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Cropping pattern of farm households in progressive area and less progressive area

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ABSTRACT

The current state of the Indian economy is mostly dependent on three factors: salary, savings, and spending. Investment Management, in particular, is essential to economic growth. The this research aims to examine the Cropping pattern of farm households in progressive area and less progressive area. Factors such as the investment year, asset purchase cost, and capital source (i.e., the amount borrowed by institutions and non-institutions) were included in the main data. During the 2021–22 agricultural year, this was achieved by conducting in-person interviews according to a tried-and-true, well-organized plan. Despite the fact that ragi occupies the largest share in the GCA in both rainfed and irrigated farms, with an area of 27.13 and 12.96 hectares, respectively. Ragi accounts for 25.29% of the GCA in collective farms, with mango (9.58%) and mulberry (7.02%) following closely behind.

Keywords: *Cropping pattern, Agriculture, Farm households, Capital investments.*

1. INTRODUCTION

Achieving a percentage rise in agriculture has a multiplier impact on poverty reduction of at least 2 to 3, compared to achieving the same growth during non-agricultural industries (Dahri and Omri, 2020). There has been a general tendency for patterns of consumption to shift from grains to high-value goods as financial standing improve [1]. India must abandon its current strategy of focusing on conventional agricultural output development if it wants to ensure that farmers' incomes rise (Kaini, 2020). Adopting new technologies [2] and diversifying into commodities with high value are now the main priorities [3].

An increase in social gross margins for the majority of the diversification scenarios that were evaluated in the short term when environmental and socio-cultural benefits are taken into account [4]. The transformation of cultivation towards a more diversified agriculture is facilitated by the potential for greater economic benefits in the medium and long term [5]. The global economic performance of diversified agricultural systems, which are primarily dependent on the integration of market [6] and non-market values of ecosystem services resulting from crop diversification [7].

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It is anticipated that they will be beneficial in assisting policymakers in the promotion of crop diversification practices as a critical tool for enhancing the resilience of agricultural systems [8] in order to facilitate adaptive management in response to climate change [9]. The aim of the research is to investigate the Cropping pattern of farm households in progressive area and less progressive area.

2. Material and Methods

During the 2021–22 agricultural year, this was achieved by conducting in-person interviews according to a tried-and-true, well-organized plan. Statistical and other data on the research area, facts about irrigation, how the land was used, and the pattern of farming were retrieved by the Census Departments of the Tumakuru and Ramanagara regions. A log linear approach was used to calculate annual compound growth rates in order to obtain the yearly compounding growth rate of capital creation. A range of agricultural capital investments and non-farm personal belongings have been assessed using aggregates and percentages to reveal income sources, funding patterns, and investment origins. Using the method of multivariate regression, we were able to determine how agricultural families save money. Through the use of a robust regression approach, the components that dictate capital creation were found. To find out how well it worked technically, they used Data envelope analysis and the Frontiers model of the production processes.

3. Result and Discussion

Cropping pattern of farm households in progressive area and less progressive area

Table 1 illustrates the cropping pattern of farm households in the progressive area. The cultivation intensity was observed to be higher in irrigated farms (299%) than in rainfed farms (119%). It was evident from the table that the maximum percentage of gross cropped area (GCA) was inhabited by coconut, ragi, and arecanut commodities in both small and large farms. In rainfed plantations, ragi occupies approximately 45% of the ground cover area (GCA), with maize (13.77%) and coconut (3.93%) following closely behind.

Coconut comprised 34.51 ha (24%) of the total gross cropped area in irrigated farms, with arecanut (16.82%), ragi (11.68%), and paddy (9.15%) following in that order.

Fig 2: Gender Distribution

Crops	"Small farms (n=88)"	"Large farms (n=32)"	"Rainfed farms (n= 30)"	"Irrigated farms (n=90)"	"Pooled farms (n=120)"
Paddy	7.49 (8.69)	6.48 (7.18)	0.00 (0.00)	13.16 (9.15)	6.98 (7.91)
Ragi	21.66 (25.12)	9.11 (10.09)	13.97 (45.25)	16.80 (11.68)	15.38 (17.43)
Maize	4.05 (4.69)	1.62 (1.79)	4.25 (13.77)	0.00 (0.00)	2.83 (3.21)
Coconut	23.38 (27.11)	14.78 (16.37)	1.21 (3.93)	34.51 (24.00)	19.08 (21.62)
Arecanut	16.90 (19.60)	9.31 (10.32)	0.00 (0.00)	24.19 (16.82)	13.11 (14.85)
Gross cropped area (GCA)	194.33	113.56	23.08	264.78	153.95
Net cultivated area (NCA)	73.48	41.30	19.43	92.71	57.39
Cropping Intensity (%)	264.00	275.00	119.00	299.00	268.00

***Note**. Figures in parentheses indicate percentage to the gross cultivated area*

Table 2 provides a detailed explanation of the cultivation pattern of farm households in less progressive areas. Ragi, paddy, mango, mulberry, coconut, tomato, and legumes are the primary commodities that are cultivated in this region. The data in Table 2 indicates that ragi was the most prevalent crop in the GCA, followed by mango in both small and large plantations. The ragi crop's share in the GCA was 48.38% in the rainfed situation, which is more than twice the share in the irrigated condition (12.65%).

Table 2: Cropping pattern of farm households in less progressive area (ha)

Crops	"Small farms (n=88)"	"Large farms (n=32)"	"Rainfed farms (n= 30)"	"Irrigated farms (n=90)"	"Pooled farms (n=120)"
Paddy	2.02 (2.34)	1.82 (2.53)	0.00 (0.00)	3.85 (3.75)	1.92 (2.43)
Ragi	27.33 (31.62)	12.75 (17.70)	27.13 (48.38)	12.96 (12.65)	20.04 (25.29)
Maize	0.30 (0.35)	0.00 (0.00)	3.24 (5.78)	0.00 (0.00)	0.15 (0.19)
Redgram	4.45 (5.15)	4.25 (5.90)	5.47 (9.75)	0.00 (0.00)	4.35 (5.49)
Beans	6.48 (7.49)	2.43 (3.37)	0.00 (0.00)	5.67 (5.53)	4.45 (5.62)
Tomato	2.02 (2.34)	0.40 (0.56)	0.61 (1.08)	1.82 (1.78)	1.21 (1.53)
Leafy vegetables	0.06 (0.07)	0.14 (0.20)	0.00 (0.00)	0.12 (0.12)	0.10 (0.13)
Banana	0.10 (0.12)	0.00 (0.00)	0.00 (0.00)	0.10 (0.10)	0.05 (0.06)
Papaya	0.00 (0.00)	0.40 (0.56)	0.00 (0.00)	0.00 (0.00)	0.20 (0.26)
Mango	7.49 (8.67)	7.69 (10.67)	4.05 (7.22)	3.64 (3.56)	7.59 (9.58)
Mulberry	7.09 (8.20)	4.05 (5.62)	0.00 (0.00)	11.13 (10.87)	5.57 (7.02)
Coconut	3.04 (3.51)	1.42 (1.97)	0.40 (0.72)	4.05 (3.95)	2.23 (2.81)
Gross cropped area (GCA)	113.22	74.84	54.25	99.82	94.03
Net cultivated area (NCA)	60.38	35.36	40.89	43.34	47.87
Cropping Intensity (%)	187.00	212.00	133.00	230.00	196.00

***Note.** Figures in parentheses indicate percentage to the gross cultivated area*

The cropping intensity of collective farms was higher in the progressive area (268%) than in the less progressive area (196%). Coconut (21.62%), ragi (17.43%), arecanut (14.85%), paddy (7.91%), and maize (3.21%) were the most significant commodities in the progressive area of pooled farms. In contrast, the studied area's main crops were ragi (25.29%), mango (9.58%), mulberry (7.02%), legumes (5.62%), redgram (5.49%), and coconut (2.81%) in the less progressive area.

Farm machinery and implements were the next most common investment in progressive areas (25%), next, in less developed regions, agricultural equipment and tools (22%). The results were supported by the studies that were carried out by [10-11].

4. Conclusion

The cultivation intensity of irrigated farms was 23%, which was nearly twice as high as that of rainfed farms (133%). The difference in cultivation intensity between small farms and large farms is significantly less pronounced than the difference between rainfed farms and irrigated farms.

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