



ISSN Print: 2394-7500  
ISSN Online: 2394-5869  
Impact Factor: 5.2  
IJAR 2016; 2(6): 912-919  
www.allresearchjournal.com  
Received: 21-04-2016  
Accepted: 22-05-2016

**Avinash K Singh**  
Assistant Professor G. B. D.  
College, MDU, Rohtak,  
Haryana, India

**Mukesh**  
Assistant Professor C.B.L.  
University, Bhiwani, Haryana,  
India

## India: spatial patterns of the rural size of household

**Avinash K Singh and Mukesh**

### Abstract

This paper utilizes district level data on rural size of household in India. The study conducted at the disaggregated level of individual districts and examined the pattern of household in rural area. Size of household is an important element of cultural and biological composition of population. As per 1991, size of household is defined as the A household in the Indian census is a group of persons who commonly live together and would take their meals from a common kitchen unless the exigencies of work prevented them from doing so. A household may comprise of persons related with blood or of unrelated persons or having a mix of both (Census of India, 1991). There is a perpetual relationship between household size and economic status of the region. It depends on rate of birth, death and migration. There are two main objectives of this present paper to study size of household in rural area in India and to find out correlation among size of household, the percentage of children in 0 – 14 age group ( $r= 0.41$ ) and the percent age of never married persons ( $r= 0.35$ ). Married females' number per household is given positive relationship with size of the household ( $r= 0.48$ ).

The data is computed and calculated average size household and correlation among household size and others variables between by using Spearman's rank correlation method. As per census 2011, the rural size of household is 4.94 per person per household. However, the analysis shows that there is a strong positive correlation.

**Keywords:** Size of Household; Correlation; % of female participation; Landholding

### 1. Introduction

There were regional differences in the size of household in India. Among the various states, Jammu & Kashmir, Rajasthan, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Meghalaya, Uttar Pradesh, Bihar, Gujarat Haryana, Jharkhand, and Punjab recorded 6 and above members of household while the corresponding figures for west Bengal, Odessa, Chhattisgarh, Madhya Pradesh, Maharashtra, Karnataka Kerala have been reported less 6 than but more than 4 persons. Some states have 4 persons per household in rural areas like Andhra Pradesh, Tamil Nadu and Goa.

Uttar Pradesh recorded the largest (6.06) average size rural household size in rural areas. Against the large size of household Goa experience the smallest average size of household (3.36) persons per rural household. Among the union territories, Delhi-NCT ranked first with 5.27 persons per rural household and Andaman and Nicobar was bat bottom with 4.05 persons per household.

**Correspondence**  
**Avinash K Singh**  
Assistant Professor G. B. D.  
College, MDU, Rohtak,  
Haryana, India

**Table 1.1:** State wise total household and rural in India in 2011

S. No.	States/ UTs	Total Households	Rural Household	Average size of Household
1	Jammu & K.	21,19,718	15,53,433	5.86
2	Punjab	55,13,071	33,58,113	6.16
3	Himachal Par.	14,83,280	13,12,510	4.70
4	Uttarakhand	20,56,975	14,25,086	4.94
5	Haryana	48,57,524	30,43,756	5.42
6	Rajasthan	1,27,11,146	94,94,903	5.42
7	Uttar Pradesh	3,34,48,035	2,56,85,942	6.04
8	Bihar	1,89,13,565	1,68,62,940	5.47
9	Sikkim	1,29,006	93,288	4.89
10	Manipur	5,10,448	3,38,109	5.13
11	Mizoram	2,22,853	1,05,812	5.00
12	Tripura	8,55,556	6,16,582	4.51
13	Meghalaya	5,48,059	4,30,573	5.50
14	Nagaland	3,96,002	2,77,491	5.07
15	Assam	64,06,471	54,20,877	4.90
16	Arunachal Par.	2,70,577	2,00,210	5.33
17	West Bengal	2,03,80,315	1,38,13,165	4.50
18	Jharkhand	62,54,781	47,29,369	5.30
19	Odessa	96,37,820	80,89,987	4.32
20	Madhya Pradesh	1,50,93,256	1,10,80,278	4.74
21	Chhattisgarh	56,50,724	43,65,568	4.50
22	Maharashtra	2,44,21,519	1,32,14,738	4.65
23	Karnataka	1,33,57,027	79,46,657	4.71
24	Andhra Pradesh	2,10,22,588	1,42,34,387	3.95
25	Tamil Nadu	1,85,24,982	95,28,495	3.90
26	Kerala	78,53,754	41,49,641	4.21
27	Goa	3,43,611	1,28,208	3.36
28	Gujarat	1,22,48,428	67,73,558	5.12
29	Delhi-NCT	34,35,999	79,574	5.27
30	Chandigarh	2,41,173	7,140	4.06
31	Lakshadweep	11,574	2,710	5.21
32	Daman & Diu	60,956	12,744	4.74
33	Da.Na.& Haveli	76,458	36,094	5.07
34	Andm.& Nicobar	94,551	58,530	4.05
35	Pondicherry	3,02,450	95,018	4.15
	INDIA	24,94,54,252	16,85,65,486	4.94

Figure 1.1 represents the number of persons per rural household of districts in India. The Muslim predominant valley of Kashmir and the coastal districts of Kerala, Muslim dominant districts of Bihar, West Bengal and Uttar Pradesh have large size rural household. The mean size of rural household was found large (6 and more than) or relatively large (5 to 6 persons, in the Hindu, Sikh, Rajputs, Pandits, Yadavs of Bihar, jatt majority of Haryana, Punjab, northern Rajasthan and western Uttar Pradesh. States of Hilly region such as Mizoram, Manipur and Tripura were exception among the tribal areas to record relatively large household size.

A characteristics feature of all these areas was a high incidence of joint families due to varying social, economic and historical reasons (kolenda, 1968:339-96). One half to nearly two- thirds of household in these areas scored 6 and

more persons per household. The rate of natural increase was also distinctly high in these areas particularly in Haryana, Gujarat and Assam.

A geographical interpretation of the data reported by the Census of India (2011) stated that there are various factors determining the size of the household namely; the percentage of nuclear or joint families were the most crucial. There was perfect negative relationship between percentage of two members household and size of household ( $r = - 0.96$ ) which shows that the dominance of nuclear families. A strong negative relationship was also found among attainment of education, high level of income, size of household. Relationship between size of household and female participation in work was also found negative ( $r = - 0.68$ ).

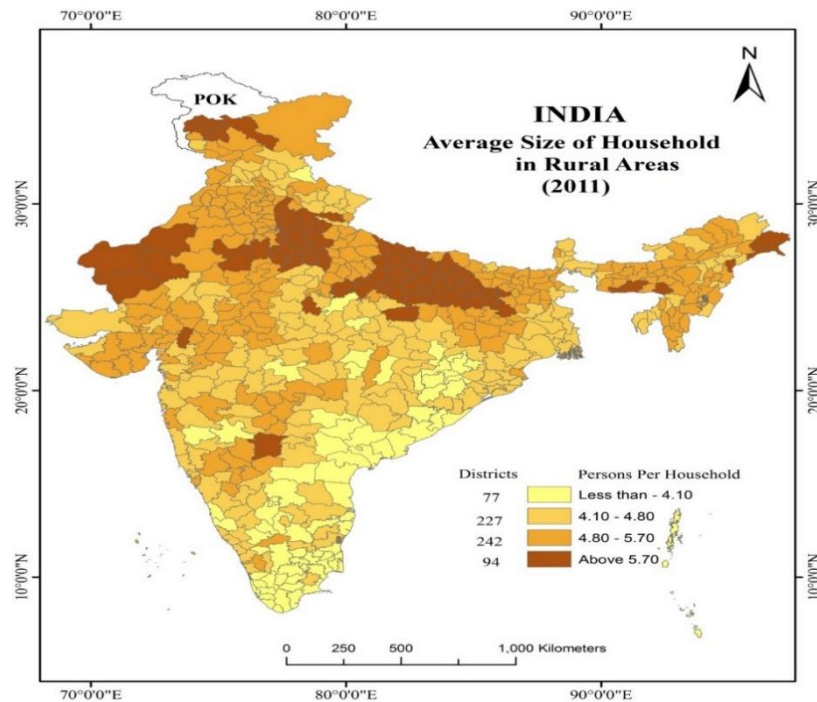


Fig 1.1

There is a significant positive relationship existed between size of the household and the rate of natural increase ( $r=0.45$ ). Role of birth rate ( $r=0.44$ ) was more critical than that of death rate ( $r=-0.31$ ). Migration did not have any discernible effect on size of the household ( $r=0.07$ ). Average age of females at marriage gave a positive relationship with size of household ( $r=0.34$ ). Children and unmarried adults stayed longer with their parents. There were corroborated by a positive relationship between size of household and the percentage of children in 0 – 14 age group ( $r=0.41$ ) as well as the percent age of never married persons ( $r=0.35$ ). Married females' number per household is given positive relationship with size of the household ( $r=0.48$ ).

The impact of urbanization on the size of the rural household is negligible. Diversification of rural economy was directly related to size of household ( $r=0.46$ ). There is tendency toward growing diversity of occupations within the agricultural families. Agricultural productivity and size of household are positively associated to each other.

Cultural factors like the incidence of joint or nuclear families was stronger than that of modernizing factors such as volume of urban influence. The impact of natural increase was more pronounced than that of out-migration or marginal status. The regional pattern of the household size found a greater association with the cultural rather than physical or economic regions of India.

## 2. Objectives

The present study intends to address the following objectives as the main objectives are:

- To examine the size of household in rural area in India.
- To find out correlation between size of household and various factors i.e. % of female participation, never married person, size of land holding etc.

## 3. Database and Methodology

The present work is based on secondary sources of data. All secondary data are collected from census of India, 2011. The data like district wise sized of household and other variable such as landholding size, % cent of female in work, level of

educational attainment have been taken for the study. The correlation calculated among % of female participation, size of landholding, per cent of never married person and others by using spearman's Rank co-relation method. Such formula has been used:

$$\rho = 1 - \frac{6 \sum d_i^2}{n(n^2 - 1)}$$

Where  $d_i^2 = R_1 - R_2$  is the difference between ranks of two variables, and  $n$  is the total number of observations.

To achieve the desired results, the index of the average size of household is calculated by i.e.

$$\text{Index of mean size of household} = \frac{\text{Total number of Population}}{\text{Number of Household}}$$

GIS arc is also used as a tool to draw the maps of the variation in size of household in India.

## 4. Mean Size of Rural Household

Average size of the rural household has been decreased across regions, inter regional variations in the average size are still staggering. The districts of Hilly and mountains regions are continue with much higher household size with Jammu and Kashmir supporting an average of 5.92 persons per household closely followed by Meghalaya (5.41), Manipur (5.03) and Arunachal Pradesh (5.11). States like Uttar Pradesh, Bihar, and Rajasthan were continued with very large rural households of over 6 persons on an average. Punjab (5.03) and Haryana (5.23) too have much higher average size of households. In the plateau region, Tamilnadu, with an average household size of 3.89 persons per rural household has the lowest size in the country as a whole. Only Jharkhand in this region has a much higher mean household to join the cross regional contiguous belt of large household size. An outlier of this belt is located in the tribal areas of the North-east.

Census data is showing decline in size of household size in all across the country. Table-1.1 reveals an average size of household in respective of geographical location and regions. The only three exceptions are rather interesting represented by the mountainous Arunachal Pradesh and the most modern and

highly urbanized Delhi as well as the littoral Goa where the mean household size has shown marginal higher.

In the Hilly region, size of rural household was varied such as Meghalaya (5.41), Sikkim (4.73), Mizoram (4.92), Manipur (5.03) and Arunachal Pradesh (5.11). In case Nagaland, the growth rate was found negative but similarly persons per household were same. The extent of decline in mean size of household in plateau region is modest ranging from 0.27 members per household in Jharkhand to 0.65 in Madhya Pradesh. With the exception of Madhya Pradesh the decline is

lower than the national average (0.39) in all the states included in this region.

In the case plains areas however, there was an almost uniform size of rural household. The fall in the proportion of large size households is however much sharper across regions. It was interesting that the southern states have experienced increase in one member households in sharp contrast to other areas in the backdrop of continuously falling average size of the households. It was revealed that the rural size of household in most regions are decreasing or increasing in numbers of one member of rural household size.

**Table 1.2:** India: Region wise Mean Size of Rural Household (2011)

Region	States/UTs	2011	
Hilly & Mountain	Arunachal Pradesh(AR)	5.11	
	Himachal Pradesh(HP)	4.62	
	Jammu & Kashmir(JK)	5.92	
	Manipur(MN)	5.03	
	Meghalaya(ML)	5.41	
	Mizoram(MZ)	4.92	
	Nagaland(NL)	5.10	
	Sikkim(SK)	4.73	
	Uttarakhand (UK)	4.90	
Plateaus	Andhra Pradesh (AP)	4.02	
	Jharkhand (JH)	5.27	
	Karnataka (KA)	4.57	
	Kerala (KL)	4.25	
	Madhya Pradesh (MP)	4.81	
	Maharashtra (MH)	4.60	
	Tamil Nadu (TN)	3.89	
Plains	Assam (AS)	4.87	
	Bihar (BR)	5.50	
	Chandigarh (CH)	4.36	
	Chhattisgarh (CG)	4.52	
	Dadra & Nagar Haveli	4.50	
	Daman & Diu (DD)	4.00	
	Goa (GA)	4.24	
	Gujarat (GJ)	4.93	
	Haryana (HR)	5.23	
	NCT of Delhi (DL)	4.88	
	Odessa (OR)	4.35	
	Pondicherry (PY)	4.12	
	Punjab (PB)	5.03	
	Rajasthan (RJ)	5.40	
	Tripura (TR)	4.34	
	Plain	Uttar Pradesh (UP)	6.00
		West Bengal (WB)	4.48
	Islands	A & N Islands (AN)	4.02
		Lakshadweep (LD)	5.57
	INDIA		4.85

#### 4.1 Distribution of Rural Household of Different Size

##### 4.1.1 Percentage of one member of Household

Distribution of one member household in districts of India shows that all most half districts of India (274) have more two but less than 4 percent one member household. Only 41 have more than 8 percentage of one member rural household size. Interestingly, Jammu and Kashmir and Manipur contain the least number of households with single members. On the

other hand Chandigarh, the islands and Daman and Diu have less number one member of household. There is a variation one member of household within states and in inter-states; Uttar Pradesh has 1.77% to 3.55% of in all districts. The percentage of one member of household is larger in Hilly area than plain area. States like Sikkim, Meghalaya, Mizoram, Manipur and Nagaland one member of household varies from 3.47% to 12.54%.

**Table 1.3:** Distribution of Districts in different percentage categories of one member household

Categories (%)	NO. and % of Districts (2011)
Less than 2	57 (8.90)
2-4	274 (42.83)
4-6	191 (40.00)
6-8	77 (11.40)
More than 8	41 (6.40)

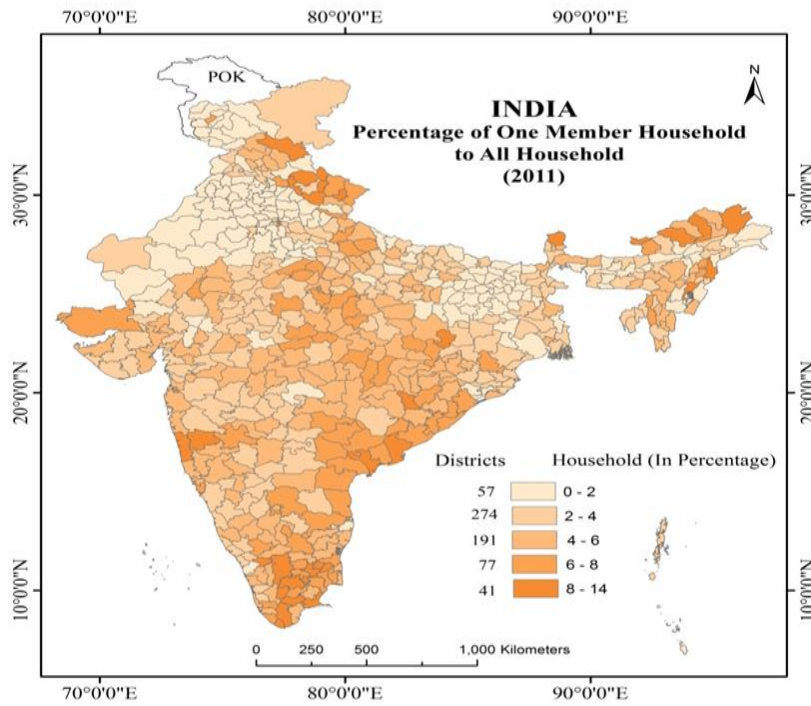


Fig 1.2

**4.1.2 Percentage of Two and Three members of Rural Household**

On the other hand small households/families, consisting of 2-3 members each, are 5 districts have above 40 % 2-3 member rural household. Size of 2 -3 member household size is increasing becoming far more numerous over 2001-2011 decade. Table 1.4 Shows that there is not a single district contained less than 10 percent of its households with 2-3 persons in 2011. There are 260 districts 102 in south, 122 in northern plain region, 36 in Hilly and 6 in islands part of the country 20- 30 percent households contained only 2-3 members each. On the other hand far fewer households (less than 2.6 percent) were small in Uttar Pradesh showing little

changes in its household size of small number. Around 10 - 20 percent households contained 2-3 members in 260 districts in 2011.

**Table 1.4:** Distribution of Districts in different percentage categories of 2-3 members household

Categories (%)	No. and % of Districts (2011)
Below 10	17 (2.60)
10 - 20	260 (40.63)
20 - 30	266 (41.57)
30 - 40	92 (14.37)
Above 40	5 (0.78)

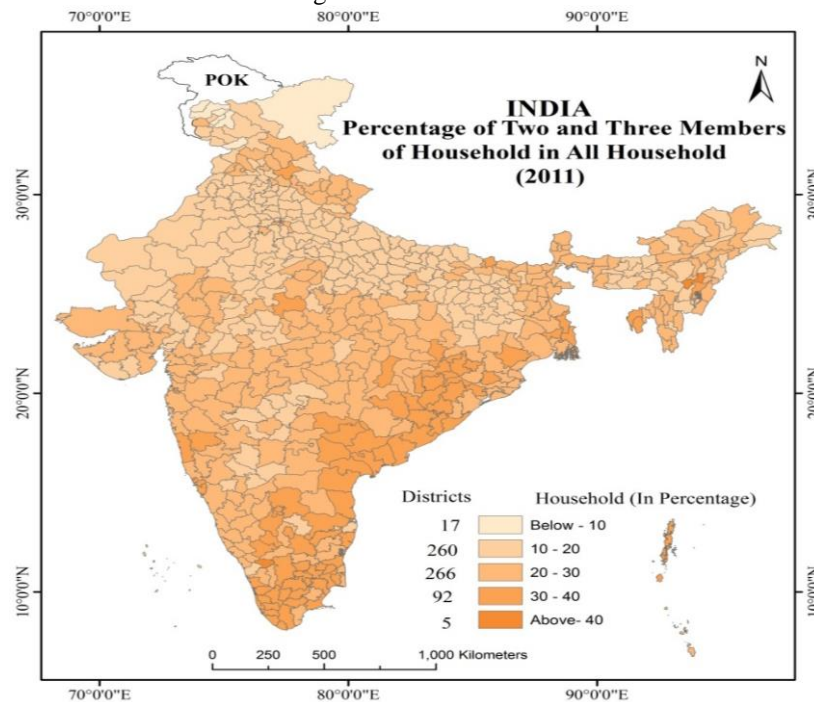


Fig 1.3

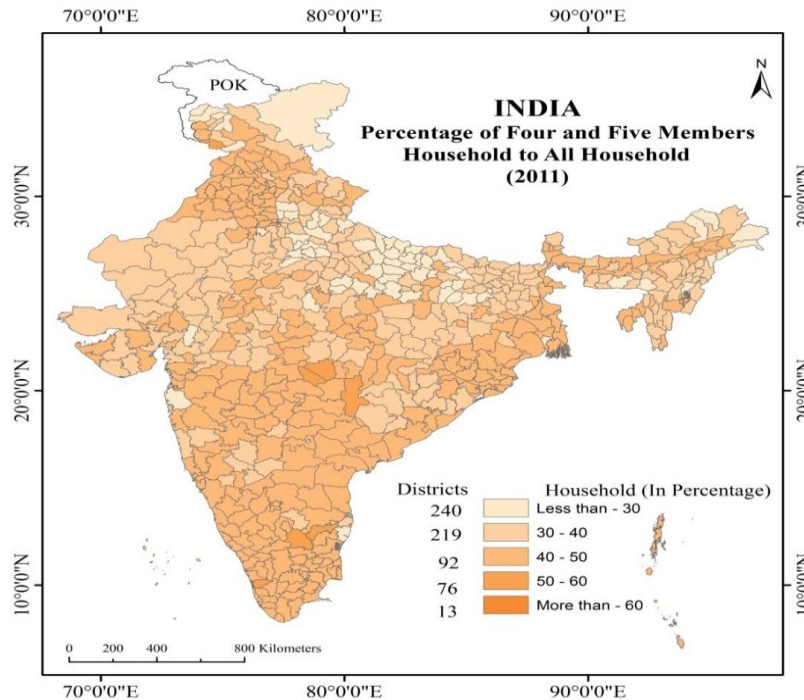


**4.1.3 Percentage of 4-5 members of Rural Household**

The trend is similar with respect to relatively large households of 4-5 members each which too are becoming more numerous in a majority of States/UTs (see fig. 1.4). It is evident from table-1.5 that in a majority of the States/UTs, households with 4-5 members account for over 40 percent households cutting across regional differences though far less conspicuous in parts of Hills and mountains and in parts in the plains including UP, Bihar and Rajasthan. The number of States/UTs with fewer (less than 30%) households with 4-5 members has come down drastically from 4 to just on (Lakshadweep)

**Table 1.5:** Distribution of Districts in different percentage categories of 4 and 5 member of households

Categories (%)	NO. and % of Districts (2011)
Less than 30	240 (37.50)
30 - 40	219 (34.22)
40 - 50	92 (14.38)
50 - 60	76 (11.87)
More than	13 (2.03)



**Fig. 1.4**

**4.2.4 Percentage of over 6 members of rural household**

The distribution of over members of household similar with respect to relatively large households of 4-5 members each which too are becoming more numerous in a majority of States/UTs (see fig. 1.5). It is evident from table-1.6 that in a majority of the States/UTs, households with over six members account for less than 20 percent households cutting across regional differences though far less conspicuous in parts of Hills and mountains and in parts in the plains including UP, Bihar and Rajasthan in 160 districts of India. The number of States/UTs with fewer (20-30%) households with over six members has come down drastically from 6-7 to 4-5 members of household. In India, there are 217 districts which have more than 30% with over six persons per household. States like Uttar Pradesh, Bihar, West Bengal, Jharkhand, Odessa, Utrakhhand, Himachal Pradesh and Andhra Pradesh have more than 6 persons per household with above 40% of total households of districts. Economic activities such as agriculture, forestry, mining and fisheries are responsible for large size of household because all this activities demands a huge numbers of labours (see table 1.6).

**Table 1.6:** Distribution of Districts in different percentage categories of Over Six members household

Categories (%)	NO. and % of Districts (2011)
Less than 20	104 (16.25)
20-25	56 (8.75)
25-30	77 (12.03)
30-35	75 (11.71)
35-40	142 (22.19)
Above 40	186 (29.06)

**Table 1.7:** Correlation coefficient (2011)

Categories	Correlation coefficient
1 member vs. 6+ member households	-0.39
% Urban Population Vs. 1 member HH	0.26
% Urban Population Vs. 6 member HH	-0.31
SC population Vs. one member HH	-0.21
SC Population Vs. 6 member HH	-0.13
ST Population Vs. One member HH	0.23
ST Population Vs. 6 member HH	0.44
Hindu Vs. one member HH	0.01
Hindu Vs. 6 member HH	-0.48
Muslim Vs. one member HH	-0.13
Muslim Vs. 6 member HH	-0.13
Christians Vs. one member HH	0.13
Christians Vs. 6 member HH	0.20
TFR Vs. one member HH	-0.28
TFR Vs. 6 member HH	0.83
CBR Vs. one member HH	-0.33
CBR Vs. 6 member HH	0.81

HH: Households SC: Scheduled Castes ST: Scheduled Tribes TF



The rural size of household of scheduled tribes is negatively correlated negatively with Hindu vs. 6 member household, Muslims vs. one member household, scheduled castes vs. one member household and total fertility rate vs. one member household. On the other hand the rural household size depends on the literacy rate which also impact on the growth of population in rural areas. Family and size of household is a prominent place in social life of any population as the most important socio-economic institution. If, there is any change in the size of household or lack of it is a reflection of complex economic, social-cultural and demographic process. Similarly any change in size of household has serious social, economic and demographic implication.

The present study call attention to this fact as India is surely moving towards smaller household size if we go through the macro demographic data available by census of India. Understandably, this change is not uniform with different regions. This change is varying with their varied social and economic institutions. They respond differently to this process which however appears to be unfolding irrespective of geographical differences. There is only the pace and magnitude of this decline in size of household varies from state to state and region to region.

## 6. References

1. Lanjouw P, Ravallion. Poverty and Household Size, *Economic Journal*. 1999; 105:1415-34.
2. Ringen S. Household, Standard of Living and Inequality, *Review of Income and Wealth*, 1991; 37(1):1-13.
3. Singh NK. *et al* A study of socio demographic condition of North eastern Bihar, *RRST*. 2013; 5(4):01-06.
4. Primary Census Abstract, 2011.
5. Kapadi KM. Rural family patterns". *Sociological Bulletin*. 1956; 5(2):111-126.
6. Nayak DK, Behera NB. Changing Household Size in India: An Inter-State Comparison, *Trans. Inst. Indian Geographers*, 2014; 36(1).
7. Aiyappan A. Household Size, Extended Families and Changes in Family Structures in Kerala, *Indian Census Centenary Seminar*, New Delhi, Registrar General, India. 1972.
8. Wagner ME, Herman JP, Schubert. Family Size Effects: A Review. *Journal of Genetic Psychology*. 1985; 146:65-78.
9. Niranjana S, Saritha N, Roy TK. A socio-Demographic analysis of the Size and structure of the Family in India. *Journal of comparative family Studies*. 2005; 36(4):623-651.