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A Comparative Study of Socio-economic Profile of Contract and Non-contract Papaya Growers in Middle Gujarat Region

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

This research gives insight into the socio-economic characteristics of contract and non-contract papaya growers. The study was restricted to middle Gujarat region only. Around 160 respondents, constituting 80 contract and 80 non-contract papaya growers were chosen and interviewed from the Kapadvanj taluka of Kheda district. Tabular analysis was employed to analyze the results in the study area. The contract papaya growers had lower average age as against non-contract papaya growers. The average years of education was higher in contract papaya growers. The study also provided insights into the family size of the respondents and found that the the average family size

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was higher under non-contract papaya growers as compared to contract papaya growers. Furthermore, the total number of earners were found notably higher under contract as against non-contract growers. Beyond that, the operational size of the land holding was found to be more or less similar under CF and NCF.

Keywords: Contract farming; non-contract farming; papaya; land holding.

1. INTRODUCTION

Agriculture, along with its related sectors, continues to be the cornerstone of the Indian economy and a primary source of income for rural households, which is primarily comprised of small and marginal farmers [1]. A crucial constraint underscored in this sector pertains to the modest size of land holdings, posing a challenge for Indian farmers to rival large-scale agricultural operations. Therefore, the state government, in alignment with the reforms outlined in the Model Act of 2003, implemented the 'contract farming' scheme starting from March 31, 2005, to support industries in procuring specific quality agro-commodities directly from farmers [2]. Contract farming constitutes an arrangement where producers/farmers, intermediaries, processing, and/or marketing firms agree to supply the produce of the farm at predecided prices and specified quality, at designated locations, within a defined timeframe [3]. There are five types of contract farming viz. Centralized model, Nucleus estate model, Multipartite model, intermediary model and informal model. One of the model is the informal model, characterized by informal production agreements typically conducted seasonally. The effectiveness of this informal model often hinges on the accessibility of government-backed support services, including research, extension programs, and infrastructure enhancements. According to FAO (2022), India holds first position in the production of mangoes, papayas and bananas contributing approximately 41.66 per cent, 36.85 per cent and 23.45 per cent, respectively, of the global production (https://apeda.gov.in/). Among the major papaya producing states of India, Gujarat holds the top position in India, as it produces 1067.66 thousand MT of papaya from 18.29 thousand ha area of India's total production, 5239.64 thousand MT from the area of 148.20 thousand ha during the year 2022-23 (www.indiastatagri.com). Out of the total production of Gujarat, Vadodara and Kheda contributes 15.08 per cent with an area of 2867 ha. The Kheda district holds tenth position accounting for the area, production and yield of 708 ha, 37481 MT and 52.94 MT/ha, respectively (https://doh.gujarat.gov.in). The rationale for studying contract farming lies in its potential to address various challenges and capitalize an opportunity within the agricultural sector. Therefore, it was essential to thoroughly study and assess the potential benefits of involving the corporate sector through contract farming for papaya growers in Gujarat. The study had been undertaken to know the socio-economic profile of contract and non-contract papaya growers.

2. REVIEW OF LITERATURE

Sahoo et al. [4] and Yadav & Yadav [5] determined comparative study of socio-economic status of contract and non-contract goat growers of Odisha in which total 120 respondents were interviewed with open ended questions to gather information on their socio-economic aspects. They found out that there was no significant difference in terms of gender as well as average age between contract and non-contract goat growers *i.e.* 44.02 and 45.97 years, respectively. The study also revealed that majority (73.33%) of the contract goat growers were illiterate which was quite higher than that of non-contract goat growers (51.66%).

Yusuf and Adeife [6] and Bolarinwa KK & Fakoya EO, [7] examined financial analysis of contract farming in rice production in the derived guinea savannah zoned of Nigeria. The sample comprised 120 growers, including 69 contract growers and 52 non-contract growers and were examined through well-structured pre decided interview schedule. It was found that 41 (60.3% of the total contract growers) respondent undergoing contract farming and 37 (71.2% of the total non-contract growers) respondent involved in non-contract farming were in the age group of 31-50. Furthermore, it was revealed that 26 contract growers and 20 non-contract growers were illiterate comprising 38.2 per cent and 38.5 per cent of contract and non-contract growers, respectively.

3. METHODOLOGY

3.1 Selection of Respondents

The study was confined to the middle Gujarat region. In middle Gujarat, Kheda district was selected purposively since contract farming in papaya was prevalent in this district only and from that Kapadvanj taluka was purposively selected for the study since farmers engaged in contract farming of papaya were present in this region only. The primary data had been collected through pre-decided interview schedule from 160 respondents, comprising 80 contract and 80 non-contract papaya growers, from the eight purposively selected villages in the study area.

3.2 Analytical Tools and Technique

Tabular analysis was used to evaluate the socio-economic profile of contract and non-contract papaya growers. The data for the year 2022-23 was gathered, organized and evaluated. Throughout the study, techniques including mean, percentage, ratios, and straight forward comparisons were employed for analysis when necessary.

4. RESULTS AND DISCUSSION

The socio-economic profile of contract and non-contract papaya growers had been illustrated under this study. Table 1 portrayed the age wise distribution of contract and non-contract papaya growers.

The average age of papaya growers in contract and non-contract farming was found to be 38.40 years and 43.70 years, respectively. Majority of the papaya growers in contract farming were from young category (upto 35 years). While in non-contract farming significant portion of the papaya growers were from adult category (36-50 years). Overall majority of the papaya growers belong to young category followed by adult and old category comprising 43.12 per cent, 36.25 per cent and 20.63 per cent, respectively. The results were in confirmation with Waghmare and Pawar [8] where the results revealed that the average age of the contract growers was 45.5 years and that of non-contract growers was 48.3 years.

Table 2 shows the educational status of contract and non-contract papaya growers. In the study area, around 7.50 per cent of contract papaya growers and 15 per cent of non-contract papaya growers were found to be illiterate. Additionally, it was also revealed that majority of the papaya growers *i.e.* 30 per cent in contract farming had education upto higher secondary level, while in non-contract farming majority *i.e.* 27.50 per cent had education upto primary level. Furthermore, 25 per cent of the papaya growers were having education upto graduation and above level in contract farming as compared to 18.75 per cent in non-contract farming. Overall, significant portion (25%) of the growers had primary level education, followed by higher secondary (23.13%), graduation & above (21.88%) and secondary (18.75%) level. Besides, around 11.25 per cent of the respondents under overall category were illiterate. Similar results were found by Singla [9] as he found that no one was illiterate in case of contract farming and 34 per cent of them had completed higher secondary education, on the other hand, 12 per cent of non contract growers were found to be illiterate and only 28 per cent of them had higher secondary education.

Table 3 represents the family dynamics of papaya growers engaged in CF and NCF. It can be perceived from the table that in CF the average family size of papaya growers was 4.63, with 42.76 per cent males and 41.04 per cent females and 16.20 per cent children. On the other hand, average family size of the household of non-contract papaya growers was 5.53, which includes 46.11 per cent males, 42.50 per cent females and 11.39 per cent children. Overall, the data indicated that the family size of CF papaya

Table 1. Age-wise categorization of papaya growers under contract and non-contract farming

Sr. No.	Particulars	CF	NCF	Overall
1	Young (upto 35 years)	44 (55.00)	25 (31.25)	69 (43.12)
2	Adult (36-50 years)	25 (31.25)	33 (41.25)	58 (36.25)
3	Old (above 50 years)	11 (13.75)	22 (27.50)	33 (20.63)
Total		80 (100.00)	80 (100.00)	160 (100.00)
Average age		38.40	43.70	41.05

Source: Field Survey. Note: Figure in parenthesis indicates per cent to the total

Table 2. Educational status of papaya growers under contract and non-contract farming

Sr. No.	Particulars	CF	NCF	Overall
1	Illiterate	06 (07.50)	12 (15.00)	18 (11.25)
2	Primary (upto VIII)	18 (22.50)	22 (27.50)	40 (25.00)
3	Secondary (IX-X)	12 (15.00)	18 (22.50)	30 (18.75)
4	Higher Secondary	24 (30.00)	13 (16.25)	37 (23.13)
5	Graduation & above	20 (25.00)	15 (18.75)	35 (21.88)
Total		80 (100.00)	80 (100.00)	160 (100.00)
Average years of education		09.41	07.68	08.54

Source: Field Survey. Note: Figure in parenthesis indicates per cent to the total

growers had a smaller average family size compared to the NCF households which could be possibly due to education that may have influence the decisions on family planning. The results were in confirmation with Neme et al. [10] and they revealed that the family size of contract growers was lower than non-contract growers *i.e.* 4.35 and 4.42, respectively.

Table 4 depicts the earning and non-earning members among the households of papaya growers under contract and non-contract farming. The total family members in contract and non-contract farming were 370 and 435, respectively. The earners and non-earners in contract farming were 149 and 221, respectively, whereas in non-contract farming it was 134 and 301, respectively. The ratio of earners to non-earners in contract and non-contract farming was 0.67 and 0.44, respectively. Furthermore, the proportion of earners to total members was 40.27 per cent in contract farming as to non-contract farming with a ratio of 30.80 per cent. The average number of earners in contract farming was 1.86 while in non-contract farming it was 1.70. Overall, the average number of earners per household was 1.77 and the ratio of earners to non-earners was 0.54. At overall level, out of the total family members, the number of earners was 283 (35.15%) and the number of non-earners was 522 (64.85%).

The operational size of the land holding under contract and non-contract papaya growers is shown in Table 5. The average size of the land holding under contract and non-contract farmers was 3.05 ha and 2.99 ha, respectively. Additionally, it was found that 100 per cent area was under irrigation in the study area. The average area of papaya cultivation was 54.86 per cent (2.20 ha) and 52.24 per cent (1.98 ha) under contract and non-contract farming, respectively. Similar results were found by Behera et al. [11] where they found that the average land holding was higher under contract farming as against non-contract farming by 1.05 acres.

Table 3. Family dynamics of papaya growers under contract and non-contract farming

Sr. No.	Particulars	CF	NCF	Overall
1.	Male	01.98 (42.76)	02.55 (46.11)	02.26 (44.58)
2.	Female	01.90 (41.04)	02.35 (42.50)	02.13 (42.01)
3.	Children	00.75 (16.20)	00.63 (11.39)	00.69 (13.41)
Average Family Size		04.63 (100.00)	05.53 (100.00)	05.07 (100.00)

Source: Field Survey. Note: Figures in parentheses indicates the per cent to total

Table 4. Earning and non-earning members among the household of papaya growers under contract and non-contract farming

Sr. No.	Particulars	CF	NCF	Overall
1.	Total family Members	370	435	805
2.	Individual contributing financially	149	134	283
3.	Non-earners of the family	221	301	522
4.	Ratio of earners to non-earners	00.67	00.44	00.54
5.	Proportion of earners to total Members (%)	40.27	30.80	35.15
6.	Average number of earners per household	01.86	01.70	01.77

Source: Field Survey

Table 5. Operational size of land holding of the papaya growers under contract and non-contract farming

Sr. No.	Particulars	CF	NCF	Overall
1.	Irrigated (ha)	03.05 (100.00)	02.99 (100.00)	03.11 (100.00)
2.	Un irrigated (ha)	00 (00)	00 (00)	00 (00)
	Average land holding (ha)	03.05 (100.00)	02.99 (100.00)	03.11 (100.00)
	Average area under papaya crop (ha)	02.20 (54.86)	01.98 (52.24)	02.16 (54.27)

Source: Field Survey. Note: Figures in parentheses indicates the per cent to total

5. CONCLUSIONS

The contract and non-contract papaya growers from the study area represented that contract farming was majorly adopted by young farmers and non-contract farming was adopted by adult and old aged farmers and therefore the average age of contract farming papaya growers was comparatively lesser. Significant portion of both the groups were educated but the illiterate farmers were lesser in contract faming, emphasizing the crucial need of implementing initiatives regarding improvement of the educational opportunities. It was also found that the papaya growers engaged in contract farming had smaller family size. Additionally, the number of earners, ratio of earners to non-earners and proportion of earners to total members in the family of papaya growers engaged in contract farming was larger than those involved in non-contract farming. The operational size of land holding under contract farming was slightly higher than non-contract farming. Both contract and non-contract papaya growers majorly used tube well as a source of irrigation followed by well in the study area.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of manuscripts.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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