RESEARCH ARTICLE OPEN ACCESS

# A Study on Perception and Effectiveness of Apeda Market for Banana Cultivators in Kanyakumari District

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## Abstract:

The Agricultural and Processed Food Products Export Development Authority (APEDA) is played an important role in promote exporting agricultural product especially banana. Banana cultivation is a significant agricultural activity in the Kanyakumari district. The existing literatures showed different results that need to be examined. Thus this study wants to examine of APEDA market in Kanyakumari district of Tamilnadu. The hypotheses of the study were socio economic factors are positively associated with market opportunities, financial assistance and management factors of the banana cultivators. For these purpose 250 banana cultivators selected from Kanyakumari district of Tamilnadu using convenient sampling method. Interview schedule method is used to conduct research and to test the above hypothesis, percentage analysis is used. The results displayed that a mixed however insightful picture. While APEDA has significantly contributed to enhancing export opportunities, improving quality standards, and providing infrastructural and financial support, several challenges remain however continuous efforts are needed to address existing gaps and empower cultivators to fully leverage these market opportunities for sustainable agricultural growth and improved livelihoods.

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## I. INTRODUCTION

The Agricultural and Processed Food Products Export Development Authority (APEDA) serves as a pivotal institution in promoting the export of agricultural products, including bananas, by providing market access, quality control, and export facilitation. Understanding farmers' awareness, attitudes, and experiences with APEDA markets is essential to evaluate how well these platforms serve their intended purpose of enhancing market reach and profitability. This study aims to investigate the perception of banana cultivators of APEDA market in Kanyakumari district and assess the effectiveness of these markets in improving their economic outcomes. The findings of this research will provide valuable insights for policymakers, agricultural marketers, and stakeholders to optimize market strategies and support systems for banana farmers in the district.

## II. STATEMENT OF THE PROBLEM

Banana cultivation is a significant agricultural activity in the Kanyakumari district, contributing substantially to the livelihood of many farmers in the region. As a perishable commodity with high demand both domestically and internationally, the marketing and export of bananas play a crucial role in determining the income and sustainability of banana cultivators. Studies like Kannan, R. (2020), Kumar, Ashok, and Latha Reddy (2019), Raj, K., and S. Thomas (2022) observed that APEDA enforces strict quality control measures and grading standards, which help improve the overall quality of bananas exported. This enhances the reputation of Indian bananas in global markets and ensures better prices for farmers. On the other hand, some research articles such as Sharma, P., and A. Verma (2021), Thomas, J., and R. George (2022), Venkatesan, S (2021) found that a significant number of banana farmers, especially in remote areas, may not be fully aware of APEDA's schemes and benefits, limiting their ability to take advantage of these opportunities. Thus this study wants to examine of APEDA market in Kanyakumari district.

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## III. HYPOTHESIS

$H_1$: There is a positive relationship between market opportunities factor with education and age of cultivation of the banana cultivators.

$H_2$: There is a positive relationship between financial assistance factor with education and age of cultivation of the banana cultivators.

$H_3$: There is a positive relationship between infrastructure management factor with education and age of cultivation of the banana cultivators.

## IV. SAMPLE SELECTION

For these purpose 250 banana cultivators selected from Kanyakumari district of Tamilnadu using convenient sampling method. Interview schedule method is used to conduct research and to test the above hypothesis, percentage analysis is used.

## V. RESULTS

**Table 1 Socio Economic Distribution**

| Variables | Frequency | Percent |
|---|---|---|
| Age of the Cultivation | | |
| Up to 4 | 61 | 24.40 |
| 4 to 8 | 79 | 31.60 |
| 8 to 12 | 64 | 25.60 |
| Above 12 | 46 | 18.40 |
| Total | 250 | 100.00 |
| Education | | |
| Up to School Level | 41 | 16.40 |
| Higher Secondary | 58 | 23.20 |
| Diploma | 76 | 30.40 |
| UG | 56 | 22.40 |
| PG | 19 | 7.60 |
| Total | 250 | 100.00 |

Among the 250 respondents, the age of cultivation is concentrated in the mid-range, with the largest share having 4–8 years of cultivation (31.6 percent), followed by 8–12 years (25.6 percent) and up to 4 years (24.4 percent), while fewer have over 12 years (18.4 percent), indicating a predominantly medium-tenure group. In terms of education, most hold a Diploma (30.4percent), with substantial proportions having Higher Secondary (23.2 percent) and UG degrees (22.4 percent); fewer have only school-level education (16.4 percent), and a small minority has postgraduate qualifications (7.6 percent).

**Table 2 Age of the Cultivation and Financial Assistance**

| Age of the Cultivation | HDS | DS | NS | SD | HS |
|---|---|---|---|---|---|
| Up to 4 | 3 | 8 | 11 | 25 | 14 |
| | 4.9 | 13.1 | 18.0 | 41.0 | 23.0 |
| 4 to 8 | 5 | 18 | 13 | 18 | 25 |
| | 6.3 | 22.8 | 16.5 | 22.8 | 31.6 |
| 8 to 12 | 4 | 11 | 8 | 16 | 25 |
| | 6.3 | 17.2 | 12.5 | 25.0 | 39.1 |
| Above 12 | 6 | 7 | 8 | 6 | 19 |
| | 13.0 | 15.2 | 17.4 | 13.0 | 41.3 |

Across all cultivation-experience groups, views on financial assistance are generally positive, with more than half of respondents in each group reporting satisfaction (SD) or high satisfaction (HS). Among those with up to 4 years, satisfaction is broad but moderate (SD 41.0 percent, HS 23.0 percent; combined 64.0 percent), whereas the 4–8-year group is more mixed, showing the lowest combined satisfaction (SD 22.8 percent, HS 31.6 percent; 54.4 percent) and the highest share of dissatisfaction (HDS 6.3 percent, DS 22.8 percent). Farmers with 8–12 years lean most positively (SD 25.0 percent, HS 39.1 percent; 64.1 percent) with relatively low dissatisfaction (HDS 6.3 percent, DS 17.2 percent). The most experienced group (above 12 years) is the most polarized recording the highest HS (41.3 percent) but also the highest HDS (13.0 percent) and a low SD (13.0 percent), yielding a moderate combined satisfaction (54.3 percent). Overall, satisfaction tends to shift from "satisfied" toward "highly satisfied" as experience increases, but the most experienced also include a notable minority who are highly dissatisfied.

**Table 3 Age of Cultivation and Market Opportunities**

| Age of the Cultivation | HDS | DS | NS | SD | HS |
|---|---|---|---|---|---|
| Up to 4 | 8 | 14 | 20 | 1 | 18 |

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| | | | | | |
|---|---|---|---|---|---|
| | 13.1 | 23.0 | 32.8 | 1.6 | 29.5 |
| 4 to 8 | 14 | 5 | 23 | 6 | 31 |
| | 17.7 | 6.3 | 29.1 | 7.6 | 39.2 |
| 8 to 12 | 5 | 9 | 13 | 6 | 31 |
| | 7.8 | 14.1 | 20.3 | 9.4 | 48.4 |
| Above 12 | 8 | 8 | 13 | 3 | 14 |
| | 17.4 | 17.4 | 28.3 | 6.5 | 30.4 |

Perceptions of market opportunities vary by cultivation experience. Newer cultivators (up to 4 years) are the most cautious, with high neutrality (32.8 percent) and the lowest combined satisfaction (SD+HS) at 31.1 percent, alongside the highest dissatisfaction (HDS+DS) at 36.1 percent. Sentiment improves with experience, rising to 46.8 percent satisfied in the 4–8 group and peaking in the 8–12 group, where 48.4 percent are highly satisfied and overall satisfaction reaches 57.8 percent, with the lowest dissatisfaction (21.9 percent). Among those above 12 years, views become more split: high satisfaction falls to 30.4 percent and overall satisfaction to 36.9 percent, while dissatisfaction climbs to 34.8 percent and neutrality remains elevated (28.3 percent). Overall, confidence in market opportunities strengthens from early to mid-experience and then softens among the most experienced.

**Table 4 Age of the Cultivation and Infrastructure Management**

| Cultivation | HDS | DS | NS | SD | HS |
|---|---|---|---|---|---|
| Up to 4 | 8 | 3 | 19 | 8 | 23 |
| | 13.1 | 4.9 | 31.1 | 13.1 | 37.7 |
| 4 to 8 | 19 | 6 | 21 | 9 | 24 |
| | 24.1 | 7.6 | 26.6 | 11.4 | 30.4 |
| 8 to 12 | 15 | 2 | 19 | 7 | 21 |
| | 23.4 | 3.1 | 29.7 | 10.9 | 32.8 |
| Above 12 | 10 | 2 | 13 | 3 | 18 |
| | 21.7 | 4.3 | 28.3 | 6.5 | 39.1 |

Perceptions of infrastructure management vary with cultivation experience and show a mild U-shape in satisfaction. Newer growers report the highest combined satisfaction (SD+HS) at 50.8 percent (HS 37.7percent), which dips among mid-tenure groups to 41.8 percent for 4–8 years and 43.7 percent for 8–12 years, then rises again to 45.6 percent among those above 12 years (HS 39.1 percent). Dissatisfaction (HDS+DS) is lowest among newcomers (18.0 percent), peaks in the 4–8-year group (31.7 percent), and moderates for 8–12 (26.5 percent) and above 12 years (26.0 percent). Neutral responses stay relatively steady across groups (about 27–31 percent). Overall, mid-experience cultivators appear more critical, while the most and least experienced lean more toward high satisfaction.

**Table 5 Age of the Cultivation and Overall Effectiveness**

| Cultivation | HDS | DS | NS | SD | HS |
|---|---|---|---|---|---|
| Up to 4 | 1 | 11 | 14 | 16 | 19 |
| | 1.60 | 18.00 | 23.00 | 26.20 | 31.10 |
| 4 to 8 | 2 | 16 | 19 | 21 | 21 |
| | 2.50 | 20.30 | 24.10 | 26.60 | 26.60 |
| 8 to 12 | 2 | 14 | 6 | 13 | 29 |
| | 3.10 | 21.90 | 9.40 | 20.30 | 45.30 |
| Above 12 | 1 | 10 | 9 | 10 | 16 |
| | 2.20 | 21.70 | 19.60 | 21.70 | 34.80 |

Overall effectiveness of banana cultivation are broadly positive across all experience levels, with a majority satisfied (SD+HS) in each group: 57.3 percent among those with up to 4 years, 53.2 percent for 4–8 years, peaking at 65.6 percent for 8–12 years (with the highest HS at 45.3 percent), and moderating to 56.5 percent above 12 years. Neutral responses drop sharply in the 8–12 group (9.4 percent vs. about 19–24 percent in others), indicating clearer, more positive opinions at this stage. Dissatisfaction remains relatively low and stable (HDS+DS roughly 19.6 –25.0 percent), and "highly dissatisfied" is rare (less than 3.1percent). Overall, confidence in banana cultivation strengthens up to around a decade of experience and then levels off among the most experienced.

**Table 6 Education and Financial Assistance**

| Education | HDS | DS | NS | SD | HS |
|---|---|---|---|---|---|
| Up to School Level | 5 | 5 | 4 | 9 | 18 |
| | 12.2 | 12.2 | 9.8 | 22.0 | 43.9 |
| Higher Secondary | 4 | 8 | 14 | 13 | 19 |
| | 6.9 | 13.8 | 24.1 | 22.4 | 32.8 |
| Diploma | 7 | 17 | 10 | 27 | 15 |
| | 9.2 | 22.4 | 13.2 | 35.5 | 19.7 |

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| | | | | | |
|---|---|---|---|---|---|
| UG | 1 | 9 | 9 | 13 | 24 |
| | 1.8 | 16.1 | 16.1 | 23.2 | 42.9 |
| PG | 1 | 5 | 3 | 3 | 7 |
| | 5.3 | 26.3 | 15.8 | 15.8 | 36.8 |

Perceptions of financial assistance is generally positive across education levels, with a majority satisfied (SD+HS) in every group. The highest overall satisfaction appears among UG (66.1 percent) and Up to School level respondents (65.9 percent); both also show strong "highly satisfied" shares (HS 42.9 percent and 43.9 percent, respectively), though the school-level group also has the highest "highly dissatisfied" rate (HDS 12.2 percent), indicating more polarization. Higher Secondary and Diploma groups report similar overall satisfaction (55.2 percent), but Diploma respondents skew toward simple satisfaction (SD 35.5 percent) with a relatively low HS (19.7 percent) and share the highest dissatisfaction with PG (both 31.6 percent). PG respondents show the lowest satisfaction (52.6 percent) and the highest DS (26.3 percent). Neutral responses are most common among Higher Secondary (24.1 percent). Overall, satisfaction is strongest among UG and school-level respondents, while Diploma and PG groups are more mixed with higher dissatisfaction.

**Table 7 Education and Market Opportunities**

| Education | HDS | DS | NS | SD | HS |
|---|---|---|---|---|---|
| Up to School Level | 6 | 4 | 11 | 2 | 18 |
| | 14.6 | 9.8 | 26.8 | 4.9 | 43.9 |
| Higher Secondary | 12 | 10 | 17 | 1 | 18 |
| | 20.7 | 17.2 | 29.3 | 1.7 | 31.0 |
| Diploma | 9 | 9 | 20 | 4 | 34 |
| | 11.8 | 11.8 | 26.3 | 5.3 | 44.7 |
| UG | 7 | 9 | 15 | 8 | 17 |
| | 12.5 | 16.1 | 26.8 | 14.3 | 30.4 |
| PG | 1 | 4 | 6 | 1 | 7 |
| | 5.3 | 21.1 | 31.6 | 5.3 | 36.8 |

Perceptions of market opportunities vary notably by education. The most positive views come from Diploma holders (50.0 percent satisfied overall, with the highest HS at 44.7 percent) and those up to school level (48.8 percent satisfied; HS 43.9 percent), though the school-level group is more polarized with higher HDS (14.6 percent). UG respondents are moderately positive (44.7 percent satisfied) but also show relatively higher dissatisfaction (28.6 percent), while PG respondents lean cautiously positive (42.1 percent satisfied; HS 36.8 percent) with the highest neutrality (31.6 percent). Higher Secondary stands out as the most skeptical group, with the lowest satisfaction (32.7 percent) and the highest dissatisfaction (37.9 percent). Overall, optimism peaks among Diploma and school-level respondents, whereas Higher Secondary shows the greatest concern about market opportunities.

**Table 8 Education and Infrastructure Management**

| Education | HDS | DS | NS | SD | HS |
|---|---|---|---|---|---|
| Up to School Level | 6 | 3 | 15 | 3 | 14 |
| | 14.60 | 7.30 | 36.60 | 7.30 | 34.10 |
| Higher Secondary | 12 | 1 | 19 | 8 | 18 |
| | 20.70 | 1.70 | 32.80 | 13.80 | 31.00 |
| Diploma | 18 | 5 | 23 | 8 | 22 |
| | 23.70 | 6.60 | 30.30 | 10.50 | 28.90 |
| UG | 13 | 4 | 11 | 4 | 24 |
| | 23.20 | 7.10 | 19.60 | 7.10 | 42.90 |
| PG | 3 | 0 | 4 | 4 | 8 |
| | 15.80 | 0.00 | 21.10 | 21.10 | 42.10 |

Perceptions of infrastructure management improve with education, with combined satisfaction (SD+HS) rising from 41.4 percent among those up to school level and 44.8 percent at higher secondary to 50.0 percent for UG and peaking at 63.2 percent for PG. Diploma holders are least positive (39.4 percent satisfied) and, along with UG, show the highest dissatisfaction (HDS+DS 30.3 percent). Strong approval (HS) is most common among UG (42.9 percent) and PG (42.1 percent), while neutrality is highest among the less educated (up to school 36.6 percent, higher secondary 32.8 percent, diploma 30.3 percent) and lowest for UG (19.6 percent) and PG (21.1 percent). Overall, higher education aligns with clearer and more favorable views, whereas mid-level qualifications (especially diploma) are more mixed.

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**Table 9 Education and Overall Perceptions of Banana Cultivation**

| Education | HDS | DS | NS | SD | HS |
|---|---|---|---|---|---|
| Up to School Level | 1 | 8 | 8 | 4 | 20 |
| | 2.40 | 19.50 | 19.50 | 9.80 | 48.80 |
| Higher Secondary | 1 | 14 | 13 | 12 | 18 |
| | 1.70 | 24.10 | 22.40 | 20.70 | 31.00 |
| Diploma | 3 | 9 | 16 | 25 | 23 |
| | 3.90 | 11.80 | 21.10 | 32.90 | 30.30 |
| UG | 1 | 14 | 10 | 14 | 17 |
| | 1.80 | 25.00 | 17.90 | 25.00 | 30.40 |
| PG | 0 | 6 | 1 | 5 | 7 |
| | 0.00 | 31.60 | 5.30 | 26.30 | 36.80 |

Overall perceptions of the effectiveness of banana cultivation are positive across all education levels, with the highest combined satisfaction (SD+HS) among Diploma (63.2 percent) and PG (63.1 percent) respondents. The "Up to school level" group shows the strongest enthusiasm, with the highest HS share (48.8 percent) and solid overall satisfaction (58.6 percent) alongside relatively low dissatisfaction (21.9 percent). UG respondents are moderately positive (55.4 percent satisfied) but with comparatively higher dissatisfaction (26.8 percent), while Higher Secondary records the lowest satisfaction (51.7 percent) and more neutrality (22.4 percent). Notably, PG respondents are both highly satisfied and relatively dissatisfied (HS 36.8 percent, DS 31.6 percent) with the lowest neutrality (5.3 percent), indicating more decisive, split views. Across all groups, "highly dissatisfied" responses are rare (0–3.9 percent).

## VI. DISCUSSION

Overall outcomes of perception and effectiveness of banana cultivation observes that the 250 respondents are mostly mid-experience growers (4–8 years) with education concentrated in Diploma and UG levels. Perceptions are generally positive across domains, with notable patterns by experience and education. In the case of financial assistance, majority satisfied across all groups (about mid-50s to mid-60s), with "highly satisfied" rising steadily with experience; dissatisfaction is higher among 4–8 years and above 12 years. in the same way, market opportunities indicates that most positive among 8–12 years; newer (≤4 years) and most experienced (>12 years) are more skeptical and or neutral. Similarly, infrastructure management recorded that mild U-shape newest and most experienced report more high satisfaction, while mid-tenure groups (4–12 years) are more critical. Finally the Overall effectiveness of banana cultivation pinpointed that a strongly positive, peaking in the 8–12-year group (highest "highly satisfied" and lowest neutrality).

On the other hand, in the view of Education, financial assistance factor showed strongest approval from UG and school-level respondents; Diploma shows high "satisfied" but lower "highly satisfied"; PG is more mixed with higher dissatisfaction. Market opportunities observed that most optimistic among Diploma and school-level; Higher Secondary is the most skeptical; PG shows the highest neutrality. Infrastructure management factor reveals that satisfaction tends to increase with education, peaking at PG; Diploma and UG show comparatively higher dissatisfaction. Overall effectiveness identifies that highest combined satisfaction for Diploma and PG; school-level shows the highest "highly satisfied." "Highly dissatisfied" is rare across all education groups. Neutrality is highest among newer growers and some mid-education groups (notably Higher Secondary), while 8–12 years of experience and PG respondents tend to hold more definite views (lower neutral). From the above analysis this paper suggested that bolster market linkages for the newest and most experienced growers; fine-tune financial assistance outreach for 4–8 years and >12 years; address infrastructure concerns among mid-tenure growers and Diploma holders; and target Higher Secondary respondents with market information and confidence-building support.

## VII. CONCLUSION

The study on the perception and effectiveness of the APEDA market among banana cultivators in Kanyakumari district reveals a mixed however insightful picture. While APEDA has significantly contributed to enhancing export opportunities, improving quality standards, and providing infrastructural and financial support, several challenges remain. Many banana farmers appreciate

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the potential of APEDA markets to increase their income and access international buyers; however, issues such as limited awareness, complex export procedures, and uneven access to benefits hinder the full realization of these advantages.

To maximize the effectiveness of APEDA markets, it is essential to strengthen farmer education and capacity-building initiatives, simplify procedural requirements, and improve local infrastructure. Additionally, targeted support for small and marginal banana cultivators can ensure more equitable benefits across the farming community. Overall, APEDA plays a vital role in promoting banana exports from Kanyakumari, however continuous efforts are needed to address existing gaps and empower cultivators to fully leverage these market opportunities for sustainable agricultural growth and improved livelihoods.

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