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Studies on socio-economic status of existing agroforestry practices in selected villages of Sohawal block of Ayodhya District in Uttar Pradesh

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Abstract
Socio-economic status and livelihood support through traditional agroforestry systems in certain village's of sohawal block on farm production of commercial crops, fruits, vegetables and woody perennials on the same piece of field. Present study revealed that literacy rate of farmers and their family members become gradually increasing from marginal 62% to large 82% category of respondents in this block. Major domesticated animals are cows, goat and buffalo. Through Milk production get additional income to improve economic and social issues of various categories of farmer's. Combination of trees and crops provides sustainable farming approaches in agroforestry provide opportunity to deliver multiple yields from per unit area of land. Present study expressed combination of tree and crops might easily adopted at any kind of land or several locations on given sites and most dominated system is agri-silviculture which is most probably adopted by the farmers other systems such as agri-horti system, agri-silvi-horti systems respectively. Most preferred trees species are *Eucalyptus species, Tectona grandis, Dalbergia sissoo, Madhuka latifoloa and Mangifera indica, Psidium guajava, Emblica officinalis* are common fruit species used for self-consumption and sale. During study identified various land use practices *viz.* agroforestry, fisheries, raising plantations, Orchard. Hence, Agroforestry systems gave better response in terms of vegetation increasing tree cover to fulfil the criteria of 33 % forest on any geographical area recorded to (1988, National forest policy) to the country.

Keywords: Agroforestry systems, sustainable, socio-economic, combination

1. Introduction

Agroforestry is a combination of land-use systems that integrates trees and shrubs on farmlands and rural landscapes with or without animals to increase productivity, profitability, diversity, and ecosystem sustainability, according to the National Agroforestry Policy (2014). Out of the total existing geographical area of 305.60 Mha, India has roughly 69.79 (FSI, 2013) [5] and 25 Mha (Dhanya *et al*., 2013) [3] Mha of forestry and agroforestry land, respectively. Agroforestry is useful for Approximate carbon stocking is 532.5 Mt. Furthermore, a farm field and field bunds provide access to the strewn trees. Half of the carbon store that is held in forests is made available through agroforestry, and recent studies indicate that area under agroforestry in India will grow dramatically in the coming years (NRCAF, 2006) [7].

By increasing the number of trees in the landscapes, the agroforestry system was the main contributor to easing pressure on the forests. Higher potential to boost economic and environmental benefits to the local society for substantial agricultural distribution to obtain food, fodder, lumber, fuel wood, and fibre for the escalating socioeconomic position (Bijalwan *et al*. 2011) [1]. Agroforestry is a system that combines traditional wisdom with contemporary national science and small-minded ideals to increase the likelihood that produced items will be profitable. The solution to the major issue of climate change is the adoption of an agroforestry system, which increases the resilience of the farming system by encouraging farmers to embrace only one crop (Dhyani, 2014) [4]. Agroforestry satisfies the demands for plywood, high-quality paper and pulp-making inputs, small and large-scale house-building timber, protein-rich green livestock feed, fuel wood for local residents' daily needs, and also for environmental improvement through reduced pollution (NRCAF. 2013) [8].

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According to a local study, the largest amounts of firewood or fuel wood come from woodlots outside of forests, such as agroforestry farms, as well as from the customary intermittent regeneration of tree covers along field boundaries (Horst and Hovorka, 2019) [6].

The agroforestry system predominates in the country's arid and semi-arid regions, and local cultivators in India frequently use irregular forms of native trees like *Leucaena* spp., *Prosopis* spp., *Acacia* spp., and *Ficus* spp in the form of silvo-pasture systems Viswanath *et al*. (2018) [9]. An important technique for encouraging forest occupiers to participate in the rehabilitation of degraded forest lands is agroforestry. According to Chakraborty *et al*. (2015) [2], agroforestry is a tool for reducing soil erosion, improving soil quality, vegetative cover, and land productivity as well as ensuring the farmers' socioeconomic stability through sustained farm productivity.

2. Methodology
The present study was conducted to find out the socio-economic characteristics of agroforestry growers in selected villages of Sohawal block of Ayodhya District in Uttar Pradesh. Personal interview questionnaire surveys and statistical analysis were used to acquire the data.
The following steps had been taken for observation in whole bock.

2.1 Geographical locations of this block
Sohawal is a town and tehsil in Ayodhya district in the Indian state of Uttar Pradesh and is sub post office of Ayodhya. Sohawal is 18 km west of district headquarters Ayodhya city. Sohawal is located at 26°45′00″N 81°59′10″E.

2.2 Selection of Block along with village:
The historical place of ayodhya distict has 11 blocks and sohawal block is one of them. Selection had been based upon presence of agroforestry systems among villages of chosen block. Villages of chosen block are Aliganj, Meerpurkanta, Khirauni and Nabiganj mentioned in S_1, S_2, S_3, & S_4 respectively.

2.3 Method of sampling:
This study is based upon multi-stage sampling and it was applied to collect the efficient data from each household was used as sampling units.

2.3.1 multi-stage sampling procedure

District →Block → Villages → Households

2.3.2 Size of sample and selection process
 1 x 1 x 4 x 16 = 64
(District) (Blocks) (Villages) (Households) (Respondents)

2.3.3 Selection of farmers: It is categorized into four parts
e.g. Large, medium, small and marginal farmer. Selection of farmers based upon land holdings *viz*, marginal (<1 ha), small (1-2 ha.), medium (2-4 ha.) and large (>4 ha.) respectively. From each village selected among 16 farmers or households in the village, the selection is based upon, 7 marginal, 4 small, 3 medium and 2 large farmers form selected each villages.

2.3.4 Socio-economic characteristics
The socio-economic characteristics of the respondents namely social status, type of family, size of family, sex ratio, ethnic group, occupation, generation of income, nature of work, land use practice, agricultural crop production and productivity, presence of cattle size, production of milk and income.

2.3.5 Percentage area under agroforestry systems
It would be easily determined in percentage area of agroforestry as well as agriculture crop area by following equation.
E.g. Area under agroforestry systems in (ha.) / Total area of farming X 100 = % area under AF

2.3.6 Hypothesis testing: χ^2 (Chi-square) test of independence
 The use of a χ^2 test of independence helps us to decide whether two variables studied (dependent or independent) are related in a population. This test also determines if a conspicuous discrepancy exists between the observed and expected counts.
χ^2 test of independence was computed at 5 percent (α=0.05) level of significance. χ^2 calculated values were used for different attributes that had been calculated by using the formula given below.

χ^2 statistic = Σ [(observed frequency – expected frequency)^2 / expected frequency]

2.4 Statistical analysis
At the end of summery of survey, the concerned information was fed into the computer for analysis, qualitative and quantitative data analyzed by using descriptive statistics and presented as, means, percentage, frequency distribution and cross tables. Statistical analysis was conducted using Microsoft Excel Software. Quantitative data analysis was summarized into different categories to facilitate statistical data analysis. The same statistical package was used and analyzed by using means.

3. Results and Discussion
 Socio-economic status consists of a farmer of many attributes that can be categorized into social and economic attributes. In agroforestry context, there are some other dimensions that are directly or indirectly related to socio-economic status, his choice to adopt agroforestry and associate themselves vice-versa. In order to understand how farmers respond to agroforestry practices (adoption by various categories of farmers), it is essential to understand farmers perception about agroforestry and impact of all these attributes to his decision as we know that farmers in the same society may have different objectives and livelihood strategies, and therefore, respond differently to same management practices like agroforestry.
Association of this attribute to adoption was studied with the perception that well-educated farmers adopt agroforestry. However as far as farmers" education level was concerned, to various categories of farmers including marginal, small, medium and large farmers having metric pass along with his members including male and female obtained more than 16 years of old. Literacy rate with appropriate prescribed percentage it varies socioeconomic status of farmers Present investigation revealed existing agroforestry practicing farmers is Sohawal block the highest literacy rate has been observed Male S_4 village (81.56%) and minimum S_3 village (56.45%) found along with Female the highest literacy rate has been observed S_4 village (82.59%) and minimum S_1 village (55.74%) found respectively.

Table 1: Literacy rate of farmers and his family on the basis of matric pass

Category of Farmers	Male				Female			
	Village (S*)							
	S_1	S_2	S_3	S_4	S_1	S_2	S_3	S_4
Large	76.56	79.32	78.45	82.56	76.74	78.41	77.48	81.59
Medium	72.45	72.67	75.87	74.43	71.43	72.36	73.51	75.42
Small	68.00	65.67	68.44	68.20	64.75	66.67	68.47	64.29
Marginal	63.78	57.34	56.45	59.33	59.13	55.74	60.21	59.46
Total	280.79	275	279.21	283.52	272.05	273.18	279.67	281.76
S.E.	2.76	4.71	4.93	4.71	3.84	4.82	3.72	5.25
C.V.	7.87	13.71	14.12	13.31	11.31	14.12	10.65	14.91
Mean	70.19	68.75	69.80	70.88	68.01	68.29	69.91	70.44

*Abbreviations used: S_1 -Aliganj, S_2 -Meerpurkanta, S_3 -Khirauni, S_4 -Nabiganj

Table 2: Household size (Sohawal block)

| Treatment	Category	Male	Female	Boy	Girl	Mean	SE±	Chi-Square	Percentage (%)	Sex ratio (M:F)
S_1	Large	2.5	2.0	3.0	2.0	9.5	0.24		26.70	1:0.75
	Medium	3.75	3.33	1.67	1.25	10.0	0.61		29.03	1:0.84
	Small	3.5	2.5	1.75	1.5	9.25	0.45		25.98	1:0.94
	Marginal	2.0	1.5	2.0	1.0	6.5	0.24		18.26	1:0.65
S_2	Large	3.0	2.5	1.5	2.0	9.0	0.32	$\chi_{cal.}^2 = 40.64$	21.62	01:01
	Medium	4.0	3.5	2.0	1.5	11	0.60		29.72	1:0.83
	Small	3.5	3.0	1.5	2.0	10	0.46	$\chi_{tab}^2 = 14.56$	27.02	01:01
	Marginal	2.5	2.5	2.0	1.5	8.5	0.24		22.97	1:0.88
S_3	Large	3.5	4.0	2.0	1.0	10.5	0.69	14.56 *5%	27.81	1:0.90
	Medium	4.5	3.5	1.75	1.5	11.25	0.72	level of significance	29.80	1:0.76
	Small	3.5	2.5	2.0	1.75	9.75	0.39	22.45 ** S	25.82	1:0.77
	Marginal	2.0	1.75	1.5	1.0	6.25	0.21		16.55	1:0.80
S_4	Large	2.5	2.0	1.0	1.0	6.5	0.38		20.63	1:0.85
	Medium	3.0	2.0	1.5	1.0	7.5	0.43		23.80	1:0.78
	Small	3.5	3.5	2.0	1.5	10.5	0.46		31.74	1:0.81
	Marginal	2.0	1.5	2.0	1.5	7.0	0.13		22.22	1:0.87
Total	-	49.00	41.08	29.17	23.50	143	-		Total	1:0.83

S- Significant, Size of family including *viz.* small (< 7 members), medium (7-10 members), large (10 >)
* Sex ratio has been given number of female per 100 male (eg.1:0.94 same as 100:94 / M:F)

3.1 House hold size and sex ratio of Sohawal block

The present study illustrated (Table-2 & Fig.-1) that demographic representation of selective respondents or various categories farmers along with his family members. The maximum numbers of family members possess across whole villages comparatively in S_3 (11.25L.) and less members possess in S_1 village (6.5 S.). In the same order of the village S_1 village contains more members got category of large family (10.0 L.), (9.25 M.) and (6.5 S.) in S_2 village prescribed as (11.0 L.), (10.0 M.). In S_3 village contains got family members in terms of (11.25 L.), (9.75 M.) and (6.25 S.) respectively. In S_4 village contains got family members in terms of (10.5 L.), (7.5 M.) & (7.0 S.) respectively. The total numbers of respondents contain 143 members including adult male, female and boys & girls having 64 various categories of respondents including from 4 different villages of Sohawal block. The current investigation and personal interview of respondents expressed M:F ratio (Table 4.3). The demographic condition of male female ratio of total number of respondents in villages under Sohawal block. In S_1 village M:F ratio most acceptable under small farmer (1:0.94) there is no much difference in the ratio of male and female respondents and got much difference under marginal farmers (1:0.65). In S_2 village M:F ratio most acceptable under large farmers (01:01) and differed under medium farmers (1:0.83). In S_3 village M:F ratio most acceptable under large farmer (1:0.90) and differed under medium farmers (1:0.76). In S_4 village M:F ratio most acceptable under medium farmer (1:0.87) and differed under large farmers (1:0.78). The gross

M:F ratio of whole block become (1:0.83) observed respectively.
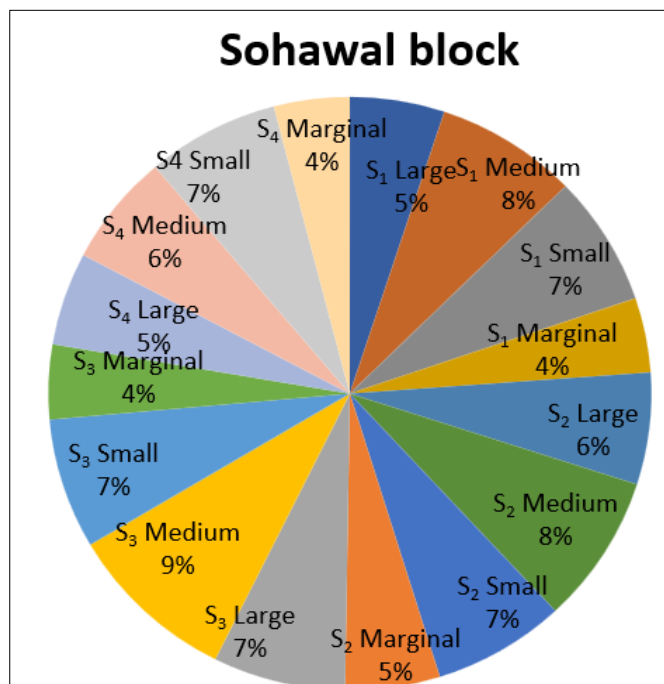
Fig 1: Household size of Sohawal

3.2 Livestock size of Sohawal block

The present study revealed (Table-3 & Fig.-2) that live stock size of domesticated animals of Sohawal block of Ayodhya

district. The highest number of cattle domesticated among selected villages of entire block by marginal category of farmers in S_2 village (4.5) and lowest numbers of cattle domesticated by small category of farmers of S_4 village (2.5). The comparative study illustrated of cattle size varies village wise. In S_1 village more numbers of cattle domesticated by large and small category of farmers (4.0) and less numbers of cattle hair by marginal category of farmers (3.5). In S_2 village more numbers of cattle domesticated by marginal category of

farmers (4.5) and less numbers of cattle hair by small category of farmers (3.25). In S_3 village highest numbers of cattle hair by large farmers (4.0) and lower in small farmers (3.0). In S_4 village highest numbers of cattle hair by medium & marginal farmers (4.0) and lower in small farmers (2.5). The table shows average number of buffalos is more (25.25) than cows (24.0) and goat (7.25). The total number of cattle domesticated by all categories of farmers by selected villages in this block is 57.5 respectively.

Table 3: Livestock size and Milk production

Treatment	Category	\multicolumn{4}{c}{Livestock size}	\multicolumn{6}{c}{Milk Production}							Percentage

Treatment	Category	Cow	Buffalo	Goat	Mean	Cow	Buffalo	Goat	Mean	SE±	Chi- square	Percentage
S_1	Large	1.0	3.0	0	4.0	5.0	18	0	23.0	5.36		33.82
	Medium	1.5	2.0	0	3.5	4.5	11	0	15.5	3.19		22.79
	Small	1.5	2.5	0	4.0	7.0	9.5	0	16.5	2.84		24.26
	Marginal	1.5	1.0	1.0	3.5	8.0	4.0	1.0	13.0	2.03		19.11
S_2	Large	1.5	2.0	0	3.5	7.5	12	0	19.5	3.50	$\chi_{cal.}^2=68.24$	32.36
	Medium	2.0	2.0	0	4.0	8.0	8.75	0	16.75	2.80		27.80
	Small	1.5	1.0	0.75	3.25	6.5	6.0	0.5	13.0	1.92	$\chi_{tab}^2=18.307$	21.57
	Marginal	1.0	1.5	2	4.5	4.0	5.5	1.5	11.0	1.17		18.25
S_3	Large	2.0	1.0	0	4.0	9.0	6.0	0	15.0	2.65	18.307* 5%	29.70
	Medium	1.5	2.0	0	3.5	3.5	9.5	0	13.0	2.77		25.74
	Small	1.5	1.0	0.5	3.0	5.75	5.0	0.75	11.5	1.56	level of significance 23.2 **	22.70
	Marginal	1.0	1.25	1.0	3.25	4.0	6.5	0.5	11.0	1.74		21.78
S_4	Large	2.0	1.0	0	3.0	7.5	5.5	0	13.0	2.24		23.85
	Medium	2.5	1.5	0	4.0	10.5	9.5	0	20.0	3.35		36.69
	Small	1.0	1.5	0	2.5	3.5	6.5	0	10.0	1.88		18.34
	Marginal	1.0	1.0	2.0	4.0	3.5	6.5	1.5	11.5	1.45		21.10
Total	-	24	25.25	7.25	57.5	97.75L.	129.7L.	5.75L.	233.25L.	-		-

*L= Liter

3.3 Milk production of Sohawal block
The present study expressed (Table-3 & Fig.-2) that milk production by various domesticated animals including cow, buffalo, goat etc. The various observation shows by different sources of data collection in terms of milk production is highest by buffalo followed by cow and goat. The highest milk production found domesticated among selected villages of entire block by large category of farmers in S_1 village (23.0 L.) and lowest milk production by small category of farmers of S_4 village (10.0 L.). The comparative study showed that of milk production varies village wise. In S_1 village more milk production by large category of farmers (23.0) and less milk yield by marginal category of farmers (13.0 L.). In S_2 village more milk production by large category of farmers (19.5 L.) and less milk yield by marginal category of farmers (11.0 L.). In S_3 village more milk production by large category of farmers (15 L.) and less milk yield by marginal category of farmers (11.0 L.). In S_4 village more milk production by medium category of farmers (20.0 L.) and less milk yield by small category of farmers (10.0 L.). The table shows average

milk production from buffalo is more (129.7 L.) than cows (97.75 L.) and goat (5.75 L.). The total milk production of cattle domesticated by all categories of farmers by selected villages in this block is 233.25 L. respectively.

3.4 Source of fodder and daily consumption
The present study represents (Table-4) various sources of fodder and its consumption on daily basis by various domesticated animals including cow, buffalo, and goat respectively. Sources of fodder expressed in the table including Wheat-paddy straw, Barseem, Maize, Jwar, Bajra etc. for feeding of cattle commonly. Given sources of fodders commonly used by various categories of farmers. In Milkipur block Wheat-paddy straw, Barseem, Maize, Jwar, Bajra used as feed for various cattle or milk producing animals. In sohawal block Wheat-paddy straw, Barseem, Maize, Jwar, Bajra used as feed for various cattle or milk producing animals. In marginal category of farmers need for cattle feed 12.21 kg, small farmers 15.87 kg, medium farmers 18.56 kg and large farmers 23.56 kg. on daily basis for consumption.

Table 4: Production of fodder and daily consumption of Sohawal block

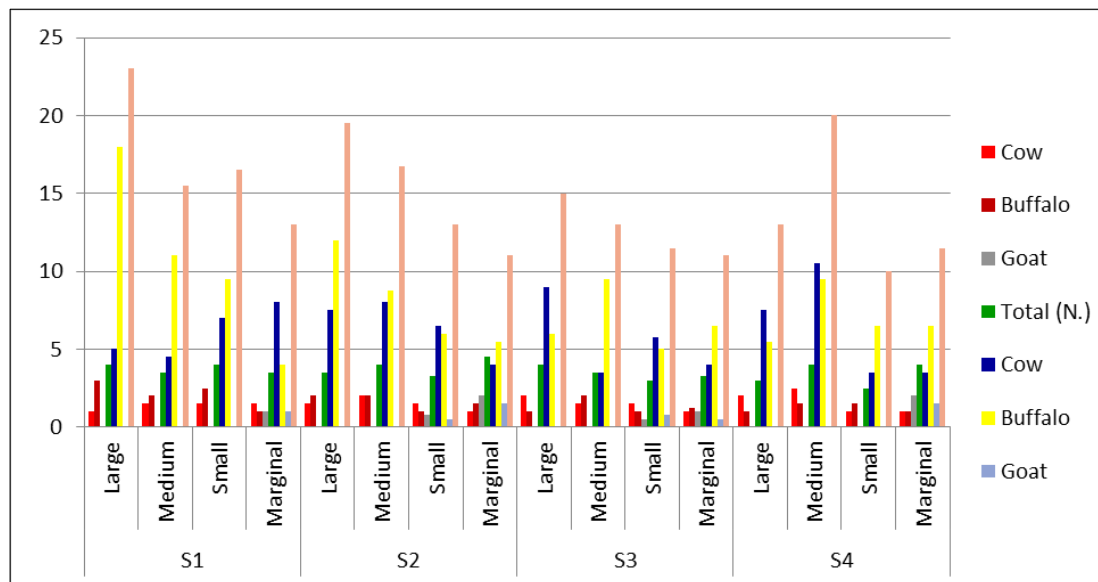| Production of fodder and collection distance				
Category	Source of fodder	Average collection distance (Km.)	Fodder consumption by stall (Kg./ day)	Method of feeding
Large	Wheat-paddy straw, Barseem, grass, Maize, Jwar, bajra	0.41	23.56	stall& direct
Medium	-do-	0.37	18.56	stall& direct
Small	-do-	0.32	15.87	Stall
Marginal	-do-	0.18	12.21	Stall

Fig 2: Livestock size and milk production in Sohawl block

There are most common method for feeding of cattle is stall and direct feeding managed by various categories of farmers who practicing agroforestry systems. Small and marginal farmers preferred stall feeding and medium and large farmers preferred direct & stall method commonly. In off season most of the farmers using feed consumption using as stray animals for grazing.

3.5 Distribution of land use pattern followed by farmers of Sohawal block
Current investigations shows that variations in villages of amongst farmers with land use systems has been found out of 80 respondents. The entire study expressed or followed priority to land use by different growers in Sohawal block. Number of farmers are involved in agriculture apart from it and moreover agroforestry, fisheries, raising plantations, Orchard to enhance socio-economic status of farmers (Table-5 & Fig.-3) or as source of livelihood for rural people. Another, agriculture and allied activities increase extra income and increase gross benefit from alternate sectors (Fisheries, plantations, apiculture, sericulture). In the village of S_1 got maximum adopters are agroforestry (30%) and agriculture (25%) respectively practicing farmers and minimum fisheries (15%) & plantations (10%) with including Orchard (15%) different kinds of fruit trees, forest tree, shrubs and vegetables has been easily grown on per unit area of land in given villages. The rank has been mentioned according to given priority in columns. In S_2 village got maximum agroforestry practicing farmers (30%), agriculture (20%) practicing farmers and minimum land left as fallows (10%) and plantations (10%) with including Orchard (15%). In S_3 village got maximum agroforestry practicing farmers (35%), agroforestry (25%) practicing farmers and minimum fisheries (05%) & plantations (15%). Here, *Eucalyptus* spp. Is most common tree species for them with including Orchards. There are greater number of respondents actively adopted agriculture practice and lots of them unaware about advance technique of farming and application of innovative ideas to enhance income. In s_4 village got maximum adopts belongs to agroforestry (40%), agriculture (20%) practicing farmers and minimum fisheries (15%) & amp; plantations (10%) with including Orchard (20%) diversity of fruit trees with respect to abundance, distribution patterns, fruit collection and their management in coffee based home gardens of high altitude

agro-climatic zones of Kerala and he found some non-crop fruit trees like *Baccaurea courtallensis*, *Carissa carandus*, *Chrysophyllum roxburghii*, *Feronia elephantum, Garcinia xanthochymus, Madhuca indica, M. longifolia, Mimusopse lengi, Zizyphus mauritiana* etc were managed for shade, fuelwood, timber, soil fertility, fencing and edible fruits. For the conservation of crop diversity and ensuring food security he proposed tree improvement, domestication and sustainable cultivation of the non-crop fruit trees species in home gardens Chandrashekara (2009). Based on counts received from the respondents, result has been indicated that over total reported agroforestry practice. The farmers of the villages of this block fisheries do not prefer more it has been used as self-consumption purpose Panchayat land are common sources of fisheries production and moreover, around the village pond various tree species planted around them to protect bank of pond from soil erosion.

Table 5: Land use practices of Sohawal block (TR-80)

| Treatment	Land use practices	Total	Percentage	Remarks
S_1	Agriculture	6	30	1
	Agroforestry	5	25	2
	Fallow	1	05	5
	Fisheries	3	15	3
	Plantation	2	10	4
	Orchard	3	15	3
S_2	Agriculture	5	25	1
	Agroforestry	5	25	1
	Fallow	2	10	3
	Fisheries	3	15	2
	Plantation	2	10	3
	Orchard	3	15	2
S_3	Agriculture	8	40	1
	Agroforestry	4	20	2
	Fallow	1	05	4
	Fisheries	1	05	4
	Plantation	3	15	3
	Orchard	3	15	3
S_4	Agriculture	7	35	1
	Agroforestry	4	20	2
	Fallow	0	00	5
	Fisheries	3	15	3
	Plantation	2	10	4
	Orchard	4	20	2
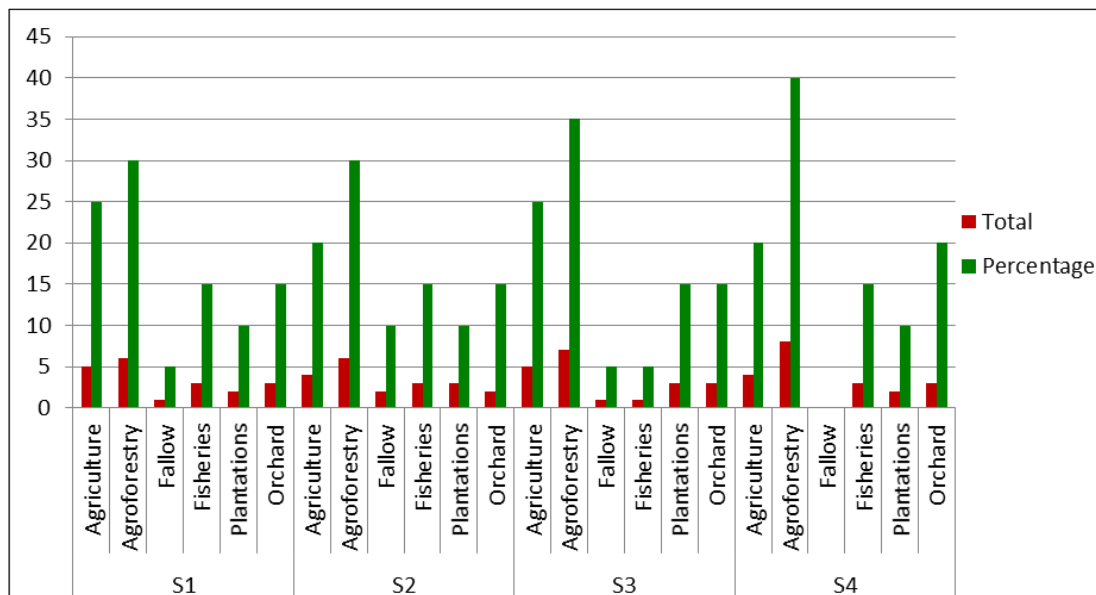
Fig 3: Land use practices in various villages of Sohawal block

3.6 Choice of fruit and forest tree species and yield in Sohawal block: Various types of fruit species grown in Sohawal block there is great number of farmers grown fruit trees, forest trees commonly as home garden, orchard and scattered on agricultural land in this district including great influence of fruit, trees, shrubs, herbs etc. are most common vegetation of the study area (Table 2). There are various tree species found on cultivated land planted for fulfilment of multiple objectives or based on the need of various categories of farmers. According to her or him utilize for consumption or sale of produce in the market. Forest trees species such as Eucalyptus spp., Tectona grandis, Dalbergia sissoo, *Mdhuka latifolia* is common and preferred species raising as boundary plantation, block plantation, agroforestry purposes and raise to sold in the furniture market, plywood industries, making furniture, Eucalyptus trees use as fencing.

1. Fruit species
There is various category of farmers raise fruits of *Mangifera indica, Psidium guajava, Emblica officinalis, Ziziphus mauritiana* has been commonly adopted by large and medium farmers planted in orchard, garden or own vacant land and produce yield. Fruit production given in table e.g. 28 Mango trees produce 25.2 q/ha, 17 number of guava trees gives 7.65q/ha Yield from large farmers, they use fruits mostly self-consumption and sale properly. Same fruit trees have been planted by marginal farmers but lesser in number such as 11 trees of mango produce 9.9 q/ha, 7 guava trees produce 3.15 q/ha and 3 citrus trees 1.05 q/ha Yield commonly. Result has given a certain idea about interest of farmers towards interest to benefit gain from selling fruits and wood use to make furniture. This interest has been found more growing fruits they provide nutrients and satisfaction to family members.

Table 6: Choice of fruit and forest tree species and yield in Sohawal block

| Block | Category | No. of fruit species and yield | | | Use | | Forest species | No. of trees |
		Fruit species	No. of trees	Fruit yield (quentals)	Consumption	Sale		
Sohawal	Large	*Mangifera indica*	28	25.2	Y	Y	*Eucalyptus* spp.	198
		Psidium guajava	17	7.65	Y	Y	*Tectona grandis*	67
		Ziziphus mauritiana	11	11.0	Y	Y	*Dalbergia sissoo*	26
		Emblica officinalis	9	6.75	N	Y	*Madhuka latifoloa*	7
	Medium	*Mangifera indica*	16	14.4	Y	Y	*Eucalyptus* spp.	175
		Psidium guajava	14	6.30	Y	Y	*Tectona grandis*	51
		Ziziphus mauritiana	7	7.00	Y	N	*Dalbergia sissoo*	21
		Aegal marmelos	4	3.00	Y	N	*Azadirachta indica*	5
	Small	*Mangifera indica*	15	13.5	Y	Y	*Eucalyptus* spp.	141
		Psidium guajava	9	4.05	Y	N	*Tectona grandis*	35
		Ziziphus mauritiana	7	7.00	Y	Y	*Dalbergia sissoo*	14
		Citrus spp.	4	1.40	Y	N	*Madhuka latifoloa*	4
	Marginal	*Mangifera indica*	11	9.90	Y	N	*Eucalyptus* spp.	107
		Psidium guajava	7	3.15	Y	N	*Tectona grandis*	12
		Ziziphus mauritiana	6	6.00	Y	N	*Dalbergia sissoo*	8
		Citrus spp.	3	1.05	Y	N	*Madhuka latifoloa*	2

2. Forest trees species
There are various forest trees species commonly understand as, *Eucalyptus* spp., *Tectona grandis, Dalbergia sissoo, Madhuka latifolia* etc. *Eucalyptus* trees have planted in huge amount 198, teak 67 trees, shisham 26 (Avg. mean) raised by large category of farmers these trees utilize as making furniture, plywood, wood lots and making agricultural

equipment's generally. Marginal farmers also plated same species commonly but in lesser number eucalyptus 107, teak 12, shisham 8 and mahua 2 trees his own farm land to enhance their income regularly. Trees have been grown as agroforestry system, block plantation, bounds, scattered trees on agricultural land.

Table 7: Agroforestry systems and tree + crop combination in Sohawal block

Farmers Category	Agroforestry systems	Tree+ Crop Combination
Large	Agri-silviculture, silvi-pasture system and agri-horti system, agri-silvi-horti system	Eucalyptus+sugarcane, Teak +Paddy, Shisham+Vegetable, Mango +Wheat, Mango +Paddy-pea
Medium	Agri-silviculture, silvi-pasture, agri-horti system, silvi-horti system**	Eucalyptus +paddy-wheat, Teak +Paddy-wheat, teak +mango, Mango +chilli-tomato
Small	Agri-silviculture, agri-silvi-horti system	Eucalyptus+ sugarcane, Eucalyptus+ mango-paddy, Mango+ paddy
Marginal	Agri-silviculture system*, agri-horti system	Eucalyptus+ paddy-wheat, Teak+ tomato-chili

 * Respondents might have adopted more than one agroforestry practices
** Respondents followed both types of plantation patterns in respective practice type

4. Conclusion
The paper deals with the socioeconomic status and livelihood support through traditional agroforestry systems in sohawal block of Ayodhya District. The predominant traditional agroforestry systems reported in the area were agri-silviculture, agri-horti system and agri-silivi-horti, silvi-pasture system has been followed by various households in selected villages. Four selected villages and family size about 6.5 members per family. Highest literacy has been recorded by large farmers 82.56% male and 81.59% female. Average cattle size for marginal farmers 1.16, small 2.58, medium 2.91 and large 1.33. And average milk production for large farmer 23 litre/day, small 16.5 litre/day and marginal 13 litre/day. Major domesticated animal is buffalo and cow. Method of fodder consumption is direct and stall method but stall is most common among them with daily fodder consumption by large farmer 23.56Kg./day, marginal farmers 12.21Kg./day. Integration of various crops and under perennial tree species of agroforestry system was recorded in studied with selected villages and existing tree & crop combination were beneficial for getting huge income of farmers. Most of farmers has been included multiple use of trees in terms of furniture, pole for making agricultural equipment's and fuel wood purposes. Agroforestry practices increases gross income of farmers in comparison to mono-cropping it is alternate option to need of wood demands for local level. Such integration reduces the dependency on Natural, protected and reserved forests. Above statements may helpful for implementation of agroforestry policy on given locations and mitigate the risk of failure by inter cropping of various crops under trees.

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