

Original Research Article

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Extent of Livelihood Assets Influence on Livelihood Changes

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ABSTRACT

Recent trends suggest a large proportion of farming community especially youth in the rural villages is on their way out of agriculture. Rising disenchantment with the agriculture profession pushes them out of their traditional occupation while opportunities in other sectors of the booming economy pull them out of agriculture. This study attempts to identify the factors responsible for this process of withdrawal and assess the influence of livelihood assets on livelihood strategies of farmers in Periyar – Vaigai command area in line with early studies carried out by Bragg and Dalton, 2004; Foltz, 2004; Glauben *et al.*, 2006; Prem B. Bhandari, 2013. Madurai has both single cropped and double cropped area under Periyar– Vaigai irrigation. 100 farmers from single cropped area and another 100 farmers from double cropped area was chosen and thus total of 200 respondents surveyed through structured interview schedule. The analysis of result revealed that 15.5 percent of farm household shifted to non farm income either fully (7.0 %) or partially (8.5%) in the last 5 years and 21.0 percent of farm household shifted to other commercial crops from paddy and Rest (63.5 %) of farmers have adopted the same livelihood strategy that they had earlier. Leaving from agricultural sector as livelihood strategy is less than 1.5 percent per annum among farming household. In double cropped raised area, there were crop diversification of rice to sugarcane and rice to banana. The irrigated areas were leased out for banana and sugarcane cultivation by the land owners. In the single seasonal cropped area and tenured area there is no shift from paddy. Remittance played an important role in stick on to agricultural occupation. Livelihood Assets had influence on livelihood strategies of the farmers. There are significant differences in possession of livelihood assets by different livelihood strategies adopted by the house holds.

Keywords

Livelihood assets,
Livelihood changes,
Remittance

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Introduction

Recent studies suggest a large proportion of farming community in the rural villages is on their way out of agriculture. Bhalla and Hazell (2003) hypothesized that the growth in the secondary and the tertiary sectors has a major contribution in the decline in farmer

population. Amrita Sharma (2005) expressed that possession of skill seems to be an important factor in determining outmigration from agriculture. Rising disenchantment with the agriculture profession pushes them out of their traditional occupation while opportunities in other sectors of the booming economy pull them out of agriculture.

Doddamani (2014) attempted to identify the push and pull factors which influence workers' inter-state migration, on the basis of perceptions of workers. This study attempts to identify the factors responsible for this process of withdrawal and assess the influence of livelihood assets on livelihood strategies of farmers in Periyar – Vaigai command area in line with early studies carried out by Bragg and Dalton, 2004; Foltz, 2004; Glauben *et al.*, 2006; Prem B. Bhandari, 2013.

The main objectives of this study includes to explore the dynamics of livelihood changes and extent of livelihood changes of farm families; In Periyar – Vaigai Command area of Madurai district. To find out the factors responsible for livelihood changes of farm families in Periyar – Vaigai Command area of Madurai district. And also to assess the extent of livelihood assets influence on livelihood changes.

Materials and Methods

Madurai have both single cropped and double cropped area under Periyar – Vaigai irrigation. 100 farmers from single cropped area and another 100 farmers from double cropped area was chosen and thus total of 200 respondents surveyed through structured interview schedule. The details of sampling are presented in table 1.

Statistical tools used

Chi- square test was employed to assess the Frequency distributions of respondents who have gone for different livelihood strategies against their assets position.

Mean and Standard Deviation was used to consolidate the differences in asset position of different livelihood changes.

Corretation with probit regression analysis were used to understand the association and degree of influence of assets on livelihood strategies.

Percentage analysis was employed to assess the perceived factors influenced the farmers towards the livelihood strategies.

Extent of livelihood diversification

A person or household with a diverse livelihood relies on several different economic activities. A 'diverse livelihood' is the opposite of a specialized livelihood based on a single, full-time activity. Diversification is the incorporation of new activities into the economic portfolio. The number of income sources of different households were studied to measure the diversification in this regard and presented.

In the past(5 years before) nearly half of the farm household(54.00 %) had two sources of income followed by one third of them had one and rest of them had three sources of income to run their livelihood. But at present there is slight decrease in single source of income category and slight increase in two and three sources of income category compare to the past.

A detail account of sector wise sources of income revealed that in the single source of income category there is significant number (7 percent of crop cultivators and 2 percent of animal husbandry farmers) of farm household left the farming sector. In the double source income categories 4.5 percent in crop cultivators and animal husbandry farm household left the farming sector. As a result there is steady increase in non farm occupation in single (7.00%), double (6.5 %) and three sources (2%) income category. All together 15.50 percent of farm house hold shifted from farming to non farming

occupation in the last five years.

Propping the present cultivators revealed that there is shift of crops within the farming sectors . Nearly 21 percent of cultivators shifted from paddy to commercial crops like chewing sugarcane, banana, vegetables and flower crops.

Hence it can be concluded that the farm families in Periyar – Vaigai command area of Madurai have followed three livelihood strategies. They are,

15.5 percent of farm household shifted to non farm income either fully(7.0 %) or partially (8.5%) in the last 5 years.

21.0 percent of farm household shifted to other commercial crops from paddy in the last 5 years and

Rest (63.5 %) of farmers has adopted the same livelihood strategy that they had 5 years before.

Extent of livelihood assets influence on livelihood changes

Livelihood changes or strategies based on vulnerability and shock encountered by the households in their life and tackles them by using the livelihood assets available to them. Hence, a detail account of livelihood assets is presented in following tables (Table 2–8).

The table 3 revealed that the big farmers had both farming and to non –farming occupations. It seems that income earned from agriculture is invested in non – farming occupation by these household. Small farmers did not change their livelihood. The traditional outlook and less risk taking ability might have influenced them to be in the same occupation. Mostly the medium size landholders shifted from paddy to commercial

crops with in the farming sector.

The tenure land holders stick to agriculture than own land holders. In Vaigai – Periyar command area 31.5 percent of them are tenure land holders who are cultivating paddy on behalf of big land lords or institutions like temple authorities and charitable trusts. In the expansion of city these land are sold for real estate. In that case being cultivators they used to get half of land sale value. This is one of the reasons that these farming household stick to agriculture. In recent years potential irrigated land (i.e. land which had bore well and assured irrigation throughout the year) were leased out for 4 to 6 lakhs / acre for 4 to 5 years. Mostly in the leased land commercial crops are being cultivated.

The data shown in irrigation potentiality and intensity again reiterate that irrigated land are used for commercial crops cultivation. Due to higher cost of labours and non availability of labours farmers preferred to cultivate annual crops like Banana, Sugarcane and Flower crops

The man power assets had influenced the livelihood strategies. Where the size of family is big and more number of persons in a family engaged in agriculture, there is great chance for the household to retain in the agricultural occupations. Similarly when family size is small and less number of persons engaged in agriculture in a family there is great chance for them to be shifted to non- farm occupation. More educated and those who attended more trainings on agriculture have remained in agricultural occupations but shifted to commercial crops.

The non-farm house holds had more assets than other two categories. But the farm assets are more among the commercial crop cultivators than traditional paddy growers. Hence, it can be inferred that possession of

farm assets influenced the livelihood strategies.

Financial asset favored the farmers to go for the commercial crop cultivators. In other words the commercial crop growers earn not only more farm income but also non-farm income and they borrowed more credit than others.

Higher the social participation then higher the chance of farmers to shift to either commercial crops or non farm income. Obviously, higher the extension agency contact there is great chance for retained in agriculture. Hence, it can be concluded that presence of social asset influence the farmers in different sort of livelihood strategies.

Determinants of farm diversification

To identify the factors influencing farm diversification, probit model was employed. The results are presented in Table 4 and 5.

The variables farm size, education, farm own labour, household asset, farm asset, farm income, credit availed and extension contact had positive association with extent of livelihood diversification at one percent level of significant. Irrigation potentiality had positive association and family size had negative association with extent of livelihood changes at five percent level of significant.

To identify the factors influencing farm diversification, probit model was employed.

The results revealed that irrigation intensity had shown positive and significant contribution at one percent level of probability whereas farm income had positive and significant contribution at five per cent level of probability. Extension contact had shown negative and significant contribution at one per cent probability level. However,

Household farm labour and farm asset were found to have positive and non-significant contribution to farm diversification.

$$D_i = - 2.007^{**} + 2.038^{**} F_1 + 0.358^{NS} F_2 + 0.003^{NS} F_3 - 0.742^{**} F_4 + 0.064^* F_5$$

Factors responsible for livelihood changes of farm families

There were three livelihood strategies being followed by the household of farm families in Periyar –Vaigai command area. They are 1.Continuing the same occupation 2.Change with in the occupation and 3.Leaving the occupation. To asses the qualitative factors, the respondents were asked to express the reasons for such strategies which is presented in table 6.

More than half of the respondents who retained in farming sector perceived that fear of risk to enter in other occupations (56.69), availability of food grains for their consumption (54.33), being aged wish to be in local village (51.18) and availability of sufficient family labourers (50.39). Nearly forty percent of present day cultivators expressed sufficient income, engaged in paddy cultivation in only one season and remittance in agriculture from other family members are the major reasons. One third of the farm holders stated that they are in farming sector because of remittance by other family members .Nearly one fourth of farmers felt that possession of land holding give them pride and the subsidies availed for agriculture made them to be retained in farming sector and they expect farming sector will have near bright future.

More than ninety percent of the respondents who shifted to commercial crops with in the farming sector perceived that they could earn better income than paddy and they could shift to annual crops due to possession of perennial

irrigation sources like bore well. Nearly two third of the present day commercial crop cultivators stated that Subsidies like drip fertigation and mulching available for promotion of commercial crops and Fear of risk to enter in non - farm occupations as reasons. Immediate payment for the farm produce like vegetables and flowers and Scarcity of labours that limit them in continuous engagement for seasonal crops was quoted by half of the commercial crop cultivators. Nearly one third of changed crop growers stated Unavailability of male to manage the farming, Remittance in agriculture from other family members, Scope of betterment in near future and forty percent stated growing of commercial crops help them to save time.

From table 8 it is revealed that more than ninety percent of the respondents who shifted toward non – farming sector stated high cost of farm input and less income from farming were reasons for livelihood changes. Two third of them felt Non availability of labours

in peak or crucial stage, Increased Labour cost after Implementation on MGNREGA and scarcity of water for crop cultivation are the reasons for shifted toward non – farming sector. Around sixty present of household who recently shifted to non – farming sector stated the push factors like frequent incidence of pest and diseases, Frequent dry spell, High Hiring charges of farm machineries and pull factors like Fixed hour of work with guarantee payment of salary/wages in non-farming sector, fixed hour of work, No need for invest money as in farming as the reasons. Situational factors like availability of communication and transport facilities in villages and rise of land value favored fifty percent of them to go for non – farming sector. Some of the psychological perception of farmers like Stigma of feeling agriculture as inferior and drudgery and free from the clutch of land lords and dominant caste also quoted for shift by significant number of farm household.

Table.1 The details of sampling

Sample area	Block	Villages	No. of Respondents
Doubled cropped area (n=100)	Vaddipatti	1.Mettunerathan 2.Nachikulam	25 25
	Alanganallur	1. Kondyampatti 2.Ambalathadi	25 25
Single cropped area (n=100)	Mellur	1.Thamaraipatti 2.Naviniipatti	25 25
	Thiruparakundram	1.Villacherry 2.Nilayur	25 25

Table.2 Measurement of Farm Household Livelihood Assets

Type of Assets	Measurement procedure
Natural assets	
Farm size (ha.)	Refers to cultivable area possessed by an individual house hold. it was measured in terms of hectare.
Ownership pattern.	The three types of possession of land holding such as owned, leased and tenured was assessed.
Irrigation intensity(%)	Measured through number of crops raised in cultivable area through irrigation in a year.
Irrigation potentiality (in no. of season)	Measured through number of crops can be raised in cultivable area through different sources of irrigation (such as cannel, tank and well) in a year
Manpower assets	
Family size (no.)	Measured in term of number of adult (above age 18) in a house hold
Household Head education (Std)	Measured in term of number of years the head of the household undergone the formal education.
Availability of Family Labours (no.)	Number of household members involved in agricultural operations.
Training under gone (no.)	Number of trainings related to agriculture undergone by a family member in the last two years.
Material assets	
Household assets (lakhs)	Measured in terms of money value . it includes plot, house, transport vehicles and other household utensils .
Farm assets (lakhs)	Measured in terms of money value. it includes land, farm equipments and machineries.
Financial assets	
Annual Farm income (lakhs)	Income earned through selling of produce and other economic activities in a year
Annual Non-farm income (lakhs)	Income earned through other than farming in a year
Credit availed (lakhs)	Amount of credit availed for economic and social activities
Social assets	
Social participation (no.)	It was measured in terms of head of household being a member or office bearer in organizations .
Extension contact (no.)	It was measured in terms of head of household had a number of contact with agricultural extension agencies for the last two years.

Table.3 Comparison of Five Livelihood Assets of Farm Households had Different Livelihood Strategies

Type of Assets	Total Samples (n =200)		Shifted to Non-Farming Sector (n =31)		Shifted with in the Farming Sector (n =42)		Stayed in the Same sector (n=127)	
	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D
Nature assets								
Farm size (ha.)	1.70	0.82	2.26	0.86	1.760	0.76	1.54	0.77
Ownership pattern	1.74	0.90	1.56	0.72	1.64	0.75	1.83	0.96
Irrigation intensity(%)	127.00	28.00	116.00	26.00	149.00	25.00	122.00	26.00
Irrigation potentiality (in no. of season)	1.60	0.72	1.42	0.67	2.28	0.72	1.40	0.57
Manpower assets								
Family size (no.)	5.84	1.64	5.11	1.75	6.07	1.48	5.94	1.63
Household Head education(std)	6.74	3.53	9.10	3.77	9.43	3.37	5.25	2.54
Availability of Farm (own) Labour (no.)	2.12	0.87	1.45	0.77	2.14	0.84	2.28	.082
Training under gone (no.)	1.66	0.77	1.29	0.59	2.26	0.73	1.54	0.71
Material assets								
Household assets (lakhs)	37.74	1.44	45.87	1.18	45.04	1.1	33.33	1.33
Farm assets (lakhs)	10.58	5.66	11.45	5.27	15.05	3.92	8.87	5.39
Financial assets								
Annual Farm income (lakhs)	3.72	2.17	3.56	2.15	5.83	1.83	3.07	1.81
Annual Non-farm income (lakhs)	1.93	0.81	2.0	0.86	2.14	0.84	1.83	0.77
Credit availed (lakhs)	1.64	0.65	1.62	0.65	2.11	0.58	1.50	0.61
Social assets								
Social participation (no.)	5.60	1.84	6.05	1.80	5.79	1.89	5.43	1.82
Extension contact (no.)	4.08	1.80	2.73	1.15	4..32	1.8	4.33	1.77

Table.4 Association of livelihood assets with Extent of Livelihood Changes

livelihood assets	“r” value
Farm size	0.304 **
Ownership	-0.123
Irrigation intensity	0.060
Irrigation potentiality	0.169 *
Family size	-0.144*
Education	0.502**
Farm own labour	0.313**
Training	0.025
Household asset	0.376**
Farm asset	0.287**
Farm income	0.243**
Non- farm income	0.114
Credit availed	0.186**
Social participation	0.129
Extension contact	0.275**

Table.5 Determinants of farm diversification

(n=200)

Variables	Estimate	Standard error	Z-value
Intercept	-2.007	0.593	- 3.382**
Irrigation intensity (F1)	2.038	0.748	2.725**
Household farm labour(F2)	0.358	0.269	1.329
Farm asset(F3)	0.003	0.011	0.252
Extension contact(F4)	-0.742	0.104	- 7.161**
Farm income(F5)	0.064	0.032	2.000*

Prob > chi square = 12.401^{NS}

R² = 0.568

** -Significant at one percent level

*-Significant at five percent level

R² = 0.568

Table.6 Factors perceived by the respondents to be retained in farming sector
(n =127)

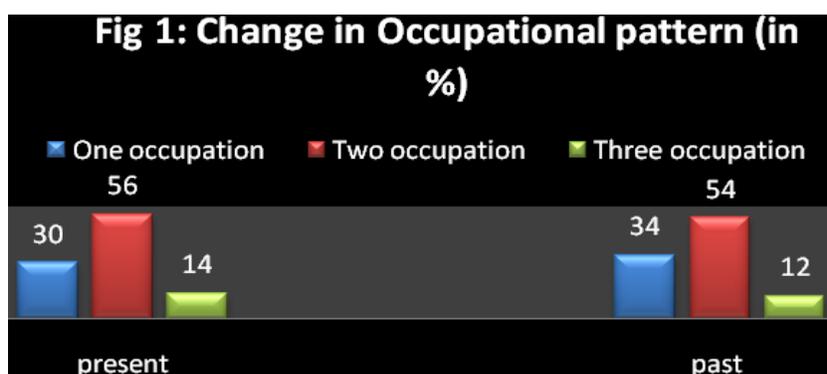
Sl.No.	Factors perceived by the respondents	No.	%
1.	Fear of risk to enter in other occupations	72	56.69
2.	Availability of food grains for their consumption	69	54.33
3.	Being aged wish to be in local village.	65	51.18
4.	Availability of sufficient familylabourers	64	50.39
5.	Sufficient income	57	44.88
6.	To be engaged in only one season.	54	42.52
7.	Remittance in agriculture from other family members	50	39.37
8.	Fear of loosing tenure status	43	33.86
9.	Pride of ownership	34	26.77
10.	Subsidies available for agriculture	34	26.77
11.	Scope of betterment in future	32	25.20

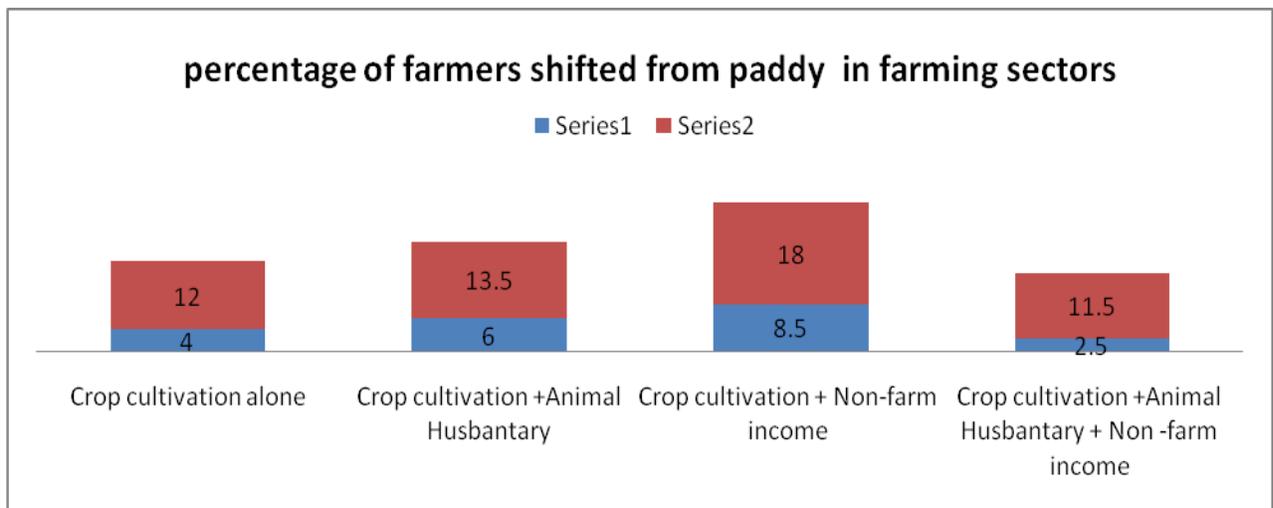
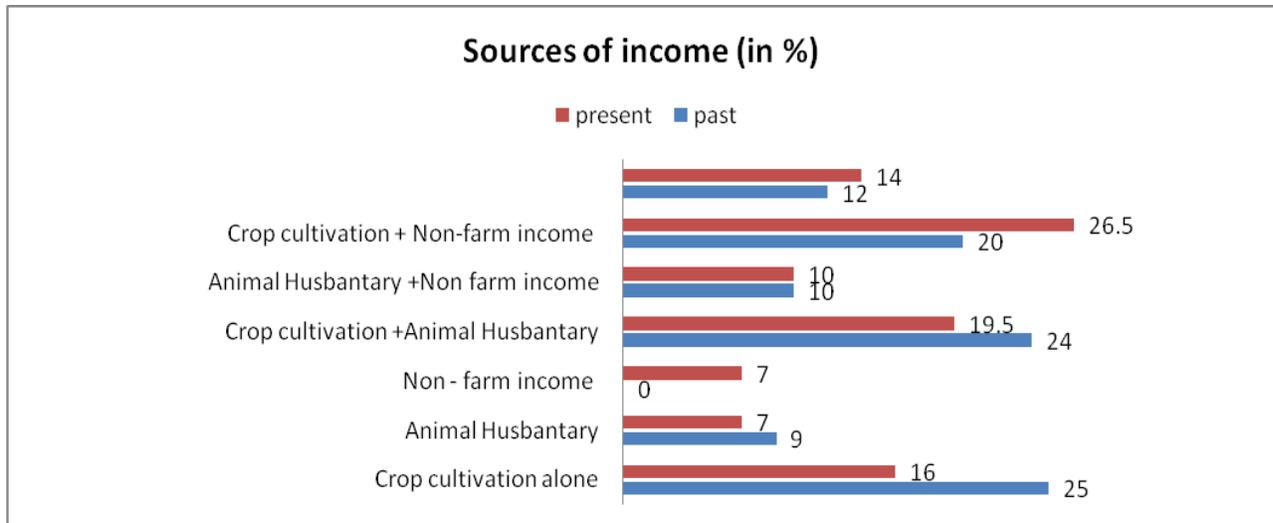
Table.7 Factors Perceived by the Respondents to Shift towards Commercial Crops (n =42)

Sl.No	Factors perceived by the respondents	No.	%
1.	More profit than paddy	40	97.56
2.	Availability of water throughout the year	38	92.68
3.	Subsidies available for promotion of commercial crops	28	68.29
4.	Fear of risk to enter in non - farm occupations	26	63.41
5.	Immediate payment for the farm produce	22	53.66
6.	Scarcity of labours to go for seasonal crop	21	51.22
7.	No need to engage in full time as that of paddy	18	43.90
8.	Unavailability of male to manage the farming	15	36.59
9.	Remittance in agriculture from other family members	14	34.15
10.	Scope of betterment in near future	13	31.71

Table.8 Factors perceived by the respondents to shift towards non-farming income (n =31)

Sl.no	Factors perceived by the respondents	No.	%
1.	High cost of farm input	30	96.77
2.	less income from farming	29	93.55
3.	Non availability of labours in peak or crucial stage	21	67.74
4.	Increased Labour cost after Implementation on MGNREGA	21	67.74
5.	Non -availability of water throughout the season	20	64.52
6.	Fixed hour of work with guarantee payment of salary/wages	19	61.29
7.	Frequent incidence of pest and diseases	19	61.29
8.	No need to engage full time as that of farming	19	61.29
9.	Frequent dry spell	18	58.06
10	Hiring charges of farm machineries are high.	18	58.06
11.	No need to invest money as in farming	17	54.84
12.	Availability of communication and transport facilities in village	16	51.61
13.	Rise of Land value	16	51.61
14.	Stigma of feeling agriculture as inferior and drudgery	12	38.71
15.	Unavailability of family members to manage the farming	11	35.48
16.	Free from the clutch of land lords and dominant caste	10	32.26
17.	Family dispute on ownership on land.	8	25.81





Salient findings

In Periyar –Vaigai commend area, 15.5 percent of farm household shifted to non farm income either fully (7.0 %) or partially (8.5%) in the last 5 years. Another 21.0 percent of farm household shifted to other commercial crops from paddy and rest (63.5 %) of farmers have adopted the same livelihood strategy that they had earlier. Leaving from agricultural sector as livelihood strategy is less than 1.5 percent per annum among farming household, livestock farm holders did not change their livelihood strategies.

In double cropped raised area there were crop

diversification of rice to sugarcane and rice to banana. The irrigated areas were leased out for banana and sugarcane cultivation by the land owners.

In the single seasonal cropped area and tenured area there is no shift from paddy. Remittance played Important role in stick on to agricultural occupation. Livelihood Assets had influenced on livelihood strategies of the farmers. There is significant differences in possession of livelihood assets by different livelihood strategies adopted house holds. In fact, the natural asset , social asset and economic assets are the determinant for

farmers to be retained in agriculture.

Implication of the study

Since subsidies played a major role for continuance in agriculture it must be continued.

Livestock sector must be encouraged as a entrepreneurship activity among farm holders.

The encroachment in system tank must be averted for continuance of agriculture.

Dispute on Leased land between parties are increasing. Suitable regulations must be enforced.

There is shift towards alternative commercial crops. Extension officials in state horticultural department may be enhanced. Suitable marketing facilities on these crops may be developed.

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