



A Study on impact of urbanization on Agriculture and Urban sprawl - Special reference to Chidambaram Town

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Introduction

Urbanization happens because of the increase in the extent and density of urban areas. The density of population in urban areas increases because of the migration of people from less industrialized regions to more industrialized areas.

Causes of urbanization

Urbanization usually occurs when people move from villages to cities to settle, in hope of a higher standard of living. This usually takes place in developing countries. In rural areas, people become victims of unpredictable weather conditions such as drought and floods, which can adversely affect their livelihood. Consequently many farmers move to cities in search of a better life. This can be seen in Karnataka as well where farmers from Raichur, Gulbarga districts which are drought-stricken areas, migrate to Bangalore to escape poverty. Cities in contrast, offer opportunities of high living and are known to be places where wealth and money are centralized. Most industries and educational institutions are located in cities whereas there are limited opportunities within rural areas. This further contributes to migration to cities. But in the context of towns due to urbanization the adjacent agricultural areas are affected and the urban sprawl further deteriorated the town and the villages.

Selection of the study area and the samples

For the purpose of this study Chidambaram Town is divided into three circles. The first circle comprises four sannathi streets and four car streets. Second circle comprises the areas next to the car streets but before the extension areas. The third circle comprises the extension areas. From the four sides of the extension area 98 agricultural respondents were selected randomly who are affected by the urbanization.

Now, the third circle (extension area) in the study area was previously the agricultural fields. Normally, the extension of human settlements affects the agricultural activities.

For the past 15 to 20 years, the human settlements rapidly replaced the agriculture in all the four fields of the study area. The data of climate change at cuddalore district, particularly Chidambaram taluk is entirely different one. This taluk faced heavy flood and storm and or heavy drought.

Authentic information from meteorological department pointed out that for the past ten years, this taluk received the rainfall not only during the monsoon and also during winter, particularly at the end of December and January. For example, during October and November



2011, this district received surplus rainfall, that made the farmers much happy to continue their farming activities. Unfortunately, at the end of December 2011, the coastal areas of cuddalore, particularly Chidambaram taluk is totally affected by the famous cyclone 'Thane'. The farmers were supposed to harvest the paddy during the second week of January 2012. But the thane cyclone destroyed the crops completely that left the farmers in lurch.

It is a well known fact that farmers are unable to get even the production cost or at least the 75% of the investment.

Hence, to the impact of urbanization on agriculture, it is divided to collect the information from the agricultural people from the study area. Fortunately, 98 respondents are available in the study area, which have been already selected as a sample from the three circles.

First of all a particular question is raised that are you continuing the agricultural activities followed by the questions why you are not continuing the agricultural activities. The responses are tabulated as follows:

Table 1 Classification of agricultural respondents on the basis of farm size

Sl.No.	Area	Farm size				Total
		Small farmers	Medium farmers	Marginal farmers	Large farmers	
1.	First circle	11 (32.35)	12 (35.29)	5 (14.71)	6 (17.65)	34 (100.00)
2.	Second circle	12 (33.33)	15 (41.67)	4 (11.12)	5 (13.88)	36 (100.00)
3.	Third circle	15 (53.58)	9 (32.14)	2 (7.14)	2 (7.14)	28 (100.00)
	Total	38 (38.78)	36 (32.65)	11 (12.24)	13 (16.33)	98 (100)

Source: computed

Figures in parenthesis denotes percentage

Out of 98 respondents belong to agricultural as an occupation, 38 (38.78%) respondents are the small farmers, in which the respondents are in the third circle followed by 12 in second circle and 11 in the first circle. 32 (32.65%) respondents are the medium farmers in which 14 of them are in the second circle. 16 are the large farmers and 12 are the marginal farmers, in which maximum respondents living in the first circle.

Table 2 Do you continue the farming activities

Sl. NO	Area	Yes	No	Total
1.	First circle	12 (35.29)	22 (64.71)	34 (100.00)
2.	Second circle	10 (27.78)	26 (72.22)	36 (100.00)
3.	Third circle	6 (21.43)	22 (78.57)	28 (100.00)
	Total	28 (28.57)	7 (71.43)	98 (100.00)

Source: computed

Figures in parenthesis denotes percentage



Out of 98 respondents belong to agricultural group, 70 (71.43%) respondents stated that they did not continue the farming activities. Since, these 70 respondents come under small and medium farmers' category. The 28 respondents are coming under marginal and large farmer's category.

Table 3 Reasons for not continuing the farming activities

Sl.No.	Reason	Farm size			
		Small farmers N= 31	Medium farmers N=25	Marginal farmers N=6	Large farmers N=8
1.	Inclement monsoon	31	22	6	8
2.	Surrounding field are converted into plots	31	20	6	3
3.	Plots reduced the water column	31	23	6	6
4.	Stagnation of water due to plots	26	22	6	6
5.	Forced by the real estate people	31	20	2	2
6.	Construction of bypass roads	28	22	5	4
7.	Unable to take up the agricultural implements	31	23	4	6
8.	Water channels are disturbed or closed	31	25	5	6
9.	Higher value of land	31	25	6	8

Source: computed

Figures in parenthesis denotes percentage

No doubt that urbanization made an impact on agriculture. Due to urbanization when compared with others, small farmers are more affected more in number. To find out this 9 reasons have been given to the respondents. This is the multi-response reasons.

In the case of small farmers, except two reasons, i.e., stagnation of water due to plots and construction bypass, all the 31 respondents stated that the remaining other 7 are the reasons for urbanization. Even for the remaining two out of 31, 26 and 28 stated these two should also be in the reasons. Since, 5 and 3 small farmers did not have the problems of stagnation of water due to plots and construction of bypass respectively. Here, the main reason for not continuing the farming activities are the fields of small farmers are surrounded by the plots forced by the real estate people to sell and water shortage or non-availability of water made them to continue the farming activities.

Moreover, they felt that instead of continuing the farming activities, it is better to sell the land at the higher price and the income could be deposited that fetches regular income instead of loss.

In the case of medium farmers also all the 23 respondents felt that due to urbanization process water channels are either blocked or closed and the value of land is increased. Except few almost 95% of the medium farmers strongly felt the factors are the main reasons for destructing the agricultural activities.



In the case of marginal farmers and large farmers almost all of them strongly agreed that the stated nine reasons are the cause of destruction of agriculture by means of urbanization.

Further, it is important to note that since, some of the respondents are keeping their lands uncultivated; it led to lost to them. Out of 31 respondents from the small farmers category and 25 from medium farmers category 14 and 11 respectively sold out their lands for the best price.

To keep their social status and prestige the marginal and large farmers are keeping their land. Another point to be noted is, since, they have to good health status, and they are expecting that further urbanization may increase the value of the land.

Urban sprawl is also analyzed here. Urban sprawl means increase in spatial scale or increase in peripheral area of towns. But urban sprawl has its own drawbacks.

They are:

- i. The town and its infrastructure may not be adequately planned.
- ii. Traffic is high with increased time needed for community.
- iii. Essential services are not reachable within time.
- iv. City administration becomes extremely difficult.

To verify the above, four points have been converted into statements and opinion of the respondents has been collected on the basis of five point scale.

Table 4 Opinion of the respondents on urban sprawl

Sl. No.	Area	Town and its infra-structure is not adequately planned					Total
		Agree	Strongly agree	Disagree	Strongly disagree	No comment	
1.	First circle	5 (5.00)	85 (85.00)	6 (6.00)	4 (4.00)	-	100
2.	Second circle	10 (10.00)	90 (90.00)	-	-	-	100
3.	Third circle	4 (4.00)	-	19 (19.00)	77 (77.00)	-	100
	Total	19 (20.00)	175 (57.67)	25 (19.00)	81 (3.33)	-	300 (100)

Table 4 continued....

Sl. No.	Area	Traffic is high with increased time needed for commuting					Total
		Agree	Strongly agree	Disagree	Strongly disagree	No comment	
1.	First circle	18 (18.00)	82 (82.00)	-	-	-	100
2.	Second circle	15 (15.00)	50 (50.00)	30 (30.00)	5 (5.00)	-	100
3.	Third circle	-	-	20 (20.00)	80 (80.00)	-	100
	Total	33 (20.00)	132 (57.67)	50 (19.00)	85 (3.33)	-	300 (100)



Table 4 continued....

Sl. No.	Area	Essential services not reached in time					Total
		Agree	Strongly agree	Disagree	Strongly disagree	No comment	
1.	First circle	2 (2.00)	-	10 (10.00)	88 (88.00)	-	100
2.	Second circle	15 (15.00)	28 (28.00)	16 (16.00)	41 (41.00)	-	100
3.	Third circle	29 (29.00)	41 (41.00)	16 (16.00)	14 (14.00)	-	100
	Total	46 (20.00)	69 (57.67)	42 (42.00)	143 (3.33)	-	300 (100)

Table 4 continued....

Sl. No.	Area	Town administration become extremely difficult					Total
		Agree	Strongly agree	Disagree	Strongly disagree	No comment	
1.	First circle	10 (10.00)	80 (80.00)	5 (5.00)	5 (5.00)	-	100
2.	Second circle	15 (15.00)	75 (75.00)	6 (6.00)	4 (4.00)	-	100
3.	Third circle	11 (11.00)	81 (81.00)	3 (3.00)	5 (5.00)	-	100
	Total	36 (20.00)	236 (57.67)	14 (19.00)	14 (3.33)	-	300 (100)

Source: computed

Figures in parenthesis denotes percentage

With regard to town and its insufficient planned infrastructure, 175 (58.33%) respondents from first and second circle strongly agreed this one and 19 (6.33%) of the first and second circle agreed this statement. Only 10 respondents from the first circle disagreed this statement. The reasons for agreement are due to the absence of order in the settlements and unauthorized encroachments.

Whereas in the third circle 81 (27%) and 25 (8.33%) respondents respectively disagreed the statement since, they are in the extension area and their settlement and the common infra-structure is well-planned.

Regarding the increase of traffic, out of 30 respondents 132(44%) and 33 (11%) respondents strongly agreed the statement. They are from first two circles in which 100 respondents are from the first circle itself. Whereas 35 from second circle and 100 from third circle disagreed the statement since there is no traffic congestion in their area.

In the case of essential services normally the first two circles, (on the basis of the distance) get benefited, whereas the outskirts do not get the same. From the table, it is inferred that the same thing is happened.

In the context of extreme difficulty in town administration, out of 300 respondents, 236 (78.67%) opined that the administration is facing much difficulty to and maintain and run the show. Because, when urbanization extends, it is very difficult to the administration to provide the basic needs and infrastructural facilities.



Findings

From the above analysis it is found that the urbanization affected the agricultural activities in the study area considerably and the urban sprawl affected the urbanized area of the study area.

Policy suggestions

1. Regulation of agricultural field is needed.
2. Conversion of agricultural land into residential area should be stopped by a government order.
3. Farmers are to be provided all infrastructural facilities to continue farming instead of selling
4. Avoiding further construction of houses particularly apartments in the first two circles.
5. A well planned construction having all the facilities in the third circle is needed

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