

Sustainability of Indigenous Knowledge holders: A Needful Approach

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Abstract: The indigenous people live in areas very rich in natural resources. In this era of Globalization, there are attempts to control over these resources. Marginalization of these communities followed by destroying their natural resources, structure, culture and identity are to be mitigated by sustainable way of development; otherwise the system will be used and reused by outside vested interests. We should not forget that these people can contribute a lot on behalf of their Indigenous Knowledge systems to humanity. Unless we incorporate these people, sustainability in favour of our future generations can not be achieved. Rather crisis to the nation may arise. Believe or not, indigenous communities so far neglected and even being in a pre-State condition are highly patriotic and very much attached to their pre-agricultural and agrarian production systems.

Introduction

Indigenous peoples are those communities living in close to nature. They are the folk people or ethnic communities who are regarded as aborigines or natives during the colonial period. They have historical continuity with pre-invasion and pre-colonial societies. They have their own territories where they now have become non-dominant sectors. They consider themselves distinct from rest part of the society. They have appraisal for their land, their ethnicity, culture, social institutions and even legal systems. They however might be influenced by various outside influences. They maintain intimate understanding of nature, generation-wise intellectual reasoning and informal experimentations on trail and error method. So, definitely Indigenous Peoples in each case develop a set of indigenous knowledge traits or traditional knowledge traits. When these knowledge traits work systematically in accordance to mode of production, division of labor, social system and faith-fear-belief systems, it is the indigenous knowledge system (IKS). IKS related to the ecosystem or microenvironment could be community specific or area specific. It serves for those who stay far away from modern facilities and meets the ends for basic livelihood. As modernity can cause harm to humanity and nature in various ways, the alternatives have to be learnt from IKS. We can not separate IKS the rational part from its non-rational part. However, IKS can be broadly divided into so many forms in the context of folk life, such as, agriculture, animal husbandry, poultry, fishery,

handicraft, agro-forestry, biodiversity management, sustainable development, alternative ways of disease treatment, weather forecasting, disaster mitigation, and so forth. Nikobarese and Shompens of Great Nikobar island (Patnaik and Prasad, 2009), aboriginal Vanuatu fishermen (Johannes and Hickey, 2004), Inuit of Arctic (Nakashima, 2003) are various examples of Indigenous Peoples.

Knowledge is a philosophical term and can be conceptualized as a set of various facts and information traits. It is of two types: scientific and indigenous. Both work as systems and hence we use the terms like Scientific Knowledge System and Indigenous Knowledge System (IKS). These two together constitute Global Knowledge System. Scientifically proved knowledge is the scientific knowledge, whereas knowledge of the Indigenous Peoples can be treated as Indigenous Knowledge (IK). There is actually no universally accepted definition of IK. This is the major obstacle in doing research with IK. IK is the actual knowledge of a given population that reflects the experiences based on traditions and includes more recent experiences with modern technologies (Haverkort, 1991). Indigenous knowledge (IK) is the local knowledge- knowledge that is unique to a given culture or society. IK contrasts with the international knowledge system generated by universities, research institutions and private farms. It is the basis for local level decision making in agriculture, health care, food preparation, education, natural-resource management and a host of other activities in rural communities (Warren, 1991). Indigenous knowledge is the systematic body of knowledge acquired by local people through the accumulation of experiences, informal experiments, and intimate understanding of the environment in a given culture (Rajasekaran, 1993). Indigenous Knowledge traits are oral, undocumented, simple; dependent over the values, norms and customs of the folk life, production of informal experiments through trial and error, accumulation of generation wise intellectual reasoning of day to day life experiences, loosed and rediscovered, practical rather than theoretical as well as asymmetrically distributed. IK is also regarded by several names, such as, folk knowledge, traditional knowledge, local knowledge, indigenous technical knowledge (ITK), traditional environmental/ ecological knowledge (TEK), People's Science or ethnology that often look very much confusing and overlapping. IK has the following characteristics: (1) local or specific to a particular geography or micro-environment or ecosystem and folk people living there close to nature, (2) orally transmitted, (3) outcomes of informal experiments, intimate understanding of nature, and accumulation of generation-wise intellectual reasoning of day-to-day life experiences, generation-wise intellectual reasoning tested on "religious laboratory of survival", (4) originated through interactions and not at individual level, (5) empirical rather than theoretical or any abstract scientific knowledge, (6) functional or dynamic and hence

constantly changing, discovered, lost and rediscovered in a new form (open-ended IK), (7) culturally embedded (close-ended) where separating the technical from non-technical, rational to non-rational is problematic, (8) repeating with time (as because IK is both cultural and dynamic), (9) segmented into social clusters or asymmetrically distributed within a population, by gender and age, (10) shared by many and even by the global science (Ellen and Harris, 1996).

Folk people have preserved these functional IK traits within non-functional symbols of their value loaded folk life. In order to gather IK traits, domains that have to be decoded within the folk life are folk song, folk proverb, folk etymology and chants, folk music, folk tales, folk literature, folk dance, folk painting, folk sculpture, folk recreation, folk play, folk art and craft, folk cookery, folk settlement and patterns, folk architecture, the notion of time in folk society, weather forecasting, dialectology of folk speech, superstitions, myths, legends, riddles, folk religion folk lore, like sense of right and wrong (folk ways), norms regarding kinship relations and rites of passage (rites-de-passage), folk customs regarding household affairs and agricultural operations and behavior of the folk people, folk dialect to folk technology, various type of organization (political, economic, religious, and social) and ethno-medicinal practices.

Indigenous Knowledge System (IKS) is the cognate of IK. Folk people are well aware of how to apply IK traits in quite a systematic way and so to gain certain nature-friendly Public Services form the so formed Indigenous Knowledge Systems (IKS). So, Public Services from IKS are very much helpful in filling up gaps within Scientific Knowledge System and achieving sustainability in development programs. IKS is a multidisciplinary subject and incorporates the following dimensions: physical sciences and related technologies, social sciences and humanities. IKS can again be considered as summation of all traditional knowledge systems (TKS) scattered all over the world. Such summation in a systematic way through proper documentation can really contribute parallel to globalization. Indigenous Peoples suffering from global market economy can then access to Indigenous Rights (International Labour Organization). In that case, they will not take the way of localization, rather follow the way of globalization with certain safeguard and even contribute to overcome negative impacts of unidirectional modernization process.

IK/IKS is very much based on the relationship among (1) mode of production and reproduction, (2) social structure and (3) magico-religious/cultural issues. Simply saying, this is a relation among nature, human and super-nature. Communities who treat culture as result of their psycho-biological need and not mere psychic unity of mankind are not so much akin to civilization but are much closer to this relation among nature, human and super- nature (NMS).

IKS is a multidisciplinary subject and could be divided into various domains like agriculture and post-agricultural practices; animal husbandry and poultry; ethno-fishery; hunting and gathering; artisan; disease treatment, ethno-medicine and folk remedy; traditional economic and political system. IKS could be divided into various domains like agriculture, animal husbandry (including poultry and fishery), handicrafts, tools and techniques, nutrition, health care practices and bio-medicines, psycho-social care, natural and biological resource, management of environmental and bio-diversity resources, disaster mitigation, human resource management, saving and lending, poverty alleviation and community development as well as education and communication. Each of these domains is provided with own respective area and manifestation (Mondal, 2009). If we only consider agriculture related IKS, we have to focus on definite interrelationship among production and technical practices in a specific farming system, conservation of crop varieties, alternative agricultural production, production of various cash crop/vegetables/spice/fruit and flower, maintenance of the nutrition level and traditional concepts of health, food preservation, labor-oriented hand-loom industry, traditional type of division of labor, ethno-fishery, animal husbandry and poultry, agro-forestry and use of forest products (timber and non-timber), sacred groove, agro-ecology and food web, bio-diversity with feed-back, water and soil management, house construction and kitchen garden, folk taxonomy, magico-religious performances, belief in super-nature, cultural lag, emerging socio-economic challenges, social transformation, sustainable rural and human resource development.

Actually, farmers remain no longer passive consumers, but active problem solvers (Warren, 1991). So, the highest priority is going to be given upon alternative role of IKS against the high-cost modern crop production system (Davis and Ebbe, 1993). It could then only allow a low-level external input among the traditional agriculturists living in nature-surrounded remote areas (Haverkort *et. al.*, 1992).

Development is intensively connectively with political and economic aspects. In Indian perspective, most people live in rural society segregated into various agrarian rural structures. Here, the economy could be broadly classified into production oriented and trade related types; and simultaneously categorized into Traditional, Nationalized, Mixed, Macro and Global plus Micro economy and Micro-financing (in a few pockets). Again, the polity could be stratified into 4 types: International and National Polity, Regional or State Polity and Traditional Political Systems. In this global era, what should be the mode of development? Perceptions of Policy Planners at Global/ National/Regional stages may require help from multi-disciplinary approach, especially anthropology which is holistic

study of mankind and also emphasizes on socio-cultural aspects through qualitative in-depth micro study (community wise or cross cultural; synchronic and/or diachronic). People in traditional politico-economic system should move in the direction of civilization, but this is a fact that they are confined within Nature-Human-SuperNature relationship. The latter is related to culture which is Psychic Unity of Mankind or results out from Psycho-Biological need. But study of culture now more emphasizes on symbols, cognition/World View and Post-Modernism/New Ethnography. Culture of the subject group plus development process (input) result into sustainable development (output): development in such case is more nature-friendly and pro-people; maximum people gaining the status of stakeholders are attracted to it and benefited from the policy. Other than this could be reason behind outsiders' interference where a policy would be always challenged by another and therefore no development work could be performed or be slow down from a steady or faster pace.

Culture and Traditional Knowledge

Culture, value, norm, symbol, folk life, language as a mode of expression, World View, mind setup or the inner perspective, psycho-biological need, mode of exploitation of the ecological resources and technology used, structural-functionalism of the society, material culture, inputs, population size and various other factors are responsible for construction of knowledge. The Global Knowledge can be broadly disassociated into two types: Indigenous and Modern. Indigenous or Traditional Knowledge traits are scattered worldwide among the folk people. These are oral and undocumented, subjected for loss and rediscovery, outcome of trial and error from informal experimentation during the course of folk life. Indigenous Knowledge is basically local (Warren 1991). It is actually oral and mostly undocumented. It is more practical rather than theoretical and repeating with time. IK generates through informal experiments, intimate understanding of the environment in a given culture and accumulation of generation wise intellectual reasoning of day-to-day life experience. It is generally tested in the religious laboratory of survival. Every native practice has back of it a definite (and to the native a sensible) reason. These reasons are based on tradition, superstition, worship of the departed dead and fear of the unknown. So, it could be said that Indigenous Knowledge traits are oral, undocumented, simple; and very much dependent over the values, norms and customs of the folk life (>folk culture>material apparatus). IK is the result of production of day-to-day life experience through trial and error. They could be loosed and gained in due course of time as well as asymmetrically distributed. IK is also spoken off by several

names, such as, folk knowledge, traditional knowledge, local knowledge, indigenous technical knowledge (ITK), traditional environmental/ ecological knowledge (TEK), People's science or ethnology. That often looks very much confusing and overlapping. IK traits unite to form a knowledge system known as the Traditional Knowledge System and summation of so many such TKS is mentioned as the Indigenous Knowledge System (IKS). IKS is very closer to the religious organization (basically non-adaptive) and hence gets stability in terms of myth and belief- often looking extra-scientific, post-modern and superstitious. IKS hence seems like a living organization and IK are telling many things about the folk contribution to the entire humanity neglected so far. Especially it can fill up the gaps of modern developmental process with questions on sustainability. IKS can definitely provide some Global Public Service through a proper way or advising to the Humanity. IKS is a multidisciplinary subject and incorporates the following dimensions: physical sciences and related technologies, social sciences and humanities. On the community basis, IKS could be divided into various domains like Agriculture and Post-Agricultural Practices; Animal Husbandry and Poultry; Ethno- Fishery; Hunting and Gathering; Artisan; Disease Treatment, Ethno-Medicine and Folk Remedy; Traditional Economic and Political System. Simply saying, all of IK providers in forms of farmers, landless laborers, women, rural artisans and cattle rearer are well informed about their own situations and their resources; what works and doesn't work and how one change impacts other parts of their system. Culture of such a community is mentioned as the indigenous culture where it is really hard to separate the technical part from the non-technical one and the rational domain from the non-rational sector.

In this era of globalization, the rapid developmental activities of the Western-Modern Society have caused 6 major problems as pointed out by United Nations Development Programme (UNDP) report: Challenges of global warming, Rapid loss of bio-diversity, Crisis-prone financial market, Growing international inequality, Emergence of new-drug resistant disease strains & genetic engineering (Kaul et. al. 1999). In this regard, Science, Traditional Knowledge and Sustainable Development (ICSU) in the Series on Science for Sustainable Development No. 4 have truly mentioned that the IKS of the local/rural/indigenous communities (basically under the banner of "underdeveloped" category) could be applied so as to control these crises especially in cases of biodiversity management and pro-people or sustainable development. IKS involves local-level innovations and their transmission to a wider periphery. Actually, IK providers remain no longer passive consumers, but active problem solvers (Warren 1991). It is exclusively related to the traditional non-subsistence symbols and technologies developed without direct inputs from the

formal sector. This IKS is exclusively related to the communication process between informal and institutional sectors. There is a constant need so to respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional life-styles and that would be very much relevant for the conservation of biological diversity and sustainable development. The indigenous communities have admixed their knowledge traits with their values and norms that create their folk life and develop their World View: so converting the knowledge systematized, integral, obvious, indifferent, hidden and open ended both, value-oriented, religious, super-natural and non-adaptive. These traits in the form of a system facilitate both psychobiological functioning of the individual and structural functioning of various units of the social structure. The latter lives on the communication process which might be marriage, formal and informal contacts as well as language that establish relationship between two human, human and nature, human and the Super-Nature. Taking only the human-human relationship, we can see that is actually the contact between two brains where the nature reflects and culture generates. A given relationship might have so many variables up to infinite numbers. Indigenous Knowledge as an integral part of Folk Life and Folk Culture (Indigenous Culture); generates from the outcomes of the complex multidimensional human mind very much sensitive to what is happening in the nature. And nature contains ecology, dead and living as well as the resource: so it knowledge, knowledge system, culture, functioning, mind and structure are all related to mode of production, use of technology, feed-back, agriculture and trade, rural and urban, culture and civilization, development and sustainability, population size and its need, the super-nature, the humanity and the super-structure turning the whole issue into extra-scientific level. So, the non-adaptive knowledge system could only be altered after change in ecology, population size, functioning process of society (holistically or partially), mind, culture, social structure as well as social relationships related with technological input, material culture, economy, polity, migrations, formation of new social sub-structures, status quo and social mobility. In a sense we can say that knowledge could be easily loosed but when systematized and non-adaptive, there might require a total change like social transformation to create a catastrophic effect on the society and the nature, if to destroy culture and knowledge system. Knowledge systems are not only hard to alter in a sudden but related with culture, values, norms, symbols, myth, religious faith, magic and superstition, belief in the Super-Nature, psychobiological need, structural functionalism, mind structure, World View, cognition, language, mode of expression, power of word, folk life, social mobility, inputs, material culture, formation of substructure, structural change, demographic shift, migration, ecology and social

transformation. So, cultural symbols expressed in various socio-religious events are good for extracting or decoding the knowledge traits from human brain and folk life. The folk life overwhelms all the domains like folk song, folk proverb, folk etymology and chants, folk music, folk tales, folk literature, folk dance, folk painting, folk sculpture, folk recreation, folk play, folk art and craft, folk cookery, folk settlement and patterns, folk architecture, the notion of time in folk society, weather forecasting, dialectology of folk speech, superstitions, myths, legends, riddles, folk religion folk lore, like sense of right and wrong (folk ways), norms regarding kinship relations and rites-de-passage, folk customs regarding household affairs and agricultural operations and behavior of the folk people, folk dialect to folk technology, various type of organization (political, economic, religious, and social) and ethno-medicinal practices that is all the material and the non-material, tangible and intangible, verbal and non-verbal aspects of life among the members of a traditional or better to say, an indigenous community. Culture is a complex whole that includes knowledge, belief, art, morals, law, custom and other capabilities acquired by human as a member of society. These acquired culture traits form together several culture complexes and these again formulate a given shape of culture pattern to a particular society. But cultural traits never remain absolutely and solely fixed to a particular society and they might diffuse to other societies during cross-cultural interaction. Cultural traits diffuse from a particular culture area centered around one culture core where the culture reaches to its climax, i.e. the civilization level. There are so many cultures and henceforth so many culture areas each influencing the other and even overlapping. This leads to a multicultural situation often expressed through the political term multiculturalism. It implies majority versus minority, ethnic versus pleural, secular versus communal as well as global versus local. Cultural traits are not ascribed but achieved/acquired; therefore culture could be only learned and transmitted from one generation to another (we can also say, from one group members to another). Culture becomes the social heritage of mankind. It might be either documented or oral and hence divisible into Great Tradition and Little Tradition. Culture is both material and non-material- the former is highly subjected to external influence; whereas the latter becomes the integral part of folk life and hidden-ended/ value-loaded/ non-adaptive. Culture is an organized system of purposeful activities to meet the human needs. Apart from technologies and material culture; the non-material culture might be documented, undocumented, replicated into language/message and not replicated so far. Non-material culture (not replicated into word/language) is expressed through certain ways of acting by the common people and their symbolic performances in various timely/ untimely religious/non-religious occasions. This non- material culture includes a set of information

or knowledge that is also of two basic categories: traditional/indigenous/extra-scientific/ethno-scientific and modern/scientific. Indigenous knowledge traits are oral and undocumented like the Little Tradition of a culture. This is partly open-ended and viable; but the rest portion of it is hidden-ended and very much rooted inside the same values and norms of a given society. The hidden-ended indigenous knowledge traits therefore work in a systematic way and regarded as the Indigenous Knowledge System. Culture and knowledge as its permanent part satisfy human need. From nature people get the resources for their livelihood by using certain tools and technologies. Common people know very well how to use a given set of tools and technologies in order to exploit the natural resources of the ecosystem where they are staying. But they do this with a notion of feed-back that lacks in modern and scientific processes of mega-development. They also do this to meet the minimum energy requirement of a given population size. So, cultural might be highly ecological and from this a hypothesis might be derived that different communities in various parts of the world but in more or less same ecological condition might have cultures quite similar in their forms. These communities are far apart from one another geographically. Migration and subsequent formation of a Diaspora are not relevant in all the cases and still different communities in same kind of ecosystem in various parts of the World have commonness in their culture, economy and polity traditionally. Culture manifestoes human capacity to grasp the natural resources in a controlled way. Culture depends on inter-human relationship that further facilitates transmission/ exchange of message, goods and women in both organized and unorganized ways, through formal and informal communication as well as institutionally and not institutionally. No doubt, culture is very much social. Culture is the psychic entity of mankind. Culture is the system of thinking. Culture related information and all the knowledge and knowledge systems are kept inside human brain. They are stored in both conscious and sub-conscious minds. For a given relation, there might be innumerable variation throughout the human society despite being limited to binary opposition. Nature reflects in human mind and culture generates. And this is the culture that makes the difference between human and other creatures. Human has both the biological and extra- biological endowments. Cultural expressions from the sub-conscious mind (or the gray matter of human brain) might be in the forms like sign, art, poem, sound, music and song. These cultural traits develop the way of thinking or World View of a community. Any change in World View of a community is far more complicated than transformation in its religious organization followed by the folk life and the embedded culture and knowledge systems in this. Culture is definitely a product of the social system/ organization/ structure based on communication processes like inter-human, human-

nature and human-supernature. These communication processes are aided by material culture, technologies, knowledge systems, folk life, religious organization and the World View. When the material culture, human-nature relationship, human-human relationship, folk dialect/language, human-super nature relationship (expressed through symbols in socio-cultural and religious performances), folk life as well as Folk Cognition/subconscious mind/World View get hampered; various information sets and (Indigenous) Knowledge traits and (Traditional/ Indigenous) Knowledge Systems stored in either individual basis or in a group/community/social system should be hampered. Anthropologists chiefly working on social-cultural domain as well as biological anthropologists could play a good role in preserving human's sociobiology pertaining culture, knowledge and knowledge system (both modern and traditional/indigenous).

On the other hand, political misuse of this concept of Indigenous Peoples is again another serious threat to the World People causing problems like terrorist activities and forceful suppression to this by the state machinery. It should not be forgotten that Indigenous knowledge is a very sensitive issue, related with cultural identity and ethnicity. It reflects mindset of the local community and puts its members on an equal platform with the outsiders in the process of technology development. IKS involves local-level innovations and their transmission to a wider periphery. Actually, IK providers remain no longer passive consumers, but active problem solvers (Warren 1991). It is exclusively related to the traditional non-subsistence symbols and technologies developed without direct inputs from the formal sector. This IKS is exclusively related to the communication process between informal and institutional sectors. There is a constant need so to respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional life-styles and that would be very much relevant for the conservation of biological diversity and sustainable development.

Indigenous knowledge and Sustainable Development

Indigenous knowledge traits form a working system called in as the Indigenous knowledge System (IKS). Etymology, stability, transmission, distribution and practical implication of IK are various features of IKS. It should not be forgotten that indigenous knowledge is a very sensitive issue, related with cultural identity and ethnicity of this stakeholders. It reflects dignity and identity of the local community. To some extent, IKS of an indigenous community can share itself with the Western and other major Knowledge Systems with a background of more complex culture or even a civilized life. This is because of the fact that communities in this planet perhaps

can exist completely isolated from one another. A civilized body has so many things to be learnt from IKS of a nature-bound community, especially at this high time when this planet has severely suffered from so many problems like pollution, global warming, loss of biodiversity, war and economic crises, increasing economic diversity and subsequent fuel and food crises and at the end, use of genetically modified food, bio-piracy, etc.

Das Gupta (2011) has rightfully focused on need of sustainability in the rapid developmental activities performed by the market economy of Modern World in this era of Globalization. One way development is facing six serious problems as pointed out by UNDP report: Challenges of global warming, Rapid loss of bio-diversity, Crisis-prone financial market, Growing international inequality, Emergence of new-drug resistant disease strains & Genetic engineering [Grunberg, Kaul and Stern, 1999]. So, there automatically arises an urge for sustainable development. “The concept of Sustainable Development has become a common theme in the debates on development strategies; ever since the famous Brundtland Commission introduced this concept in its celebrated Report in the mid-1980s....Brundtland Commission Report defined *sustainable development* as that development which “meets the needs of the present without compromising the ability of further generations to meet their own needs”. The concept was more in the context of the impact of the development process on environment and *vice versa*....the concept of sustainable development should be considered in its wider framework for evaluating the development process and also for evolving suitable development for the future” (Panchamukhi, 2010). Concept of sustainability in that wider context rather than being an economic term only could be classified into four categories: Environmental, Economic, Socio-Political and Cultural Sustainability. In this period of Globalization and Global Economic Meltdown, crises are prevailing on all dimensions: environmental, economic, socio-political and cultural identity; war and terror attacks as well as money and food crises are so common in this post-Cold War scenario. According to Panchamukhi (ibid), environmental sustainability has conceived different gradations: Weak Sustainability, Strong Sustainability and Deep Ecology. Deep ecology develops an ecological wisdom by focusing on deep experience, deep questioning and deep commitment. This concept of Deep Ecology even goes to metaphysical discussion with a constant process of integration of *Ecological* and *Spiritual Consciousness*. It goes beyond the science that only discusses about the Abiotic and Biotic Community within the ecosystem consisting of human, non-human and nature. It tries to incorporate discussion about the spirituality or supernatural

where values and norms are expressed by the common people through their folk life, World View, magico-religious performances, material culture, intangible non-functional part of life, pattern of thinking. This is related to Man-Nature-Supernatural relations. Here, human is not the biotic element in ecosystem, but something more- its mind has also to be considered which might work beyond the scientific explanations. So, human gradually moves from strict demarcation of scientific discussion to the domain of humanities. From that domain of humanities of those folk people, information or knowledge regarding nature and how to conduct a nature-friendly livelihood with the notion of controlled exploitation of resources could be achieved. This type of knowledge is often looked less-profitable from the angle of pure market economy, but obviously helpful for environmental and other sustain abilities. These traditional knowledge traits are actually kept covert within Mind of these folk people that time to time express through the symbolism of arts-and-craft as well as value-oriented performances (religious/seasonal/ceremonial/regular/occasional). So, any kind of sustainability discussion (whether environmental or others) cannot set itself free from the virtue of traditional knowledge information and local-level informal innovations of folk people having the closest interrelationship with the ecosystem through value-loaded, community-centric, partial and unscientific/ethno-scientific cultural life. Traditional knowledge has no longer been viewed as part of a romantic past, as the major obstacle to development, as a necessary starting point, and as a critical component of a cultural alternative to modernization. Traditional knowledge is treated as knowledge of the agricultural and environmental management as well as sustainable development.

Some Concepts in the Indian context

Simply saying, we can view polity from both state and pre-state levels. The pre-state scenario again might show a dichotomy: anti-state and pro-state. The latter one has so many variations such as health, education, police, administration, law, cultural groups, sports and private business (corporate sector). The state has to face off challenges from anti-state elements and at the same time heavily depend upon pro-state elements to run off the state machinery. Eminent Personalities and Civil Societies including intellectual middle class in urban and semi-urban areas have their precious roles in society.

At the same time, we can conceptualize economy into five categories: human resources, gold, cattle herds, crop and currency-cum-credit system on present day. We can correlate human resource with slavery; gold with adventurous treasure hunting; cattle herds with belief in sacred cow; crop with lumps of grains and other food items cultivated while staying at permanent village settlements; as well as currency-cum-credit system with industrialization where a distinct labor class is formed. On religious ground, folk practices are there closely associated with nature providing prime resources of livelihood. Religion can be broadly categorized into two strata: agriculture and trade. An agrarian social structure needs a huge division of labor. When there is no major alternative like trade, the labor divisions become fixed, strict and close-ended. Such occupational strata in India are regarded as caste synonymous with the native terminology “*jati*”. Within Hindu religious fold, such stratification gets religious safeguard from 4-fold *Varna* system and eventually turns into a hierarchy. It is mostly guided by the priestly category Brahmin who occupies the highest post in both *Varna* and *Jati* systems. So, it is basically a *Brahminical* system. It might be overlapped with certain magical beliefs so called *Magico-Brahminical* system. Again, it might include a wider periphery by virtue of myths and legends mentioned in *Puranas* and epics like *Ramayana* and *Mahabharata*. Hence, the system converts into *Brahminical-Puranic*. There is also the trade-line. Buddhism contemporary to Jainism and Judaism was a landmark. The pre-Buddhist substitutes had been co-related to snake and bird symbolizing river and sea routes and natural compass. People with animistic attitude learnt to animate sacred objects and introduced idol worship and magic in order to control the nature in an extra-ordinary way. They also prayed to their ancestors, Sun and Moon, and simultaneously Earth, Fire, Water and Wind. Till now in many societies worship ape, macaque, languor, bear, wolf, fish, tortoise, boar, trees, flower, leaf, stones and such substances. They invented martial art. Ancient civilizations grew up around and beyond the Mediterranean and trade was progressed through spice and Silk Routes. Various fertility cults, both males and females, are there including the amalgamated cult of Shiva. In post-Buddhist forms, there we can mention Vaishnavism, Christianity of Axum, Christianity of Syria, Christianity of the Mediterranean people, Orthodox, Catholic, Protestant, Islam of various types (Shiite and Sunni), Syncretic versions like Sufism, etc. In Epics like *Ramayana* and *Mahabharata*, hints to cannibalism, gold and other treasures, spice and clothe were mentioned. Indeed, this change in religious organization is directly linked up with alteration in nature of the capital: from human resource to gold and thereafter cow, crop and currency. As gradually people invented agriculture, they were transformed from nomads to permanent settlers and simultaneously,

there food practices altered from subsistence to surplus. And in that way, people have categorized into so many ways.

In Indian Subcontinent, the society is basically divided into pre-agrarian, agrarian and post-agrarian. Indians are basically situated in rural areas. It is the agriculture for what Hinduism and caste-hierarchy were so prevalent in South Asia. Even within other religious segments more prone to alternative economies, there are caste-like formations but basically as division of labor and not with any religious embalm. Rather, in ideal stage among these religious organizations, ways have been illustrated on how to be rescued from caste rigidity as because trade has no need of such intensive division of labor.

On social ground, the issues could be viewed from three different angles: local, national and international. Locally, a society could be just a quasi-egalitarian community, or it might be classified into caste-like strata or there might be a strict caste hierarchy categorically distributed into three major sections: Upper Caste with maximum status (Brahmans and a few others), Dominant Caste with highest level of status mobility and Lower Caste with the lowest status. Lower Castes however have certain community like approaches and own ways of status mobilization or a sense of self-reliance. Continuum was there in-between tribes and lower castes. They did not always remain pre-state or non-state elements, but fall within the dilemma of pro-state and anti-state. They seldom formed indigenous statehoods and in a few occasions, their statehood had successfully made a distinctive position in South Asian scenario. They henceforth are addressed by prestigious clan names and designated as excluded categories of high status groups. They have been also provided with various constitutional safeguards by Indian state. Backward sections in Dominant Castes also demand for such reservations in the name of Other Backward Class (OBC). Many caste-like Muslim groups that contribute to the largest minority section in India are also demanding for OBC status. Many Lower Castes have the opportunity to utilize Scheduled Caste status, whereas many more tribes mostly pre-agrarian type are designated as Scheduled Tribes. Christian and Buddhist tribes also accompanied by those Hindu or animistic tribes. Tribes in some cases accept agriculture as their prime occupation and behave like caste: they enjoy the most prestigious rank among tribal world. Lower castes in agriculture sector often on their community line mobilize their status from excluded categories to included ones. In such a way, they like Dominant Caste undergo through *Sanskritization* and/or imitate any superior Reference Group asking for certain reformations on either religious or secular paradigm. They in a sense become Dominant Community. The inter-relationship among

Upper Caste, Dominant Caste and Dominant Community is very crucial for the political turmoil of a State or Nation-State.

Some Other Facts in the Indian context

India currently adds 40 million people to its middle class every year. Analysts such as the founder of "Forecasting International", Marvin J. Cetron writes that an estimated 300 million Indians now belong to the middle class; one-third of them have emerged from poverty in the last ten years. At the current rate of growth, a majority of Indians will be middle-class by 2025.

Despite government initiatives, corporate social responsibility (CSR) remains low on the agenda of corporate sector.

The definition of poverty in India has been called into question by the UN World Food Programme. In its report on global hunger index, it questioned the government of India's definition of poverty saying: 'The fact that calorie deprivation is increasing during a period when the proportion of rural population below the poverty line is said to be declining rapidly, highlights the increasing disconnect between official poverty estimates and calorie deprivation. While total overall poverty in India has declined, the extent of poverty reduction is often debated. While there is a consensus that there has not been increase in poverty between 1993–94 and 2004–05, the picture is not so clear if one considers other non-pecuniary dimensions (such as health, education, crime and access to infrastructure). With the rapid economic growth that India is experiencing, it is likely that a significant fraction of the rural population will continue to migrate toward cities, making the issue of urban poverty more significant in the long run. India is positioned at 132nd place in the 2007-08 UN HDI index. It is the lowest rank for the country in over 10 years. In 1992, India was at 122nd place in the same index. It can even be argued that the situation has become worse on critical indicators of overall well-being such as the number of people who are undernourished (India has the highest number of malnourished people, at 230 million, and is 94th of 119 in the world hunger index), and the number of malnourished children (43% of India's children under 5 are underweight (BMI<18.5), the highest in the world) as of 2008. Nicholas Stern, vice president of the World Bank, has published defenses of the poverty reduction statistics. He argues that increasing globalization and investment opportunities have contributed significantly to the reduction of poverty in the country. India, together with China, have shown the clearest trends of globalization with the accelerated rise in per-capita income. A 2007 report by the state-run National Commission for Enterprises in the Unorganised Sector (NCEUS) found that 77% of Indians, or 836 million people,

lived on less than 20 rupees per day (USD 0.50 nominal, USD 2.0 in PPP), with most working in "informal labour sector with no job or social security, living in abject poverty." However, a new report from the UN disputes this, finding that the number of people living on US\$1.25 a day is expected to go down from 435 million or 51.3 percent in 1990 to 295 million or 23.6 percent by 2015 and 268 million or 20.3 percent by 2020.

Conclusion

Community autochthonous to a given territory or living in there from time immemorial is indigenous and also regarded as being traditional. They might be pre-agricultural, agricultural, and post-agricultural affecting their production-trade relationship and property concept. In their long run; these people too close to nature have innovated so many things intentionally or unintentionally, recorded these knowledge traits in their documents and literature, and while being scriptless just used culture as a text. For systematic application of knowledge traits in order to get so many public services, people in an ecosystem develop social structure, Indigenous Knowledge System and Indigenous World View.

Knowledge in advanced, scripted, civilized, modern, urban-industrial, rational, secular, widely-impacted, fragile, post-structural and individualistic societies are more scientific and proved; whereas in indigenous communities more ethno-scientific, magic-oriented, gender-related, trial and error based, philosophical, religious, believed, more conceptualized and less proved. So, there is always a tendency to underestimate the later by the former. But it is also a fact that when the first system fails, the second fills the gap. The advanced section could treat them in an inclusive way, and in turn get so many good services from them making the nation more educated and wiser in this era of globalization. There is always a confrontation between the two. And the highest oppression has been targeted to the indigenous communities still living with folk lives. The suppressed groups could struggle for their resources, right and justice in local, national and international grounds. The suppressed many know such things that are impossible for the so called advanced.

A development could not get a wider response, until its approach would be sustainable. An ideal development should consider the interdependence among mode of production from nature, social structure (social institutions and organizations) and super-structures (religious belief, faith and fear, culture and even World View within the

cognition of a society). So it would be nature-friendly and human-friendly. But till then developmental processes might be hampered. The region chosen for development might be multi-ethnic and hence cross-cultural. Even it is not so, till then the community living there might be pre-agricultural, agricultural or post-agricultural. It may provide priority to credit/equity, crop share, cow, gold and even human race. Politically it might be pro-state or rural or nomads and even pre-state nation. It may incorporate magico-religious performances leading both to trade and agrarian lines with steady evolutions.

In present context, a developmental issue may incorporate the civil society in addition to the state and various extra-state elements (anti-state and pro-state) and all of them are playing their roles over local society. In case of local societies in India, they are either on the community basis or caste groups. Caste and caste-like social strata are basically related to agrarian rural stratifications. Any Upper Caste or Dominant Caste could lead the unit. In urban areas, castes and communities exist but more with class systems that should have a middle class intellectual category speaking out for progress and modernization. Such a matter of development may cross the bar of local and lead to national and international stages. In Indian context, it has crossed a long path from traditional, nationalized, mixed, macro, micro-financing and global phases. Each of these has acceptability as well as repulsion. Out of them, the global may become neo-liberal, semi-closed and closed.

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