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### Rural household income patterns in uttar pradesh: primary data

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#### Abstract

In the post-liberalization period, the Indian economy has undergone significant structural changes adversely affecting agriculture sector. While the production of agriculture is declining year after year, the Union Budget 2018 had key implications for agriculture sector which employs more than 50 percent of the total workforce in India and contributes around 17-18 percent to the country's GDP from 35% in 1990. Punjab, Haryana and Western Uttar Pradesh have initiated a green revolution in the first phase during the 1960s. Punjab and Haryana have reached its peak level of production of food grains. In Western Uttar Pradesh some of the districts have performed well as compared with other parts of the state. Though in Uttar Pradesh 92.4% of farmers belong to small and marginal land holdings, their productivity levels have not increased much.

Due to that their income levels are also very low. Hence, the need of the hour is to examine the agriculture income pattern and their reasons in other parts of the state when compared with Western Uttar Pradesh. The present study was an attempt to understand the income pattern of villagers in Uttar Pradesh. The villages were been purposively selected to represent the character of the state i.e., Gohanakala village in Lucknow district of the Central region, Senapur village in Jaunpur district of Eastern region, Pandari village in Chitrakoot district in Bundelkhand region, Seemli village in Muzzafarnagar district of the Western region. The study analyzed the contribution of agriculture income in total income and, whether, the income is correlated with the size of the farm. The finding reveals that the income from agriculture has not been a major contributor to total income, whereas maximum contribution in total income has been through services and wage. However, the income from agriculture and allied activities (livestock) has been found maximum among other sources of income. It has also been observed from the study that the income has significantly correlated with the size of the farm. The 10% households appropriate 38.41% of the total income of all households and an about 91.70% household has found richest of highest category of land holdings.

**Keywords:** Income index, Inequality, Size of land holding

#### Introduction

Uttar Pradesh (UP) is one of the largest and most backward states in India with a diverse composition. Even more than six decades after independence, some of the regions of this state are very backward and the abode of the largest proportion of poor in the country. The challenges rose by intra-regional disparities and their compounding implications on living conditions and governance are enormous. This exercise is intended to identify the dimensions of intra-regional disparities, inequality, and deprivation in poor households of the state.

Uttar Pradesh lags behind the other states because it could not continue with the momentum of development with which it started along with states like Punjab. There are many factors, which have caused this backwardness. Uttar Pradesh could not seize the prime objective of planning which aimed at reduction of inter-regional disparities and balanced economic growth. A process of transforming, acquisition, and redistribution of surplus land to the poor was initiated in place of the colonial agrarian structure through the abolition of the zamindari system, and institutions of delivery and development were put in place. But these agrarian reforms failed to take off, accentuating disparities and inequalities (D.M. Diwakar, 2009) [8], though the state adopted a decentralized planning process, which was governed by community development approach. In fact, the intra-state differences in Uttar Pradesh have contributed to interstate differences between Uttar Pradesh, Punjab, and Haryana (Bajpai and Volavka, 2005) [2]. The rising discontent of marginalization alongside a growing economy forced the ruling class to

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address development gaps at the micro-level after the economic reforms. This was sharpened in due course by democratic pressure. Thus, our planners are talking about Second Generation Reforms, which would focus on inclusive growth. Many target-specific development programmes were initiated to address intra-regional disparities through district development agencies such as the Rashtriya Sam Vikas Yojana (RSVY), Backward Regions Grant Funds (BRGF) and National Food for Work (NFW), National Rural Employment Guarantee Scheme (NREGS), in addition to many social security measures for poverty eradication.

Punjab, Haryana and Western Uttar Pradesh have initiated a green revolution in the first phase during the 1960s. Punjab and Haryana have reached its peak level of production of food grains. In Western Uttar Pradesh some of the districts have performed well as compared with other parts of the state. Though in Uttar Pradesh 92.4% of farmers belong to small and marginal land holdings, their productivity levels have not increased much. Due to that their income levels are also very low. Hence, the need of the hour is to examine the agriculture income pattern and their reasons in other parts of the state when compared with Western Uttar Pradesh.

The new agricultural technology was introduced during the mid-sixties as it relates to the package of high-yielding varieties seeds, assured irrigation, use of chemical fertilizers, insecticides, pesticides, herbicides, machinery and modern agricultural practices. The success of the new agricultural technology was termed as green revolution. It has helped in increasing the income levels as well as total food grain production. The introduction of the new technology would, therefore, result in a growing polarization between large-scale and small-scale cultivators (Wilson, 2002) [23]. This process of transformation of Indian agriculture from a traditional to a modern state has brought in its wake of new opportunities for investment in agriculture because of the high rate of return to such investment. While ushering in rapid agricultural growth the green revolution has given rise to problems arising out of the distribution of its benefits. One of its consequences is reckoned in the form of growing disparities in farm incomes over time (Saini, 1976) [15].

In its initial phase, the significant increments in productivity and production led to higher and higher income benefited to the farming community (Aggarwal, 1971) [1]. All categories of cultivators have been able to record a substantial increase in their output and income through the adoption of new technology. The bigger farmers gained more than the small farmers, an upward shift in their incomes (Johl, 1975) [12] even the small farmers were unable to earn adequate per capita income from crop production because of their small land base (Bhalla and Chadha, 1982 and Singh *et al*, 1975) [4, 20]. Due to many reasons like lack of finance, the small farmers were unable to use the improved seeds, fertilizers, and new techniques. It was realised that the small farmers were lagging behind the medium and large farmers in adopting modern innovations in their farming (Rao, 1975) [14], through the adoption of the new technology by the small cultivators, often in areas where the green revolution's impact has been assumed to be very limited (Shah and Ballabh, 1997 and Thakur *et al*, 2000) [17, 21]. The new agricultural technology widens the income inequality among the different sections of the farming population and provides proportionately large benefits to the big farmers as compared to the small farmers because the small farmers are slow to accept the new technology (Chowdhary, 1970) [6, 7]. The Punjab peasantry especially the small farmers could not afford farm investment

from their own savings to transform traditional agriculture into scientific farming (Singh and Toor, 2005) [19].

Although western Uttar Pradesh (districts of Muzzafarnagar, Meerut etc) are very similar to Haryana both in terms of agricultural conditions and social relations (the so-called Jat belt), taken as a whole UP is distinctly different from Haryana, in part due to the vast central and eastern stretches of the state. In UP as in Haryana and most parts of India, households holding more than 5 acres of land have lost their share of land to small and marginal peasant households. However unlike Haryana, UP is a "small landholding state" because households having more than 10 acres of land account of only 16% of land in UP. Commensurate with the importance of marginal and small farmers in the share of land owned, income from cultivation plays a much more important role in Uttar Pradesh, as compared to Haryana. While it is clear from national and state level evidence that tenancy (sharecropping etc) is on the decline in rural India (Basole and Basu 2009) [3], more micro studies reveal complexities not necessarily thrown up by state-level analysis.

Lerche (1999) [13] in his study of villages in Jaunpur district of eastern UP, it appears to be a type of piece rate system for agriculture couched in sharecropping terminology. Lerche noted that since the 1980s it has become a common way of cultivating paddy because the landowners have found it to be a cheaper way of organizing the labour process as compared to daily wage labour. Lerche (1999) [13] also notes labor militancy (a strike every third year) and consequent rising wages in a village in Jaunpur district. Partly the laborers have also benefitted from a split in the landowning class between old upper caste landlords and newer Yadav ex-tenants. The tiseri system became more prevalent in the 1990s as agricultural wages increased. According to Lerche, it has been adopted by landowners as a strategy to handle labor conflict. Here again we see, as in the case of attached labor in Haryana, the emergence of what appear to be feudal relations of production (sharecropping in this case, attached or bonded labor in the case of Haryana) but which are really responses to new conditions created by changes in technology as well as caste/class struggle. Finally Lerche concludes that: The transformation over time of draconian permanent unfree labor relations into labor relations involving various degrees of unfreedom, as well as the decrease in and transformation of sharecropping, are important aspects of the overall development of labor relations in the two villages (one in Muzzafarnagar district, West UP and one in Jaunpur district, East UP).

Hiring a laborer during the lean season by paying six months wages in advance (effectively as a consumption loan) entails lower wage costs since hiring the same worker only when really needed (during peak season) would cost much more (demand for workers in high during peak season and hence so are wages). This type of situation is not good for wage labourers but sometimes, this situation plays a major role in the family.

Agricultural laborers are at the bottom of the wage hierarchy, in general. For example, Lerche cites the wide difference in Muzaffarnagar between agricultural and nonagricultural wages: Rs. 5070 for a day's work in the brick kilns of Punjab versus Rs. 2530 on the farm (1998 prices). While this resulted in migration out of agriculture, the landowning peasants still found the local agricultural wages too high and applied pressure to keep wages down. While Lerche does not take this any further, it seems reasonable to conclude that this situation resulted from decreasing margins and increasing unviability

of agriculture. Very small peasants also need to hire in labor during the peak season and it seems reasonable to suppose that they would find an increase in wages harder to bear than larger peasants, and hence would be likely to oppose such increases. As can be imagined this situation greatly complicates class politics on the ground, setting small and marginal peasants (who may themselves also be working sometimes as wage workers) against agricultural wagedworkers. Due to this agriculture income fluctuates more rapidly. Micro-level studies also reveal the great importance of nonfarm rural employment in setting the terms of farm employment. Deepankar Basu, in his essay on Bihar, has also commented on this issue. Availability of nonfarm options is expected to improve the bargaining power of agricultural laborers and hence improve their wages. The importance of nonagricultural employment has indeed steadily increased in most parts of India. In west UP, between 59 and 70% of the income of landless households came from nonagricultural employment (Lerche 1999) [13].

However, Agriculture is now a business and has to run so. It can't be viable for marginal and small farmers, who cannot cut their costs, can't afford the latest technology. The green revolution had made impressive strides in Punjab agriculture and achieved many landmarks of enhancing the income of the farmers. Nevertheless, success still eludes the marginal and small farmers. These resource-poor farmers have been unable to get their fair share of the cake. With the onset of development crisis in agriculture, the marginal and small farmers are finding it difficult to survive (Sekhon *et al*, 2009) [16]. The potentials of new technology began to be exhausted in the 1980s generating a pressure of economic stress among the poor strata of the peasantry (Gill, 2005) [10] and have started declining since the 1990s (Singh, 2000) [18]. The new economic policy advocates withdrawal of the state from the economic sphere by leaving it to the logic of market forces. Leaving the agricultural sector to the vagaries of the free market could prove disastrous (Jodhka, 2006) [11]. The subordination of cultivators to market and capital forces without a safety net to support them in times of crop loss accounts for the devastation of rural communities (Vasavi, 1998) [22]. As a consequence, the per hectare net return is declining and this is the real crisis of Punjab agriculture. The annual trend growth rate of per hectare return, over variable costs, from wheat and paddy (combined), was -2.18% during the 1990s. In case of cotton, it was -14.24% per annum during the same period (Ghuman, 2001) [9]. Keeping in fact exploring the income pattern of rural households the following objectives have been formulated.

1. To examine the share of agriculture and allied activities in total income by size of landholding.
2. To calculate per capita and per household distribution of the source of income in total income by land categories.
3. To elucidate the variations of income among households by their landholding categories.
4. To assess the distribution of wealth index based on assets they own.

## 2. Data and methods

### 2.1. Data

In this study, we have used the data from a survey of four villages undertaken by the Giri Institute of Development Studies, Lucknow in 2013 under the project 'Rural Transformation in Uttar Pradesh'. This survey was conducted in four villages selected from the four different economic regions of Uttar Pradesh. We have purposively selected

Gohanakala village in Lucknow district of the Central region, Senapur village in Jaunpur district of Eastern region, Pandari village in Chitrakoot district in Bundelkhand region, Seemli village in Muzzafarnagar district of the Western region. While Gohanakala village is located near to an urban center, Senapur village is located neither in the proximity of any urban center nor that of a remote area and it also does not fall in very poor economic region or very rich economic region categories. While Pandari village is located in a remote and economically backward region, Seemli village is located in one of the economically prosperous regions of the state. A census survey conducted in the aforementioned villages and for that, all the households in the villages were enumerated with a structured schedule. The sample size of Gohanakala, Senapur, Pandari, and Seemli villages has been found 503, 471, 368, and 296, respectively.

### 2.2. Methodology

The inequalities of income of households have calculated according to their land holding pattern. To find out the depth of pattern of income according to their land size, we have classified the land into five categories. The classification of landholding has termed as landless, marginal -1, marginal-2, small and medium in villages under study. The landless households have no land but could involve in the leased-in land process. Marginal-1 and marginal-2 type households having the land below 1 acre and 1 to 2.50 acre, respectively. Small and medium household's means that they own land between 2.50 to 5.00 and more than 5 acres. Inequality distribution of households calculated for the income from the agriculture i.e. agriculture and livestock and; other than agriculture i.e. trade and business, wages, services (salaried) remittances, pension, rent from land, hiring out agricultural equipment and others. It has also considered that only 13 households (an about 0.79%) have been found who owned more than 10-acre land across four villages. Reason being due to quite a low percentage of these type households has been considered in the medium type of households.

Principal Component Analysis (PCA) method was used for creating the individual dimension index score. Each of the components used in the computation of the individual dimension index was assigned a weight (factor score) generated through PCA. The variables i.e. structure of the house, type of fuel using by households, necessary household assets, durable assets, and luxury assets, water and sanitation facility have been used for it. The resulting scores were standardized in relation to a normal distribution with the mean of zero and standard deviation of one. Then, poverty cut-off from standardized scores divided as 20.0% population of first lower quintiles considered as a poor and others are termed as poor, medium upper medium and richest for 20% each.

## 3. Results and Discussion

### 3.1 Household Income

The average per household income gained from different sources by the various farm-size categories including landless household is given in Table 1. The table reveals that an average household earns Rs. 96199 per annum in the rural areas of Uttar Pradesh. There are considerable variations in the levels of income earned by the different farm-size holding (figure.1) household categories along with landless. It is Rs. 76738, Rs. 82839, Rs. 103912, Rs. 146373 and Rs. 254781 for the all categories households, respectively.

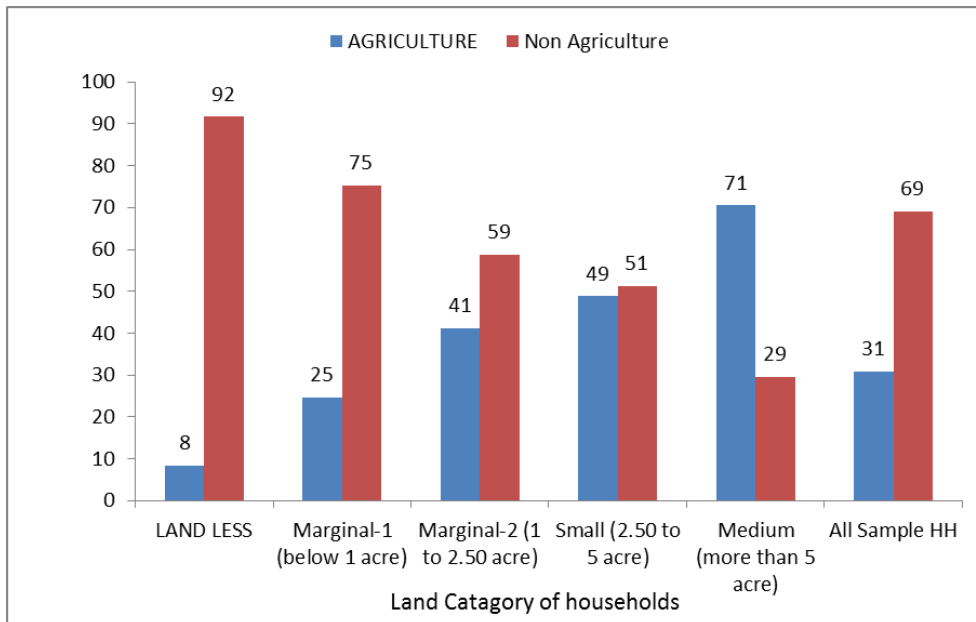


Fig 1: Distribution of agricultural and non-agricultural Income pattern by their land holding size

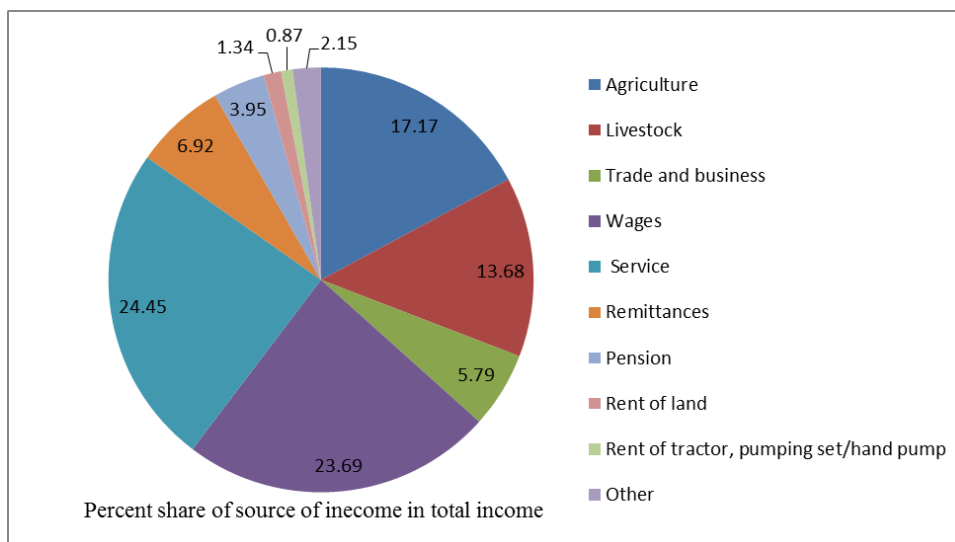


Fig 2: Distribution of household income

The income pattern shows that the service is most important component followed by wage, agriculture, allied agriculture, and others. A positive relationship between farm-size and levels of income can be observed from the table. It is evident that as the farm-size increases, the average income of the farm households also increases. It is obvious from table annual

income of average medium type households found more than 3 times the annual income of the landless and marginal-1 type of farm household. On the other hand, Landless are getting Rs. 554 from agriculture that might be possible due to lease in the land.

Table 1: Status of average annual income (Rs.) of per households by sources of income

S.No.	Sources of income	Land category					Total	F value and significance
		Landless	below 1 (Marginal-1)	1.00 to 2.50 (Marginal-2)	2.50 to 5.00 (Small)	Above 5.00 (medium)		
1.	Average income of agriculture & allied sector	6390	20468	42828	71427	179638	29677	376.347**
(i)	Agriculture	554	7332	24566	49233	139636	16518	457.019**
(ii)	Livestock	5836	13136	18262	22194	40002	13159	70.342**
2.	Average income of non agriculture sector	70348	62371	61083	74945	75143	66522	33.387**
(i)	Trade and business	5888	4021	5797	7802	8737	5568	0.851 <sup>NS</sup>
(ii)	Wages	31720	24345	13354	9480	1385	22786	35.543**
(iii)	Service	18653	21217	27685	38111	37340	23517	3.300*
(iv)	Remittances	6186	7983	5891	4468	9917	6658	1.232 <sup>NS</sup>
(v)	Pension	3047	3241	4806	7868	1720	3801	0.888 <sup>NS</sup>
(vi)	Rent of land	2712	164	612	161	2105	1293	457.019**
(vii)	Rent of tractor, pumping set/hand pump	265	283	713	3758	5848	836	23.948**
(viii)	Other	1877	1117	2225	3297	8090	2064	3.678**
	Total average income	76738	82839	103912	146373	254781	96199	140.496**

Source: Field Survey, 2013. \*\* Sig. at 1% and \* 5% Sig. level

This phenomenon indicates the fact that farm business income of the marginal and small farm-size categories is not sufficient to meet out their requirements and farmers of these categories earn some income from wages and services. However, income from hiring out labour in agriculture has a negative relationship with farm-size.

### 3.2 Pattern of Income

The relative shares of income of various sources of farm households are given in Table 2. According to agriculture

census 2001-02 an about 90% of households are located in rural area of the state of Uttar Pradesh. The surveyed village having more crises in terms of land handling and that has found only 64% household were found having cultivable land. It is due to land fragmentation and rapid urbanization. The table shows that by virtue of being landholder the households are more dependent on agriculture but not quite high momentum. The households are getting more than twice their income i.e. 69% from nonfarm as compared to farm business income i.e. (31%).

**Table 2:** Percent distribution of average annual income (Rs.) of per households by sources of income

S.No.	Sources of income	Land category					Total
		Landless	below 1 (Marginal-1)	1.00 to 2.50 (Marginal-2)	2.50 to 5.00 (Small)	Above 5.00 (medium)	
1 (i)	Agriculture	0.72	8.85	23.64	33.64	54.81	17.17
(ii)	Livestock	7.60	15.86	17.57	15.16	15.70	13.68
	Total income of agriculture & allied sector	8.33	24.71	41.22	48.80	70.51	30.85
2 (i)	Trade and business	7.67	4.85	5.58	5.33	3.43	5.79
(ii)	Wages	41.34	29.39	12.85	6.48	0.54	23.69
(iii)	Service	24.31	25.61	26.64	26.04	14.66	24.45
(iv)	Remittances	8.06	9.64	5.67	3.05	3.89	6.92
(v)	Pension	3.97	3.91	4.63	5.38	0.68	3.95
(vi)	Rent of land	3.53	0.20	0.59	0.11	0.83	1.34
(vii)	Rent of tractor, pumping set/hand pump	0.34	0.34	0.69	2.57	2.30	0.87
(viii)	Other	2.45	1.35	2.14	2.25	3.18	2.15
	Total income of non agriculture sector	91.67	75.29	58.78	51.20	29.49	69.15
	Total income	100.00	100.00	100.00	100.00	100.00	100.00

Source: Calculated from Table 1.

The landless households are mainly dependent on wage income followed by services and others. Marginal-1 of households is getting one-fourth income from farm business as compared to nonfarm. Marginal-1 type households are mainly getting their income from wages and wages indicating that that is much more similar to landless households. However, marginal-2 types of households getting major income from services followed by farm business income, and wages etc. It is remarkable that the small landholders getting marginally equal income from farm business and nonfarm business. They are getting highest income from agriculture followed by service and others. It is depicted from the table that the medium type of households is getting major income from farm business with a combination of an about 55% from agriculture and 16% from livestock. They are also getting income from services (15%) and none of the other sources (not more than 5%) which is found remarkable in their

income.

It is found that the income from the farm business is highly correlated to their land holding pattern. It is debatable point that the farm business only beneficial for only those households having more than 5 acres. The households, who are having below 5 acres of land, they are getting their major share of income from nonfarm sources only.

### 3.3 Per Capita Income

In the foregoing discussion, the income levels and pattern of the marginal and small farm-size categories in the rural Uttar Pradesh have been analyzed. The average family size of the landless, marginal-1, marginal-2, small and medium categories of households have been found 4.94, 5.65, 5.63 and 6.48, respectively in surveyed villages. As a whole, the average family size of the rural households is 5.38 in four surveyed villages.

**Table 3:** Status of Per-capita income per household by the source of Income (In Rs., Per Annum)

S.No.	Sources of income	Land category					Total
		Landless	below 1 (Marginal-1)	1.00 to 2.50 (Marginal-2)	2.50 to 5.00 (Small)	Above 5.00 (medium)	
1 (i)	Agriculture	111	1297	4366	7593	21593	3013
(ii)	Livestock	1174	2324	3245	3423	6186	2400
2 (i)	Trade and business	1184	712	1030	1203	1351	1016
(ii)	Wages	6381	4308	2373	1462	214	4156
(iii)	Service	3752	3754	4920	5878	5774	4290
(iv)	Remittances	1245	1412	1047	689	1534	1214
(v)	Pension	613	574	854	1213	266	693
(vi)	Rent of land	546	29	109	25	326	236
(vii)	Rent of tractor, pumping set/hand pump	53	50	127	580	904	152
(viii)	Other	378	198	395	509	1251	376
	Total income of agriculture & allied sector	1285	3622	7611	11016	27779	5413
	Total income of non agriculture sector	14152	11036	10855	11559	11620	12134
	Total income	15437	14658	18466	22575	39399	17547

Source: Calculated from Table 1.

Since the family size across the landless to medium land holding size categories of households varies, it becomes relevant to look into the per capita income levels across the different all categories. The data pertaining to the per capita income earned by all types of households in the rural areas of Uttar Pradesh is given in Table 3. On an average, the surveyed households of four villages earn per capita income of Rs. 17547 annually. However, there are differences in the per capita income levels of the farm-size categories. For example, per capita income of the marginal-1 farm size households i.e. Rs.14658, landless households earning more than marginal farm size households Rs. 15437. Subsequently, small type of households is getting Rs. 22575 per capita per year. The per capita income for the medium type of households getting more than double as compared to another category of farm households.

### 3.4 Distribution of Income

The pattern of distribution of income among families and population of the landless, marginal-1, marginal-2, small and medium farm-size households categories as well as all categories taken together as a whole have been worked out by taking cumulative percentage of per household and per capita

income for each decile group after arranging the same in the ascending order. Gini ratios have also been calculated to justify the pattern of distribution. Gini ratio conveys better distribution if it is nearer to zero. The Gini coefficient can be presented as a value between 0 and 1 or as a percentage. A coefficient of 0 reflects a perfectly equal source of income in which all income is equally shared. A coefficient of 1 (or 100%) represents a perfectly unequal source of income wherein all income is earned by one source of income.

#### 3.4.1 Household Income Distribution

The distribution of income among the surveyed households in the rural areas of Uttar Pradesh has been shown in Table 4. The bottom 10% farm households share only 2.63% of the total income earned by all the households. On the other hand, the top 10% farm households appropriate 39.41% of the total income of all households. This is about 15 times the income shared by the bottom 10% farm households. A clear contrast is obvious from the fact that the bottom 50% farm households account for 22.31% of the total income, whereas only 10% top households account for slightly less than double to the total income earned by all the sampled farm households.

**Table 4:** Distribution of Household Income

Cumulative%age of households	Cumulative Percentage of Household Income					
	Landless	below 1 (Marginal-1)	1.00 to 2.50 (Marginal-2)	2.50 to 5.00 (Small)	Above 5.00 (medium)	Total
10	1.99	3.00	3.12	3.35	0.00	2.63
20	5.00	7.23	7.59	7.11	0.00	6.50
30	8.53	12.20	12.75	11.41	5.62	11.01
40	12.63	17.95	18.80	16.52	12.12	16.26
50	17.34	24.60	25.75	22.40	12.12	22.31
60	22.82	32.28	33.69	29.18	20.07	29.29
70	29.17	41.26	43.03	36.98	29.96	37.43
80	37.06	52.32	54.39	46.77	41.55	47.46
90	48.02	68.24	70.51	60.28	58.47	61.59
100	100.00	100.00	100.00	100.00	100.00	100.00
Gini Coefficient	0.18	0.29	0.38	0.42	0.58	0.32

Source: Field Survey, 2013.

It has been observed that top 20% households belonging to higher income percentile. The top 10% households of income found highest in marginal-2 types of households followed by marginal-1, small, medium and landless. Gini coefficient reflects that highest value in the medium type of households shows that they have concentrated on one source of income. It has also found smallest Gini Coefficient in landless households it shows that they are trying to get income from all sources especially nonfarm income for their survival. It seems also to other types of households that the land size increases the concentration of income is going to near unity.

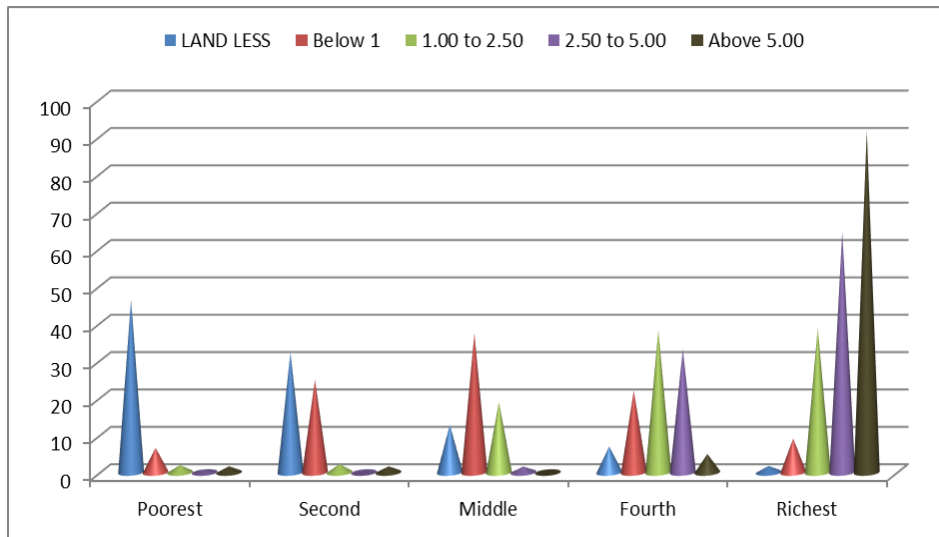
#### 3.4.2 Income Index

Distribution of wealth index is shown in Table 5. The table shows that there are large-scale inequalities in the distribution of wealth index. It is shown in the table that the income distribution is totally dependent on land size. It has found that landless households having the highest percentage of poorest category while lowest in the medium type of households.  $\chi^2$  the test of significance between land size categories and Income categories shows at 1% level of significance. It means the above two variables are very closely associated.

**Table 5:** Distribution of Income index

Land category	Income Index					Total	$\chi^2$ Significance
	Poorest	Poor	Medium	Upper medium	Richest		
Land less	46.28	32.20	12.78	6.96	1.78	100.00	1210.93**
Below 1	6.64	24.90	37.34	21.99	9.13	100.00	
1.00 to 2.50	1.98	2.26	18.93	38.14	38.70	100.00	
2.50 to 5.00	0.81	0.00	1.61	33.06	64.52	100.00	
Above 5.00	1.67	1.67	0.00	5.00	91.67	100.00	
Total	19.96	20.02	20.02	20.02	19.96	100.00	

\*\* Significance at 1%, Source: Field Survey, 2013.



#### 4. Conclusions and Policy Implications

It is concluded from the above analysis that an average surveyed household earns annually Rs. 96199 in rural Uttar Pradesh. Farm business income is the most important component of household income. An average sampled farm household earns per capita income of Rs. 17547 annually. The study reveals a positive relationship between farm-size and income levels, i.e., as the farm-size increases, the average income of the households will also increase.

The field survey revealed the fact that in the rural areas of Uttar Pradesh the small landholder including landless households try to maintain a minimum level of consumption whether they can afford it or not. To overcome this problem, the income of these households needs to be increased through different measures. Since there is a positive relationship between farm-size and farm business income, this makes a strong case for land reforms in favour of the marginal-1, marginal-2 and small farmers apart from other measures helpful in increasing their income.

Educating the marginal-1 and marginal-2 and small farmers about the subsidiary occupations, providing loans either interest free or at low rates of interest, creating sufficient employment opportunities, fixation of prices of agricultural commodities at reasonable level, assured purchase of agricultural produce, subsidising the agricultural inputs, providing insurance cover in agriculture, establishing agro-based industries to be run through producers' co-operatives in the rural areas, reducing the unproductive expenditure on marriages and other socio-religious ceremonies, intoxicants, drugs and so on and enforcing the already existing special programmes for the rural development in proper perspective taken on priority basis can help in enhancing the income of the rural households involved in agriculture. Both the governments are putting their efforts to enhance the farmers' income. Still we have to wait and see the results of the various government efforts in enhancing the farmers' income.

#### References

- Aggarwal PC. "Impact of Green Revolution on Landless Labour". *Economic and Political Weekly*. 1971; VI(47):2363-2365.
- Bajpai N, Volavka N. Agricultural performance in Uttar Pradesh: A historical account. CGSD Working Paper No. 23. Centre on Globalization and Sustainable Development, the Earth Institute at Columbia University, New York, USA, 2005.
- Basole A, Basu D. "Relations of Production and Modes of Surplus Extraction in India: An Aggregate Study," Working Paper, Department of Economics, University of Massachusetts, Amherst, 2009.
- Bhalla GS, Chadha GK. Green Revolution and Small Peasant- A Study of Income Distribution in Punjab Agriculture". *Economic and Political Weekly*. 1982; XVII(19):870-877.
- Chand R. Estimates and Analysis of Farm Income in India, 1983-84 to 2011-12, *Economic and Political Weekly*. 2015; 1(22):139-145.
- Chowdhary BK. Disparity in Income in Context of HYV. *Economic and Political Weekly*. 1970; 5(39):A90-96.
- Chowdhary BK. Disparity in Income in Context of HYV. *Economic and Political Weekly*. 1970; 5(39):A90-96.
- Diwakar DM. Intra-Regional Disparities, Inequality and Poverty in Uttar Pradesh, *Economic and Political Weekly*. 2009; XLIV(26-27):264-273.
- Ghuman RS. "WTO and Indian Agriculture: Crisis and Challenges- A Case Study of Punjab". *Manand Development*. 2001; 23(2):67-98.
- Gill SS. Economic Distress and Farmer Suicides in Rural Punjab. *Journal of Punjab Studies*. 2005; 12(2):219-238.
- Jodhka S. "Beyond Crisis Rethinking Contemporary Punjab Agriculture". *Economic and Political Weekly*. 2006; 41(16):A143-148.
- Johl SS. Gains of the Green Revolution: How They Have Been Shared in Punjab". *Journal of Development Studies*. 1975; 11(3):178-189.
- Lerche J. Politics of the Poor: Agricultural Laborers and Political Transformations in Uttar Pradesh," in Byres, T.J., Kapadia, K., and Lerche, J. eds. *Rural Labour Relations in India*, London: Frank Cass, 1999, 182-241.
- Rao TH. The Small Farmers and The Asset Structure (A Case Study of Three Villages in Vishakhapatnam district)". *Indian Journal of Agricultural Economics*. 1975; 30(3):272.
- Saini GR. Green Revolution and Disparities in Farm Incomes-A Comment. *Economic and Political Weekly*. 1976; 11(46):1804-1806.
- Sekhon MK, Kaur M, Mahal AK, Sidhu MS. "Efficiency and Viability of Small and Marginal Farmers in Punjab". *Journal of Agricultural Development and Policy*. 2009; 19(2):192-196.
- Shah T, Ballabh V. Water Markets in North Bihar: Six Village Studies in Muzaffarpur District". *Economic and Political Weekly*. 1997; 32(52):A183-190.
- Singh S. Crisis in Punjab Agriculture. *Economic and*

- Political Weekly. 2000; 35(4):1889-1892.
19. Singh S, Toor MS. "Agrarian Crisis with Special Reference to Indebtedness among Punjab Farmers". Indian Journal of Agricultural Economics. 2005; 60(3):335-346.
  20. Singh VK, Tripathi SN, Singh RI. Income and Investment Behaviour of Small Farmers in SFDA and Non-SFDA Areas of Fathepur (U.P.) A Case Study". Indian Journal of Agricultural Economics. 1975; 30(3):258.
  21. Thakur J, Bose ML, Hussain M, Janaiah A. "Rural Income Distribution and Poverty in Bihar". Economic and Political Weekly. 2000; 35(52-53):4657-4663.
  22. Vasavi AR. Agrarian Distress in Bidar Market, State and Suicides. Economic and Political Weekly. 1998; 33(12):2263-2267.
  23. Wilson K. Small Cultivators in Bihar and 'New' Technology Choice or Compulsion? Economic and Political Weekly. 2002; 37(11):1229-1238.