DNA sequences of more than 3000 samples from 37 tribal populations by Anthropological Survey of India, is irrevocable in support of the southern-route. Now, it is increasingly believed that the southern-route is the only expansion by which modern humans moved out of Africa and peopled all other non-African continents. Further support to this tantalizing proposition, even pointing out that Indian populations have ancestral foot prints to Chinese, has come from high density DNA mapping of large number of populations from Asia-Pacific region by international collaborative study.

While situating people of India as representatives of earliest anatomically modern human expansion that resulted in the peopling of the world, the Indian genetic data is also forth-with in explaining the socio-cultural and historical paradigms like tribe, caste, language categories, large scale north-west Indo-Aryan invasion, etc. The results are emphatic that ancient genetic substratum and continuity resulted in sharing and tribe-caste

continuum; language is later super-imposition and shifting of languages is a common phenomenon; large scale invasion which could have resulted in non-Indian genetic lineages in the hierarchical structure of Indian populations does not exist.

DNA dating for Palaeolithic continuity in Indian scenario starts from 60-65 kybp (thousand years before present) and glacial-inter glacial climatic fluctuations could have largely affected the ancient anatomically modern humans largely surviving on hunter-gatherer subsistence. We do have populations like Jarawas, Onge and Sentinelese of Andaman and Nicobar Islands as direct descendants of earliest human expansion, while all other populations share this ancient substratum.

What follows is a brief description, how geneticists calculate age based on DNA clocks.

### **DNA Lineages and Dating**

DNA is the blue print of life. All life forms are composed of DNA. The DNA is composed of nucleotides and each nucleotide is a composition of a nucleotide base (commonly known as bases, A,T,G, C), a sugar and phosphate molecules. In humans, it is found that there are 3 billion pairs of these, A, T, G, Cs. Ultimately the individual uniqueness is in terms of particular arrangement of these 3 billion base pairs. For example if we consider (hypothetical) there are 10 nucleotides, then A,C,T,T,T,C,C,A,G,G could be one combination (array), that defines one individual, whereas G,T,A,A,G,C,C,T,C,G could be another combination that defines another individual. Like that we will have 10 to the power 10 number of combinations with each defining an individual (uniqueness). Imagine the immense possibility of this uniqueness if we consider 3 billion. During the life time of an individual, this combination of nucleotides does not change. But, when he or she passes on this combination to his or her child, the child will inherit a further combination (reshuffled) of these nucleotides from two sources, i.e. father and mother, a further source of variation and uniqueness. Not only reshuffling but also there can be changes (mutation) introduced as the DNA passes from generation to generation. It is estimated that approximately there will be one nucleotide change in 2.2 million years. That much is the conservation of the genetic code. This is the principle on which DNA dating is based.

In the reconstruction of ancestry, it is not possible to follow one change (mutation) from generation to generation if reshuffling due to mating (parental) occurs. For that reason, scientists found DNA that does not participate in reshuffling, but passed on from generation to generation, as the changes (mutations) go on accumulating. These DNA are called haploid markers or non-recombinant DNA. In humans we have two haploid marker systems that are called a) mt DNA (mitochondrial DNA) that passes on from mother to all

children, b) non-recombinant portion of Y chromosome(nY), that passes on from father to sons only. Hence, we have a system which can infer maternal inheritance (mt DNA) and paternal inheritance (nY).

Mt DNA is 16569 nucleotides (also known as base pairs) long and nY a million. By sequencing (determining the exact combination, array of nucleotides also known as haplotype), it is possible to determine an individual specific array, which is called DNA lineage. So, we have literally maternal and paternal lineages depending upon which DNA we are using to determine lineages. We have an ancestral lineage, in which down the time line (say 2.2 million years) a mutation occurred (mutation A) and the lineage is called Haplogroup A (Hg A). Subsequently down the line (2.2 million years) another mutation (mutation B) occurs and the lineage is for convenience called Hg B. Ultimately at a particular point in time (that is, suppose today) if we analyse DNA in a population, we may find some people with ancestral lineage, some with Hg A and some with Hg B. As far as dating is considered we can date the DNA lineage based on the number of mutations it has accumulated.

**Human Ancestry Based on DNA Lineages:** Geneticists construct lineages and coalescent times of these lineages and mapped them. What one finds is a very clear cut pattern, that infer ancient migrations. These DNA based inferences do correlate with archaeological findings of various geographical regions. These patterns and inferences are so convincing and evidence based that 'out of Africa model' which was earlier a hypothesis, as evidences and patterns emerged as a result of world over studies, has become a theory. It is one of the most invigorating theories in life sciences, that has impacted all disciplines including, history, philosophy, religion, linguistics, psychology and medicine. Now, as a result of these studies, DNA based 'human tree' has been constructed, and what is important is the Indian populations represent 'basal stem' of the tree, while roots lie in Africa. There are three paternal and maternal lineages in Africa, of which one lineage, maternal lineage 'L3' and paternal lineage '1', came out of Africa. Among all dispersals and further bi-furcation of these TWO lineages, Indian sub-continent harbours most ancient lineages, dating back to 56 to 76,000 ybp. Dating of all other lineages in Europe, other parts of Asia and America have later ages than India.

Recent studies, based on more sophisticated DNA analyses, like high density autosomal markers also validated earlier studies and equivocal in concluding that "Indian populations harbour most ancient human substratum in terms 'human existence' and 'bio-cultural expressions'".

## ANCESTRY OF SOUTH INDIA PEOPLE

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India is the second continent to be successfully occupied by modern man, *Homo sapiens sapiens*. Similar to fauna and flora, human diversity, linguistic, cultural and genomic are also the greatest in India. This was a result of early migrations, isolation in various niches, *in situ* autochthonous divergence and expansion and the latest cultural evolution. Following the first coastal “Out of Africa” emigration through “southern route” ~60,000 ybp, man walking 16 km per year, this first Man left his traces in the form of C-M130, a male Y chromosomal marker that mutated just as Man emigrated out of Africa: we stumbled on the descendant of this first Man in Virumandi, a college student from Jothirmanickam village, 45km west of Madurai. The whole village was made of this male chromosome and this marker is found sporadically in other parts of India as well, but highest diversity and frequency in rain shadow regions of Western Ghats, both in castes and tribes. A subsequent migration again from the middle east with a male marker F\* settled in India and gave rise to many further lineages and settling in various parts of the country, the F\* itself being present predominantly in the Western Ghats and also in Central Indian forest ranges: The descendant of this lineage now accounts for 90% of the world populations. Imagine a pipal or sacred bodhi tree. The trunk is C and F, while it branched in various directions giving rise to various lineages we see now in India.

What are the factors that made India, particularly southern India such an ideal niche for man to evolve? We see the ancient signatures of settlements both in Y chromosomes and whole genome studies in the Western Ghats and Central India. Early man as nomads came with mates and lived in forests and caves: The Deccan being one of the stablest geophysical regions of the world, we do not have many deep burials and archaeological finds. Nonetheless, different autochthonous male lineages correlating with languages but female gene pools made of autochthonous M & N mtDNA lineages suggest that female gene pools were derived from the earlier settlers while males came in episodic patterns, eliminating earlier settled males: even today this is proved true in warfares.

In the geographical spread of humans, the natural barriers such as mountainous ranges (Hind Kush, Himalayan, Vindhya, etc) and rivers (Indus, Ganges, Brahmaputra, Godavari, etc.) and other mountainous ranges played

a crucial role in their migration and expansion. As they expand, monsoon transformed these early settlers into hill tribes (F\*, H\*), and Dry Land Farmers (L1), coastal fishermen all leading to sedentary life. Many having these markers such as Paliyar, Pulayar, Irular, Kadar have been mentioned in Sangam literature. These early settlers must have given rise to Dravidian cultural evolution ~30,000 ybp itself, for the Tamil Sangam literature dating back to ~250BC being one of the oldest literary traditions with exquisite grammar and describing a highly developed well organized society. We divided the Tamil society into seven different functional and subsistence demes and we have shown that 7,000 ybp itself this subsistence, niche based life style populations (demes) was well established and since the past 3,000 years no admixture occurred between these demes. Interestingly the male chromosome marker L1 (origin dated 45,000 years) suggested to be a marker for Dravidian by many scholars is present in every alternate individual of many dry land farming communities of Tamilnadu with highest frequency and diversity, the gradient getting diluted as we move northwards and completely absent in Central Dravidian speaking belt. This makes one wonder whether the Dravidian cultural element was laid much earlier, from Central India to southern India; this is characterized by an earlier marker, autochthonous to India called H. Interestingly there is also a good correlate with language and male chromosomes: we have obtained evidences for the origin of O2a from Lao region and these people brought this chromosome as well as the Austro-Asiatic language to Central India during palaeolithic period. Similarly, the Indo European languages spoken in northern India and Indo-Gangetic doab correspond to a major male branch called R1a distributed in Central Asia and the Eastern Europe. Indian scholars have proposed it to be autochthonous to India. The question is whether these were Neolithic cattle keepers and people with water taming technology, river fed irrigation and wetland farming need to be further correlated with the genome. Nonetheless the R calde, a much younger one in terms of branching ~25,000 years ago, is a very successful branch of human tree occupying around 50% of the 'canopy'?

Thus into India, two types of migrations entered: first as nomads during prehistoric period and second as an organized society with functional layers mostly with the advent of technology, domestication and inventions. The southern India stayed calm, undisturbed from the second type of interventions for long and hence we find these earliest signatures even today. This is further supported by epigraphic records that till early Chola period the society was female centric and only with the advent of organized agriculture, individual land holding and patriarchal society-the male hegemony and present form of family and life styles came into vogue. Our genome scan studies using two novel techniques, one RECO Project, using chromosomal recombination as a marker for tracing the migration and another GENOCHIP showing 60,000 DNA SNP information have suggested southern India as the hub of early settlement and expansion and further there is a good correlate of whole genome

with male chromosomes indicating that the later days cultural evolution indeed influenced the gene pool very much, and this was essentially male mediate. Thus while the genomic origin of Indian gene pool might be from the ancient migrations, both prehistoric migrations, autochthonous expansions and the geographic and the subsistence based sympatric isolation must have resulted in the present day scenario of various demes and populations. The 'religion' and 'caste system', both cultural evolution are only few thousand years old, whereas the subsistence based stratified society was a natural phenomenon of long standing human evolution. India, particularly Southern India, stands out the rest of the world in this and we may have answers to many diseases in these population demes, as we have demonstrated in leprosy genome scan and thus "not all the infected develop the disease" and your host genome is supreme in deciding whether an infection establishes in the host or not. The manifested diversity of India is because of her long standing evolution and this is more a result of diverse subsistence, landscape, niche and culture.



## **BIOLOGICAL CHARACTERISTICS OF INDIAN PEOPLE**

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If we look at the world population, we will see diversity among the human groups, be it in physical features or cultural practices. Physically human groups differ from each other in skin colour, stature, features of hair, nose, head, eyebrows, lips, and so on, and culturally they differ in aspects of language, food habit, dress pattern, behaviour, and so on.

The interest of studying human physical variation can be traced in the writings of early historians and philosophers like Herodotus (484-425 BC), Hippocrates (460-377 B.C.) and Aristotle (384-322 BC).

The 'Era of Exploration', i.e. during the 15<sup>th</sup>, 16<sup>th</sup> and 17<sup>th</sup> centuries, marks the discovery of many new lands and people. Following these discoveries, people of America, Africa and Asia-Pacific regions became known to the world. These people were classified along with Europeans into broad racial categories on the basis of physical characteristic.

From 18<sup>th</sup> century onwards anthropologists became interested to study human physical variation and on the basis of that various attempts were made to classify the world populations into different categories called 'race'. The term 'race' was first used by Buffon, a French naturalist in the 18<sup>th</sup> century. Prior to World War II, most studies of human variation focused on racial differences that are readily observable such as skin color, hair form, body build, and stature between large, geographically defined population. For example, Blumenbach (1775), a German scientist, first classified the world population into five varieties primarily on the basis of skin colour.

In course of time more and more characteristics and new methods were employed in classifying human races, as a result of which more number of races and subraces were distinguished.

It is noteworthy to mention that based on metric and observable characteristics, the population of Indian subcontinent was divided into various categories by Sir Herbert Risley (1915), Dr. B.S. Guha (1937), Dr. S.S. Sarkar (1961) and many others. In Indian context also, scholars never had consensus in classifying the population.

For example, Risley in 1915 divided the Indian population into 7 groups: 1. The Turko-Iranian (like people of Baluchistan and Afghanistan), 2. The Indo-Aryan (like the people of Rajputana, Punjab and Kashmir), 3. The Scythio-Dravidian: (like the people of Gujarat and Coorg region), 4. The Aryo-Dravidian: (like the people of Uttar Pradesh and Bihar), 5. The Mongolo-Dravidian: (like the people of Bengal and Orissa), 6. The Mongoloid type: (like the people of N.E. India), 7. The Dravidian (like the people of erstwhile central province and S.E. India). Later, B.S.Guha classified the Indian population into six groups followed by a number of subgroups.

Later, scholars started to look at human biological diversity from evolutionary perspective. They conceived that people whose ancestors have more or less exclusively mated with each other over long periods of time because of geographical and/or social isolation will show great similarity with each other because the members of the breeding populations would be expected to share many genetically inherited traits and to have a similar appearance. In this way 'Indian' became a category represented by the people of this country.

By the time of 1950s scholars were able to generate a large genetic data base of human groups distributed across the world. It was found that the people whose ancestors have lived close to each other for many generations are more likely to share genetically inherited traits than are people who live further away. This model made it clear that human population cannot be classified into distinct groups. Further, the model states that genetically inherited traits most often gradually change in frequency from one geographical area to another. For example, in India it was found that the frequency of 'B' blood group increases as one moves towards the north-western side and decreases towards the southern part of the country.

Information gathered from Human Genome Project, helped to estimate how often two individuals differ at a specific site in their DNA sequences — that is, whether they have a different nucleotide base pair at a specific location in their DNA. Geographical location, linguistic affinity, social proximity, endogamy reveal how close we are with our neighbouring groups.

It is believed that anatomically modern humans have migrated from Africa to other parts of the world around 100,000 years. In course of movement from one part of the world to the other, humans have left a distinct signature in their DNA. Thus, at one point of time, all the members of our species were similar, but with time ethnic differentiation took place subsequently through a series of demographic expansions, geographic dispersal and social groupings. For example, the genetic diversity of indigenous human populations drops with increasing geographic distance from eastern Africa. Consistent with this picture, the broad patterns of genetic variation found outside Africa tend to be a subset of those found inside Africa.

Several studies have shown that the ethnic groups of India show striking similarities at DNA level. This corroborates the hypothesis that a small number of females entered India during the initial process of the peopling of India. Later, dispersal of humans took place from India to southeast Asia. Molecular data also reveals that the ancestors of the present Austro-Asiatic tribal populations may have been the most ancient inhabitants of India and footprints of human movements from west and central Asia into India has been traced.

The terms 'race', 'ethnicity', and 'ancestry' forms a network of biological and social connections that link individuals and groups to each other. This is to say that biological or genetic variation between human groups becomes meaningful if we have an understanding about the historical factors. For example, the Siddis were brought to India from Africa by the Portugese traders between 17<sup>th</sup> and 10<sup>th</sup> century to serve as soldiers and slaves to the Nawabs and Sultans. The members possess typical African features like dark skin, curly hair, broad nose, and so on. At present, the members of this community are found in the states of Gujarat, Karnataka and Andhra Pradesh. Molecular evidence confirmed that the Siddis show 70% affinity with African and 30% with Indian and European. It has also been estimated that the Siddis have admixed with the neighbouring Indian populations for about 200 years ago (eight generations) which coincides with historical record.

Historical evidence also shows that people tend to adopt the local language for better communication and better living. But, this language shift virtually does not influence their genetic make-up. For example, the Indo-European-speaking Mushar population is a Hindu scheduled caste community found in the states of Bihar and Uttar Pradesh. The Mushar population was compared at molecular level with those of the neighbouring Indo-European- and Austroasiatic-speaking populations of similar traditional social status. The results show that the Mushars show a closer genetic affinity to the Austroasiatic (Mundari) populations than to the neighbouring Hindi-speaking populations. This revealed that the Mushar population was originally an Austroasiatic group (genetically) but linguistically, it is an Indo-European population. They lost their original mother tongue because their children were schooling in Indo-European language-based schools.

## TRIBES IN INDIA

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The People of India Project, concluded under the able guidance of Dr. K. Suresh Singh, identified 4,635 communities, of which 461 communities were of the Scheduled Tribes. The Draft of the National Tribal Policy for Scheduled Tribes came for the first time in February 2004. It identified 698 tribal communities in India. The second version of the Draft was circulated in July 2006 which noted that there were more than 700 tribes in India. The Census of India, 2011 has counted the number of Scheduled Tribes to be 705. As can be noted from the increasing number of tribal communities, with the passage of time more and more communities are being added to the list of the Scheduled Tribes. Their population has increased from 8.2 to 8.6 per cent of the total population in India in 2011. Dr. Suresh Singh had noted in 1993, which was the Year of the Indigenous People according to the United Nations, that more than 1000 cases filed by different communities were pending in different courts in India for their recognition as Scheduled Tribes. As and when these cases are favourably decided, the number of Scheduled Tribes will increase.

Anomalies have been noted in the list of the Scheduled Tribes in India. Examples have been given time and again of the communities which are tribal in some region and not so in the other. One of the well known examples is of the Rabari, who are a Scheduled Tribe in Gujarat, but fall in the list of the Other Backward Classes in Rajasthan. It is primarily because the term tribe has not been defined in the Constitution of India. The most important aspect has been of identifying communities to be included within the list of the Scheduled Tribes than to deal with the issue of defining tribe. This matter has come up again and again in the reports of the various commissions and committees that were set up by the Central and the State Governments of India to look into tribal problems. The most recent report submitted to the Government of India by Virginius Xaxa's High-level Committee in 2015 notes that one of the important issues is concerned with identifying the criteria that could be profitably used for defining tribal communities.

It is not only that the tribal communities are large in number, but they are also culturally very diverse. Tribes are found in all parts of India, except the states of Punjab and Haryana and the Union Territories of Chandigarh, Delhi and Puducherry. Wherever they are, they have adapted to

the local ways of living, and thus cultural differences are quite visible within the same community. Take the case of the Bhils. They are the largest tribal group in India, followed by Gond, Santhal, and Meena. Bhils are found in different states of India, such as Rajasthan, Gujarat, Madhya Pradesh, and Maharashtra. In each state, they look different, but their identity cuts across their cultural differences. Wherever they are, they identify them as Bhils, who are different from the other communities which may be following their occupation, livelihood, eco-system and the style of living. The name of the community is itself a 'magnet' that would attract all of them together, inculcating in them a sense of identity. M. C. Goswami cited the case of the Rabha of Assam, who were divided into seven groups, each passing through a different phase of acculturation and transculturation. Notwithstanding these 'within' differences, they all thought of them as 'one', in opposition to the other groups, both tribal and non-tribal. The segmentary model, in fact, has great potentiality to explain the issues of identity and 'oneness' in a relationship of equivalence and opposition.

Almost every study on tribes tells us that the process of borrowing from other communities is going on from time immemorial. However, it has accelerated in the last two decades or so. It is mainly because of the process of globalization which has affected all parts of the world, including the small communities inhabiting forests and hilly regions. Thus the pace of change among tribal communities has fast increased. In other words, the cultural differences that separated one community from the other have become blurred. If cultural dilution is taking place in some areas of their life, in the other the tribes are strengthening their characteristics. For instance, many of the tribes are inventing their scripts and urging the governments to recognize their language. The same could be said of their customs, celebrations and rituals. So the process is of merging with the outside world as well as of maintaining their own identity. In a nutshell, the tribal world has its own uniqueness, which is continuing over time. Even the late Prime Minister, Pt. Jawaharlal Nehru wanted the state to adopt all measures that could help in keeping the tribal culture alive, and let the tribal communities decide as to what they would like to preserve in their respective ways of living. Let people be the masters of their destiny. Let no one have any right or force to impose any cultural practice on people. This is the essential principle of democracy and national integration.

It is well known that in all indices of development, the tribal communities lag behind. For instance, in 1993-94, 45.7 per cent of people in India were below the poverty line; in the same year 63.7 per cent tribal were below poverty line. In 2001, tribal literacy was just 47 per cent as against the national literacy of 69 per cent. With respect to the infant mortality rate under five years of age, against the national figure of 62.1 per 1000, the corresponding tribal figure was 95.7. The percentage of tribal cultivators of land in 2001

declined from 68 per cent to 49 whereas the number of the tribal agricultural labourers increased from about 20 per cent to 37. All this demonstrates an increase in the pattern of landlessness among tribal communities.

At one time, the tribals were the rulers of their land. They were the first time colonizers of the area where they had settled down. They lived happily till the time no outsiders encroached upon their area. With the advent of the British, the tribal areas were opened up, and the outsiders started entering into their territories, forcibly taking away their land and other resources. The proud owners of the land became slaves in their own region. Thus began the marginalization of the tribal people.

Against this backdrop, the most important aspect is to protect the rights of the tribal people. It requires important developmental measures and also, reservation in educational institutions, political bodies, and for other welfare measures. The tribal areas are rich in mineral, forest and water resources. The outsiders want to appropriate their land so that they could explore these further for resources to be used for commercial value. Moreover, large development projects could be located there. All this has led to the massive displacement of tribal people from their native territory. More than 40 per cent people displaced by the programmes of development are tribal. Most of them have moved to peasant villages and urban areas, where they are leading almost a dehumanized existence. With economic liberalization, many private corporations have entered into tribal areas, with the objective to establish big industrial projects. Needless to say, the tribals have opposed these vehemently. Because of this, they have come to be labeled as 'anti-development'. The violent disturbances in many tribal areas are mainly the result of the lop-sided development.

The need of the hour is to listen to the tribal voice. In fact, the Draft speaks a lot about the involvement of the tribals in the programmes of their development. They should be given the authority to decide the kind of changes they want in their society and the kind of development they want to cherish. The duty of the state is to provide them protection and value their autonomy over their culture, the ways of living and thinking. Unless this is done, tribal discontent is not likely to subside.

## UNDERSTANDING CASTE THROUGH THE LENS OF 'PEOPLE OF INDIA'

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In an attempt to introduce the People of India project (1985-1994), its chief architect Kumar Suresh Singh, the then Director General of Anthropological Survey of India wrote that 'it's a project on people of India by People of India'. This euphemized the nationalistic spirit as if a Nation is trying to understand itself by using categories that emerged from within, using its own experiences and wisdom. Nearly 600 researchers studied 4,693 communities by interviewing 24,951 persons which included nearly 5,000 women informants. Five key informants (or 'informed informants') were interviewed from every community over a period of five and half days. The project has a visual component too. Nearly 21,362 photographs were taken thus making an average of five pictures per community. Such a systematic and detailed portrayal of pan-Indian society has been rare and thus praiseworthy. However, the absence of qualitative data and insights has been a major source of criticism. Singh (1998) justified the methodology by identifying the incidence of certain bio-cultural and linguistic traits among various ethnic groups from caste and tribal categories to study the degree of cultural and biological similarities among the communities to prove that the civilizational matrix of India reflected commonality and cohesiveness. Out of 776 traits 250 were shared pointing towards the common ground on which Indian society is based. This project was called by Singh as civilizational and historical without being sensitive to the inner dynamics of these categories.

Howsoever nationalistic the project may sound, its essence and philosophy are rooted in the colonial legacy of governing the 'oriental other', making a case for racial and ethnic basis of social status and caste hierarchy. Some of the lists of the communities which served as the base line data for the people of India project were prepared during the ethnographic survey conducted as early as 1806. Thus the colonial tradition of classification continued and entered into the new People of India project in a renewed manner. Michael Foucault's idea of governmentality clearly explains how the colonial state created subjects through various state initiatives and the social classification of the local communities served the colonial interest not only of dividing them but also subjugating them.

The use of exterior categories to understand Indian reality failed to capture the emic view points and local nuances of the caste system. The hegemony of upper caste has contributed to a systemic subordination of lower castes who are treated as impure and thus inferior to the rest of the human order. Many terminologies have come up to deal with the pressing political, social and moral requirements of Indian society at different points of Indian history. During the colonial rule, the then Maharaja of Baroda called them 'untouchable' and Mohandas Gandhi was quick to come up with a morally assuring and politically satisfying, but far from the correct one known as 'harijan'. Bhim Rao Ambedkar preferred to use the term 'dalit' which he later popularized as a strong heuristic category with politically promising meanings.

Caste in India is neither a monolithic category nor a reified one. It is not only found among the Hindus but also among the Muslims and Christians. Imtiaz Ahmed, formerly Professor at Jawaharlal Nehru University, while delivering D.N Majumdar memorial lecture organized by Ethnographic and Folk Culture Society at Lucknow in March 2015, claimed that Muslims also have caste system. The ideas of subjugation, discrimination and exclusion find different forms of manifestation in the everyday life of Muslim communities. Such revelations by social scientists acquire greater voice when the leadership of local communities is demanding the inclusion of the marginal Muslims and Christians in the category of dalits so that they can avail the benefits of reservation policy. The present reservation policy does not cater to the interests of real poor and marginal from the category of Scheduled Caste as the creamy layer issues need urgent attention by the policy makers. Interestingly B.K. RoyBurman pointed out that SC and ST are more of policy and administrative categories than the social and cultural ones. People of India Project has not treated the data from the point of view of such differences.

M N Srinivas, who believed that the People of India Project can be more useful when the future indepth studies rely on these data to carry out further research of great depth and insights. However, other scholars had their own reservation on the manner in which People of India Project handled the questions pertaining to caste. Caste is undergoing perceptible transformations, but only in its periphery. The core of it still continues to create newer forms of subjugation and oppression especially in the post colonial neoliberal states. Should the corporates be responsible for initiating the policy of reservation in the private sector is a big question? However, the People of India project has not been able to handle such dynamics. Thus, the new incarnation of caste is acquiring different dimensions in contemporary context. The relationship between caste and gender is assuming significant proportions and getting entangled with ideas of patriarchy, disability, migration and marriage.

The People of India Project relied heavily on survey method which was quick and easy to execute and therefore missed out on deeper ethnographic



insights. The post-colonial state should introspect and engage in a self-critical exercise of its own instruments created by a colonial state to subjugate citizens who could be ruled by classifications and categorization through creation of boundaries and consequent identities. Further, India being an orthogenetic civilization, has always had space for indigenous and marginal communities unlike the western civilization which marks greater discontinuities. It is argued here that unless the Anthropological Survey of India, the main host of People of India Project, reinvents itself in terms of the new methodological paradigms to carry out an emic understanding of Indian social system with several organizing principles such as caste, class and gender, contribution of social sciences in shaping the public policy of culture will remain far from reality.

## INDIA'S WOMEN

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As made clear in the People of India project, the cultural diversity of India is vast and covers many kinds of societies, economies, subsistence patterns, geographical zones and ritual and belief patterns. To draw out a uniform pattern for representing Indian women out of such diversity is not only not possible but also not credible as women as a category are embedded within intersecting co-ordinates of a variety of other variables such as class, caste, region, local culture and belief patterns. The diversity shown by Indian women almost exactly replicates the diversity shown by India in terms of all these above mentioned variables.

India is largely a patriarchal society with all kinds of patriarchy prevalent in terms of the various groups and cultures that constitutes it. But on a very large and abstract canvas one may make some broad categorizations, such as between upper caste and lower caste women, between those that work as labour and those that work in white collar jobs, those belonging to shifting cultivating societies and those belonging to rural agricultural societies, those who are married and those who may be unmarried or widowed, the ones who are mothers of sons and those who may be barren, the women of different religions, etc.

The parameters that may be taken as indicators of differences are primarily around the occupations of the family, the norms of marriage, the norms of property and inheritance, the rules of divorce/remarriage, the subsistence patterns, the geographical location of the community, the religious beliefs and values, and so on.

The rules of caste Hindu society have bound women under strict patriarchal order but these also vary with the caste status of the women. Traditionally and according to the Laws of Manu, the men of upper caste had access to the women of the *varna* lower to them; leaving the Brahmin with maximum access and the Shudra and untouchables with the least. It was not a crime for upper caste men to sexually exploit a woman of the lower castes but in the opposite direction a lower caste man could be lynched by as much as setting eyes on an upper caste woman. The effects of these on the women was that the upper caste woman was confined to the home, protected as the property of her upper caste husband and the lower caste woman who was

often on the streets and the fields, working as agricultural labour, as domestic help or as a helper to her husband in various crafts and occupations like washing clothes, making pots and weaving, was left open to exploitation.

The upper caste women suffered confinement, were tabooed from free movement and had little agency in the public sphere. The lower caste women were freer, often earned and contributed to the household economy and even though they were exploited by society at large, they had more control over their lives. While upper caste women had to adhere to strict norms of monogamy and chastity and suffered immense hardships as widows, the lower caste women could divorce and remarry. Their problems were related to poverty and exploitation of both their bodies as well as that of their husbands and children, often ending up as bonded labourers and otherwise working for least remunerations on hard and unsafe tasks like scavenging. The power difference between an upper caste woman and her husband could often be huge, if he was also having material and secular/sacred powers and she, being a woman could not share them, like she could not conduct rituals, could not own land and could not be in the public domain. The lower caste woman often shared her deprivation with her husband and had more equal relationship in the household where she was a bread winner too. Although caste is Hindu concept, in Indian society such values were replicated among the Muslims, Christians and others, such that similar patriarchal values and practices are found among non-Hindus too.

The norms of property inheritance also play a crucial role in determining the lives of women. The land owning groups gave and received dowries, but in North India the wife givers were always having lower status than wife-receivers, a social norm that often made having daughters an undesirable proposition for the families. Combined with the fact that women of upper class families were not supposed to earn, it was considered family dishonor, the status of the girl child was that of a person who was not considered a real member of any family, neither her father's nor that of her husband. Parents too were dependent on the son to take care of them in old age and also to pass on the family name. A combination of factors often led to the practice of female infanticide and now in the modern age to female foeticide, that has led to a drop in sex ratio in the North-west part of the country.

But such rules of marriage and inheritance are not universal in India and the tribal areas with their communal access to property present a very different picture. Women in communities practicing shifting cultivation, animal husbandry and even settled agriculture, play a key role in the economy. They often have more agency and are not subject to very oppressive patriarchal norms. But women often have to bear the brunt of collective frustrations as is seen in the practice of branding women as witches among the tribal and rural populations of regions such as Madhya Pradesh and Assam, where the local economies and environment have taken heavy blows leading to suffering for

the marginal populations. As the marginal populations are getting integrated within the overall economy and influenced by urbanization and globalization, the patriarchal values of the elite are also seeping into them, such that even states like Nagaland and Manipur are showing a declining sex ratio.

However, unlike the women in western society, Indian women have always been strong and culturally recognized to be superior to men by analogy with Sakti, the regenerative power of the universe. Women in India have been worshipped and regarded as sacred, following ancient traditions of mother goddess worship, especially those from the upper caste/classes. Women following traditional models of being home makers and those who appear in public as adjuncts of their male counterparts are treated with reverence. However the modern Indian woman, who is trying to establish an independent identity may face a hostile environment, where her movements in the public sphere are equated with those of women of lower castes, whose bodies were exploitable. Sexual harassment of women in public spaces is a common feature and old and new values are yet to be reconciled in a fast changing society.

Women have displayed agency, courage and political acumen in India and fought against odds to establish themselves in society. The concept of a wife being *ardhangini* (half of her husband) has enabled many women to enter the public sphere through their husbands or even fathers by the norms of the *kula*. The Indian pantheon also provides analogy for a woman in power (as Sakti) enabling even standalone women to prove themselves. Indian woman is not a monolithic entity and can be understood only against the backdrop of the multicultural situation of the continent.

## INDIA'S CHILDREN

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There are more than 300 million children (0-14 years) in India. In our country one-third of them live in conditions of abject poverty and neglect. We are a signatory to the World Declaration on Survival, Protection and Development of Children and the Plan of Action for implementing it. India's children illuminates the brief situation of children in our country and the efforts of Government's policy, programmes and schemes have radically improved the different groups of children.

Adolescents (children between the ages of 10-19 years) account for 22.8% of the population and girls below 19 years of age constitute one-fifth of India's fast growing population (NFHS-3, 2005-06). The focus is mostly on children in the 14-18 years age group who constitute 100.2 million children in our country. These are the young persons in our country who have not been able to realize their fullest potential.

The National Plan of Action for Children has given priority to maternal and child health and the targets set are in consonance with those of Health for All. The major child health goal of the plan was to reduce Infant Mortality Rate (IMR) to below 60 and child mortality rate (CMR) to below 10 per thousand. More than 30 states and Union Territories have already achieved the national goal of IMR of 60 by the year 2010. There are, however, wide inter-state variations in IMR with the range of 13 in Kerala to 62 in MP. Among the states, Kerala (13), Maharashtra (28), Punjab (34), Tamil Nadu (24), West Bengal (31) and Karnataka (38) have achieved IMR below 60. Still MP, Odisha and UP have more than 60 IMR. The decline in Urban IMR has been comparatively less than that of Rural IMR. India is a signatory to the International Conference on Population and Development (ICPD) held in Cairo in 1994. The programme incorporates the components covered under the Child Survival and Safe Motherhood Programme (CSSM) along with two additional components relating to sexually transmitted diseases and the other relating to reproductive tract infections.

The Government of India has re-formulated the National Policy for Children in 2013 which encompasses the Constitutional provisions and provisions of the UN Convention on Children (1989). Government dealt to do

justice to juveniles by revising the Juvenile Justice Act (JJ Act) in 1986 which was revised in 2001 and further amended in 2006 as Juvenile Justice (Care and Protection of Children) Act following the provisions of CRC (1989).

**Education:** There are 100 million children in the 14-18 age group. About 20.5 million children are in classes 9 and 10, and 10.3 million children are in classes 11 and 12, thereby indicating that only 30.8 million children in India are in secondary schools. More than 95% of the 252 million child population in the 6-14 age group (192 million in class 1 to 8) have enrolled into schools in India which is an indication of the enormous demand for education today. However, the statistics on retention show that 25.09% of these children drop-out before completing class 5, 42.68% drop-out by class 8 and 56.71% of children drop-out of school before completing class 10.

The Draft Twelfth Plan (2012-17) lays further and specific emphasis on standardizing the age for adolescents and including 10 to 18 years for harmonizing varied guidelines under various schemes. It recommends effective implementation of the RTE Act and the extension of RTE up to the senior secondary level to include all adolescents. The Draft Twelfth Plan also recommends for strengthening of *Sabla* along the lines of the *Bal Bandhu* pilot programme for protection of child rights in areas affected by conflict. *Bal Bandhu Scheme* is an intervention project for Adolescents (aged 14-18 years) in Areas of Civil Unrest and aims to give Protection of Children's Rights in Areas of Civil Unrest in 9 violence-affected districts of 5 States (NCPCR, 2014).

**Adolescent Labour:** Over 400 million constitute the total workforce in the country, out of which adolescents (14-18 years) constitute close to 32 million. Of the 312 million employed as main workers, adolescents constitute over 20 million, and of the 90 million workers employed as marginal workers, adolescents are over 11 million of the total approximately. Hence, while the total number of children in the 14-18 age group is 100.2 million (Census 2001), approximately 32 million of these children are employed in the workforce.

According to the NFHS- 3, 33.4% of girls and 50.4% of boys (in the 15-24 years age group) are engaged in labour. Among boys, 60.9% of the workforce is in the rural sector and in production occupations and 88% of employed adolescent boys earn wages in cash. Significantly 70.5% of urban boys are engaged as workers. In contrast only 22.2% of girls are employed in the rural sector and 64% of young women engaged in agricultural work are employed by a family member, 28% are employed by a non-family member, and 7% are self employed. Unlike boys, less than two-thirds of them earn cash for their work. 11% of employed adolescent girls are paid only in kind and 26% are not paid at all and are unpaid family workers. Only 39.5% of urban girls – about half the proportion of boys - are in the work force (NCPCR, 2014).

**Health and Nutrition:** While only 10% adolescents are in the age group of 15-19 years, mortality in this age group in Adolescent Girls (AGs) is greater than 10-14 years because 20% of the 1.5 million girls married under the age of 15 years are already mothers. To add to this, more than half (56%) of girls and 30% of boys in the age group 15-19 are anemic and almost half (47%) of girls and 58% boys are underweight with Body Mass Index of < 18.5 kg/m<sup>2</sup>. Data on adolescents from national surveys including NFHS 3, DLHS 3 and SRS has revealed that only 14% of girls in the 15-19 age group have received complete ANC due to which 62% of currently married adolescents have had complications during pregnancy. 52% of girls in the 15-19 age group have delivered at home and 8.3% of all pregnancies in this age group have resulted in spontaneous abortions. 41% of all maternal deaths took place among the 15-24 age group and NMR was as high as 54/1000 among those in the age group of 15-19 years. NMR among rural adolescents was as high as 60/1000.

## INDIA'S MINORITIES

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India is widely known as 'a nation of pluralism/multiculturalism'. People speaking hundreds of languages and dialects and followers of all the major religions of the world inhabit this land of amazing cultural pluralism. However, there appears to be substantial differentials in the socio-economic and demographic profiles of major religious communities in India, mainly emerging from socio-cultural and historical reasons. The status of linguistic communities is also largely related with these factors.

The Constitution of India uses the term minority but does not define it. In order to have some understanding of the term 'minority', one refers to the works and interpretations of social scientists and judicial decisions. The term 'minority' is a compound of the Latin word 'minor' and the suffix 'ity', meaning inter alia "the smaller in number of the two aggregates that together constitute a whole". The Webster dictionary defines it as "a group characterized by a sense of separate identity and awareness of status apart from a usually larger group of which it forms or is held to form a part". The Oxford English Dictionary defines minority as "the condition or fact of being smaller, inferior, or subordinate" or as "a number which is less than half the whole number". The meanings and definitions just referred to contain a common criterion, namely, the statistical criterion. Apart from the statistical criterion mentioned above, the term signifies such groups of people as are united by certain common features and feel they belong to one common unit. Such groups may be held together by ties of common descent, physical characteristics, traditions, customs, language or religious faith or a combination of these. In any case, therefore there is a sense of akiness, a sense of community or unity prevalent in the group (or groups) that distinguishes them from the majority of the inhabitants of the area where such minorities function. It is this sense of akiness within the group coupled with the consciousness of a difference with the majority, which may serve as the basis of various political or other claims. There may also be cases when differential treatment alone is the pointer that may determine the minority status. Such differential treatment may be shown by another group or other groups of people towards this group or it may be self-imposed by the 'minority' group itself.



Some scholars add a very important dimension to the meaning and interpretation of minority by saying that, in the context of human rights today, the term 'minority' is no longer a numerical concept, but has come to signify a non-dominant and disadvantaged group in a state or society, be it ethnic, religious or linguistic. The Muslims, for instance, are a disadvantaged minority group in India. Thus, the place of a group of people in the power structure of the society and the state becomes very crucial in identifying it as a 'minority'. Thus, the concept of 'minority' is quite problematic and should not be over simplified.

Though the Constitution of India does not define 'minority' yet it recognizes two types of minorities based on religion and language. That is how and why we talk about religious and linguistic minorities. The Constitution uses the term 'minority/minorities' only in four articles, namely, Article 29 (1), 30, 350-A and 350-B:

#### **Article 29**

(1) Any section of citizens residing in the territory of India or any part thereof having a distinct language, script or culture of its own, have right to conserve the same.

(2) No citizen shall be denied admission into any educational institution maintained by the state or receiving aid out of state funds on grounds of religion, race, caste, language or any of them.

#### **Article 30**

(1) All minorities whether based on religion or language, shall have the right to establish and administer educational institutions of their choice.

(2) The State shall not, in granting aid to educational institutions, discriminate against any educational institution on the ground that it is under the management of minority, whether based on religion or language.

#### **Article 350 (A)**

It shall be the endeavour of every state and of every local authority within the state to provide adequate facilities for instruction in the mother tongue at the primary stage of education to children belonging to linguistic minority groups; and the President may issue such directions to any state as he considers necessary or proper for securing the provision of such facilities.

#### **Article 350 (B)**

(1) There shall be a Special Officer for linguistic minorities to be appointed by the house of Parliament, and send to the governments of the states concerned.

Thus, in the absence of any formal or definite definition we largely go by the judicial pronouncement given from time to time. But one thing is absolutely clear and that is the fact that all the internationally recognized normative principles are enshrined in the Constitution of India. On practical plane, the word *minority* in India is most often used in the context of religious communities-Muslims, Christians, Sikhs, Parsees (Zoroastrians) and Jews as of minorities. This category also includes Buddhists and Jains which means that all the non-Hindu communities come under the categorization of Minority.

Because of paucity of space this brief note is confined to the main minority group in India-Muslims, because for all practical purposes whenever one refers to 'minorities' in India, they come to mind.

Some of the more important features of Indian Muslims are as follows:

- (1) Muslims in India are the largest and the most important religious minority of the country. Though a minority in its numerical strength, it is so big as to make it the third biggest Muslim population in the world, after Indonesia and Pakistan. They constitute about 14% of the total population of India and form an important segment in the social fabric of the country. They are distributed all over the country and live in every region, state and union territory in varying numbers.
- (2) "Muslims of India constitute an integral part of the nation. Their history is a part of Indian history and their blood has mingled with the rest of Indian blood in common causes" (Rajendra Sachar, 2010).
- (3) The distribution of Muslim population in Indian today is the result of a process extending over almost a millennium. Here, they have been living for ages in the rural and urban social milieu and bound together with the Hindus and others by the age old ties in economy, customs and traditions.
- (4) Significantly, Muslims in India are neither a 'cultural community' nor a compact ethnic population. They speak different languages and live by different cultures. They also live through layers of identities in a complex society. They may be seen through a provincial/linguistic/ethnic category as in Ladakh (J & K), a tribal *biradari*/kinship group as in Lakshwadeep and through such tribal groups as Gaddi and Bakriwal (J & K), through sectarian perspective such as the Sunni, Shia, Khoja, Bohra, Ahmedia, etc.; through various Islamic schools or *maslak* such as Deobandi and Barelvi and through a larger stratification system as *Ashraf* (higher castes or nobility) and *Ajlaf* (commoners or lower castes or OBCs). Thus they are not a monolithic community and cannot be stereotyped contrary to the popular tendency among the general public, politicians and even some academicians.

## RELIGION IN INDIA

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Religion has been defined as a belief in supernatural beings by anthropologists. It seems to us today that religion has been a part of human beings since very early in the evolutionary history. It has become apparent that human beings cannot live without this kind of a transcendental belief to support their everyday life. It is in this context that we must understand the kinds of religion and its effects that we see in India.

While every human being seems compelled to be religious, what form of religion they accept seems to be varied and sometimes a matter of choice. In India, today, we find a number of singular religions. Some of these religions were originally crafted in India. In fact, the Indian Constitution enshrines the right of diversity in religious practice as fundamental.

Early prehistoric India seems to entail the fact that rock paintings, music and other etchings show the existence of religious practice. Also, it has been surmised that perhaps hunting-gathering communities as well as agriculturists in India mainly worshipped something like a mother goddess. This shifted to more male gods wherever economic practice shifted to pastoralism.

Whatever be the prehistoric backdrop, it is true that today Indians practice a variety of religions. Religion started to be counted by the government through a census as early as 1872. Earlier, only basic ideas of distribution were made with respect to religion but in 2001 cross-tabulations began to be made. This has helped us to understand better the statistical differences between the practitioners of different religions in India.

By 2001, 80.5% of Indians were Hindus, 13.4% Muslim, 2.3% Christian, 1.9% Sikh, 0.8% Buddhists, 0.4% Jain and 0.6% other religions. Among those practicing other religions are those who practice Zoroastrianism as well as those who practice tribal religions. Atheists, agnostics and humanists are also present. One group would like to define themselves as Hindu agnostics.

These numbers make many believe that since Hinduism is the dominant religion of India, it should be a Hindu country. The numbers show that other religions are also present and in fairly large numbers.

In the latter part of the nineteenth century researchers (like Max Weber and others) put together ideas that showed how religious practice helped Protestant religions to save money, put together enough to form a significant capital and then use it to finance businesses that could earn them a better livelihood. After these studies, such analogies have been made with Sikhs, Jains, Hindus as well as with other religions.

### **Religion and Sex Ratios**

Religion has often been connected with fertility and sex ratios. Sex ratio is the number of females in the society for every thousand males. In 2001, Hindus had 931, Muslims 936, Christians 1009, Sikhs 893, Buddhists 953, Jains 940 and other religions 922 as their sex ratio.

Sometimes this number does not give the whole picture. One would like to know the sex ratio at birth to about six years of age. Also the percentage of those who are from 0 to 6 years of age out of the total population of that religious group would also be helpful. Hindus have a child sex ratio (CSR) of 925 and a child population of 15.6%, Muslims have a CSR of 950 with a child population of 18.7%, Christians have a CSR of 964 with a child population of 13.5%, Sikhs have a CSR of 786 and a child population of 12.8%, Buddhists have a CSR of 942 with a child population of 14.4%, Jains have a CSR of 870 with a child population of 10.6% while other religions have a CSR of 976 with a child population of 18% according to 2001 census figures.

This shows some curious features of the population. The Muslims have grown from 9.8% in 1951 to 14.88% in 2011 of the total population, the Hindus have decreased from 84.1% in 1951 to 78.35% in 2011, while Christians, Sikhs, Buddhists and Jains have remained fairly stable.

### **Religion and Literacy**

The literacy rate is computed from the census figures after removing those below the age of seven years. According to the census of 2001, Hindus have a literacy rate (LR) of 65.1% with males having 76.2% and females 53.2%, Muslims have an LR of 59.1% with males having 67.6% and females 50.1%, Christians have an LR of 80.3% with males having 84.4% and females 76.2%, Sikhs have an LR of 69.4% with males having 75.2% and females 63.1%, Buddhists have an LR of 72.7%, with males having 83.1% and 61.7%, Jains have an LR of 94.1% with males having 97.4% and females 61.7%, while other religions have an LR of 47% with males having 60.8% and females 33.2%.

This shows that Jains and Christians are the most literate among the religious communities. In all of them, the women have a lower LR than the males. The gap between the LR of males and females is the lowest among the Jains. This gap is very much pronounced among the other religious groups

like the tribals, where only about half the number of women are educated in comparison to the males.

### **Religion and Work Participation**

The work participation rate (WPR) is the percentage of workers to the total population. Hindus have a WPR of 40.4, with males having 52.4 and females 27.5, Muslims have a WPR of 31.3 with males having 47.5 and females 14.1, Christians have a WPR of 39.7 with males having 50.7 and females 28.7, Sikhs have a WPR of 37.7 with males having 53.3 and females 20.2, Buddhists have a WPR of 40.6 with males having 49.2 and females 31.7, Jains have a WPR of 32.9 with males having 55.2 and women 9.2, while other religions have a WPR of 48.4 with males having 52.5 and females having 44.2.

The Jains have the highest WPR while Muslims and the Buddhists have the lowest. Buddhists, Christians as well as the Hindus have a WPR for women which is higher, while the gap is highest among the Jains, Muslims and Sikhs.

However, we also need to know what kind of work different religions are more likely to do. 33.1% of the workers among the Hindus are cultivators, 27.6% are agricultural labourers, while 3.8% are working at household industry, among the Muslims 20.7% are cultivators 22% agricultural labour while 8.2 are occupied at household industry, the 29.1% of the Christians are occupied as cultivators, 15.3% as agricultural labour while 2.7% in household industry, 32.4% of the Sikhs are cultivators, 16.8% in household labour and 3.4% in household industry, 20.4% of the Buddhists are cultivators, 37.6% in agricultural labour and 2.9% in household industry, 11.7% Jains are cultivators, 3.3% in agricultural labour and 3.3% in household industry, while 49.9% of other religions are cultivators, 32.6% are agricultural labourers and 3.2% are in household industry.

This shows that while Hindus and Sikhs are involved in agriculture, they are no match for the tribals. Also Jains are least involved in agricultural activities. Muslims are most involved in household activities. Jains fall in the category of other workers (about 81%). Other studies show that entrepreneurship is highest among the other religious groups and Jains, followed by Christianity, Muslims, Sikhs, Hindus and the Buddhists, respectively. Jains and Sikhs are the least poor while Muslims (26.9%), Hindus (25.6%) and Christians (22.2%) are the poorest, in that order.

### **Beyond Religion**

Apart from all these religions discussed above, one other religious group found in India are the Jews who are living in India over such a long period. Also, there are a large number of cults, sects or doctrines. Of course, many cults and tribal religions are returned in the Census data as being one

of the religions already mentioned. However, truly speaking, the tribal worship and belief falls under animism. Some tribals would call themselves Hindu, others Christian, Muslim, Buddhist or Jain. Over the years, this mix of religions has been living together in India. They have lived together for so long that their features and characteristics have often mixed into each other creating a kind of 'syncretism'. Thus, the beliefs of any one religion may hold some characteristics of another religion, seen through its symbols, rituals, language, dress or other practices.

Inter-religious conflicts are also a common phenomenon in India. Religious feelings lead to a variety of reactions against other religions. These may, at one extreme lead to violent riots and killings. At the other extreme it may lead to fairly pacific cultural and religious resistance. Caste has unified different religions but inherent oppressive tendencies within it has also led to members moving to more egalitarian religions over the centuries. Moving to another religion has not always removed caste-based inequalities.

In other words, religion in India is diverse, varied, syncretic, processual and is at a stage of constant development and movement through reacting to ground realities. It makes sense to look at the context carefully, then, before arriving at any conclusions.

## ON SIKH RELIGION

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In 15<sup>th</sup> century north India, Guru Nanak began discussing his ideas of human destiny and man's relationship with God amidst a simmering conflict between Hindus and Muslims, two communities who began the process of living together after the establishment of the Mughal Empire. These ideas took shape of a philosophical movement in the lifetime of Guru Nanak who organized five *udasis* (or religious journeys) across the length and breadth of India reaching as far as Baghdad in the west and Sri Lanka in the south. This movement was organized into a religious movement over the next two hundred years by the nine Gurus that followed Guru Nanak.

In public imagination, as well as amongst some scholars of Sikh religion, the religion and its teachings are considered to mediate the course between Hinduism and Islam. However, Sikh religion is simply not a middle ground developed through incorporation of teachings of Hinduism and Islam.

Guru Nanak, the founder of Sikh religion, was born in 1469 AD in a village called Talwandi, in Shekhupura district of Punjab (now in Pakistan). By all accounts he lived a simple life and through his life demonstrated his followers the path to Enlightenment. His followers soon became known as the Sikhs (or disciples/learners).

The Sikh community lives by the teachings embodied by Guru Nanak in his life – *kirat karo, nam japo aur wand chako* (to act or to labour, to meditate on the name of God and to share one's fruits of labour). Embodiment of these qualities in the Guru is reflected in the entrepreneurial spirit of the Sikh community at large and in its charitable activities through the Gurdwara, including community kitchens that run in all Gurdwaras with food donated by the devotees and the involvement of the devotees in its preparation. Partaking in community kitchen together initiates devotees into the Sikh notion of equality especially in a context where sharing food is governed by strict caste laws.

The Sikh philosophy is built on the notion of *darshan*. There is no equivalent word in English and therefore *darshan* may loosely be translated as sensory encounter with formless God. The religion is practiced by devotees as if there is an all pervasive and formless God. This aspect is exemplified in the Gurdwara where except the Holy Book, the *Guru Granth Sahib*, paintings or idols are stickily prohibited. It is in houses that one may come across

paintings of the ten Gurus. In families where Sikh philosophy is understood in its purest form, personalizing the Gurus remains a taboo.

However, the notion of *darshan* does not evolve into *sanyaas* or renunciation of the world, a notion central to several Hindu traditions. On the contrary, a Sikh is expected to live as a householder discharging his social responsibilities. The material world is not considered as *maya* to be discarded. On the contrary, Sikh worldview requires one to live unattached (the attachment with the material world is *maya* or mirage) in the world meditating on the name of God.

*Guru Granth Sahib* is the central religious text of Sikhism and is considered as the final and sovereign Guru of the Sikh community. *Guru Granth Sahib* is considered to embody the Sikh Gurus reflected in their compositions. For Sikh devotees, the central place of *Guru Granth Sahib* is unquestionable and it is described as the living Guru. Sikh religious life revolves around the teachings contained in *Guru Granth Sahib* and it holds a pivotal place in Sikh life cycle rituals – be it birth of a child, marriage or death of a person. The devotional poetry contained in *Guru Granth Sahib* inspires devotees to meditate on God's name in a Gurdwara or at home.



## SUFISM

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The word Sufism is suggested to be of German origin and came into existence in 1821. Sufi became the generic term under which were placed diverse mystic orders and traditions. The term Sufi may have been derived from *suf* (wool) as they wore garments made of wool. Another theory is that the word Sufi is after the name of an Arab tribe known as Suffa who served in the Meccan places of worship. By definition, Sufi is one who tends towards the mystic life as it has developed under the framework of Islam. In Punjab, the institution of *piri-muridi* (the spiritual teacher and his disciples) was typical of Sufism. *Pir* (the spiritual teacher) was the centre of saint worship and the *murid* is the pupil.

Thus, Sufism is a term which pertains to Islamic mysticism. Some scholars submit that in order to understand the Sufi, one ought to be somewhat a Sufi. The most important truth about Sufism is that it is an ideological system bringing together different religious communities. According to an estimate, almost seventy per cent devotees of a Sufi shrine happen to be Hindu, whereas the saint is Muslim. It has also been observed that the Hindus visiting the *dargah* worship the saint in the way in which they worship their gods and goddesses in the temple. The Sufi shrines accept different forms of veneration, thus provide a platform to create unity between different communities. The syncretic nature of Sufism is clear from the fact that it imbibed many traditions of the Iranian, Greek and Indian civilizations. It has also accepted many aspects of the Christian asceticism, Arab piety, and the oriental esoteric cults.

The characteristic feature of Sufism are: (1) God exists in all and all exist in God; (2) Religion is only a way of life, it does not necessarily lead to salvation, or a release from this world; (3) All happenings take place as per the will of God; nothing happens if God does not want it to happen; (4) The soul is distinct from the physical body and will merge into the Divine Reality according to the deeds of the person; and (5) It is the teacher whose grace shows the way and leads to union with God. The Sufi believe that there are four stages in a person's journey to realization: (1) leading a disciplined life as prescribed in Islam; (2) following the path as laid down by the teachers; (3) at the centre of the Sufi circle stands the truth; and (4) on realization of the truth, getting merged into the Divine Reality. An individual's journey to God

encompasses three motives of aspiration, knowledge, love and fear. Sufism combines eight characteristics: generosity, satisfaction, patience, supplication, expatriation, wearing of robe, travel, and living in poverty. To this list, the other scholars have added withdrawal and isolation from people, hunger, wakefulness, silence, and self-abnegation.

The Sufi are the messengers of love. They have advocated the idea of 'peace with all' (*sulha-e-kul*). They think that love creates bonding and generosity; the object of love is Divine Beauty. From the dimensions of knowledge, love and fear arise the Sufi practice of 'remembrance', known as *dhikr* or *wird*, remembering God's name, which means the attestation of faith in God. In this, the blessings of the Prophet, Hazrat Mohammad, is also sought, and so is forgiveness (*istighfar*) for all the sins one has incurred, knowingly or inadvertently. While on his way to God, the Sufi removes all traces of individuality and ego. 'Dying to oneself', by an act of *fana*, allows him to survive with God, in the condition of complete affirmation (*baqa*).

Sufi shrines are very active in Indian subcontinent. They are also the centres where the spiritual personnel and the descendants of the Sufi saint render supernatural aid to the visitors. Barring a couple of them, these shrines are well known for devotional singing sessions, known as *qawwali*, that are held regularly, especially on Thursdays. The day when the saint attained his 'survival with God', in other words when he left the mortal world, is celebrated by his devotees and descendants as a special day. Known as *urs*, it is attended by thousands belonging to different communities and faith. Through its practices, Sufism has tried to integrate people of different religious groups and denominations. This is one of the main reasons explaining its glorious existence and survival in times of violence and separatism.

## INDIA'S NOMADIC AND DENOTIFIED COMMUNITIES

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The nomadic and de-notified communities form a substantial proportion of the population and prominent aspect of the mosaic of India. These communities are spread over almost all the states of India. It is estimated by the National Commission for the Denotified, Nomadic and Semi-Nomadic Tribes (2008), popularly known as Balakrishna Renke Commission, that the nomadic and de-notified communities constitute about 10 percent of the country's population on a conservative estimate, as population figures were not available for more than 100 communities. It was also observed by the Renke Commission that there are about 500 nomadic communities and about 150 de-notified communities in India. These communities include a wide variety of occupational groups like the foragers, pastoralists, herbalists, artisans, metal workers (smiths), musicians, performers, entertainers, bards, mendicants, soothsayers, etc.

The nomadic and de-notified communities form a culturally and socially distinct group. They are quite diverse as far as their livelihood pursuits are concerned. It is important to understand that the nomadic communities existed as a socio-cultural category since a very long time in the history leading an independent lifestyle and were well integrated into both the rural and urban life of India. The de-notified communities as a category were the creation of the British colonial rulers after the 1857 war of independence in which many of the nomadic communities participated to overthrow the colonial rulers. The British propagated a very strange theory that some communities were criminal by birth and it is their caste or community occupation. The British enacted a Criminal Tribes Act notifying a number of communities under this Act that was revised periodically. The district collectors were given the authority to notify the communities under their jurisdiction as criminal tribes. This was annulled after 1952 and all these communities were de-notified following Aiyangar Committee recommendations. That is how they are categorised as de-notified tribes (DNTs).

The nomads can be categorised as pastoral and non-pastoral (peripatetic). The pastoral communities live in the semi-arid regions of the country and depend on herding. They are also very varied and the differentiation among them is dependent on the kind of livestock that they

herd, be they cattle, buffaloes, yaks, camels, goats, sheep, ducks, pigs, etc. The peripatetics also differ from each other based on their occupational specialisation. The nomads are not only belonging to different religious groups like the Hindu, Muslim, Sikh, Buddhist, Christian, etc., but can converse in many languages (polyglots). The peripatetics are immensely talented singers, dancers, performers, entertainers, jugglers, magicians, artists, metal workers, sculptors, etc.

The nomadic communities live in bands and maintain close kin and community ties. Among these communities age at marriage is observed to be significantly low. They also are largely illiterate and they are at the bottom of educational ladder in the country. They have very distinct social organisation and have their community councils (Jat Panchayats) that maintain tranquility in the community and also act as a law and order agency within the community. Inter-community disputes are also resolved through the community councils. The nomadic communities, including the de-notified, are an epitome of accommodation, adaptability, intercommunity harmony and integration. They are a treasure house of indigenous knowledge and excellent managers of available natural resources. They are rightly called by Berland (2003) as 'bridging elements'.

The peripatetic nomads and de-notified communities traverse both rural and urban areas. They frequent villages and maintain relations with different castes and receive things in return for their services. The pastoral communities formed an integral part of peasant economy in the past and maintained symbiotic relationship with the rural cultivators. The pastoral economy should be treated as a distinct economy and they were good breeders and veterinarians. The British never regarded the nomadic pastoralism as an economic pursuit and considered the peripatetic as beggars. They suspected the nomads and made attempts to sedentarise them through their policy of 'civilising' them. This policy continues to dominate even in Independent India. The British have succeeded in creating suspicion about these communities in the minds of the common people about their integrity. Due to the forces or law and circumstances, as they were never allowed to pursue their traditional callings, they were pushed into unlawful activities like thievery and crime.

Many of the urban dwellers, as well as some rural residents, look down upon the nomadic and de-notified communities with suspicion. These communities are negatively impacted by certain enactments. Following Aiyangar Committee recommendations, the Government of India repelled the obnoxious Criminal Tribes Act in 1952. However, this has not altered the condition of the de-notified communities. Criminal Tribes Act was replaced by the Habitual Offenders Act, Prevention of Beggary Act, etc., that made the life of these community members more miserable. These communities are the most discriminated, socially and economically even today in independent India. These communities became invisible to the planners and policy makers. We

hardly find any development programmes specifically addressed to them as the general programmes do not cater to their special needs.

The winds of modernisation, economic liberalisation and globalisation have affected these communities hard and many of them are displaced from their abodes. As things stand today, some of them have taken to begging, wage labour, rag picking, etc. Major development programmes have affected them very adversely as they lost access to their traditional resources. Today they are largely assetless and address-less. They face serious problem of housing and settlement. They live in highly unhygienic localities or areas and lack any civic amenities like drinking water, sanitation, etc. Due to loss of livelihood resources and the policy of sedentarisation, there is a change in the lifestyle of these communities. They are more and more becoming sedentary and some of their livelihoods have almost disappeared.

They still continue to suffer from the stigma of criminality. The police still continue to treat them as 'born' criminals. The police training manuals still do not address these issues and they make no efforts to change the mindset of law and order machinery in this regard. One thing need to be clear in our mind is that the criminals are not born but bad society produces them. The problem is one of poverty and loss of livelihood opportunities and resources which plague many of these communities. There is a need to address these issues frontally by the government and civil society organisations.

## THE PARTICULARLY VULNERABLE TRIBAL GROUPS

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Among People of India, the weakest and smallest communities are those groups identified as Particularly Vulnerable Tribal Groups (PVTGs). These are the communities most isolated and most backward facing distinctive problems and needing special attention. Some of them even face the threat of extinction and are considered as endangered populations.

Their precarious existence has received the attention of various government reports and experts. They called for the identification of the tribes facing special problems which need not be essentially in terms of poverty. And for want of a suitable term the label Primitive Tribes has been used for them. For the first time a note circulated in 1979 by Ministry of Home affairs spelled out the criteria for the identification of such groups. The criteria include: 1) forest-dependent livelihoods, 2) pre-agricultural level of existence, 3) stagnant or declining population, 4) low literacy rates, and 5) a subsistence-based economy.

Forest dependent livelihoods have become unviable in the face of stringent Forest Regulations and some of these people are displaced to locate wild life sanctuaries. Such populations face acute poverty and studies have shown nutritional deficiencies and disorders in such populations.

The pre-agricultural level of technology implies dependency on activities like hunting, food gathering, fishing, pastoralism, jhum cultivation, etc, for their subsistence. Communities surviving on such activities are compelled to lead a nomadic and semi-nomadic existence. Assured food security forms the first priority to be followed by employment guarantee and various other requirements for their development

Diminishing or stagnating population indicates serious health, nutritional and reproductive problems. They live with food insecurity and a host of diseases, like sickle cell anaemia and malaria. The PVTGs face health problems including venereal diseases in some places. Under-nourishment and mal-nourishment is another problem. Because of their numerical disadvantage, the PVTGs do not receive the attention they deserve. Among PVTGs, maximum attention has been paid to the tribal groups residing in Andaman and Nicobar Islands, such as Andamanese, due to their diminishing population. In Madhya

Pradesh, as far back in 1979, a notification was issued by the state government to exclude the particularly vulnerable communities from family planning campaign. Communities like Baiga, Paharia, Kamar were denied permanent methods of contraception. This has been done to ensure that their population strength does not go down further.

Low level of literacy is a natural follower of poverty and health problems coupled with nomadic and semi-nomadic existence. Low level of literacy comes in the way of imparting new skills and making them employable. This affects their awareness and makes these groups easy prey for exploitation.

Subsistence level economy implies precarious existence without any food or cash reserves. This makes them continue living in poverty, susceptible to exploitative practices, like bonded labour and trafficking.

Until recently the PVTGs have been called Primitive Tribal Groups (PTGs) in a derogatory manner. They are supposed to be the lowest layer of scheduled tribes. In many tribal areas, these communities remain marginalized on periphery where other advanced scheduled tribes dominate over them and exploit them. They are vulnerable because their precarious livelihoods are affected by dwindling resource base. Their vulnerability can be seen in the indices like low literacy and educational levels, low life expectancy and high infant mortality and morbidity, poverty and trafficking, destitution and exploitation. PVTGs have not benefited much from developmental activities. Their habitats are threatened by forest regulations, development projects and they face continuous threats of eviction from their homes and lands. It is interesting to note that few communities identified as PVTGS are without scheduled tribe status or have recently received such status. Several of the PVTGs live outside scheduled areas and are beyond the protection of the special constitutional provisions.

According to the statistical profile of Scheduled Tribes in India (2013) published by Ministry of Tribal Affairs, Government of India, the total population of PVTGs comes to 27.68 lakhs and the total number of the communities is 71. Out of these, 19 communities have less than 1000 population. Highest population can be seen in communities like Maria Gond of Maharashtra (1618090) and Saura of Orissa (534751), while alarmingly lowest populations are found among Sentinelese (15) and Great Andamanese (44) of Andaman and Nicobar Islands. The majority of the PVTG population lives in the six states of Maharashtra, Madhya Pradesh, Chhattisgarh, Jharkhand, Odisha, Andhra Pradesh and Tamil Nadu. The distribution of these PVTG communities across states and union territories is: Andhra Pradesh and Telangana (12), Bihar (9), Gujarat (5), Jharkhand ((9), Karnataka (2) Kerala (5), Madhya Pradesh including Chhattisgarh (7), Maharashtra (3), Manipur (1), Odisha (13), Rajasthan (1), Tamilnadu (6), Tripura

(1), Uttar Pradesh (2), Uttarkhand (2), West Bengal (3), Andaman and Nicobar islands (5).

Most well known PVTGs are the communities labeled as heritage groups such as Jarwa, Senteneles, Shompens and Cholanayakans. They are completely isolated from others and live in distinctive ecological settings. Of these, the first four groups inhabit Andaman Islands whereas Cholanayakans, who are popularly known as 'cavemen of Kerala', are found in Kerala. The threat of extinction looms large on communities like Great Andamanese. The other groups like Birhor, Chenchus, Jenu Kurubas can be seen as marginal groups living on the fringes of territories inhabited by other communities. The groups under utmost threat include the Bondos of Odisha; Cholanaickans of Kerala; Abujh Marias of Chhattisgarh and Birhors of Jharkhand. They are not in a position to compete with other scheduled tribes and are exploited by them. Chenchu, a community known for its dependence on food gathering, are seriously affected by restrictions imposed by forest legislations and evicted from core areas of forest under the Project Tiger. Some of the tribal groups such as the Sahariya in certain areas of Rajasthan are known to work as bonded labour for rich landlords for generations.

In view of the vulnerability and special needs of PVTGs, separate schemes for economic uplift and imparting education have been envisaged for them. It has been recommended that programs meant for PVTGs should take into account the ecosystem. For PVTGs, restoring their ecosystem and conservation of traditional skills forms the priority, followed by access to health and educational services. Special regulations are required to protect their command area, i.e. the area they depend upon for subsistence. It has been suggested that unique programs should be formulated and implemented for each group taking family as a unit. This has to be followed by development programs with flexibility and human touch. Keeping in mind the vulnerability and precarious living conditions, the development priorities for PVTGs should be on people's terms as per their felt needs, with flexible and appropriate strategies. There is urgent need for concerted action across various sectors, which should be monitored by separate administrative authority for PVTGs.



## LANGUAGES IN INDIA

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It is aptly said that India is a land of unity with enormous diversity. Many have commented that India's culture and language changes in every ten miles. How true is the observation! Perhaps one of the important contributing factors to cultural and linguistic diversity of India is its chequered history and an incredible record of accommodating people from across its borders. With whatever intention people came to India in the past, they made it their homeland. While some of them retained their original languages even after settling in India, others adopted the dominant language of the region or spoke a new language created due to amalgamation of two or more than two local languages.

In British India, the first ever linguistic survey was undertaken under the leadership of the Irish linguist, George Abraham Grierson, which was published as *Linguistic Survey of India* between 1903 and 1928 in 20 volumes. It was a massive exercise between 1894 and 1928. Grierson then counted as many as 364 languages and dialects spoken by the Indian population. In a more recent survey by the Baroda based Bhasha Research and Publication Centre, People's Linguistic Survey of India (PLSI), it is revealed that 860 languages are spoken in India. What an amazing linguistic diversity that India has! Out of these 860 languages, only 22 are recognized as official languages. The Census of India of 1971 has estimated that 108 languages in India are spoken by linguistic groups with a population of 10,000 or more. What is more alarming is that at least 300 languages are not traceable since Independence, according to Prof. Ganesh Devy, the main architect of PLSI. Since language is the mirror of any culture, extinction of a language rings the death bell of that culture. In other words, linguistic genocide is cultural genocide.

Indian languages may be divided into four major language families: Indo-Aryan, Dravidian, Austro-Asiatic and Tibeto-Burman. India has the largest speakers of Indo-Aryan languages, spreading from Gujarat and Rajasthan in the West to Assam in the East, covering the Central India and the Himalayan belt. About 74% of the Indian population speaks Indo-Aryan languages. This is followed by Dravidian, confined to four southern states of India, undivided Andhra Pradesh, Karnataka, Tamil Nadu and Kerala, has about 24% speakers. The tribal languages of Kondh (Kui), Koya, Gondi, Kolami, etc., come under the Dravidian family of languages. The Austro-Asiatic

speakers are concentrated in the tribal belt of Central India with a little over 1% of the Indian population. Many tribal languages, such as Munda, Santali, Kharia, Ho, Oraon, Korku, Saora, etc., are classified under this family. Less than 1% of the Indian population speaks Tibeto-Burman languages. They are mostly from North-east India and speak Garo, Adi, Dafla, different strands of Naga, Manipuri, Tripuri, Ladakhi, etc., Kinnauri and Tibetan speakers also belong to this language family. This enormous diversity makes India a linguistic mosaic.

As per 2001 census, Hindi has been returned as the predominant language spoken by about 41% of the Indian population. It is the official language of India with Devanagari script. Next four languages in order of number of speakers are: Bengali (8.1%), Telugu (7.2%), Marathi (7%) and Tamil (5.9%). But most of the Indians are bilingual or multilingual, capable of speaking other languages than their own mother tongue. In education, the Government has been following a three-language formula keeping in mind many languages that the people of India speak. The children are taught Hindi, English and the regional languages at the level of secondary education. This results in a casualty of hundreds of mother tongues. Similarly, the Eighth Schedule of the Indian Constitution recognizes only those languages, whose speakers have a political clout, undermining the multilingual ethos of India.

In the realm of languages in India what is most disturbing is the extinction of languages and a clear trend of monopoly of dominant language(s). The diversity of Indian languages is facing severe threat under the garb of “official language” or “state languages” or inferior language. Many linguists call it “dominant monolingualism”. This is the clear trend of “linguistic imperialism”. It has the dreaded consequence of wiping out not only linguistic diversity, but also cultural diversity by promoting monoculturalism and cultural imperialism. The worst victims of both linguistic and cultural homogenization are the tribes and marginalized communities who are largely voiceless. This is sheer denial of fundamental right to some helpless groups of Indian citizens, which needs to be contested before it is too late.

## INDIAN ARTISANS

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Diversity is the basic characteristic of Indian Society. This diversity gets reflected in multiplicity of castes, religions and communities. However, it is the greatest irony that this diversity has emerged as the basis for community, religious and caste based divisions in the country. It is in this context that People of India becomes an important document which helps us in understanding and analyzing these diversities from a holistic point of view. This holistic viewpoint tries to make us understand that there occurs a natural bonding between the communities which is the basis for unity in diversity. It is this diversity, which according to the philosophical tenet of *Anekantvad*, has been understood as the basis of non-violence as it provides enough room for accepting and conserving the diversity of people and objects.

It is in the context of this discourse that People of India Project tries to understand and locate Indian artisans. A community is very closely attached to its ecology. This statement gets verified by studying the names of the communities which are linked directly to their traditional occupations. These traditional occupations are based largely on the available local and regional resources. For example, basket making is a very popular artistic occupation and many communities are linked to such an occupation. The raw material used for the basket making is linked with the local resources available. Largely baskets are made out of bamboo but apart from bamboo other locally available materials are also used like in Jammu and Kashmir, Himachal Pradesh, Maharashtra and Uttar Pradesh twig is used. Straw is used in Punjab. Reed mixed with leather is used in Rajasthan and cane is used in West Bengal, Assam and the other North-East states. After analyzing around 1018 community names in the People of India project, it came to light that these names were linked closely to their traditional occupation, for example — Agaria, Atishbaz, Bahurupi, Baidyakar, Buna, Bansfod, Bajandar, Chudihar, Lohar, Sunar, Malakar, etc. These communities were traditionally well versed in various art and craft forms. Out of the community names studied, only three percent were found to be associated with religion. Around 48 percent community names were based on traditional occupation. This reiterates that caste system is basically economic in nature. Various communities were found to be associated with 42 kinds of traditional occupations. Out of these around 17 kinds (around 40 percent) of occupations were linked with various arts and

crafts. There were around 1672 communities associated with these 17 different kinds of artistic occupations. Most of the communities were linked with basket making and weaving.

The survey revealed an important fact that artistic traditional occupations are not divided on the basis of religion. Various religious communities were traditionally involved in various occupations based on artistic skills. Art is an important medium of cultural articulation of various communities and religions. There are around 20 per cent such communities which perform special role as artists and craftsmen in religious ceremonies of different religious groups. Traditionally different communities were linked to each other through the Jajmani relationship. The artist-customer relation was one of the important relation within the Jajmani system. This relationship was secular which tried to amalgamate various religions. This takes us to believe that no religious group was functionally independent as each one depended on the other for its cultural identity and development.

The People of India project studied the artistic skill and craftsmanship of various communities. The most famous art form was that of floor painting, followed by wall painting, drawing, carving, body tattooing, etc. As far as craft is concerned, basketry was the most famous followed by weaving, embroidery, pottery, etc.

This is an irony that over a period of time there occurred changes in the traditional community occupations and many communities left their traditional occupations and imbibed new occupations. Among the artisans and craftsmen, most changes occurred among the weaver community who either left their traditional occupation or made weaving as subsidiary to other main occupations. The Band community of Jammu and Kashmir who was traditionally associated with basket making, left their occupation and took-up agriculture as their primary occupation. The Julaha community of Himachal Pradesh was associated with cotton weaving and Bazigar community of Punjab was associated with acrobatics. Both the communities left their traditional occupation and adopted agriculture. Dhanak (weaver) community of Punjab, carpenter of Bihar, tailor of Uttar Pradesh and other such communities were bound to leave their traditional occupations either because the government stopped them and put restraint over their occupation or because of the dearth of raw material or probably because they could not stand the competition placed by the factories producing in bulk. One of the major reasons for leaving their traditional occupation was to improve their status within the local/regional social stratification. In this context we have the example of Loi community of Manipur. This community was known for making pots but left their traditional occupation in order to improve their social ranking. The Sakar community of Madhya Pradesh left their traditional occupation of making gun-powder due to governmental control and restraint. Sweet making Modak community of

Bihar, Moir community of West Bengal and Bihar and Halwai community of Madhya Pradesh migrated to urban areas as they saw more profit in adopting new occupations.

The Anthropological Survey India in 1960 conducted a research on the changes that took place in the traditional occupations of people. Kumar Suresh Singh mentioned this research work in the Introductory volume of the People of India project. This research tells us that most of the changes in traditional occupations came among the artisan communities.

These changes point towards a trend in which place for diversity seems to be shrinking as against the increasing space of homogenization and hegemonization. Diversity is the main characteristic of life. In the context of society, Maulana Abul Kalam Azad tried to locate this diversity at the level of *kaum*. The People of India project also tried to locate the diversity among communities at the level of region or *kaum*. According to Maulana, Hindu and Muslim seem to be antagonistic to each other at the level of religion but at the level of *kaum* they are complementary to each other. We find a sort of community collage in India at the level of *kaum* in which different communities seem to be functionally linked to each other. The Indian artisans are an inseparable part of this structural collage. In reality, the natural division of Indian society and history can be visualized at the level of *kaum*. India is divided into different regions which have their own ecology, language, and culture. Every region has its own castes and communities in which agriculturalists, tribes, artisans, fisherman, etc., are included. Indian diversity can only be understood at the level of region where communities have their own base and they are economically and culturally linked to each other.

## POPULATION AND DISEASES

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Diversity in India specifically at genetic level is next to that of Africa. Strict mating rules because of deep cultural beliefs have led to homogenous gene pools in the form of Mendelian populations. Though there are majorly tribal and non-tribal (caste) population groups, there again is an evidence of sub-populations within these two groups, which are further subjected to sub-structuring.

Human genome diversity initiative carried by Department of Biotechnology, Government of India, has come up with data which talks about differential allele frequencies in different population groups with respect to various genetic loci (clinically significant and non-significant). This is suggestive of the fact that Indian populations are different in their genetic makeup, which may either predispose them to a disease or protect them from a disease, depending on the environment they are exposed to.

Similarly diseases can be communicable/infectious, genetic/hereditary or non-genetic. Sickle cell anemia, a well established single gene disorder is present among Indian populations in varying frequencies. It is almost absent among non-tribal/caste populations and present from 0.1% to as high as 20% among tribal populations. Even among tribal populations sickle cell gene is more frequent among Dravidian speaking tribes such as Kolams and Thotis (Andhra Pradesh), Gonds (Central India) and Oraons (Jharkhand) and also Indo-European speaking tribes like Dhodias, Dublas, Gamits (Gujarat), whereas its frequency is found to be negligible in Austro-Asiatic tribal populations like Baiga of Madhya Pradesh. Further, sickle cell disease also has a variable phenotype because of gene-gene interaction. i.e. sickle cell anemia in Africa has a clinically severe phenotype as compared to that of India. Another haemoglobinopathy *Thalassemia* is more prevalent in non-tribal population groups like Sindhis, Punjabis, etc. In North-east India, though *Thalassemia* is in low frequency, its phenotype gets aggravated by the presence of HbE variant (normal hemoglobin) present in high frequency among these population groups. If such variation in distribution and extent of phenotype is found with respect to single gene disorders, one can actually imagine the extent of consequence of complex disorders that already have several causes at both genetic and environmental levels. With the advent of Human Genome Project in 2002, classification of diseases into genetic and non-genetic has major

paradigm shift where, any trait, any disease, any drug response has both genetic and environmental basis but the efficacy may differ, i.e. some may be influenced more by environment while others by genes.

Complex disorders like cardio-vascular disease (CVD), diabetes, cancer, pregnancy complications and mental illnesses are on rise in countries like India, where most of the population groups are in transition stage with increasing lifestyle changes. Populations with rural background exposed to high physical activity are less affected by lifestyle diseases (cardiovascular diseases) whereas urban populations with changing lifestyle, food habits and also exposed to pollution are more prone to cardiovascular diseases. Further, Indians migrated to foreign countries are more prone to such diseases compared to that of their native counterparts. The frequency of dyslipidemia and obesity, major traditional risk factors for CVD is as low as 5-10% in rural tribal populations (Bhils, Gonds, etc) to as high as 60-70% among urban populations specifically non-tribal populations such as Aggarwals, Punjabis, etc. This type of predisposition of individuals to various diseases with changing environment and geography is majorly because of the non-adaptability of the genomes to new environments. So, one can assume that genes behave differently in different environments.

Methylenetetrahydrofolate reductase gene is one of the candidate genes reported to be associated with a number of complex disorders. A mutation in this gene is said to be reducing the enzymatic activity and thus increasing an intermediate metabolite homocysteine which is a major risk factor for such diseases. The frequency of this variant ranges from 0% (among Kolams, Thotis etc) to 16% (among Jats) in Indian populations. Similarly, another important gene, i.e. DRD4 which has 2-11 repeat variants also shows variation in Indian populations. The 7repeat allele is completely absent in most of the tribal populations (Dravidian speakers) and present in low frequency among the North-Indian populations like Rajputs. This allele is associated with mental and behavioral traits. Thus it is evident that disease distribution is population specific and the associated traditional and genetic risk factors are also population specific. So, national health policies covering the whole country under one single umbrella programme may not be so effective.

Diseases can be communicable/infectious, genetic/hereditary or non-genetic. Even the well established single gene disorders like sickle cell anemia and thalassemia have variable phenotypes in different populations belonging to different geographical regions because of only gene-gene interactions (epistasis). For example, sickle cell anemia with a specific sequence of mutations on chromosome 11 with haplotype SENEGAL has the most severe phenotype in Africa whereas the same disease with a different haplotype ARAB-INDIAN in India has the mildest phenotype. So, one can actually imagine the extent of consequence of complex disorders that already have several causes at both genetic and environmental levels. With the advent of

Human Genome Project in 2002, classification of diseases into genetic and non-genetic has major paradigm shift where, any trait, any disease, any drug response has both genetic and environmental basis but the efficacy may differ i.e. some may be influenced more by environment while others by genes. So, there is an extension of Dobzhansky's statement by Michael Lynch (2007) i.e. 'Nothing in evolution makes sense except in light of population genetics'. Thus understanding population structure in terms of their gene pools would be a better strategy to combat the upcoming diseases.

Even after huge financial and technological investments, nothing substantial has come up in the genetic etiology of complex diseases, like coronary artery disease, diabetes, stroke, pregnancy complications, etc., this basically could be because of the fact that genes behave differently in different genetic and environmental contexts. This also explains the variable distribution of cardiovascular diseases in different population groups, i.e. populations with rural background exposed to high physical activity are less affected by lifestyle diseases (cardiovascular diseases) whereas urban populations with changing lifestyle, food habits and also exposed to pollution are more prone to cardiovascular diseases. Further, Indians migrated to foreign countries are more prone to such diseases compared to that of their native counterparts. So, understanding these upcoming diseases specifically in developing countries like India, where diversity is at its maximum, through unidirectional strategies as of only genetic or only environmental will lead us nowhere even after sizeable investment at all levels. So, novel strategies involving both genetic and environmental variables need to be developed in understanding the causes of complex diseases. However, the measurable or capturable intrinsic phenomenon which reflects the gene-environmental interaction is epigenetic mechanism. Epigenetic phenomenon by some people is called a comeback of Lamarckism, i.e. heritability of acquired characters.

There is a need for major shift in research strategies, keeping in mind that genetic predisposition for diseases is population specific; that is the reason for variable distribution of not only various diseases but also variable distribution of allelic variations. This also implies that, of hundreds of biological pathways, some are active in certain environments or populations, while some remain less active, some may complement each other, while some may be disturbed because of the other. So, gene-environmental interactions, specifically in terms of certain pathways which are more influenced by nutrition need to be focused. One such pathway is one carbon metabolic pathway where vitamin B12 (high in non-vegetarian diet) and folic acid (high in vegetarians) are the most important nutrients maintaining a balance in this pathway. This is a pathway that thoroughly influences the genetic and epigenetic architecture of human genome by bringing out imbalance in production of purines for DNA structure and methyl groups for epigenome. Further, one of the major nutritional supplementation programme of giving folate to young children



and pregnant women in India where a majority of populations follow vegetarianism, is bringing out imbalance between folic acid and vitamin B12 levels in one carbon metabolic pathway and leading to unknown and unidentified health problems. This pathway is not only related to circulatory and reproductive pathways but also in neurological processes leading to some sort of subtle mental illnesses. This is a pathway usually associated with malnutrition and undernutrition as against lipid pathway which can be generally associated with overnutrition. Thus, population groups considered protected from cardiovascular diseases because of undernutrition (controlling lipid pathway) may be prone to mental illnesses because of disturbance in one carbon metabolic pathway. Similarly population groups with high prevalence of cardiovascular diseases to some extent may be escaping some from mental illness. Thus population specific disease profiles need to be documented with a comprehensive data on their associated risk factors at different levels starting from food habits, lifestyle, physical activity, cultural practices and pollution exposure, etc. Governmental health programmes common for all population groups may not be so effective. For example, milk being a complete food cannot be given to tribal children in India because of the high prevalence of lactose intolerant gene in these population groups.

Thus, for developing countries like India, disease control programmes can be effectively developed and implemented, only when there is a reliable database documented on the distribution of not only diseases but also on their associated genetic and environmental risk factors in populations.