

Impact of Land Pooling Scheme on Key Economic Variables in the Capital City Area (Amaravati) of Andhra Pradesh

Dr. Venkateswararao. Podile

Professor, MBA Department, Andhra Loyola Institute of Engineering and Technology, Vijayawada, A.P, India & Project Director, Research Project sponsored by ICSSR, New Delhi, F.No.02/219/2016-17/RP

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*Corresponding Author

Email: vraopodile[at]gmail.com

ABSTRACT

Andhra Pradesh Government has found a solution to the troubles of land acquisition in building a new capital city (Amaravati) on 34,690 acres of farm land by using land pooling scheme. Amaravati is the India's first planned capital of a state to build up from scratch in the recent decades. The Government strategy was to make all farmers stakeholders in the new capital, so that they voluntarily "pooled" their land with the city development agency known as Andhra Pradesh Capital Region Development Authority shortly known as APCRDA. The land parcels owned by individuals or group of owners are legally consolidated by transfer of ownership rights to the authority, which later transfers the ownership of a part of the developed land back to the landowners. Land owners were also given some social and economic benefits for a certain period for participating in Land Pooling scheme along with the return of part of the developed land. As the land owners contribute their land voluntarily, the whole land pooling process was very smooth. The pooling process mostly did not disrupt the current inhabitants. In this context, an attempt is made in this paper to examine the impact of Land Pooling Scheme on key economic variables in the capital city area (Amaravati) of Andhra Pradesh.

1. Introduction

Most projects require an enormous amount of land. In search for industrialization and developing the related infrastructures, states made acquisitions. Under land acquisition Rehabilitation and Resettlement Act, 2013, the compensation is higher, making the project expensive and unviable. Such a situation was bound to head for a confrontation. Since the forcing out of Tata's from Singur, a large number of projects in West Bengal and elsewhere have been halted. Economic analyses suggest that 43percent of all stalled projects face land acquisition problems. Andhra Pradesh Government has found a solution to the troubles of land acquisition in building a new capital city (Amaravati) on 34,690 acres of farm land by using land pooling scheme. After bifurcation of the erstwhile state of Andhra Pradesh, present Andhra Pradesh state has to build its new capital. The Government of Andhra Pradesh has announced that capital Amaravati will be built near Guntur and Vijayawada. Amaravati is the India's first planned capital of the state to build up from scratch in the recent decades. The Government strategy was to make all farmers stakeholders in the new capital, so that they voluntarily "pooled" their land with the city development agency known as Andhra Pradesh Capital Region Development Authority shortly known as APCRDA. The land parcels owned by individuals or group of owners are legally consolidated by transfer of ownership rights to the authority, which later transfers the ownership of a part of the developed land back to the landowners. Land owners were also given some social and economic benefits for a certain period for participating in Land Pooling scheme along with the return of part of the developed land. As the land owners contribute their land voluntarily, the whole land pooling process was very smooth. Inclusion of land owners in the project development created a win-win situation for the Government as well as people living there. The pooling

process mostly did not disrupt the current inhabitants. Under the land acquisition act, several safeguard measures are to be followed including a social impact assessment by an expert committee and a detailed plan for rehabilitating the original owners. This makes it a tedious process. But the land pooling is an easy way of collecting land for development. In this context, an attempt is made in this paper to examine the impact of Land Pooling Scheme on key economic variables in the capital city area (Amaravati) of Andhra Pradesh.

2. Review of Literature

Acharya (2002)¹ has done a study on Hazira. He found that the main activities of villagers, agriculture and fishing, were adversely affected due to land acquisition. Ding (2004)² had studied the effects of land acquisition on China's future. Desai et al. (2007)³ had done a study, on the families displaced by Indira Sagar Pariyojna in Madhya Pradesh. Guha (2007)⁴ had done a study to examine socio-economic impact of land acquisition on the households whose farmland had been acquired for the establishment of Tata Metaliks Limited (TML) unit in Paschim Medinipur district of West Bengal. Dash (2009)⁵ had discussed the impacts of the displacement and resettlement on the people due to two dams and a smelting plant in the provinces of Ubon Ratch Athani Prchuap Khiri Khan of Thailand. Kusiluka et al. (2010)⁶ had examined the impacts of land acquisition programmes on the environment and livelihood of local communities in Tanzania. Sardana (2010)⁷ studied the land acquisition issues in India. They found that land acquisition of fertile land resulted displacement of traditional rural agricultural families. Gobena (2011)⁸ had done an empirical study to identify the perceived effects of large-scale agricultural land acquisition on the livelihood of small-scale farmers in Boko Tibe Woreda, Western Ethiopia. Rawat et al. (2011)⁹ studied the process of land acquisition in Polepally, Andhra Pradesh. Asthana

(2012)¹⁰ examined the impacts of displacement and resettlement on the displaced women by the construction of Tehri dam in Uttarakhand. Salman and Asif (2012)¹¹ conducted a study to find out the problems and further prospects of Ganga Expressway Project for the people directly affected by the land acquisition. Ghatak et al. (2013)¹² examined the reasons behind the refusal of many landowners to accept the offered compensation in Singur in West Bengal. Richards (2013)¹³ examined the social and environmental impacts of eighteen case- studies of large-scale land acquisitions in Africa with a focus on West and Central Africa. Venkateswararao. Podile et al (2016)¹⁴ examined the contents of Land Pooling Scheme proposed to be implemented in capital city area (Amaravati) of Andhra Pradesh. To conclude most of the studies both at international level and National level revolved round the land acquisition and its impact. Only one study was found on Land Pooling scheme which only dealt with content of the scheme. It was found that there is no study which dealt with impact of land pooling scheme on key economic variables in capital city area (Amaravati) of Andhra Pradesh. In this context the present study is proposed.

3. Objectives

The general objective of the study is to examine the Impact of Land Pooling Scheme on key economic variables in the capital city area (Amaravati) of Andhra Pradesh. The specific objectives are the following.

1. To examine the effect of Land Pooling Scheme on Income in the capital city area (Amaravati) of Andhra Pradesh.
2. To look in to the effect of Land Pooling Scheme on Consumption in the capital city area (Amaravati) of Andhra Pradesh.
3. To review the effect of Land Pooling Scheme on Savings and Investment in the capital city area (Amaravati) of Andhra Pradesh.
4. To study the effect of Land Pooling Scheme on Credit flow in the capital city area (Amaravati) of Andhra Pradesh.
5. To enquire in to the effect of Land Pooling Scheme on Productivity in the capital city area (Amaravati) of Andhra Pradesh.

4. Hypotheses

The general form of Hypothesis is the following

Null Hypothesis: Land pooling scheme does not has any significant impact on key economic variables in the capital city area (Amaravati) of Andhra Pradesh or The differences observed in key economic variables of Before Land Pooling Scheme and of After Land Pooling Scheme in the capital city area (Amaravati) of Andhra Pradesh are statistically not significant.

Alternative Hypothesis: Land pooling scheme has significant impact on key economic variables in the capital city area (Amaravati) of Andhra Pradesh or The differences observed in key economic variables of Before Land Pooling Scheme and of After Land Pooling Scheme in the capital city area (Amaravati) of Andhra Pradesh are statistically significant.

5. Methodology

The study is an empirical study. The universe under the study is the people residing in the 29 villages of capital city area (Amaravati) of Andhra Pradesh, where the land pooling scheme was implemented. Stratified random sampling technique was used for selecting the sample. The basis for division of universe in to strata is village unit. A sample of 1160 units was taken from the universe. Universe was divided into 29 strata. 40 units were taken from each stratum namely from each village thus totaling to $29 \times 40 = 1160$. Within each sub sample of 40, proportional allocation was done. The breakup of 40 was 3 SC (7.5%), 6 ST (15%), 11 OBCs and 20 OC. Simple random sampling technique was used for selecting units for sub-sample. The study is mainly based on primary data. Survey method is used for collecting primary data. Where ever necessary direct observations are also made to support the data collection. Structured Schedule was used to address the research questions or objectives of the study. To analyze the data collected from field work, simple statistical tools including percentages, bar diagrams and paired t-test are used through SPSS package.

6. Demographic profile of the respondents

OC respondents constituted 50.5 percent of the sample. OBC respondents constituted 30 percent of the sample, SC respondents constituted 15 percent and ST respondents constituted 7.5 percent of the sample. Male respondents constituted 88.8 percent of the sample and female respondents constituted 11.2 percent of the sample. Seven percent of the respondents in the sample belong to below 20, age group. 30.2 percent of the respondents in the sample belong to 21-40 age group, 46.2 percent of the respondents in the sample belong to 41-60 age group and 22.9 percent of the respondents in the sample belong to above 60 age group. Un-married respondents constituted 3.8 percent of the sample. 85.9 percent respondents in the sample are married, 9.1 percent of respondents in the sample are divorced and 1.1 percent of respondents in the sample are widowed. Illiterate respondents constituted 35.9 percent of the sample. 43.8 percent of the respondents in the sample belong to 10th and below education level, 12.2 percent of the respondents in the sample belong to Inter education level, 5.9 percent of the respondents in the sample belong to education level of Graduation and 2.3 percent of the respondents in the sample belong to P.G and above education level. Below five members family respondents constituted 89.6 percent of the sample. 8.9 percent of the respondents in the sample belong to families having members from 6 to 10 and 1.6 percent of the respondents in the sample belong to families having 11 and above members.

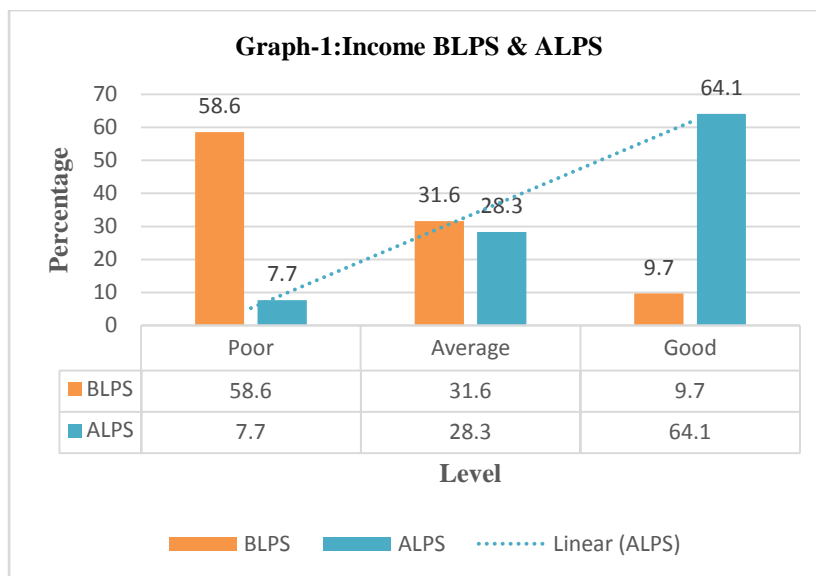
7. Data Analysis

Table-1: Response on Income before and after Land Pooling Scheme

Sl. No	Response	Variable: Income			
		Before Land Pooling Scheme		After Land Pooling Scheme	
		Respondents Count	Percentage	Respondents Count	Percentage
1	Poor	680	58.6	89	7.7
2	Average	367	31.6	328	28.3
3	Good	113	9.7	743	64.1
Total		1160	100	1160	100

The data in the above table and the data in the graph below represent the fact 9.7 percent of the respondents expressed the view that Income is 'good' Before Land Pooling scheme in Land Pooling Area of Andhra Pradesh capital city (Amaravati). This has drastically increased to 64.1 percent After Land Pooling Scheme. On the other hand, 58.6 percent of the respondents expressed the view that Income is 'Poor'

in the Land Pooling Area Before Land Pooling scheme. This has drastically decreased to 7.7 percent After Land Pooling Scheme. It is also observed that the percentage of respondents who said that Income is 'Average' had decreased from 31.6 Before Land Pooling scheme to 28.3 After Land Pooling Scheme. To conclude, Income had improved After Land Pooling Scheme.



Paired Samples Test									
Social and Economic Development Indicator		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval				
					Lower	Upper			
Pair	Income BLPS – Income ALPS	-1.053	1.087	.032	-1.115	-.990	-32.976	1159	.000

From the paired samples test, we can conclude that the differences observed in the Income of Before Land Pooling Scheme and of After Land Pooling Scheme in the capital city area (Amaravati) of Andhra Pradesh are statistically

significant. In other words Land Pooling Scheme in the capital city area (Amaravati) of Andhra Pradesh had significant impact on Income.

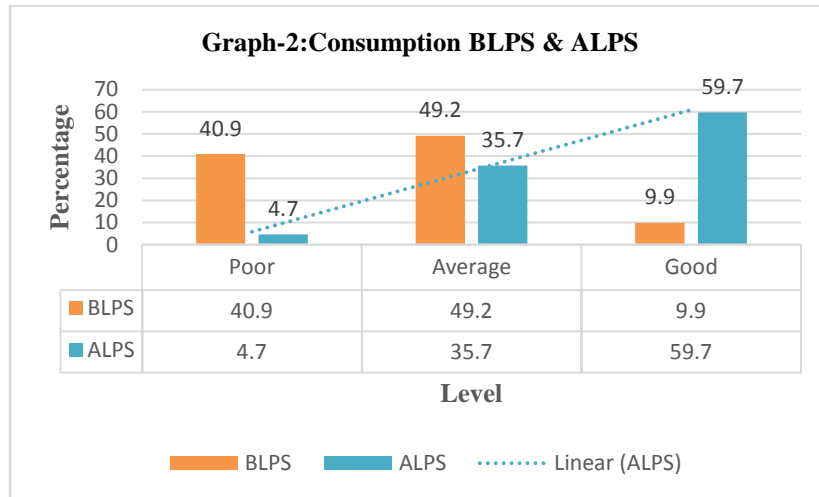
Table-2: Response on Consumption before and after Land Pooling Scheme

Sl. No	Response	Variable: Consumption			
		Before Land Pooling Scheme		After Land Pooling Scheme	
		Respondents Count	Percentage	Respondents Count	Percentage
1	Poor	474	40.9	54	4.7
2	Average	571	49.2	414	35.7

3	Good	115	9.9	692	59.7
Total		1160	100	1160	100

The data in the above table and the data in the graph below represent the fact 9.9 percent of the respondents expressed the view that Consumption is 'good' Before Land Pooling scheme in Land Pooling Area of Andhra Pradesh capital city (Amaravati). This has drastically increased to 59.7 percent After Land Pooling Scheme. On the other hand, 40.9 percent of the respondents expressed the view that

Consumption is 'Poor' in the Land Pooling Area Before Land Pooling scheme. This has drastically decreased to 4.7 percent After Land Pooling Scheme. It is also observed that the percentage of respondents who said that Consumption is 'Average' had decreased from 49.2 Before Land Pooling scheme to 35.7 After Land Pooling Scheme. To conclude, Consumption had improved After Land Pooling Scheme.



Paired Samples Test									
Social and Economic Development Indicator		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval				
					Lower	Upper			
Pair	Consumption BLPS – Consumption ALPS	-.859	.977	.029	-.916	-.803	-29.965	1159	.000

From the paired samples test, we can conclude that the differences observed in the Consumption of Before Land Pooling Scheme and of After Land Pooling Scheme in the capital city area (Amaravati) of Andhra Pradesh are

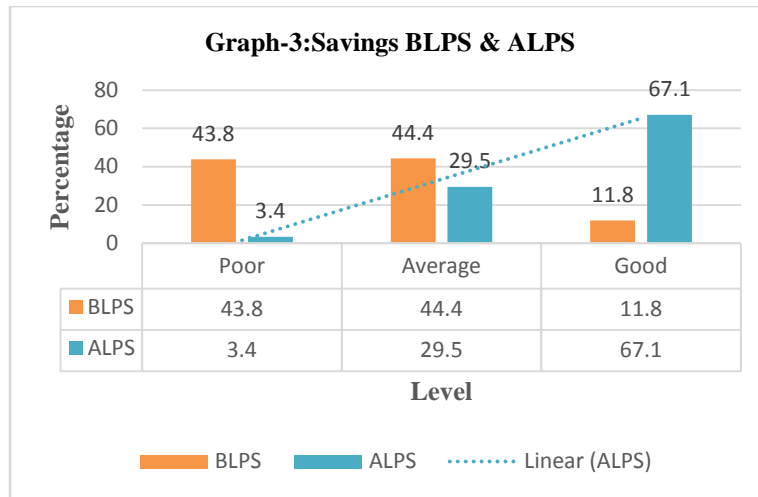
statistically significant. In other words Land Pooling Scheme in the capital city area (Amaravati) of Andhra Pradesh had significant impact on Consumption.

Table-3: Response on Savings before and after Land Pooling Scheme

Sl. No	Response	Variable: Savings			
		Before Land Pooling Scheme		After Land Pooling Scheme	
		Respondents Count	Percentage	Respondents Count	Percentage
1	Poor	508	43.8	40	3.4
2	Average	515	44.4	342	29.5
3	Good	137	11.8	778	67.1
Total		1160	100	1160	100

The data in the above table and the data in the graph below represent the fact 11.8 percent of the respondents expressed the view that Savings are 'good' Before Land Pooling scheme in Land Pooling Area of Andhra Pradesh capital city (Amaravati). This has drastically increased to 67.1 percent After Land Pooling Scheme. On the other hand, 43.8 percent of the respondents expressed the view that Savings

are 'Poor' in the Land Pooling Area Before Land Pooling scheme. This has drastically decreased to 3.4 percent After Land Pooling Scheme. It is also observed that the percentage of respondents who said that Savings are 'Average' had decreased from 44.4 Before Land Pooling scheme to 29.5 After Land Pooling Scheme. To conclude, Savings had improved After Land Pooling Scheme.



Paired Samples Test									
Social and Economic Development Indicator		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval				
					Lower	Upper			
Pair	Savings BLPS – Savings ALPS	-.956	.874	.026	-1.006	-.906	-37.268	1159	.000

From the paired samples test, we can conclude that the differences observed in the Savings of Before Land Pooling Scheme and of After Land Pooling Scheme in the capital city area (Amaravati) of Andhra Pradesh are statistically

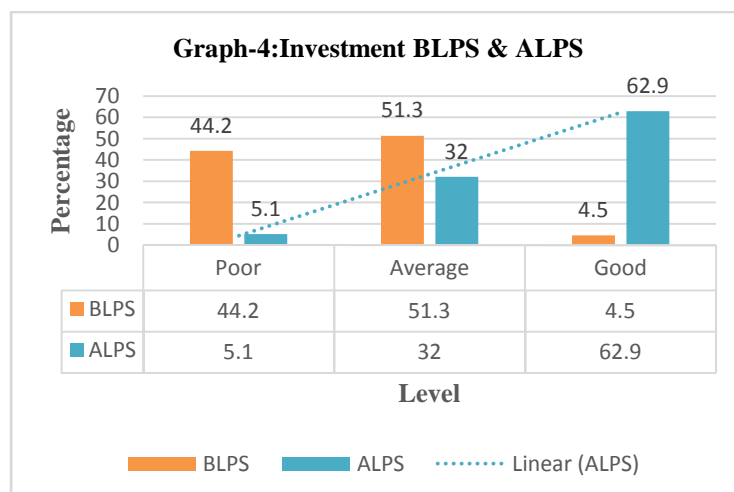
significant. In other words Land Pooling Scheme in the capital city area (Amaravati) of Andhra Pradesh had significant impact on Savings.

Table-4: Response on Investment before and after Land Pooling Scheme

Sl. No	Response	Variable: Investment			
		Before Land Pooling Scheme		After Land Pooling Scheme	
		Respondents Count	Percentage	Respondents Count	Percentage
1	Poor	513	44.2	59	5.1
2	Average	595	51.3	371	32.0
3	Good	52	4.5	730	62.9
Total		1160	100	1160	100

The data in the above table and the data in the graph below represent the fact 4.5 percent of the respondents expressed the view that Investment is 'good' Before Land Pooling scheme in Land Pooling Area of Andhra Pradesh capital city (Amaravati). This has drastically increased to 62.9 percent After Land Pooling Scheme. On the other hand, 44.2 percent of the respondents expressed the view that

Investment is 'Poor' in the Land Pooling Area Before Land Pooling scheme. This has drastically decreased to 5.1 percent After Land Pooling Scheme. It is also observed that the percentage of respondents who said that Investment is 'Average' had decreased from 51.3 Before Land Pooling scheme to 32.0 After Land Pooling Scheme. To conclude, Investment had improved After Land Pooling Scheme.



Paired Samples Test									
Social and Economic Development Indicator		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval				
					Lower	Upper			
Pair	Investment BLPS – Investment ALPS	-.976	.802	.024	-1.022	-.930	-41.446	1159	.000

From the paired samples test, we can conclude that the differences observed in the Investment of Before Land Pooling Scheme and of After Land Pooling Scheme in the capital city area (Amaravati) of Andhra Pradesh are

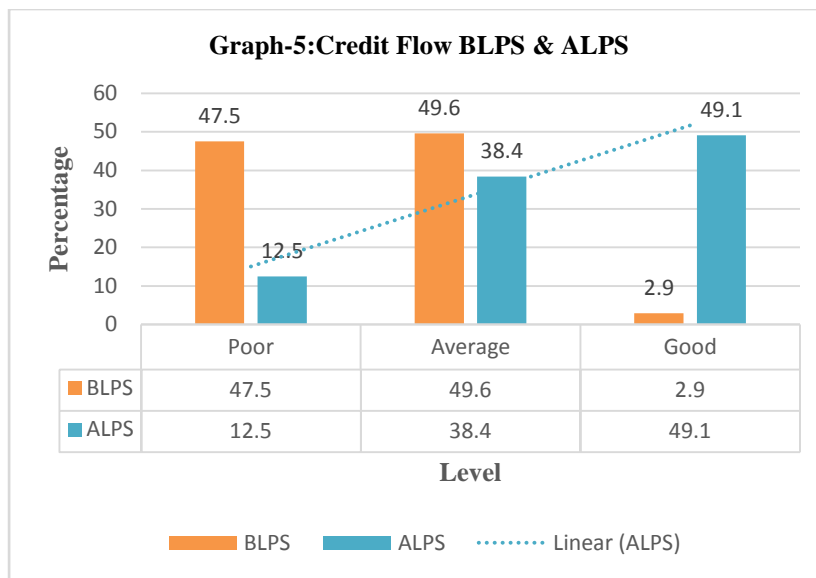
statistically significant. In other words Land Pooling Scheme in the capital city area (Amaravati) of Andhra Pradesh had significant impact on Investment.

Table-5: Response on Credit flow before and after Land Pooling Scheme

Sl. No	Response	Variable: Credit flow			
		Before Land Pooling Scheme		After Land Pooling Scheme	
		Respondents Count	Percentage	Respondents Count	Percentage
1	Poor	551	47.5	145	12.5
2	Average	575	49.6	445	38.4
3	Good	34	2.9	570	49.1
Total		1160	100	1160	100

The data in the above table and the data in the graph below represent the fact 2.9 percent of the respondents expressed the view that Credit flow is 'good' Before Land Pooling scheme in Land Pooling Area of Andhra Pradesh capital city (Amaravati). This has increased to 49.1 percent After Land Pooling Scheme. On the other hand, 47.5 percent of the respondents expressed the view that Credit flow is

'Poor' in the Land Pooling Area Before Land Pooling scheme. This has decreased to 12.5 percent After Land Pooling Scheme. It is also observed that the percentage of respondents who said that Credit flow is 'Average' had decreased from 49.6 Before Land Pooling scheme to 38.4 After Land Pooling Scheme. To conclude, Credit flow had improved After Land Pooling Scheme.



Paired Samples Test									
Social and Economic Development Indicator		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval				
					Lower	Upper			
Pair	Credit flow BLPS - Credit flow ALPS	-.812	.879	.026	-.863	-.761	-31.473	1159	.000

From the paired samples test, we can conclude that the differences observed in the Credit flow of Before Land Pooling Scheme and of After Land Pooling Scheme in the capital city

area (Amaravati) of Andhra Pradesh are statistically significant. In other words Land Pooling Scheme in the capital

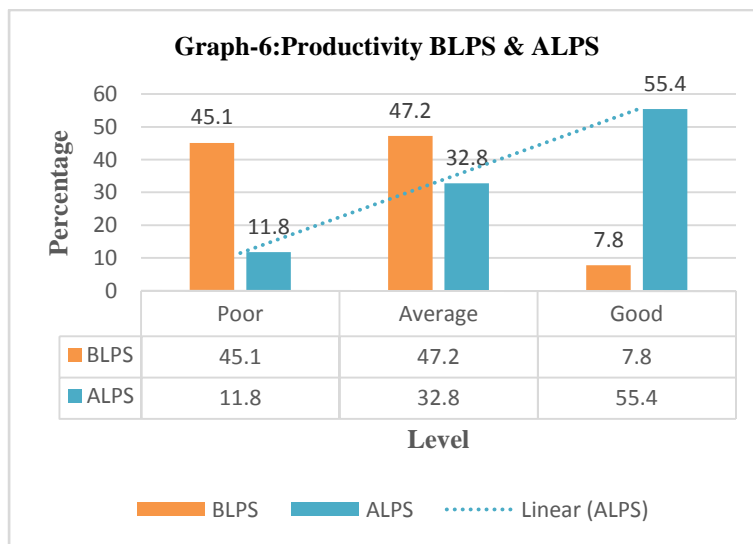
city area (Amaravati) of Andhra Pradesh had significant impact on Credit flow.

Table-6: Response on Productivity before and after Land Pooling Scheme

Sl. No	Response	Variable: Productivity			
		Before Land Pooling Scheme		After Land Pooling Scheme	
		Respondents Count	Percentage	Respondents Count	Percentage
1	Poor	523	45.1	137	11.8
2	Average	547	47.2	380	32.8
3	Good	90	7.8	643	55.4
Total		1160	100	1160	100

The data in the above table and the data in the graph below represent the fact 7.8 percent of the respondents expressed the view that Productivity is 'good' Before Land Pooling scheme in Land Pooling Area of Andhra Pradesh capital city (Amaravati). This has drastically increased to 55.4 percent After Land Pooling Scheme. On the other hand, 45.1 percent of the respondents expressed the view that

Productivity is 'Poor' in the Land Pooling Area Before Land Pooling scheme. This has decreased to 11.8 percent After Land Pooling Scheme. It is also observed that the percentage of respondents who said that Productivity is 'Average' had decreased from 47.2 Before Land Pooling scheme to 32.8 After Land Pooling Scheme. To conclude, Productivity had improved After Land Pooling Scheme.



Paired Samples Test									
Social and Economic Development Indicator		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval				
					Lower	Upper			
Pair	Productivity BLPS – Productivity ALPS	-.809	.979	.029	-.866	-.753	-28.161	1159	.000

From the paired samples test, we can conclude that the differences observed in the Productivity of Before Land Pooling Scheme and of After Land Pooling Scheme in the capital city area (Amaravati) of Andhra Pradesh are statistically significant. In other words Land Pooling Scheme in the capital city area (Amaravati) of Andhra Pradesh had significant impact on Productivity.

8. Conclusion

To conclude, Income had improved After Land Pooling Scheme in the capital city area (Amaravati) of Andhra Pradesh. Consumption had improved After Land Pooling Scheme. Savings had improved After Land Pooling Scheme. Investment had improved After Land Pooling Scheme. Credit flow had improved After Land Pooling Scheme. Productivity had improved After Land Pooling Scheme.

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