STUDY OF FOREST BASED INDIGENOUS TECHNOLOGY AT BASTAR REGION OF CHHATTISGARH

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Abstract: The present study was carried out in Bastanar block of Bastar district, having tribal population of Halba, Gond, Bhatra and scattered by Maria & Muria which are survive and depends on forest produces and traditional agriculture farming for livelihood. Study revealed that in study area having forest based indigenous farming system and in rural areas maximum farmer is marginal and poor. They are not capable to purchase modern and costly agriculture implements but they used forest based indigenous rural implements like Plough, Balen, Juda, Datari, Bullcarft, Kurri and Kawar etc for working different agricultural works. In the study area, above mentioned major implements were reported and all these implements are easily made by local available raw material from surrounding forest. In the study area results were also revealed that the forest based indigenous method for preparation of food, medicine, vegetables and other edible items for food & nutrient supply. Number of non-wood forest produce are collect from the forest and prepare different products, some of the products were used to own purposes and rest products were sell in the markets. During the observations, it was noted that, through the collection, market & selling of Non wood forest produces get money and upliftment of the socio-economic condition of the rural & tribal people. Major NWFPs were reported in study areas are Mahua flower & seed, Imali fruit, Amala fruit, Karanj seed, Harra and Tikhur etc. Bastanar block consists many medicinal important species such as *Azadirachta indica, Pongamia pinnata, Tinospora cordifolia, Semecarpus anacardium, Terminalia arjuna, Withania somnifera, Gloriosa superba, Swertia chirayata, Mucuna prurience, Bahunia veriegata, Chlorophytum borivilianum, Andrographis paniculata etc.* All the above medicinal herbs commonly used for their traditional healing method in the study area, rural people and also surrounding.

Key words: Traditional method, Medicinal plants, Non wood Forest Produces and Tribal etc.

IndexTerms **- Component,formatting,style,styling,insert.**

I. INTRODUCTION

India is one of the 12 Mega biodiversity centers with four Hot spots of biodiversity. There are about families in the world of the flowering plants, at least 125 are representative by India (Sharma, 2003). The importance of indigenous knowledge cannot be understood when one realizes that there are no rice or wheat plants nor did cotton or mustard find lying around in the forest. What are found in the forest are wild plants out of which communities of man and women over generations have bred races of several food and cash crops. These communities have bred out of the wild plants of the forests, the thousands of land races which are the basis of the world's agriculture. The land races bred by farming communities are the foundation material of modern plant breeding and global food security.

The state Chhattisgarh is rich and storehouse of the number of medicinal drugs species and also forest produces foreign money by collection and marketing of a lots of Non wood forest product through the tribal communities in the state especially from Bastar region. Local communities own the bio--resources in their region since, it is they who maintain them and it is they who possess the knowledge of their properties and their use. In other words, they possess the technology about bio-resources. These indigenous knowledge automatically conversion them certain rights including the right to share the benefits derived from the commercial exploitation of bio resources. It is known that it is the women rather than the man in rural and more so in indigenous communities that have the knowledge about bio resources.

Along with these commercial traits, characteristics like cooking time, taste, digestibility, milling and husking characteristics like how much grain breaks during milling operations are recognized and maintained. This work of genetic selection, maintenance and cross breeding is the result of innovative and creative scientific experimentation in the field. This work is in no way less than the scientific experimentation conducted by scientists in the experimental plots of agricultural research stations. We need to overcome the bias that most of us suffer from, that of acknowledging the research conducted by scientists in white coats working in laboratories of universities as science and dismissing the complex knowledge systems contained in rustic, rural communities as something infinitely less and not worthy of acknowledgement. Indigenous technologies have intrinsic value because we know their ancestry where they came from, what their place is in our world. We know they will transform and pass from this place to return to the realms of energies. Hence, the present study focused on the indigenous technology in Bastar region of Chhattisgarh state.

II. MATERIALS AND METHOD

Chhattisgarh state has been divided into three agro-climatic zones *viz;* Central Chhattisgarh Plains, Southern Bastar Plateau and Northern Hills of Sarguja. The study site falls under the Southern Bastar Plateau agro-climatic zone of State. The present investigation was carried out in seven villages of Bastanar block of Bastar district in Chhattisgarh during the year 2014-15. The study area is located between 81º 37'44.24" East of Longitude and 18º 58'56.63" North of Latitude. The study deals with the different aspect of forestry based indigenous technology *viz;* identification and documentation of rural & tribal peoples around the forest villages.

Table No. 1: Name of the Sampling Villages and their Population

S. N.	Name of the Village	Population	Tribal population (%)
1	Bastanar	3036	84.71
2	Silakjodi	398	83.66
3	Paralmeta	535	87.28
4	Kodenar	4697	82.71
5	Tirthum	770	89.61
6	Bade-kilepaar	7240	84.90
7	Bankopara	149	87.24

Source: (Population Census, 2011)

The main purpose of the study was to identify and documented the forestry and agriculture based indigenous technology used by tribal and rural population of the area. The study was done through random village sample survey with the help of appropriate questionnaire.

The region is characterized by sandy loams soil with soil pH ranged 6.5 to 7.5 is presence, where some places acidic soil is more. The higher areas of the state have light colored soil and the areas adjoining the river valleys have smooth fertile soil. There are a number of types of soil found in the area but there are four major types namely Kanhar, Matasi, Dorsa and Bhata, which cover major portion of the total land area. The information collected through questionnaire survey method in randomly selected village of Bastanar block of Bastar district in Chhattisgarh. The villages were selected on the basis of farming system and NWFPs resources availability and their utilization pattern among the farmers.

The beauty of Bastar district lies in its natural forest area and various types of tribal. The Bastar district is abundantly and richly endowed with more than 65 % forest resources. The Major types of forest in Bastar division are Sal forests, Teak Forests, Mixed forests and Bamboo forests etc. The forests of Bastar district, which comprises more than 70% of the total land area, constitute available storehouse of industrial raw material for forest based industries. The total populations more than 70 % are tribals like Gonds, Abhuj Maria, Dorda Maria, Bison Horn Maria, Munia Doria, Dhruva, Bhatra and Halba *etc.* which are mainly depends on forest produce, traditional agriculture farming for livelihood because the Bastar district is abundantly and richly endowed with forest resources.

III. RESULTS AND DISCUSSIONS

In the present study, the main emphasis has been given on the Identification, documentation and role of indigenous technology in tribal and rural life in Bastanar block of Bastar district of Chhattisgarh. The results and discussion is broadly reviewed under the following aspects.

Forests Based Traditional Agriculture Tools Used at Bastar Region

After survey and analysis of observations results were revealed that there was number of traditional equipments or tools prepared or made by forest for using traditional agriculture farming system in Bastanar of district Bastar. During the survey were reported that 22 different tree species used for preparation or construction of the traditional agriculture tools or equipments in using different agricultural practices.

Table No. 1: Tree species used for preparing traditional agriculture tools at Bastar region

S. N.	Common Name	Botanical Name	Family	Equipment/Tools
1	Sal	*Shorea robusta*	Dipterocarpaceae	Plough, Door, window, Juda, Belan
2	Bijasal	*Pterocarpus marsupium*	Leguminoceae	Plough, Belan, Bull craft, Door, window
3	Karra	*Clistenthus collinus*	Euphorbiaceae	Plough, Khopar Dadi,
4	Behra	*Termanallia ballarica*	Combretaceae	Plough, Balen, Datary,
5	Saliya	Boswellia serrata	Burseraceae	Bullcarft, Plough, Khoper Dadi
6	Sahja	*Termanalia tomentosa*	Combretaceae	Bull carft, Plough,
7	Khamhar	*Gmelina arboria*	Verbenaceae	Plough, Door, Window,
8	Senha	*Lagerstroemia parviflora*	Lythraceae	Balen, Plough,
9	Mahua	*Madhuca indica*	Sapotaceae	Lpough, Juda,
10	Kusum	*Schleichera oleosa*	Sapindaceae	Belan, plough, Datari, Plough hand
11	Bans	*Dendrocalamus strictus*	Gramaneae	Supa, Tukna, Fising tools
12	Parsa	*Butea monosperma*	Fabaceae	Taypra,
13	Kudai	*Holarhena antidycentrica*	Apocynaceae	Datari
14	Tinsa	*Ougeinia dalbcrgioides*	Leguminosae	Plough, Juda,
15	Imali	*Tamarindus indica*	Leguminosae	Plough, Juda, Datary, Kopar
16	Dhaman	*Grewia tiliifolia*	Tiliaceae	Kopar, Juda, Datari
17	Arjun	*Terminelia arjuna*	Combretaceae	Juda, Datary
18	Ber	*Zizyphus mauritiana*	Rhamnaceae	Plough,Juda,Door
19	Jam	*Psidium guajava*	Myrtaceae	Datari
20	Neem	*Azadirachta indica*	Meliaceae	Plough
21	Mundi	*Sphaeranthus indicus*	Asteraceae	Plough,Juda, kopar
22	Haldu	*Adina cordifolia*	Rubiaceae	Plough,Juda,Farniture

Table No. 2: Description of traditional agricultural tools used by tribal at Bastar region

S. N.	Items	Description	Uses
1	**Plough (Nangar)**	Plough an indigenous device used for tilling the soil and preparing it for cultivation. A plough has been a crucially important implement for traditional agricultural production. It is drawn normally by two drought cows, sometimes by man under extreme circumstances. In Bastar Plough is known as NANGAR in their local language. Plough has six parts, such as, Muthiya (grip), Daandi (Beam), Daab, Chawa (space for Blade), Par (Blade), Butki Khila (small Pin) handle, beam, body, share, and wedge.	As the plough is drawn forward, the narrow sharp share penetrates into the topsoil and breaks it. While breaking, the plough throws the soil on both sides. The number of plugging necessary for preparing the land for seedling or sowing depends on the type of soil. Hard soil takes longer and greater drought power. The life of a plough is 2-3 years with occasional repairing. The wooden plough is made with following different parts.
2	**Juda (Nangar Johadi)**	This is a cylindrical shaped indigenous strength wood tool, Its length is approximately 1.5 mtr long tied with plough and cows or bulls. Cows or bulls are tied in between Padchada (wood stick) and Sumela (iron stick). **Sumela (Iron Stick) -** It helps cows or bulls to go straight and also prevent cows or bulls to come out from Juda. **Padchada (Wood Stick) –** It is used to tie cows or bulls by ropes through holes in its lower part.	It helps to draw up carts, plough, and leveller.

3	**Khurri or Khoper**	This tool is devided in to two types according to season. ***Raniny season-*** In this season Khurri or Khoper is its small size and length of 3 meter, width of 30 cm. ***Summer season-*** In this season Khurri or Khoper is used to label the dry soil of the farm.	This is an indigenous tool that helps farmers to plane the farm. Its help is water to flow everywhere and well drainage. It is used to remove wet soil and to plane or label the soil also.
4	**Paata or Lagda - Leveller**	This traditional agriculture equipment known Paata in Chhattisgarhi and Lagda in Halbi local language of Chhattisgarh plain and Bastar plateau agroclimatic zone respectively. This is a rectangular piece of wood and has a length of 3.5 mtr and thickness of 15 cm. Mostly highly weighted woods are used to make Paata.	It is used to level the soil of the farm and to destroy big lump of earth. It also used to cover the seeds after sowing by soil and it is also used while transplanting to plane the soil of the farm.
5	**Datari**	This is made by a piece of wood and it is 2-2.5 cm long. In its lower part it contains wooden spoke about length of 15-20 cm.	It help to break out lump of earth, to fragile the soil, to prepare soil for transplanting and to remove grasses and weeds from soil.
6	**Bullock cart**	A bullock cart or ox cart is a two-wheeled vehicle pulled by oxen (draught cattle). This Cart can carry 12-15 Qtl. luggages in one time. The Bullock Cart was made with following different parts of other wooden and iron made. ***Mundi –*** Mundi is a main part of cart it helps wheel to run. It is made by wood & works for long time between 15 to 20 years. ***Aara –*** This is a thick wood stick which connects Putta with Mundi. It gives base wheel to run fluently. ***Putta*** – This is also cyclic wooden part of the cart which is divided in to 5-6 parts and covered with an iron cyclic ring over the putta. ***Cyclic Iron Ring (Baat)*** **-** This is an iron ring made by thin iron layer.It covereds putta. ***Trolly (Taant)*** **–** It take controls all over the cart. It is also called as **Sondaa**. It has rectangular V shape, which is made by Tinsa wood and tied with **Ashur**.	It is a means of transportation used since ancient times in many parts of the world. They are still used today where modern vehicles are too expensive or the infrastructure does not favor them
7	**Phawda (Spade)**	Early spades were made of riven wood. After the art of metal working was discovered, spades were made with sharper tips of metal. Before the advent of metal spades manual labor was less efficient at moving earth, with picks being required to break up the soil in addition to a spade for moving the dirt.	A **spade** is a tool designed primarily for the purpose of digging or removing earth.
9	**Tangiya (AXE)**	The axe has many forms and specialized uses but generally consists of an axe head with a handle, or *helve*.	The **axe**, or **ax**, is an implement that has been used for millennia to shape, split and cut wood; to harvest timber; as a weapon; and as a ceremonial or heraldic symbol.
10	**Gainti**	Gaiti has two ends one side has sharp edge and the other side has broad edge.. Generally it is used to break soil boulders and it is also used in making farmland.	Gaiti is a tool, commonly used in farms. It is used for digging land. The sharp edge is used for digging and broad part is used for breaking soil which is sticked
11	**Dhainki**	It was made by wooden parts and edge of iron made for removing the cape of rice.	Dhainki is one of the most important traditional tools for converting the Cap rice in to necked rice for preparation of food.

Traditional edible forest species used by tribal at Bastar region

Traditional knowledge includes pre-existing underlying traditional culture or folkrole and literary and artistic works created by current generation of society which are based on or derived from pre-existing traditional culture or folklore (Jain & Tiwari, 2012). Traditional knowledge is gained from nature, in the laboratories of life and crystallized over millennia. This knowledge services usually among the indigenous local communities, in fact the life, culture and traditions of theses tribal communities have remained almost static for hundreds of years, in spite of number of flood, droughts and famines and other natural calamities. It has been noticed that the tribes who still live in their undisturbed forest areas and having the traditional food habit like consumption of large variety of seasonal foods are found to be healthy and free from most of the diseases (Anonymous, 1995). According to one report from the Govt. of India, food deficiency usually prevails in under developed tribal areas (Roy and Chaturvedi, 1987).
. Still such tribal groups sustain successfully under adverse conditions as they stick on the alternative source of food in the absence of wheat and rice and other kinds of conventional staple food plants. A large number of plants species as supplementary food, used by tribes of Bastar region.

The surveyed areas of Bastanar were 51 species of wild plants belonging to 45 genera of 30 families were edible. Out of these 51 families, 21 families yielded fruits which are eaten raw or cooked, 15 species yielded edible leaves/stem. Flower of 4 species were edible and seeds of 6 species were edible whereas 9 species yielded edible roots for food and vegetable purposes. Each tribal community has a distinct social and cultural identity of its own and speaks a common dialect. About 106 different languages and 227 subsidiary dialects are spoken by tribes of India. Indian tribes utilized over 9500 wild plants for various purposes including medicinal, fodder, fiber, fuel, edible, essence, cultural and other purposes (Anonymous, 1995). Reports from several tribal dominating regions indicate that a large number of wild plants species are used by them during emergency (Oommachan & Manish, 1988). Over 155 edible plants were reported to be used by tribes of Assam as supplementary and emergency food (Borthakur, 1996). Other worker also reported a number of lives supporting promising food are used by Abhujhmaria tribes of Bastar region of Chhattisgarh state (Sahu, 1996). Various field works conducted by number of workers all over the India and survey among aboriginal societies, tribal markets and scrutiny of ethno botanical literature had brought about the record of several hundred wild edible plants which not only satisfy hunger but are nutritious too.

Table No. 4: Forests vegetation used as food & vegetable at Bastar region

S. N.	Common Name	Botanical name	Family	Usable part	Food/ vegetable Preparation Techniques
1	Mahua	*Madhuca indica*	Sapotaceae	Fruit/Flower	Food/Beverage
2	Sal	*Shorea robusta*	Dipterocarpaceae	Seed/oil	Food
3	Salphi	*Caryota urens*	Areaceae	Sap	Beverage/(Bastar bear)
4	Chind	*Phoenix sylvestris*	Palmae	Sap/ fruit	Beverage (Chind-ras)/fruit
5	Charota	*Cassia tora*	Cesalpinaceae	Leaf	Food
6	Kachnar	*Bauhinia variegata*	Fabaceae	Fruit/Flower	Vegetable/food
7	Koliyari	*Bauhinia purpurea*	Fabaceae	Leaf	Vegetable/food
8	Rice	*Oryiza sativa*	Poaceae	Seed	Beverage (Laanda)/ Pej
9	Madiya (Ragi)	*Eleusine coracana*	Poaceae	Seed	Beverage (Madiya pej)
10	Tikhur	*Curcuma angustifolia*	Scitanineae	Tuber	Food
11	Lal bhaji	*Amaranthus tricolor*	Amaranthaceae	Leaf	Vegetable
12	Katakuli	*Zizyphus rugosa*	Rhamnaceae	Fruit	Food
13	Amkol	*Alangium salvifolium*	Alangiaceae	Rape fruit	Food
14	Katabhaji	*Amaranthus spinosus*	Amaranthaceae	Leaf	Vegetable
15	Kadam	*Anthocephalus cadamba*	Rubiaceae	Ripe fruit	Food
16	Kavera Kanda	*Arisaema tortuosum*	Areaceae	Tuber	Vegetable
17	Dhondera	*Bauhinia malabarica*	Caesalpiniaceae	Bark chip	Beverage
18	Tad	*Borassus flabellifer*	Areaceae	Fruit	Food
19	Bendra char	*Buchanania angustifolia*	Anacardiaceae	Fruit	Food
20	Char	*Buchanania lanzan*	Anacardiaceae	Fruit	Food
21	Silyari bhaji	*Celosia argentea*	Amaranthaceae	Leaf	Food
22	Ghiral bhaji	*Chlorophytum arundinaceum*	Liliaceae	Flower/ Leaf	Vegetable
23	Panilaha	*Cissus repanda*	Vitaceae	Sap	Food
24	Bohar bhaji	*Cordia dichotoma*	Boraginaceae	Leaf	Vegetable
25	Keokand	*Costus speciosus*	Costaceae	Tuber	Vegetable
26	Dongri bans	*Dendrocalamus strictus*	Poaceae	Young shoot	Vegetable
27	Karmatta	*Dillenia pentagyna*	Dilleniaceae	Fruit	Food
28	Dangkanda	*Dioscorea hispida*	Dioscoreaceae	Tuber	Vegetable
29	Barhakanda	*Dioscorea pentaphylla*	Dioscoreaceae	Tuber	Food
30	Kosakanda	*Dioscorea puber*	Dioscoreaceae	Tuber	Food
31	Pithkanda/karukanda	*Dioscorea wallichi*	Dioscoreaceae	Tuber	Food
32	Tendu	*Diospyros melanoxylon*	Ebenaceae	Fruit	Food
33	Amla	*Emblica officinalis*	Euphorbiaceae	Fruit	Food
34	Dumar	*Ficus glomerata*	Moraceae	Fruit	Food
35	Pikdi	*Ficus religiosa*	Moraceae	Leaf	Vegetable

S. N.	Common Name	Botanical name	Family	Usable part	Food/ vegetable Preparation Techniques
36	Sivna	*Gmelina arborea*	Verbenaceae	Fruits	Food
37	Kumdakanda	*Hibiscus crinitus*	Malvaceae	Root	Food
38	Dokrakanda	*Hibiscus rugosus*	Malvaceae	Tuber	Food
39	Aam	*Mangifera indica*	Anacardiaceae	Fruit	Food
40	Chati bhaji	*Polygonum plebeium*	Polygonaceae	Whole plant	Vegetable
41	Kusum	*Schleichera oleosa*	Sapindaceae	Fruit / seed	Food
42	Belwa	*Semecarpus anacardium*	Anacardiaceae	Fruit	Food
43	Sal	*Shorea robusta*	Dipterocarpaceae	Fruit	Vegetable
44	Karat / Guggal	*Sterculia urens*	Sterculiaceae	Fruit	Vegetable
45	Jamun,Chidaijam	*Syzygium cumini*	Myrtaceae	Fruit	Food
46	Surankanda	*Tacca pinnatifida*	Taccaceae	Tuber	Food
47	Imali	*Tamarindus indica*	Leguminosae	Fruit	Food
48	Kevti	*Ventilago calyculata*	Rhamnaceae	Seed / oil	Food
49	Ber	*Zizyphus mauritiana*	Rhamnaceae	Fruit	Food

Traditional Medicinal Herbs & their uses at Bastar region

During exploration to this area, to collect the related information, the methods described by Jain, (1965) was adopted, comprised of detailed interviews with tribal and witness to the uses of plant by tribal in villages of Bastanar lock of Bastar region . The documentation of traditional knowledge of folk healers and Baidyas was recorded by making personal visits and interviews. It was observed that the knowledge of herbal drugs amongst the tribal community had very less difference, but the medicine man commonly known as Gunia possess valuable information on herbal drugs. Tribal people have absolute faith in the medicine man and their indigenous system of medicine and treatment. The information was collected in village as well as by making transit visit to the forest of the study area. The traditional knowledge of health security was collected and listed disease wise use of local plants. The documentation of the information given by folk healers and Baidyas was documented under following heads: The following herbs were reported from the surveyed area in which rural & tribal used for treatments of various human and animal alignments. The enumerations have been given here alphabetically; botanical name of the plant is associated by the authority and family in the bracket, then vernacular or local names followed by ethnomedicinal significance of plants.

The importance of herb in curing human disease was very much realized during the post independent era in India and this led to the organization of the Central Council for Research in Indian Medicine and Homeopathy to promote and co-ordinate research in Indian medicine. Use of plants in folk medicines is much prevalent in Central India (Jain, 1963, Jain and Tarafder, 1963). More than 35 plants were reported to be commonly used in medicine in the Bastanar. Some plants are used singly whereas others are used in mixture. Similarly, certain plants were considered useful in only one disease whereas several had multiple uses. Many medicines reported by tribal of Bastar appear to be unknown or little known outside this community. *Cassia tora* Linn tender leaves are eaten to prevent skin diseases. The tribals utilize a large number of plant species occurring in the Chhindwara district as herbal remedies in the various diseases and aliment (Jain 1963 & 1965). Based on above findings both the *in situ* and *ex situ* conservation of endangered species was suggested.

Table No. 3: Traditional Medicinal Herbs & their uses at Bastar region

S. N.	Name of Herbs & Their Uses to cure different disorders
1.	***Acacia Arabica* Willd. (*Mimosaceae*)** Motichoor **Uses:** Two drops of decoction of ground leaves are used, till the condition is alleviated, in the treatment of migraine permanently; drops should be used in the nostrils.
2.	***Adhatoda vasicaNess. (Acanthaceae*)** Adusa **Uses:** It is highly useful to cure cough problems. The recipe is as follows- Extract juice of 1 kg leaves of the plant and boil, it will look like opium, now take one gm of this preparation with honey for three consecutive days.
3.	***Allium sativum* Linn. (Liliaceae)** Lahsun **Uses:** Pell off the bulb and boil the cloves in mustard oil, cool down, t preparation thus obtained is used as ear drops to relieve ear pain.
4.	***Bacopa monnieri* (Linn) Pennell.(Scrophulariaceae)** Brahmi **Uses:** Ten tender leaves of plants pulus ten seeds of Piper longum together with one almond are ground in water and sugar. This recipe should be taken for 21 days; it is a very good nervine tonic.
5.	***Boerhavia diffusa* Linn. (Nyctagin-aceae)** **Uses:** Punarnava- The plant locally known as'Patharchata' is used as an effective remedy of jaundice. The paste of root is made and approximately 3 gms. As a single dose is orally administered daily the disease is cured in a week.
6.	***Cassia tora* linn. (Caesalpiniaceae)** Chakunda **Uses:** Tribes call it as 'Charota' or "Chekour". The leaves of the plant together with the seeds of *Vigna radiate* are used to cure skin diseases and even ulcerous sores when paste of the above is made and applied locally
7.	***Celastrus paniculata* willd. (Celastraceae)** Malkangni

	Uses: Oil from the ripe fruits is obtained and quantity equal to two drops of its taken with Batasha (aspherical spongy but crisp sugarcake), the sinus problem is remedied when the formulation is used for a week.
8.	***Costus speciosus* (Koen) Sm(Zingiberaceae)** Keokand **Uses:** Rhizome paste of the plant is prepared and used locally to relieve snake bite. In mitigating acute to acidity, the paste of rhizome, tamarind (tender fruits) and jaggery are taken orally.
9.	***Desmodium gangeticum* (Linn.) DC.**(Fabaceae) Salparni **Uses:** This plant is used as contraceptive b the tribals. The whole plant is young stage is dried and powder is made, the therapy is only for three days to a woman during menstruation. After prescribed drug administration, woman will not produce child in future.
10.	***Dioscorea triphylla* Lin. (Dioscoreaceae)** Kadukanda **Uses:** The rhizome of the plant along with sandal wood after making paste is used on blotch
11.	***Erythrina indica* Lamk. (Fabaceae)** Madar **Uses:** The leaf juice is useful in alleviating earache and when paste made from leaves is applied externally it is useful in relieving joint pain.
12.	***Gloriosa superba* Linn. (Liliaceae)** Kalihari **Uses:** the tribes have a good treatment of leucodermic spots, The prescription is as follows – Grind the roots to paste and apply on the affected spot for three days, watery secretion oozes out, clean the spot with spirit, then the spot should be covered with bandages of d tender leaves of Butea frondosa, on second or third day again clean the spot with the help of sprit and apply Burnol. The spots will be cleared and normal skin is developed.
13.	***Ruta graveolens* Linn. (Rutaceae)** Sadab **Uses:** Tribals use this plant variously herb juice in ear as a remedy to ear ache; the juice in applied locally to alleviate rheumatism of joints and when the juice is mixed with the juice of Allium cepa, the preparation is taken orally to stop vomiting.
14.	***Scilla indica* (Wt) Baker Non Roxb(Liliaceae)** Safed khus **Uses:** In local and tribals 'language, it is known as 'Jangli piyaz' and 'Bailagondali'. The bulbs of the plant re used as cardiac stimulant and diuretic
15.	***Terminalia arjuna* (Combretaceae)** Arjun A piece of bark of the plant around two square inches in soaked is a glass of water overnight, then in the morning the water is taken orally. This prophylaxis should be continued for a week, it is a good treatment of discomposure and vexing.
16.	***Vitex negundo* Linn. (Verbenaceae)** Nirgundi **Uses:** This plant for tribals is useful to remove acute weakness. They prepare powder after grinding leaves, flowers and fruits together and use this preparation for a fortnight; usually the dose is one to two gms.
17.	***Vitex peduncularis* Wall. Ex Schauer (Verbenaceae)** **Uses:** Locally this plat is known as 'nagbail' and used to cure any kind of fever and chest pain. It is used half cup f decoction alleviates fever. Bark paste made with water is applied on the chest to cure pain.
18.	***Withania somnifera* (Linn.) Dunal. (Solanaceae)** Asgandha **Uses:** Roots of the plat are ground with sugar and cow milk, the composition is made in such a way that the pills may be made. Two to three pills should be taken by woman daily, then produce child.
19.	***Buchanania lanzan (*Anacardiaceae**)** Chironji **Uses:** Rich source of vitamin E. The roots are acrid, astrigent, cooling, depurative & constipatingand used in leprosy, skin diseases and diarrhoea. The leaves are reported to be cooling, digestive, expectorant, purgative, and aphrodisiac. The fruits are useful in treating leprosy, skin deases, burning sensation, cardiac debility, abdominal disorders, constipation cough, asthma, seminal weakness, fever, emaciation, ulcers, general debility and as a laxative
20.	***Gymnema sylvestre* (Retz) R. Br. (Asclepiadaceae)** **Uses:** Gurmar five gms. Leaves of the plant and equal quantity o stones of *Eugenia jambolana* (Jamun) together with the same quantity of *Cyamopsis tetragonoloba* (guar) seeds are ground. This preparation constitutes three doses. To curediabetes all the three doses should be consumed. The powder of leaf is stimulant, activates uterus and increases secretion of urine

IV. CONCLUSION

Livelihood transformation has both positive and negative influence on tribal life. It helps to increase the social participation to a great extent. Livelihood changes do not make much effect on living conditions. It has some mixed influence on economic status as on the one side, it increases saving habits and on the other side increase economic disparity and debt. So it is clear that the employment generation is promoted for national development it does not pay attention to tribal development. Cultural deterioration can be seen as a negative impact as people who move out of their territory became reluctant to follow their culture. Tribal development at the cost of their culture is no more appreciable.

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