Farmer's asset- holding pattern in drought prone region in Western Maharashtra

[1]Dr. M.S. Deshmukh, [2]Dr. S.S. Vyavahare

[1]Professor, Department of Economics, Shivaji University, Kolhapur, Maharashtra, India
[2]Research Scholar, Department of Economics, Shivaji University, Kolhapur
msd_eco@unishivaji.ac.in, satishraj.1415@gmail.com

Abstract

Present paper focuses on the asset pattern of sample farmers in drought prone region in western Maharashtra. To analyze the Gini Co-efficient Index and Lorenz curve for the distribution of asset pattern among the sample households in western Maharashtra.

Objectives: The major objective of this paper is to study and find out (i) the asset pattern of sample farmers in drought prone region in western Maharashtra (ii) analyze the Gini Co-efficient Index and Lorenz curve for the distribution of asset pattern among the sample households in western Maharashtra.

Methods/Statistical analysis: This paper is purely based on primary data collected from the drought prone region of western Maharashtra. Researcher has selected randomly five percent villages from each sample taluka of the respective district of Solapur and Sangli district and 20 farmers from each sample village. Total 360 households have been interviewed. Column title figures in parentheses are number of farmers interviewed as per their group/categories. The tabulated data is analyzed by using the suitable statistical tools. The formula for estimating Gini co-efficient under trapezoidal rule is given below:

$$\text{Gini Co-efficient} = 1 - \frac{\Sigma^{N}_{K=1} \, (P_K - P_{K-1}) \, (q_K + q_{K-1})}{N}$$

The distribution of asset among the households of farmers is analysed through frequency distribution and docile group analysis. Lorenz curves and Gini Co-efficient are used to find out the level of inequality in the distribution of asset among the sample households.

Findings: Present paper reveals that, on the basis of size of holding, of the total asset in sample area of western Maharashtra, 63.95% asset were owned by large farmers, 25.52% by medium farmers and 10.53% by small farmers during 2015-16. Average asset value of land of small farmers was 56.3%, medium farmers 70% and large farmers 77% in the sample households of western Maharashtra. The proportion of asset pattern on the basis of social categories states that 54.58% asset were owned by general category, 29.24% by OBC and 16.18% owned by scheduled caste in sample area of western Maharashtra during 2015-16. Occupation wise proportion of asset pattern of sample households in western Maharashtra revels that 36.76 % of total asset is owned by cultivators only. The average asset values of large farmers were (₹38.62 lakh) i.e. 6.07 times of the small farmers (₹6.36). There is high difference in distribution of asset pattern of sample households during 2015-16. There was substantial difference in land value has resulted in the asset values of small, medium and large farmers. Improvement in social sector investments under the public spending may reduce inequality to the greatest extent. Governments should initiate the schemes for protecting the right to a living wage. The universal basic income measure will assist to bridge the gap between rich and poor. There is a need to strengthen the financial support to agriculture sector.

Application/Improvement: The present paper is useful to measure the inequality in assets holding pattern and can be applied to measure the consumption distribution pattern also. It can be applied to design the specific schemes or programmes for the different groups of farmers to improve their livelihoods.

Keywords: Asset Pattern, Gini Co-efficient Index, Lorenz curve.

1. Introduction

This paper focuses on the asset pattern and average asset value of farmers in selected blocks of drought prone region in western Maharashtra. Income inequality in India had reached historically high levels. In 2014, the share of national income accruing to India's top 1% of earners was 22%, while the share of the top 10% was around 56% [1]. Income inequality varies greatly across world regions. It is lowest in Europe and highest in the Middle East. Income inequality has increased in nearly all countries, but at different speeds, suggesting that institutions and policies matter in shaping inequality. It's revealed that both Canadian family income inequality and Canadian family consumption inequality moved counter cyclically. In addition, both Canadian family income inequality and Canadian family consumption inequality trended upward over the period; however, the change in family consumption inequality was much smaller than the change in family income inequality [2]. The measurement of inequality, going beyond a wholly relativistic conceptualization of the phenomenon, decomposability is a particularly useful property when one wishes to assess the inter-group inclusiveness or otherwise of the distribution of income or wealth over time. The absolute Gini-coefficient and the intermediate Gini-coefficient are examples of mean-dependent inequality measures which are not subgroup decomposable. India, in recent years, has indeed been a country of widening economic inequality, with little evidence of either interpersonal or inter-caste inclusiveness in growth.

The households possess both physical asset and financial asset. In the rural areas a good portion of the asset are held in the form of physical asset and very little in the form of financial asset. These assets are land, buildings, livestock, agricultural tools and pump sets, deposits, jewellery, transport/vehicles, goods for recreation/TV, ICT (Laptop, mobile) and other household durable goods. Valuation of most of this asset involves a lot of problems. For the valuation of land, consultation with local people and the prices at which transactions have taken place in the immediate past have been considered. Since land values change with changes in locations, an average value of the area for each type of land has been worked out. For estimating the value of buildings, the year of construction, type of construction, materials used are all considered and proper discounting has been made.

1.1. Database and Sample Size

This paper is purely based on primary data collected from the drought prone region of western Maharashtra. Agriculture is the main occupation of the people in western Maharashtra. The information is collected from the farmer respondents of drought prone area of Jat and Atpadi block of Sangli district [3] and Sangola and Mangalwedha block of Solapur district [4] in western Maharashtra (Table 1). The primary data is collected through questionnaire, observations, field visits and focus group discussion with stake holders. Five percent villages from each sample blocks of the respective district and 20 farmers from each sample village have been interviewed. Researcher has used stratified sampling method as per Paisewari/Aanewari and lowest Paisewari villages were selected from the study area.

Table 1. Sample size of selected farmers in Western Maharashtra

S. No	Blocks	Total Villages	Selected Villages	Name of the selected villages	Selected Farmers
Sangli District [3]					
1.	Jath	125	6	(Tipehali, Gulvanchi, Dhavadwadi, Pratappur, Kosari, Birnal)	6*20 = 120
2.	Atpadi	060	3	(Zare, Vibhutvadi, Pimpari)	3*20 = 060
Solapur District [4]					
3.	Sangola	102	5	(Bamani, Akola, Vasud, Sangewadi, Kadlas)	5*20 = 100
4.	Mangalwedha	081	4	(Marawade, Hivargao, Khomnal, Sharadnagar)	4*20 = 080
Total		368	18		360

Source: Census Report [5], 2011, Field Survey 2015-16

2. Result and Discussion

1. Average asset value of sample households on the basis of size of land holding

Livestock is valued at the prevailing rates in the market whereas adequate discounting is made in the valuation of agricultural equipment's, consumer durables and other asset. Financial assets include deposits, post office savings, insurance and jewellery. However, currency has been left out since the households are reluctant to disclose the same. The Table 2 reveals that the average asset value of farmers was ₹2013321 out of which 73% asset was land and the rest in the other asset. Average asset value of land of small farmers was 56.3% medium farmers 70% and large farmers were 77% in the sample households of western Maharashtra. This difference in land value has resulted in substantial differences in the asset values in small, medium and large farmers. On the basis of size of holding, of the total asset in sample area of western Maharashtra, 63.95% owned by large farmers, 25.52% by medium farmers and 10.53% by small farmers during 2015-16. Per capita asset value of small farmers was ₹5483, medium farmer's ₹9458 and large farmer's ₹47683 during reference period.

Table 2. Size of land holding and average asset value of sample households in study area (In ₹)

Asset	Small Farmers (116)	Medium Farmers (163)	Large Farmers (81)
1. Land	358190 (56.3)	1078466 (70)	2974074 (77)
2. Live Stock	63836 (10)	83460 (5.4)	125358 (3.2)
3. Agriculture Tools & Pump sets	18043 (2.8)	19184 (1.2)	54494 (1.4)
4. Building	126086 (19.8)	231380 (15.0)	455062 (11.8)
5. Deposits/Financial	4440 (0.7)	18988 (1.2)	72963 (1.9)
6. Jewellery	36164 (5.7)	44939 (2.9)	61111 (1.6)
7. Transports	11353 (1.8)	36991 (2.4)	79593 (2.1)
8. Goods for recreation/TV	6203 (1.0)	6804 (0.4)	8901 (0.2)
9. ICT	4789 (0.8)	7650 (0.5)	12790 (0.3)
10. Cooking & Other households appliances	6932 (1.1)	13733 (0.9)	17988 (0.5)
Total of Average Asset Value (1to10)	636035 (100)	1541595 (100)	3862333 (100)
% of Total Asset	10.53	25.52	63.95

Source: Field Survey 2015-16, Note: Figures in parentheses are in percentage except column title

Land and livestock together account for 77.5% of the average asset value. Cooking and other households' appliance has accounted for 0.6% of the average asset. Among the total asset, jewellery has accounted for 2.4% of the average asset value. Average asset value of building was 13.5% in total average asset value. The average asset value of building of small farmers was 19.8%, medium farmers were 15% and large farmers were 11.8%. There is a marginal reduction in disparity in the form of increase in the share of bottom 10% and 50% of the population in total house-hold consumer expenditure with a corresponding fall in the share of the top. The asset holdings are much more unequally distributed than household incomes or consumption expenditure is an accepted fact [6].

2. Classification of famers on the basis of occupation and asset pattern in study area

The details regarding the occupation wise average asset value and asset pattern is presented in Table 3. In the farmers a good portion of the assets are held in the form of physical asset and very little in the form of financial asset. Occupation wise proportion of asset pattern of sample households in western Maharashtra. The study state that 36.76% of total asset was owned by cultivators only, 15.88% by cultivator and agricultural labour, 25.93% cultivator and non-agricultural labour and 21.43% cultivator agricultural labour and non-agricultural. The average value of all assets for cultivation and agricultural Labour group was low (₹1318294) as compare to other occupation groups. Asset value of building was high (₹329932) in the cultivation and non-agriculture group.

Asset value of cooking and other household appliances was high (₹15974) in the cultivation and non-agricultural group. Value of financial assets like jewellery, deposits, insurance etc. and building, transport was high in the cultivation and non-agricultural group.

The percentage of the land on total asset value was higher 72.6 % in all occupation groups, share of livestock was 4.4%, share of building was 13.6%, percentage share of jewellery was 2.5% and share of transport was 2.3% in the total asset value. Percentage share of livestock in the cultivation and agricultural labour group was high (6.2%) compare to other occupation groups. There are increases in consumption inequality mirror that of income inequality to a much greater extent than implied by reported total expenditure. The basis of this reinterpretation is the reported shift of high-income households' consumption toward luxuries and away from necessities relative to the consumption baskets of low-income households [7].

Table 3. Occupation wise asset pattern and average asset value of sample households (In Rs)

Asset	Cultivation (54)	Cultivation, Agri. Labour (214)	Cultivation, Non Agriculture (73)	Cultivation, Agri. Labour, Non Agriculture (19)
1. Land	2423519 (79.4)	915888 (69.5)	1487260 (69.1)	1200024 (67.4)
2. Live Stock	102852 (3.4)	81724 (6.2)	85959 (4.0)	97105 (5.5)
3. Agriculture Tools & Pump sets	51574 (1.7)	22061 (1.7)	19986 (0.9)	35211 (2.0)
4. Building	278889 (9.1)	206336 (15.7)	329932 (15.3)	310526 (17.5)
5. Deposits/Financial	51667 (1.7)	11612 (0.9)	53973 (2.5)	16053 (0.9)
6. Jewellery	53704 (1.8)	39299 (3.0)	56438 (2.6)	54737 (3.1)
7. Transports	55398 (1.8)	17890 (1.4)	87411 (4.1)	31184 (1.8)
8. Goods for recreation/TV	8185 (0.3)	6871 (0.5)	6822 (0.3)	7316 (0.4)
9. ICT	12741 (0.4)	5958 (0.5)	9000 (0.4)	11500 (0.6)
10. Cooking & Other households appliances	13972 (0.5)	10654 (0.8)	15974 (0.7)	15737 (0.9)
Total of Average Asset Value (1 to 10)	3052500 (100)	1318294 (100)	2152755 (100)	1779368 (100)
% of Total Asset	36.76	15.88	25.93	21.43

Source: Field Survey 2015-16, Note: Figures in parentheses are in percentage except column title

3. Classification of famers on the basis of social groups and asset pattern in study area

The details regarding the social group wise average asset value and asset pattern is presented in Table 4. The difference is to be explained in terms of the greater value of land possessed by the general categories. The average value of land in the general categories farmers was ₹1712347 and percentage share was 73.5.

Table 4. Social group wise asset pattern and average asset value of sample households (In Rs)

Asset	General (196)	OBC (122)	SC (42)
1. Land	1712347 (73.5)	853033 (68.3)	441667 (63.9)
2. Live Stock	92592 (4.0)	85574 (6.9)	61310 (8.9)
3. Agriculture Tools & Pump sets	33347 (1.4)	18975 (1.5)	18643 (2.7)
4. Building	317168 (13.6)	185082 (14.8)	106095 (15.4)
5. Deposits/Financial	38418 (1.6)	15574 (1.2)	2143 (0.3)
6. Jewellery	48750 (2.1)	44180 (3.5)	36310 (5.3)
7. Transports	55138 (2.4)	21730 (1.7)	7988 (1.2)
8. Goods for recreation/TV	7599 (0.3)	6779 (0.5)	5548 (0.8)
9. ICT	9199 (0.4)	6992 (0.6)	4345 (0.6)
10. Cooking & Other households appliances	15156 (0.7)	10180 (0.8)	6836 (1.0)
Total of Average Asset Value (1 to 10)	2329714 (100)	1248098 (100)	690883 (100)
% of Total Asset	54.58	29.24	16.18

Source: Field Survey 2015-16, Note: Figures in parentheses are in percentage except column title

The average value of land in the OBC categories farmers was ₹853033 and percentage share was 68.3 and the average value of land in the SC categories farmers was ₹441667 and percentage share was 63.9. It is concluded that land value of general categories is very high as compare to OBC and SC categories farmers. Thus, in all farmers land alone accounts for a major share in total asset. Land being a productive asset, an income will be expected for the higher assets classes.

The asset value of transports is high in general categories farmers as compare to other category farmers. The proportion of asset pattern on the basis of social categories states that 54.58 % asset were owned by general category, 29.24 % by OBC and 16.18 % owned by SC in sample area of western Maharashtra during 2015-16.

4. Educational levels and asset pattern in study area

On the basis of educational level, the asset holding pattern is shown in Table 5, it states that, of the total asset in sample area of western Maharashtra, 26.39% owned by post graduate farmers, 16.32% by graduate farmers, 11.75% owned by higher secondary educated farmers, 12.94 % owned by secondary educated farmers, 10.30% owned by primary educated farmers and 8.01 % owned by illiterate farmers during 2015-16. Among all assets the larger proportion of value of asset in the form of land were possessed by the post graduated farmers.

The average value of land in the Illiterate educated categories was ₹858750 (66.4%). The average value of land in the secondary educated category farmers was ₹1584872 and percentage share was 68.3. The average value of land in the higher secondary educated categories was ₹441667 (76%). The land value of post graduate farmers was very high as compare to illiterate educated categories and secondary educated category farmers. Thus, in all educational level of the farmers, land alone accounts for a major share in total asset.

Table 5. Educational level and average asset value of sample households (In Rs)

Asset	Illiterate (120)	Primary (89)	Secondary (78)	Higher Secondary (47)	Graduation (17)	Post-Graduation (9)
1. Land	858750 (66.4)	1207528 (72.7)	1584872 (75.9)	1306383 (68.9)	1952941 (74.2)	3277778 (77)
2. Live Stock	79658 (6.2)	92191 (5.5)	90577 (4.5)	84894 (4.5)	79412 (3.0)	110444 (2.6)
3. Agriculture Tools & Pump sets	20892 (1.6)	22708 (1.4)	29833 (1.4)	32468 (1.7)	21941 (0.8)	97778 (2.3)
4. Building	208875 (16.2)	226629 (13.6)	259436 (12.4)	284043 (15.0)	351765 (13.4)	488889 (11.5)
5.Deposits/Financial	16625 (1.3)	19888 (1.2)	25064 (1.2)	50000 (2.6)	48235 (1.8)	70000 (1.6)
6. Jewellery	48042 (3.7)	41573 (2.5)	43462 (2.1)	49255 (2.6)	52941 (2.0)	44444 (1.0)
7. Transports	34792 (2.7)	23320 (1.4)	25051 (1.2)	60234 (3.2)	92500 (3.5)	131722 (3.1)
8. Goods for recreation/TV	7163 (0.6)	6494 (0.4)	6449 (0.3)	7702 (0.4)	10294 (0.4)	8000 (0.2)
9. ICT	7125 (0.6)	9433 (0.6)	7615 (0.4)	7021 (0.4)	8118 (0.3)	9111 (0.2)
10. Cooking & Other households appliances	10492 (0.8)	11427 (0.7)	15532 (0.7)	12809 (0.7)	14529 (0.6)	18111 (0.4)
Total of Average Asset Value (1 to 10)	1292413 (100)	1661191 (100)	2087891 (100)	1894809 (100)	2632676 (100)	4256278 (100)
% of Total Asset	8.01	10.30	12.94	11.75	16.32	26.39

Source: Field Survey 2015-16, Note: Figures in parentheses are in percentage

5. Block wise classification of asset in sample area

The details regarding the block wise average asset value and asset pattern is presented in Table 6. The average value of Sangola block was low (69%) as compare to other blocks of Sangli and Solapur districts. Asset value of land was high (75%) in the Mangalwedha block as compare to other blocks.

The asset value of building was high (₹270200) in the Sangola block as compare to other blocks. Value of asset like land, agriculture tools & pump sets, building, deposits, building and transport was high in the Solapur district as compare to Sangli district. Asset value of jewellery was high (₹47375) in the Sangli district as compare to Solapur districts (₹40806).

Table 6. Block wise asset pattern and average asset value of sample households (In Rs)

Asset	Jat (120)	Atpadi (60)	Sangli (180)	Sangola (100)	Mangalwedha (80)	Solapur (180)
1. Land	1385833 (71)	1062333 (74)	1224083 (72)	1140000 (69)	1427500 (75)	1283750 (72)
2. Live Stock	113875 (6)	66650 (5)	90263 (5)	69350 (4)	82050 (4)	75700 (4)
3. Agriculture Tools & Pump sets	28683 (1)	22417 (2)	25550 (2)	19610 (1)	36075 (2)	27843 (2)
4. Building	268967 (14)	186667 (13)	227817 (13)	270200 (16)	233813 (12)	252006 (14)
5.Deposits/Financial	30000 (2)	17000 (1)	23500 (1)	29800 (2)	24000 (1)	26900 (2)
6. Jewellery	57250 (3)	37500 (3)	47375 (3)	41050 (3)	40563 (2)	40806 (2)
7. Transports	41158 (2)	25600 (2)	33379 (2)	43210 (3)	37469 (2)	40339 (2)
8. Goods for recreation/TV	6875 (0.1)	7967 (1)	7421 (0.1)	7375 (0.1)	6363 (0.1)	6869 (0.1)
9. ICT	8042 (0.1)	6833 (0.1)	7438 (0.1)	8895 (1)	7175 (0.1)	8035 (0.1)
10. Cooking & Other households appliances	13546 (1)	10402 (1)	11974 (1)	11585 (1)	13644 (1)	12614 (1)
Total of Average Asset Value (1 to 10)	1954229 (100)	1443368 (100)	1698799 (100)	1641075 (100)	1908650 (100)	1774863 (100)
% of Total Asset	(57.52)	(42.48)	(100)	(46.23)	(53.77)	(100)

Source: Field Survey 2015-16, Note: Figures in parentheses are in percentage

6. Classification of farmers on the basis of variation of average asset value

The variation of average asset value (in terms of number of times) among the different types of households of farmers is presented in the Table 7 matrix. The average asset value of medium farmers was (₹1541595) i.e. 2.42 times the asset value of the small farmers (₹636035) in study area.

Table 7. Variation of average asset value (In Terms of Number of Times) among the households of various types of farmers

S. No	Types of Farmers	Small (636035)	Medium (1541595)	Large (3862333)
1	Small (636035)	0	2.42	6.07
2	Medium (1541595)	2.42	0	2.51
3	Large (3862333)	6.07	2.51	0

Source: Field Survey, 2015-16 Notes: Figures in parentheses denote the respective average Assets value of households of different types of farmer

The average asset value of large farmers were (₹3862333) i.e. 6.07 times the asset value of the households of small farmers (₹636035) and the matrix that the average asset value of large farmers were (₹3862333) i.e. 2.51 times the average asset value of the medium farmers (₹1541595).

7. Gini co-efficient index and Lorenz curve analysis of sample households on the basis of asset

In order to measure graphically the level of inequality in distribution of asset among the households, Lorenz curve is drawn. Table 8 shows that 36 households (10%) have just 2.47% asset value of total asset. The 72 households (20%) account for 5.70% of total asset. Again, 180 households (50%) account for only 21.84% of total asset.

Table 8. Gini co-efficient index in sample households on the basis of asset in study area

| Asset (Value) Range (Rs.)	No. of Households	Cumulative No. of Households	Asset Value (Rs.)	Cumulative Asset Value (Rs.)	Cumulative % of Households	Cumulative % of Asset Value
up to 519000	36	36	15738500	15738500	10	2.47
519000 to 625000	36	72	20604000	36342500	20	5.7
625000 to 779000	36	108	25426600	61769100	30	9.68
779000 to 1073000	36	144	34030000	95799100	40	15.02
1073000 to 1370000	36	180	43516500	139315600	50	21.84
1370000 to 1658000	36	216	54317000	193632600	60	30.35
1658000 to 1994000	36	252	65920000	259552600	70	40.69
1994000 to 2570000	36	288	83197500	342750100	80	53.73
2570000 to 3303000	36	324	105602000	448352100	90	70.28
above 3303000	36	360	189557000	637909100	100	100
Individual	Percentage of Households		Cumulative % of Asset Value		Area Under Lorenz	
0	0		0		-	
1	0.1		0.02		0.001	
2	0.2		0.06		0.004	
3	0.3		0.10		0.007	
4	0.4		0.15		0.012	
5	0.5		0.22		0.018	
6	0.6		0.30		0.026	
7	0.7		0.41		0.035	
8	0.8		0.54		0.047	
9	0.9		0.70		0.062	
10	1		1		0.085	
Total	-		-		0.295	
area A =	0.205					
Gini =	0.41					

Source: Field Survey, 2015-16

It is clear from the table that 80% of households own 53.73% of total asset. Therefore it reveals that there is high inequality in distribution of asset among sample households. If the cumulative percentage of households and cumulative percentage of household asset are not same, it could be inferred that there is inequality in distribution of asset. Gini co-efficient or Gini Index of concentration gives numerical expression of the results achieved from the Lorenz curve. The Lorenz curve is prepared on the basis of data given in Table 8.

If there is perfect equality in the distribution of asset value, the Gini co- efficient will be zero and it will be one if there is perfect inequality. So the value of Gini co-efficient ranges from zero to one with a lower Gini ratio implying a reduction in inequality.

In this study the Gini co-efficient is 0.41. Lorenz Curve [8] [9] is constructed by plotting the cumulative percentage of total asset against the cumulative percentage of households receiving the asset. The cumulative percentage of households is shown on X-axis and cumulative percentage of asset along y - axis.

Figures 1. Lorenz curve analysis on the basis of asset value of households in study area
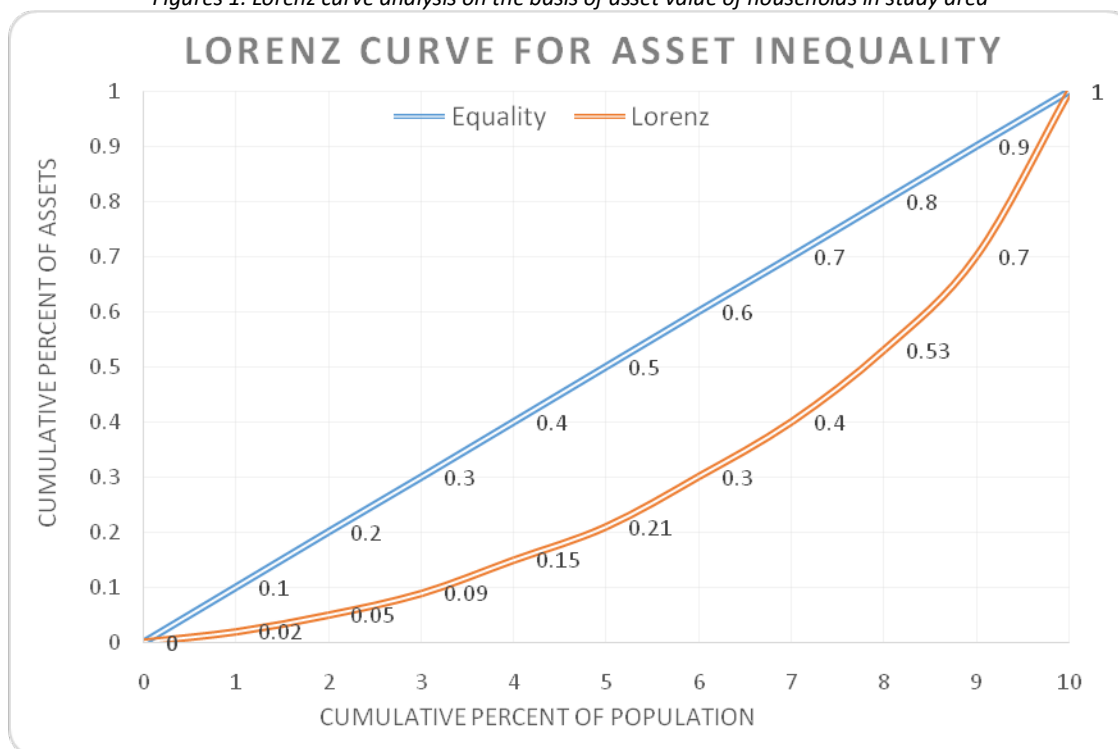
The level of inequality can be measured by the distance of the curve from equality line. The greater the distance, the wider is the degree of inequality. In the Figure 1 the Lorenz curve is a far away from the equality line. So the level of inequality in distribution of asset value among the households of farmers was high (0.41). So it may be concluded that there is high inequality in the distribution asset among the farmers.

3. Conclusion and Policy implications

The average asset value of large farmers was 6.07 times more than that of the small farmers. There is high difference in distribution of asset pattern in sample households of western Maharashtra. The Gini Co-efficient index of asset pattern was 0.41; this states that there is more inequality in distribution of asset in sample households in western Maharashtra. The proportion of asset pattern on the basis of social categories states that 54.58% asset were owned by general category, 29.24% by OBC and 16.18% owned by SC in sample area of western Maharashtra during 2015-16. The substantial difference in land value has resulted in the asset values of small, medium and large farmers. The following measure will result in reduction in concentration of income and inequality. Inadequate resources on health and education in the poorest citizens drive extreme inequality. Therefore improvement in social sector investments under the public spending may reduce inequality to the greatest extent. Governments should initiate the schemes for protecting the right to a living wage. The basic needs of all workers should earn enough to support themselves and their families. There is a need of new economics that works to improve the lives of everyone, not just those already well off.

The rampant tax concessions to corporate not to mention tax evasion and non-repayment of loans to public sector banks, which withdraw the state support to peasant agriculture thereby promotes inequality. Hence there is a need to strengthen the financial support to agriculture sector. The average size of the land holding in India has shrunk over time, meaning that income-per-household-member from agriculture has declined faster than income-per-household of non-agricultural sector. Hence the universal basic income measure will assist to bridge the gap between rich and poor. Marginalisation and fragmentation of land results in uneconomical cultivation. Therefore the concept of group and contract farming need more attention.

4. References

1. Office of the Registrar General & Census Commissioner, India. http://censusindia.gov.in. Date accessed: 06/09/2018.
2. Maharashtra Government. https://en.wikipedia.org/wiki/Government_of_Maharashtra. Date accessed: 04/08/2018.
3. M.O. Lorenz. Methods of measuring the concentration of wealth. *American Statistical Association*. 1905; 9(70), 1-11.
4. Facundo Alvaredo, Lucas Chancel, Thomas Piketty, Emmanuel Saez, Gabriel Zucman. World Inequality Report, Paris School of Economics, World Inequality Lab, Grand Krü, Berlin. 2018.
5. Thomas Piketty. Capital in the twenty-first century. Harvard University Press, USA. 2017.
6. Uma Datta Roy Choudhury. Changes in distribution of household income, consumption and wealth in rural areas. *Economic & Political Weekly*. 1977.
7. K. Pendakur. Changes in Canadian family income and family consumption inequality between 1978 and 1992. *Review of Income and Wealth*. 1988; 44(2), 259-282.
8. S. Subramanian, D. Jayaraj. Growth and inequality in the distribution of India's consumption expenditure: 1983 to 2009–10. *Economic & Political Weekly*. 2015.
9. Mark Aguiar, Mark Bils. Has consumption inequality mirrored income inequality? *American Economic Review*. 2015; 105(9), 2725–2756.