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Traditional knowledge of medicinal plants & self-help group: a key to sustainable development

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Indigenous traditional knowledge is the treasure of non-documented as well as verbal knowledge transmitted from generation after generation and reared by the tribal people in general and belongs to the forest, ferny floor of red lateritic soil of Purulia district in W.B. in particular. Sustainable development is the concept of development making a room for the development of future generation, fulfilling the reasonable demand of present and existing population. Health is one of the important socio-economic components that is essential to maintain a stable population. The 3rd generation medicine is comprising a good number of high cost medicinal attributes associated with the economy of multinational companies and the people belongs to below the poverty line and marginal people become the worst affected. The traditional knowledge with respect to health practices is eco-friendly with low side effects as well as low cost. The present paper is an effort of an attempt to explore the traditional knowledge reared by the different groups of the tribal population of Purulia district of W.B. Sustainable development wants to make a space for the development of future generation mitigating the reasonable need of the existing population. This paper will able to draw the attention of the masses as par as the ethno-medicinal value is concerned along with to draw the need for conservation of these valuable plants which are now on the verge of extinction due to industrialization, urbanization and random implementation of concrete jungles to meet up the urge of market economy as well as the greed of humans.

Keyword: Ethno-medicine, Tribal population, sustainable development, conservation, aboriginal people.

1. Introduction

Purulia district belongs to the grand old rock of the world. The district is under the latitude 23°42'-22°43'N and longitude 86°54'-85°49'E with an area of 6259 sq. km. under the Archaean gneiss of Choto- Nagpur Plateau. Tropic of cancer passes through the north. It marks the border area of West Bengal from the state of Jharkhand. Landscapes are like an isosceles triangle with a remote fragmented hillock zones it undulating topography. Dense scrub jungles are interspersed with dry deciduous vegetation. The altitude varies from 250-699m. Hills and hillocks are adorned with studs of jungle with south easterly course hill fed streams, temperature varies from 5.8 in winter to 50 in summer. Rainfall being 820 to 1800 mm per annual. Rainy days are 64-99 per year. Soil is porous, acidic, of

gravels, sands and lateritic. The climate is warm and humid with deciduous vegetation [Haines, 1925]. Mean relative humidity for the years 72%, tribals are more than 20% of the total population. They are continued to the remote jungles or at the foothills. Bedias, Bedomajhis, Bhumijis, Birhores, Chik-baraiks, Karamalis, Koramudis, Loharas, Mahalis, Mundas, Oraons, Paharias, Sabars, Santhals- are some of the different tribal population which is distributed in this district. The isolation from the main pool of the society is manifested by their general appearance of malnutrition and improper health care. They largely depend on plant resources growing at their surroundings to meet their health inputs. The tribal population of this rears a strong cultural heritage to enjoy their livelihood which is manifested with their different socio-cultural

gatherings. The rich traditional non-documented and verbal knowledge has been transmitted from generation after generation and this is being reflected in their lifestyles and behaviors they have a symbolic relationship with their natural abode. Tribal people are the repository of accumulated experience and knowledge of indigenous methods. But unfortunately the tribal knowledge of uses of plants is often kept secret and passes by word of mouth and by tradition from generation after generation. Many plants that have important medicinal values are endangered by continuous use of tribal, human invaders and grazing animals. The present article is an attempt to deal with the ethno medicinal study and rich ITK reared by the common simple tribal population.

2. Sustainable Development

The word 'Sustainable' derived from the Latin word 'Sustinera' i.e. keep something going over time or continuously. The concept of sustainable development first articulated by the world commission of environment and development in 1987 through the well-known Brundtland report entitled 'Our common future' reveals about the sharp and demarcating shift in our thinking on the concept of economic development. It was assumed that natural resources are inexhaustible and are available for human welfare. But today through the passage of time, it has been globally accepted that the sustainable development is such development process that meets 'the needs of the present generation without compromising the ability of future generation to meet their own needs'. The definition of above concept expands a degree of long limitations, including the anthropomorphic that it does not adequately take equity into account and that is in this form not possible to operational. A wide definition of this concept is highly to be solicited that can grow the sustain development by promising the relief and elimination of poverty, create equitable standards of living, to satisfy the basic needs of all but not to meet the greed of none and to meet sustainable political practices as a whole. Depending upon

the 'Global climate change' issue, the problem of sustainability assumes different meanings. The issues to be resolved – global warming because of greenhouse gas emission, acidification of soil and water, drastic decline of the abiotic components of ecosystem, reckless and injudicious exploitation of natural resources, drastic change in the land use and land cover through the over exploitation of natural resources leading to the desertification of landscapes, associated with the rapid loss of bio-diversity etc. all deserve a whole variety of additional pathways for the development. The meaning of sustainable development also varies with respect to individual and organization. Issues related to the conservation natural resources are to be addressed properly along with the findings of new thought and dimension with respect to the guiding principles of sustainability. This guiding principles cut across ecological, economic, social and cultural dimension and there are obvious tradeoffs. The following guiding principles can be consulted in the course of the adoption of sustainability.

- Conservation of cultural diversity and ecological diversity,
- Constant 'natural capital' and 'sustainable income',
- Anticipatory and precautionary policy approach to resource use , erring on the side of caution,
- Resource use manner that can contribute to equity and social justice while avoiding social disruption,
- The limits of the natural resource within the capacity of the environment to supply renewable resources,
- Qualitative and quantitative development of human well-being,
- Pricing of natural values as natural resources to cover full environmental and social costs,
- Global rather than the regional and natural perspective of environmental issues'

- Strong community participation in policy and practice during the process of translation of ecologically sustainable society.

3. Indigenous Traditional Knowledge (ITK)

In the context of strong of the strong community participation in policy and practice, the concept of ITK and its exploration is essentially important to address problems and issues of sustainability in the context of climate change.

'When a knowledgeable old person dies, a whole library disappears' - an African proverb goes. The adjectival word 'indigenous' means that 'belonging to a place, native' (Oxford English dictionary). The ITK is an integral part of the culture and history of a local community. It is evolved and refined through many years of regular experiments on the day to day life and the available resources surrounded by the community. According to Ferrington and Martin (1991), ITK can be defined as a basis of knowledge, beliefs and customs which are internally consistent and logical to those holding them and it has much influence upon the people of aboriginal origin than the people of modern substitute. Rather, it is a complex set of integrated express of intellectual, empirical, social and special factors that finally shape the human culture. According to the Gramier (1998), ITK is "unique, traditional, local knowledge existing within and developed around specific condition of women and men indigenous to particular geographical areas". Apparently, the indigenous knowledge very often referred as the knowledge reared by the tribal people as a part of their old age heritage but this knowledge is unauthorized. According to Nakatu (2002) who objected the above misconception and stated that "indigenous People's knowledge can be considered as a subset of what is more broadly referred to as 'Indigenous knowledge'. ITK is not static rather there has been a gradual transmission of knowledge to the adjoining area either on the non-fragmented geographical or even to the fragmented geographical areas by the virtue of the insight of travelers and traders who have dedicate sense of interest-either monetary or

sensual as a part of mostly oral tradition. The most recent definition of ITK has been drafted by Gadgil. According to him, "It is a cumulative body of knowledge and beliefs handed down through generation by the cultural transmission about the relationship of the living beings including human with one another and their environment. It is unique to given culture or society". Although the term never to be considered as static and typical but checking door through the innovation occur. So, ITK is a community based functional knowledge system, developed, preserved and refined by the generation of people through the continuous interaction, observation, experimentation with their surrounding of the event. Thus the need of ITK is its usefulness for the sustenance of the community in one hand as well as for the maintenance of genetic resources for continued survival of the community.

Need of the documentation in India; Indigenous communities are represented by nearly 430 district ethnic groups interspersed among 54 million fewer than 227 linguistic groups and inhabitation different phyto-geographical locations. About 75000 species of animals, 340 species of mammals, 1200 kind of birds, 420 reptiles, 140 amphibians, 2000 species fishes, 50000 insects, 4000 mollusks and other invertebrates are distributed over a landmass of 329 million hectares and coastlines of 7516 km. An appreciable amount proportion of biological components are used by the indigenous communities for value added products and the ethnic groups have been rearing this rich and precious heritage due to their constant and intimate association with the resources. Basically, the knowledge is the result of co-evolutionary relationship between the aboriginal people and the nature since the dawn of the civilization. The following are the main reasons that urge to explore the document of the ITK in the context of global warming and climate change.

3.1 To improve the livelihood of ITK holders and communities: The ITK holders bear a sound heritage of crop varieties with respect to the edaphic and topographical consequences as this

can convey the design of genotypes for sustainable agricultural entrepreneurs in this regard.

3.2 To accelerate national economy

A number of agricultural based industries, pharmaceuticals, cosmetics, bio-pesticides etc. deserve the wide expansion of these markets in order to the existing markets in order to the growing urge of green chemistry and green technology due to their eco-friendly approach. Protecting ITK has a wide degree of potentiality that can expedite the growth rate and GDP of developing countries in general and India in particular.

3.3 To conserve and restore environment

There is an urge of conservation of environment that only can be done by means of the conservation of sustained environment. Traditional knowledge is the most simplest and eco-friendly to materialize the concept.

3.4 To retard and prevent bio-piracy

The documentation and authenticity of the ITK is a most novel approach to retard and prevent bio-piracy which is invariably essential in the context of the conquering the global market in the name of patent.

3.5 To combat the climate change for the sustainable development

'Traditional Knowledge' & 'Sustainable development' are contested in terms with a degree of varying definitions & interpretations. Some forms of traditional knowledge are expressed through stories, legends, folklore, rituals, songs and other media. The backbone of Indian economy is pre-dominantly agriculture. On the basis of topography, agro-ecology and their racial and cultural background, the people in general and aboriginal people in particular have adopted diverse agricultural practices with their time-tested indigenous know ledges and technologies and have integrated several related world. The community living in study village

possesses knowledge about diverse agricultural know-how related to crop pattern, pest management, soil fertilization, preparation, irrigation practices, harvestation and post-harvestation practices. They acknowledge both the natural and supernatural forces to mould their destiny with respect to economy and endowment Therefore, the gathering of such indigenous knowledge is the decade's call of the 21st century to combat the unforeseen problems in this field due to emerging climate change and the projection of the silver line of the 2nd green revolution.

4. ITK & Aboriginal people

The indigenous as well as aboriginal people play a pivotal role in generating knowledge based system of the understanding of environment devising mechanisms to conserve and sustain their natural resources and to establish community based organization that serve as a forum for identifying the issue along with to deal with them through local-level experimentation, innovation, and exchange of information with other societies (Warch, 1992). Those aboriginal communities have accumulated a store of working knowledge concerning the effects of certain elementary mechanical processes. The apparent movement of and functions of some heavenly bodies , the properties of flora and fauna with respect to their morphology , reproduction potentialities, in context with the different edaphic factors and soil relation. Indigenous knowledge is historically constituted knowledge instrumental in the long term adaptation and human groups to the bio-physical environment (Purecel). The backbone of the tribal subsistence based economy is the agriculture. On the basis of topography, agro-ecology and their racial and cultural background, tribes have adopted a diverse agricultural practice with their time-tested indigenous knowledge and technologies and they also have integrated several world view practices. Thus, the knowledge can contribute a little bit to accelerate the pace of the economic progress if the time tested knowledge is

justified with the help of scientific tools and technologies that have been emerged after long cultural practices.

5. ITK in Sustainable development

Indigenous knowledge traits can build up the Indigenous knowledge System. Stability, transmission; distribution and practical application are the usual features of TKS. It should always be kept in mind that the ITKS is a very sensitive issue related with cultural identity and ethnicity of the stock holders. It reflects the dignity and identity of the local community. But it is a proven and time tested truth that the civilized body has so many things to be learnt from ITKS of nature bound community especially at the time when the blue planet has been suffering severely from so many intangible problems like pollution, loss of biodiversity, war and economic crisis, subsequent food and fuel crisis, genetically modified food controversy, biopiracy in general and global warming in particular.

As per as latest evaluation of UNDP in the context of globalization and market economy is concerned, at least following burning and serious problems have been pointed out.

- 1) Challenges of global warming
- 2) Rapid loss of biodiversity,
- 3) Growing international inequality,
- 4) Crisis prone financial market,
- 5) Emergence of new drug resistance pathogenic strains,
- 6) Genetic engineering related emerging disputed issues (Grunberg, Kaul, Stern, 1999).

So the urges for sustainable development have been evoked from the core of the mass. "The concept of sustainable has become a common theme in the debates of development strengthen; even since the famous Brundtland Commission introduced this concept in its celebrated report in the mid 1980 - Brundtland Commission report defined sustainable development as that

development which meets the needs of the present without compromising the ability of future generation to meet their own needs" as stated earlier (Panchamukhi, 2010). The concept of sustainability into four main categories—environmental, economic, socio-political and cultural stability. According to Panchamukhi, environmental stability has concerned different gradation - weak sustainability, Strong sustainability, and Deep ecology. But the deep ecology acknowledges an ecological wisdom by focusing on deep experience, deep questioning and deep commitment. Deep Ecology also acknowledges the spirituality and the supernatural forces that are expressed by the common people, their indigenous knowledge and attributes. Thus this less profitable and the less refined knowledge system is quite helpful for environmental and other sustainability. Thus in the context of hue and cry of climate change, sustainability is the most eco-friendly concept that can show a ray of hope to overcome the stagnation from the future.

6. Traditional knowledge on medicine reared by the tribal population of Purulia district

As stated earlier, the Purulia district has been rearing a rich cultural heritage as far as medicinal knowledge is concerned. A diverse group of tribal population are there distributed in the different plain and plateau of this district. They are Bedias, Bedomajhis, bhunjis, Bhunias, birhores, Chikbarais, Karmalis, Koramundis, Loharas, Mahalis, Mundas, Oraons, Paharias, Sabars, and Santhals. Luxuriant vegetations are practiced for ages by the tribe as ethnomedicine. Unfortunately, the tribal population of this district has been decreasing which develop a question regarding the fate of the traditional knowledge reared by the tribal people. The following statistical data is quite good enough to establish the gradual declining of the tribal population of this district until 2001 following a sharp increase in 2011.

Table 1: Details of Census.

Census year	Total population	Tribal population	Percentage of tribal population
1971	1602875	313793	19.57
1981	1853801	348372	18.79
1991	2254577	427766	19.23
2001	2536516	463452	18.27
2011	2927965		19.4

Almost 95% of the tribal population habituated in villages. In case of India, it is 935 and in W.B it is 94.86%. Tribal societies of Purulia having distinct characteristics where most of the proto-austroloids groups with dark skin color, sunken nose and lower forehead. In terms of demographic characteristics, tribal population is decreasing and the main causes are remarkable reduction are migration, sanskritization, conversion into Christianity and minority classes for having unique social status. Ecological degradation of the region of Purulia district where the tribal people live enhances their poverty and deprivation. By the by, the reduction of tribal population is also threat to the non-documented verbal, traditional knowledge due to the emerging the threats of globalization and the modernization of the society.

Materials & procedure: In course of assessing the

rich & varied floristic attributes, the survey has been done through physical contact of the aboriginal population of the area along with the databases that has already been documented has been extensively studied before drawing any conclusion in this regard. In course of the collecting information in this regard, the knowledge has been gathered followed by the delicate observation to come into the conclusion regarding taxonomic attributes. After detail observation of the in consultation with the existing self-help group existing in the area, the following data sheet has been prepared with a view to obtain better performance if the self-help group are to extensively used in this regard because the SHG is the important agency who can penetrate the barrier to explore the non-documented, verbal knowledge as reared by the tribal population.

Table 2: Name of traditional medicinal plants.

S. No.	Binomial name	Family belongs to	Local name	Therapeutic value offered by the plant as tk holds
1	<i>Acacia nilotica</i>	Mimosaceae	Babla	Crushed bark against malaria
2	<i>Amorphophallus paeoniifolius</i>	Araceae	Oil	Cooked dry stem feed in cholera and for constipation
3	<i>Andrographis paniculata</i>	Acanthaceae	Kalmegh	Crushed leaf is given during malaria
4.	<i>Asparagus racemosus</i>	Liliaceae	Satamul	Root feed in dysentery, stomachache, gonorrhoea
5.	<i>Atylosia scarabaeoides</i>	Fabaceae	Ban-kulthi	Cooked and feed in diarrhea
6.	<i>Azadirachta indica</i>	Meliaceae	Nim	Stem bark as contraceptive
7	<i>Bauhinia vahlii</i>	Caesalpiniaceae	Chihor	Flower feed on diarrhea
8	<i>Breynia retusa</i>	Euphorbiaceae	Jirul	Cough, Pneumonia

9.	<i>Bombax ceiba</i>	Bombacaceae	Shimul	Root paste is used as contraceptive
10.	<i>Buchanania lanzen</i>	Anacardiaceae	Piyal	Urine infection
11.	<i>Butea superba</i>	Fabaceae	Lata palash	Leaf paste is applied to stop piles bleeding
12.	<i>Butea monosperma</i>	Fabaceae	Palas	Crushed bark and gum given in malaria
13.	<i>Buchanania lanzan spreng.</i>	Anacardiaceae	Piyal	Root used to treat red urine disease
14.	<i>Caesalpinia bonduc</i>	Caesalpiniaceae	Kanta karanj	Seed paste with mustard oil used to treat scabies
15.	<i>Calotropis gigantea (L.)R.Br.ex Art.</i>	Asclepiadaceae	Akanda	Root and leaves used to treat contraction and trembling in high fever
16.	<i>Cardiospermum halicacabum L.</i>	Sapindaceae	Lataphatki	Root used to treat rheumatism
17.	<i>Cassia fistula L.</i>	Caesalpiniaceae	Mirju baha nuru	Fruits and leaves for constipation
18.	<i>Careya arborea Roxb.</i>	Lecythidaceae	Kumbir	Paste with Nim oil used to treat leucoderma
19.	<i>Celastrus paniculatus</i>	Celastraceae	Munjui	Root bark foe abortion
20.	<i>Cissampelos pareira</i>	Menispermaceae	Tijumala	Stomach pain, cough and cold
21.	<i>Cissus repanda L.</i>	Vitaceae	Bod lar nari	Root is used to treat cuts and brusies
22.	<i>Cleistanthus collinus</i>	Euphorbiaceae	Karlajun	Stem bark to treat skin disease
23.	<i>Cleome icosandra L.</i>	Capparidaceae	Hurhuria	Leaves used to treat Hematuria
23.	<i>Clerodendrum infortunatum L.</i>	Verbenaceae	Ghato	Root and leaves used to treat Rheumatism & headache
24.	<i>Cleistanthus collinus</i>	Menispermaceae	Parasi	Stem bark to treat wounds
26.	<i>Combretum pilosum</i>	Combretaceae	Sikarbans	Leaves used to treat water shores
28.	<i>Costus speciosus (Koen.ex.Retd.)</i>	Zingiberaceae	Kewa-kanda	Rhizome to treat rheumatism
29.	<i>Cryptolepis buchanani Roem. & Schult.</i>	Asclepiadaceae	Bhians lakhan	Root to treat venereal disease
30.	<i>Curculigo orchoides Gaextn.</i>	Amaryllidaceae	Jamru tipoi	Tuberous roots to treat Helminthes infestation
30.	<i>Cynodon dactylon L.</i>	Poaceae	Dhobigas	Plant paste used to stop bleeding
31.	<i>Datura mete L.l</i>	Solanaceae	Datura	Root paste used to treat tooth carries
32.	<i>Desmodium gangeticum (L.)Dc.</i>	Fabaceae	Oterai	Root paste to treat typhoid
33.	<i>Dioscorea opposita</i>	Dioscoreaceae	Panialu	Cooked tuber for constipation
34.	<i>Eclipta prostrata (L.)</i>	Asteraceae	Keshuti	Leaf juice given to treat malaria
35.	<i>Elephantropus scaber</i>	Asteraceae	Maurijhunti	Leaf paste to treat diarrhoea

	(L.)			
36.	<i>Evolvulus alsinoides</i> (L.)	Convolvulaceae	Latagas	Plant decoction used to treat memory loss
37.	<i>Eulophia nuda</i>	Orchidaceae	Tipui	Tubers to treat belly-ache
38.	<i>Gardenia gummifera</i>	Rubiaceae	Bhuru	Gum with mustard oil to treat Rheumatism
39.	<i>Gloriosa superba</i> (L.)	Liliaceae	Languli lata	Tuber paste used to treat Leprosy
40.	<i>Hemidesmus indicus</i> (L.)	Asclepiadaceae	Anantamul	Root for treating spermatorrhoea
41.	<i>Hibiscus sabdariffa</i>	Malvaceae	Kudrung	Cooked leaves feed on dyspepsia
42.	<i>Holostemma annularis</i>	Asclepiadaceae	Moron ara	Root for treating cough
43.	<i>Ichnocarpus frutescens</i> (L.)	Apocynaceae	Dudhilata	Root against Syphilis
44.	<i>Jatropha gossypifolia</i>	Euphorbiaceae	Lal varena	Latex to treat tooth carries
45.	<i>Leonotis nepetaefolia</i> (L.)	Lamiaceae	Janum dhompo	Root for breast inflammation
46.	<i>Litsea glutinosa</i>	Lauraceae	Harila	Stem bark in bodyache
47.	<i>Mallotus philippinensis</i>	Euphorbiaceae	Rora	Root for treating post child birth
48.	<i>Melothria Perpusilla</i>	Cucurbitaceae	Birkundri	Root for Syphilis
49.	<i>Martynia annua</i> L.	Martyniaceae	Bagnakh	Seed for body sores
50.	<i>Mimusops elengi</i>	Sapotaceae	Bohur	Seed as laxative
51.	<i>Moringa oleifera</i>	Moringaceae	Sajna	Stem bark as antiinflammatory
52.	<i>Pavetta indica</i> L.	Rubiaceae	Budhi ghasse	Root to treat headcche
53.	<i>Polygonum plebejum</i> R.Br.	Polygonaceae	Muni ara	Whole plant in dyrrhoea & dysentry
54.	<i>Pterospermum acerifolium</i> Wild.	Sterculiaceae	Muskundudaru	Infusion of petals to treat indigestion
55.	<i>Randia dumetorum</i>	Rubiaceae	Barka mahia	Bark against fever
56.	<i>Ruellia suffruticosa</i>	Acanthaceae	Chaulia	Root for venereal diseases
57.	<i>Schrubera swietinioides</i>	Oleaceae	Eksira	Root for body wounds & sores
58.	<i>Schleichera oleosa</i> (Lour.)Oken.	Sapindaceae	Pusar	Seed oil to treat scabies
59.	<i>Semecarpus anacardium</i>	Anacardiaceae	Sasobili	Seed oil as swelling of limb joints
60.	<i>Solanum surattense</i> Burm.f.	Solanaceae	Rambaigum	Root decoction as preventive of pox
61.	<i>Sphaeranthus indicus</i> L.	Asteraceae	Mu	Leaf juice to treat Elephantiasis
62.	<i>Symplocos racemosa</i> Miq.	Symplocaceae	Titicar	Stem bark for inducing abortion
63.	<i>Syzygium cerasoideum</i>	Myrtaceae	Katijamun	Fruits, leaves & stem bark to treat pneumonia
64.	<i>Tephrosia purpurea</i> (L.) Pers.	Fabaceae	Anuraida	Stem against Pyrrhoea
65.	<i>Terminalia crenulata</i>	Combretaceae	Atana	Stem bark decoction to treat

				women in anemia
66.	<i>Thysanolaena agrostis</i>	Poaceae	Phulujharu	Root to treat fever
67.	<i>Tinspora cordifolia L.</i>	Menispermaceae	Cunchi	Stem paste as emollient cracked bone
68.	<i>Uraria picta</i>	Fabaceae	Mahadevjata	Root paste as abortifacient
69.	<i>Ventilago denticulata</i>	Rhamnaceae	Bonga-sarjon	Root juice against ear pus formation
70.	<i>Vetiveria zizanioides (L.)</i>	Poaceae	Siromu	Root paste to treat headache
71.	<i>Vitex peduncularis</i>	Verbenaceae	Bhadu	Leaves and stem bark for Ophthalmic
72.	<i>Vernonia anthelmintica</i>	Asteraceae	Banjira	Whole plant orally in constipation
73.	<i>Woodfordia fruticosa</i>	Lythraceae	Dhadki	Leaf infusion for indigestion
74.	<i>Ziziphus mauritiana</i>	Rhamnaceae	Jom-janum	Seed powder as anthelmintic
75.	<i>Zingiber officinale</i>	Zingiberaceae	Adi	Rhizome to treat cough

Besides these, a good number of plants are also used by the tribal populations as a part of their traditional knowledge to meet up their emerging needs to overcome their ill fate as par health and hygiene is concerned.

7. Taxonomic attributes with respect to medicinal potentialities:

As far as the documentation of 75 plants having traditional attributes with respect to medicinal importance, these 75 plants are distributed within –families and most of the plants are dicots. These plants have been reported against different types of communicable & non-communicable diseases starting from gastrointestinal disorders viz. stomach ache, indigestion, constipation, piles, diarrhea, dysentery, etc. to typhoid, malaria, filarial, leprosy and different venereal diseases.

8. Discussion

A good number of plants belonging to different families are used by a good number of tribal communities distributed in the different parts of the district starting from the altitude of 700 ft to plain region. Indigenous traditional knowledge as far as health & hygiene is concerned is very productive as well as urge of this millennium in the context of globalization, climate change and sustainable development. But unfortunately, the precious and perennial non-documented

traditional knowledge and its full potentiality have not yet been utilized in the light of modern art and science of medical sciences. Observation states that most of the aforesaid plants do not have any recorded toxic affect upon the users. Not only the above plant species but also the unexplored knowledge have tremendous medicinal potentialities and may be the subject of utmost importance to explore the possible outcome of attributes to exhibit a ray of hope in general and for those diseases having no desirable remedies in particular. This information may be used for adopting the proper healthcare measures by the policy makers and may convey an avenue to develop new type of drugs having the least toxic effects. There is an immediate urge of recording of all type of non-documented knowledge through the proper exploration and mining the precious and valuable attributes in this regard. Due to the anthropogenic activities initiated by the so called global economic practices in the name of urbanization, industrialization and random & injudicious practices to enrich the market economy, the intangible biodiversity at verge of extinction. Side by side, the traditional knowledge is also at a stake. ‘Better late than never.’ A global human concern starting from the pocket of hamlets amidst the hill & hillocks can show the road to the destination. This review paper will attract the

attention of ethno-botanists, phyto-chemists and the pharmacologists for further investigation of the traditional knowledge with respect to the medicinal value reared by the tribal population of Purulia district in West Bengal. It will also show a silver line for the upliftment of socio-economic parameters of the aboriginal people for sustainable development.

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