

ROLE OF WOMEN IN BIODIVERSITY CONSERVATION AND FOOD SECURITY

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Most important issues facing the world today are hunger, and degradation of natural resources air, water, soil and biodiversity. Women have played the pivotal role in the selection, storage and in situ conservation of land races. The tribal women use a variety of plant species in their day to life which they collect either from the forest areas or from the cultivation fields that occur as weeds. Keeping these ideas in view the present study entitled "Role of women in biodiversity Conservation and food security" has been undertaken with the following objectives: to study the role of women in Biodiversity Conservation and food security and their indigenous knowledge about use of various plant species for food security. The field investigation was carried out in purposively selected Ranchi district of Jharkhand. The total Sample consisted of 100 respondents.

*Results revealed the women's indigenous knowledge about use of various plant species for food security. It was revealed that leaf of plants like Gandhari, Muchari, Khapra Chakor, Siliyari, Pechaki, Sarsa, Chintti, Matha, Sununi, Karmi, and Sarla sag were found to be used as vegetable (sag). Beng sag (*Castella asiatica*) as reported by the respondents was of high medicinal value against Jaundice disease. Similarly muchari sag (*Lymnophylla conferta*) was found to be used for clearing the mouth during fever as well as increasing the appetite. Respondents reported that Futcal (*Ficus inpectoria*) leaves, Red Kudrum (*Hibicus sabderiffa*), Sanai (*Crotalaria juneca*), Bamboo (*Bambusa arundinacee*), etc were of high medicinal value for liver ailments. Ber (*Zizyphus mauritiana*) ripped fruits are dried and used as vegetable. Ber trees are useful for Lac cultivation.*

The findings presented in the preceding paragraphs lead to conclude that the tribal farm women belonging to low socio-economic status group were having a broad spectrum of knowledge about plant biodiversity, particularly the genetic diversity. Tribal social systems biodiversity of plant species is directly related to the nomenclature patterns, festivals as well as socio-cultural and religious rituals. This forms a strong ground for protection of tribal cultural fabric which ultimately leads to conservation of agro-biodiversity and food security in tribal area of Jharkhand.

INTRODUCTION

Biodiversity is important to agriculture, since genetic diversity is at the heart of sustainable development. Biodiversity conservation is essential to satisfy everyman's need not for everyman's greed. India's noted environmentalist Sunderlal Bahuguna stated that Ecology includes Biodiversity, is permanent economy of the country.

Agro biodiversity refers to the variability among living organisms associated with the cultivation of crops and rearing of animals along with the ecological complexes of which they are a part (Convention on Biological Diversity, 1992). Agro-biodiversity focuses on that part of biodiversity that has undergone selection and modification over millennia by human civilization to better serve human needs (Wood, 1993). It has also been defined broadly as "*the part of biodiversity which nurtures people and is nurtured by people*". Knowledge of agricultural biodiversity is imperative to its conservation and better management, as human activity directly or indirectly affects this through various agricultural operations. The components of agro-ecosystems can be classified in relation to

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the roles they play in the functioning of cropping systems. Accordingly, agricultural biodiversity can be grouped as follows (Swift and Anderson, 1993):

Production	Crops, trees and animals chosen by a farmer that plays a determining role in the diversity and complexity of the agro- ecosystem.
Resource biota	Organisms that contribute to productivity through pollination, biological control and decomposition etc.
Destructive biota	Weeds, insect pests, microbial pathogens etc. that farmers aim at reducing through cultural management.

The story of human civilization is actually a story of plant domestication. It is said that only after domestication, the role of women start to become more and more differentiated. Women have played the pivotal role in the selection, storage and in situ conservation of land races. It is important to appreciate that hidden and unappreciated contribution women have made in this gigantic task. Most important issues facing the world today are: a) the need to alleviate hunger, and b) the need to put a stop to the degradation of natural resources - air, water, soil and biodiversity. One of the biggest challenges the farming community is currently facing is: How do we conserve biodiversity while producing enough food to meet the needs of a growing population? Biodiversity has been recognized the central importance of the rural communities and especially women in its conservation.

Role of Women in Biodiversity and Food Security

The tribal women use a variety of plant species in their day to life which they collect either from the forest areas or from the cultivated fields that occur as weeds. In the tribal communities the status of women is highly elevated as they are largely responsible for quest of food, collection of wood, bringing up of children, etc, in addition to household chores. Because of this primary responsibility the tribal women are well versed with the knowledge about edible greens, vegetables, fruits, seeds, etc, and the physical characters of the greens that generate heat or cold.

The security of the livelihood of rural families, depends heavily on the availability of opportunities for value added employment to women. This is particularly true for the families below the poverty line. Multiple channels of income help to insulate the family from deprivation under unfavourable meteorological and market conditions, it is in this context the seed industry also assumes importance.

Srivastava (2008) identified different role of women in biodiversity and food security women perform multifarious role as: Woman the housewife, Woman the gatherer, Woman the gardener, Woman the herbalist, Woman the plant breeder and seed custodian and Women and rights to plant genetic resources

Woman the Housewife

Women, in their nearly universal position as housewives performing domestic tasks, sustain an intimate and important relationship with plants. In fact, the kitchen is quite possibly the most under-valued site of plant biodiversity conservation. The knowledge and skills required in the post- harvest food chain are complex and dynamic, and many studies show that indigenous women's knowledge in food processing and storage often correlates with scientific knowledge. For example, women ferment plants using indigenous techniques that reduce spoilage and increase "nutritional value, and they employ precise techniques to store and preserve plants that reduce the incidence of pests and diseases.

Woman the Gatherer

According to one statistical analysis of 135 different societies with various subsistence bases (e.g., agriculture, animal production, hunting, fishing, and gathering), women provide 79 percent of total vegetal food collected (Barry and Schlegel 1982). Women gather plants that they are 'responsible' for, such as those needed to make sauces and relishes or those that serve as inputs for their own production such as basket and cloth making. Men and women have different needs and responsibilities for gathered plants, and different knowledge and preferences with respect to them.

Woman the Gardener

Home gardens are the oldest and most widely used cultivation systems and have far greater species diversity in comparison with cultivated fields, and hence should be recognised as the most important repository of agro-biodiversity. Homegardens are a vital resource particularly for poor women since they permit them to provide additional food and income for their families. Many studies show that a woman's garden provides basic nutrition in periods of food scarcity and food supplies year-round. Homegarden food production is not necessarily supplemental and the amount of labour used may be large in certain parts of the year.

Woman the herbalist

The World Health Organisation estimates that 80 of the world's population use plant medicines for their primary health care needs (Farnsworth et al., 1985). Men and women not only have different knowledge of medicinal plants: their knowledge is also structured in a different way, which is related not only to the division of labour, but as well to social power.

Woman the Plant Breeder and Seed Custodian

There would be no agriculture without seed and not nearly as much seed variability without seed custodians and plant breeders. Traditionally, plant breeders and seed custodians are small farmers, and often if not predominantly women. While both men and women are involved in crop selection and have highly specific knowledge and use a variety of criteria, these differ substantially between them, and formal plant breeders and conservationists more often overlook women's criteria and knowledge. Women often have a broader set of varietal selection criteria in comparison with men since they use plant materials in more diverse ways: for example, rice not only provides food, but also straw for thatching, mat-making and fodder, husks for fuel, and rice bear for relishes. Women's responsibilities for post-harvest processing and family food supplies means that women try to ensure that varieties are in line with traditions, are palatable and nutritious, and meet processing and storage requirements.

Women And Rights To Plant Genetic Resources

Worldwide, discussions are ongoing on about intellectual property rights to plants and the conservation of plant biodiversity. Most now acknowledge that indigenous farmers and forest dwellers should have rights to the genetic material they have developed and be compensated for its use. Several studies show that, among indigenous populations, rights to gather plants are strictly regulated and are passed from mother to daughter.

Keeping these ideas in view the present study entitled "Role of women in Biodiversity Conservation and food security" has been undertaken with the following objectives

- ❖ To study the role of women in Biodiversity Conservation and food security
- ❖ To study the tribal women's indigenous knowledge about use of various plant species for food security.

RESEARCH METHODS AND PROCEDURES

Field investigation was carried out in purposively selected Ranchi district of plateau region of Chotanagpur and Santhal Parganas in the state of Jharkhand. Two development blocks, namely, Chanho and Angara from among the agriculturally progressive and less progressive groups of blocks respectively were selected randomly. Two tribal dominated villages from each of the two selected blocks, namely, Jaipur and Ragunathpur from Chanho blocks and Bisha and Nawagarh from Angara blocks were selected randomly for the purpose of investigation.

Twenty five farm families from each of the four selected villages were selected by proportionate stratified random sampling technique on the basis of their size of holding. One adult women from each of the selected family was made respondent through simple random sampling technique for the purpose of data collection. The sample, thus consisted of 100 respondents.

A combination of exploratory and ex – post – facto design of research was followed for the study,. The data were collected by personally interviewing the respondents with interview schedule and through observation techniques. The statistical tests like, averages, percentages, etc were used for meaningful interpretation of data.

RESULTS & DISCUSSION

Respondent's Profile

Results indicated that majority of the respondents i.e. tribal farm women were middle-aged (46%), married (80%), belonging to Oraon community (50%), illiterate or having primary level of education and engaged in cultivation (65%) with no social participation in any formal organization.

Tribal farm women's traditional belief and values associated with different plant species An attempt was made in this section to explore the tribal's value systems associated with various plant species. For the present investigation value system includes traditional faith and belief associated with various plant species. The faith and belief associated with various plant species were examined with respect to nomenclature of tribal clans, rituals related to tribal festivals and other socio-cultural and religious functions. The findings are as follows:

Nomenclature of Tribal Clans

The data on nomenclature of tribal clans have been presented in table 1.

Tribal Womens Indigenous Knowledge About use of Various Plant Species for food security

The data on tribal women's indigenous knowledge about use of various plant species for food security have been presented in table 2. The findings presented in table 2 revealed that altogether 91 plant species were found to be used as vegetable by the tribal people as recognized by the respondents.

A persual of table 2 revealed that leaf of plants like Gandhari, Muchari, Khapra Chakor, Siliyari, Pechaki, Sarsa, Chimti, Matha, Sunsumi, Karmi, tew and Sarla sag were found to be used as vegetable (sag). Beng sag (*Castella asiatica*) as reported by the respondents was of high medicinal value against Jaundice disease. Similarly muchari sag (*Lymnophylla conferta*) was found to be used for clearing the mouth during fever as well as increasing the appetite. Respondents reported that Futcal (*Ficus insectoria*) leaves was of high medicinal value for liver ailments. Tender leaves of Emali (*Tamarindus indica*) was dried and grinded as Palwa and used as medicine against stomach troubles. Leaves of Munga (*Moringa oleifera*) are used against high as well as low blood pressure and prevention against small pox. Roots are used as repalants against poisons of snakes.

Table 1 : Nomenclature of Tribal Clans

Sl. No.	Tribe type	Clan	Plant Spp (Totem)	Botanical name
1.	Munda	Kandulna	Kusum (Baru)	<i>Schleichera trijuga</i>
		Dhan	Paddy	<i>Oryza sativa</i>
		Sanga	Sakarkand	<i>Ipomoea batatas</i>
		Jojo	Emali	<i>Tamarindus indica</i>
		Tuti	Tuti	<i>Pennysetum typholdeum</i>
		Barla	Banyan	<i>Ficus bengdensis</i>
2.	Kharia	Ba	Paddy	<i>Oryza sativa</i>
3.	Birhor	Kher	Wild grass	-
		Golwar	Siliyari sag	<i>Celosia argentia</i>
		Hembrom	Paddy	<i>Oryza Sativa</i>
		Here Hembrom	Paddy husk	<i>Oryza Sativa</i>
		Chole Hembrom	Rice	<i>Oryza Sativa</i>
		Lupour Hembrom	Rice flour	<i>Oryza Sativa</i>
		Hansda	Sindwar	<i>Vitex negundo</i>
		Sawaria	Wild grass	-
		Topwar	Basket (made by Bamboo)	<i>Bambusa arundinacea</i>
4.	Oraon	Bakhla	Old portion of plants bark (annual) A kind of grass	-
		Bara	Banyan	<i>Ficus bengalensis</i>
		Xess	Paddy	<i>Oryza Sativa</i>
		Kindo	Date palm	<i>Phoenix dactylifera</i>
		Kujur	Kujari (A kind of creeper)	<i>Calastrus paniculata</i>
		Munjni	A kind of creeper (of same spp)	<i>Calastrus paniculata</i>
		Putri	Putri (permial plant)	<i>Croton oblongifolius</i>
5.	Bedia	Sal (Puran)	Sal	<i>Shorea robusta</i>
		Xan	Patar	-
		Man	Maan kanda	-
		Konia	Koynar	<i>Bauhingia Pupuria</i>
6.	Ho	Kudada	Jamun	<i>Euginia Jambolana</i>

Red Kudrum(*Hibicus sabderiffa*) tender leaves and fruits are used as vegetables. Fibrous bark of the Kudrum is used for rope making. Sanai (*Crotalaria juneca*) flower and seed are used as vegetables. The Fibres, are used for rope making. Sanai rope is used in rituals related to tribal marriage ceremony and tying oxen on the yoke as well. sanai flower as reported by the respondents is used as medicine against Cancer. Sakhuwa (*Shorea robusta*) leaves are used in making rope and Patal. Sakhuwa seeds are used as food during scarcity. It is also used as medicine for dysentery. Tender new parts of the Bamboo (**Bambusa arundinacee**) (fresh) are used as. Karil, preserved as sandhana and dried form as Handwa. Ber (**Zizyphus mauritiana**) ripped fruits are dried and used as vegetable. Ber trees are useful for Lac cultivation.

Biodiversity Conservation and Food Security

A long-term strategy for the conservation, utilization, improvement and management of bio-diversity requires:

- ❖ Recognition of roles, responsibilities and contributions women in bio-diversity conservation and food security.
- ❖ Recognition of women's knowledge, skills and practices and their right to benefit from the fruits of their labour .
- ❖ Sound and equitable agricultural policies to provide incentives for the sustainable use of genetic resources, especially through in situ conservation and improved linkages with ex situ conservation .
- ❖ Appropriate national legislation to protect “threatened” genetic resources for food and agriculture, guarantee their continued use and management by local communities, indigenous peoples, men and women, and ensure the fair and equitable sharing of benefits from their use .
- ❖ Improvement of women farmers' access to land and water resources, to education, extension, training, credit and appropriate technology .
- ❖ Participation of women, as partners, decision-makers and beneficiaries.

Table - 2 : Tribal women's Indigenous knowledge about use of various Plant species for food security

Sl. No.	Botanical Name	Local / Tribal name	Plant Part used	Agriculturally Progressive villages (N = 50)	Agriculturally less Progressive villages (N = 50)	Pooled (N=100)
A. VEGETABLES						
1.	<i>Alternanthera sessilis</i>	Gundri Arah (sag)	Leaf	12(24.00)	19(38.00)	31(31.00)
2.	<i>Amaranthus gangeticus</i>	Lal Bhaji	Leaf	50(100.00)	50(100.00)	100(100.00)
3.	<i>Amaranthus spinosus</i>	kanta Bhaji	Leaf	21(42.00)	25(50.00)	46(46.00)
4.	<i>Amaranthus viridis</i>	Gandhari	Leaf	18(36.00)	27(54.00)	45(45.00)
5.	<i>Ambat chuka</i>	Chukah Arah	Leaf	16(32.00)	23(46.00)	49(49.00)
6.	<i>Antidesma diandrum</i>	Matha sag/Arah	Leaf	15(30.00)	17(34.00)	32(32.00)
7.	<i>Apium graveolens</i> var Dulce	Ajawayan sag / "	Leaf	12(24.00)	19(38.00)	31(31.00)
8.	<i>Bauhinia purpurea</i>	Kayanar sag/sing arah	Leaf	50(100.00)	50(100.00)	100(100.00)
9.	<i>Boerhavia repens</i>	Khapra sag/Khachoo Arah	Leaf	5(10.00)	12(24.00)	17(17.00)
10.	<i>Basella rubra</i>	Poi sag	Leaf	38(76.00)	37(74.00)	75(75.00)
11.	<i>Beta vulgaris</i>	Lal salgam / Araa salgam	Leaf	46(92.00)	43(86.00)	89(89.00)
12.	<i>Brassica campestris</i> var sarson	Sarso sag/mani Arah	Leaf	50(100.00)	50(100.00)	100(100.00)
13.	<i>Cassia tora</i>	Chakor sag/Chaconda	Leaf	41(82.00)	45(90.00)	86(86.00)
14.	<i>Cassia occidentals</i>	Bari Chakor	Leaf	11(22.00)	17(34.00)	28(28.00)
15.	<i>Cestella asiatica</i>	Beng sag/choke arah	Leaf	29(58.00)	35(70.00)	64(64.00)
16.	<i>Celaosia argentia</i>	Siliari sag	Leaf	14(28.00)	18(36.00)	32(32.00)
17.	<i>Celosia cristata</i>	Simdali Arah	Leaf	6(12.00)	9(18.00)	15(15.00)
18.	<i>Chenopodium album</i>	Bhatwa sag/Arah	Leaf	43(86.00)	48(96.00)	91(91.00)
19.	<i>Cicer arretinum</i>	Chana sag/Boot arah	Leaf	41(82.00)	25(50.00)	66(66.00)
20.	<i>Cleome viscosa</i>	Hurhuria sag	Leaf	2(4.00)	6(12.00)	8(8.00)
21.	<i>Colocasia antiquorum</i>	Pachaki sag/saru sag	Leaf	50(100.00)	50(100.00)	100(100.00)
22.	<i>Commelina bengalensis</i>	Madha arah	Leaf	7(14.00)	15(30.00)	22(22.00)
23.	<i>Euphorbia hirta</i>	Dhudhah marang/Dhundhi	Leaf	3(6.00)	6(12.00)	9(9.00)
24.	<i>Ficus inpectoria</i>	Futcal / Pakar	Leaf	50(100.00)	50(100.00)	100(100.00)
25.	<i>Holostemma rheedei</i>	Murum Arah/Charbel	Leaf	4(8.00)	11(22.00)	15(15.00)
26.	<i>Ipomoea batatas</i>	Sakarkand/Sanga	Leaf/Tuber	47(94.00)	50(100.00)	97(97.00)

27.	<i>Ipomoea reptans</i>	Karmi sag	Leaf	19(38.00)	22(44.00)	41(41.00)
28.	<i>Marselia minuta</i>	Sunsumia sag/ Chatom Arah	Leaf	16(32.00)	29(58.00)	45(45.00)
29.	<i>Maringa oleifera</i>	Sahijan/Munga /Suti	Flower/Leaf	50(100.00)	50(100.00)	100(100.00)
30.	<i>Mentha arvensis</i>	Pudina/Fudna	Fruit	21(42.00)	28(56.00)	49(49.00)
31.	<i>Murraya koenigii</i>	Kari patta	Leaf	3(6.00)	(0.00)	3(3.00)
32.	<i>Lymnophytla conferta</i>	Muchari sag	Leaf	32(64.00)	39(7a.00)	71(71.00)
33.	<i>Polygonum plebejum</i>	Chimati sag/Muli Arah	Leaf	13(26.00)	15(30.00)	28(28.00)
34.	<i>Portulaca oleracea</i>	Doel Arah/Nooni sag	Leaf	22(44.00)	28(56.00)	50(50.00)
35.	<i>Portulaca quadrifida</i>	Garugavi/Uri Arah	Leaf	(0.00)	2(4.00)	4(4.00)
36.	<i>Raphanus sativus</i>	Muli/Muri Arah	Leaf/Tuber	50(100.00)	50(100.00)	100(100.00)
37.	<i>Sesbania grandiflora</i>	Agaati Arah	Leaf	3(6.00)	5(10.00)	8(8.00)
38.	<i>Solanum tuberosum</i>	Aaloo	Leaf/Tuber	50(100.00)	50(100.00)	100(100.00)
39.	<i>Tamarindus indica</i>	Emali/Jajo	Leaf/Fruit	31(62.00)	39(78.00)	70(70.00)
40.	<i>Trigonellafoenum graceum</i>	Methi Arah	Leaf	27(54.0(1)	32(64.00)	59(59.00)
41.	<i>Oxallis corniculata</i>	Amati sag	Leaf	15(30.00)	21(42.00)	36(36.00)
42.	<i>Vangueria spinosa</i>	Sarla/Katai sag	Leaf	50(100.00)	50(100.00)	100(100.00)
43.	<i>Vernonia cinera</i>	Herei/Tewa Arah	Leaf	11(22.00)	19(38.00)	30(30.00)
44.	<i>Vigna catiung</i>	Barbarhi/Bodi Arah	Leaf	25(50.00)	26(52.00)	51(51.00)
45.	<i>Amorphophallus companulatus</i>	Oat/Penda hodaah	Root/Tuber	25(50.00)	29(58.00)	54(54.00)
46.	<i>Butea fronsa</i>	Palas kand/Murda sanga	Leaf	7(14.00)	13(26.00)	20(20.00)
47.	<i>Colocasia antiquorum</i>	Pachaki sanga	Root/Tuber	36(72.00)	45(90.00)	100(100.00)
48.	<i>Curcuma amada</i>	Anna Haldi/Paroo sanga	Root/Tuber	2(4.00)	5(10.00)	7(7.00)
49.	<i>Curculiga orchioides</i>	Kali Musali/Turum Sanga	Root/Tuber	{0.00}	3(6.00)	3(3.00)
50.	<i>Dioscorea alata</i>	Dudhia Aru/Jatang Sanga	Root/Tuber	(0.00)	2(4.00)	2(2.00)
51.	<i>Dioscorea hamiltoni</i>	Marang Aru	Root/Tuber	(0.00)	3(6.00)	3(3.00)
52.	<i>Dioscorea pentaphylla</i>	Hasaar Sanga/ Itulud Sanga	Root/Tuber	(0.00)	2(4.00)	2(2.00)
53.	<i>Dioscorea spinosa</i>	Murum Sanga	Root/Tuber	1(2.00)	3(6.00)	4(4.00)
54.	<i>Dioscorea spp.</i>	Buru Sanga	Root/Tuber	(0.00)	1(2.00)	1(1.00)
55.	<i>Habenaria commelinifolia</i>	Gepo Sanga	Root/Tuber	(0.00)	2(4.00)	2(2.00)
56.	<i>Manihot esculents</i>	Topica/Sanga adel	Root/Tuber	(0.00)	2(4.00)	2(2.00)
57.	<i>Momordica dioica</i>	K hacasa Kanda/ Hohan Sag	Root/Tuber	(0.00)	1(2.00)	1(1.00)
58.	<i>Musa paradisiaca</i>	Kela/Kadal/Kera	Flower/Fruit	41(82.00)	47(94-00)	88(88.00)

59.	Nelumbium nelumbo	Kamal phool/ Uppal dabaha	Flower	2(4.00)	4(8.00)	6(6.00)
60.	Peucedanum naggpurese	Apidoda Sanga	Root/Tuber	2(4.00)	1(2.00)	3(3.00)
61.	Pycnocycla glauce	Chaula Sanga	Root/Tuber	(0.0)	2(4.00)	2(2.00)
62.	Typhonium trilobatum	Nirbes. Sanga	Root/Tuber	(0.0)	2(4.00)	2(2.00)
63.	Vsungid spp.	Usughad Sanga	Root/Tuber	(0.0)	1(2.00)	1(1.00)
64.	Abelmoschus esculentus	Bhindi/Bhadawa	Fruit	41(82.00)	36(72.00)	77(77.00)
65.	Allium cepa	Piyaz Sag	Leaf	47(94.00)	42(84.00)	89(89.00)
66.	Artocarpus heterophyllus	Katha/Kanthar	Fruit	39(78.00)	46(92.00)	85(85.00)
67.	Artocarpus lakoocha	Barhar/Dahu	Flower/Fruit	7(14.00)	16(32.00)	23(23.00)
68.	Benincasa hispida	Racash Kohara/ Bhatuwa	Fruit	3(6.00)	12(24.00)	15(15.00)
69.	Bombax malabaricum	Semal Kanda/Adel Sanga	Fruit	2(4.00)	7(14.00)	9(9.00)
70.	Brassica oleracea var caulorapa	Gathea Kobi	Flower	17(34.00)	22(44.00)	39(39.00)
71.	Canavalia ensiform	Tihoon	Flower	(0.0)	-	2(4.00) 2(2.0)
72.	Copparis horrida	Bangai/Mari jamun	Fruit	1(2.00)	3(6.00)	4(4.00)
73.	Carica papaya	Pabita	Fruit	41(82.00)	48(96.00)	89(89.00)
74.	Larissa spinarum	Kanawda/karawda	Fruit	2(4.00)	9(18.00)	11(11.00)
75.	Cephalandra Indica	Kundri	Fruit	37(74.00)	42(84.00)	79(79.00)
76.	Colocasia antiquorum	Kachu/Saru	Tuber	25(50.00)	29(58.00)	51(51.00)
77.	Clicumis sativus	Khera/Tayar	Fruit	22(44.00)	14(28.00)	36(36.00)
78.	Cucurbita maxima	kohra/Kakru	Flower/Fruit	50(100.00)	50(100.00)	100(100.00)
79.	Dolicos lablab	Phali/Malhan	Fruit	19(38.00)	23(46.00)	42(42.00)
80.	Ficus cunia	Porahoo	Fruit	(0.0)	2(4.00)	2(2.00)
81.	Gardenia gummifera	Borne	Fruit	(0.0)	2(4.00)	2(2.00)
82.	Hexcus subderica	Kudrum/Epil Araha	Leaf/Fruit	26(52.00)	31(62.00)	57(57.00)
83.	Lagenaria vulgaris	Kadu/Saku	Fruit	46(92.00)	36(72.00)	82(82.00)
84.	Luffa angustifolia	Jhenga/Parara	Fruit	50(100.00)	50(100.00)	100(100.00)
85.	Momordica charanta	Bara karaila	Fruit	50(100.00)	50(100.00)	100(100.00)
86.	Moringa oleifera,	Munga/Sahajan/Suti	Flower/Fruit	50(100.00)	50(100.00)	100(100.00)
87.	Musa sapientum	Kela	Flower/Fruit	50(100.00)	50(100.00)	100(100.00)
88.	Psophocarpus tetragonolabus	Gawar fail	Fruit	3(6.00)	11(22.00)	14(14.00)
89.	Solanum torvum	Kateri/marang hajand	Fruit	3(6.0)	11(22.0)	14(14.0)
90.	Trichosanthes anguina	Kayatha	Fruit	(0.0)	2(4.00)	2(2.00)
91.	Vigna catijung	Phali/Dangbodi	Fruit	50(100.00)	50(100.00)	100(100.00)

CONCLUSION

The challenge for future generations is to safeguard biodiversity by protecting and promoting the diversity found in integrated ecosystems, which are often managed by women. The maintenance of agro bio-diversity will protect the ability of women farmers to respond to changing conditions, to alleviate risk and to maintain and enhance crop and livestock production, productivity and sustainable biodiversity management.

The findings presented in the preceding paragraphs lead to conclude that the tribal farm women belonging to low-socio-economic status group were having a broad spectrum of knowledge about plant biodiversity, particularly the genetic diversity. Tribal social systems biodiversity of plant species is directly related to the nomenclature patterns, festivals as well as socio-cultural and religious rituals. This forms a strong ground for protection of tribal cultural fabric which ultimately leads to conservation of agro-\ biodiversity and food security in tribal area of Jharkhand.

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