

Performance of Agri-clinics and Agri-business Centres (ACABC) Scheme in Tamil Nadu: Growth, Enterprise conversion and financial viability of Agriventures

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Received date: 04/06/2026

Revised date: 22/06/2026

Accepted date: 03/07/2026

Abstract:

The Agri-Clinics and Agri-Business Centres scheme, launched in 2002, addresses deficiencies in agricultural extension services and unemployment among agricultural graduates by promoting agripreneurship through commercially viable agribusiness ventures. This study evaluates the scheme's performance in Tamil Nadu, analysing growth trends, instability, conversion efficiency, and comparative financial viability of trained versus untrained agripreneurs in dairy and poultry enterprises. Secondary data from 2002-2025 on trainee enrolment and venture establishment were examined using compound growth rate and the Cuddy-Della Valle Instability Index, while primary data from 120 agripreneurs in Salem district were assessed through discounted cash flow analysis. Findings reveal significant growth rates of 7.44 per cent in trainee enrolment and 13.93 per cent in ventures, despite high instability. Tamil Nadu achieved a conversion efficiency of 50 per cent, exceeding the national average of 43.7 per cent, with Imaigal Trust, Salem, recording the highest at 63.8 per cent. Financial analysis demonstrates that trained agripreneurs' ventures exhibit superior performance, evidenced by higher net present values, benefit-cost ratios, internal rates of return, and shorter payback periods compared to untrained counterparts. The main constraints were identified to be inadequate margin money, slow release of subsidy and strict bank eligibility criteria. These results underscore the scheme's substantial potential to enhance rural self-employment and income generation, though sustained effectiveness requires consistent implementation, strengthened credit linkages, and robust post-training support mechanisms.

Keywords: Agri-Clinics and Agri-Business Centres Scheme; Agripreneurship; Compound growth rate; Dairy and poultry enterprises; Financial viability.

JEL Classification Code: Q16; O12; L26; Q13.

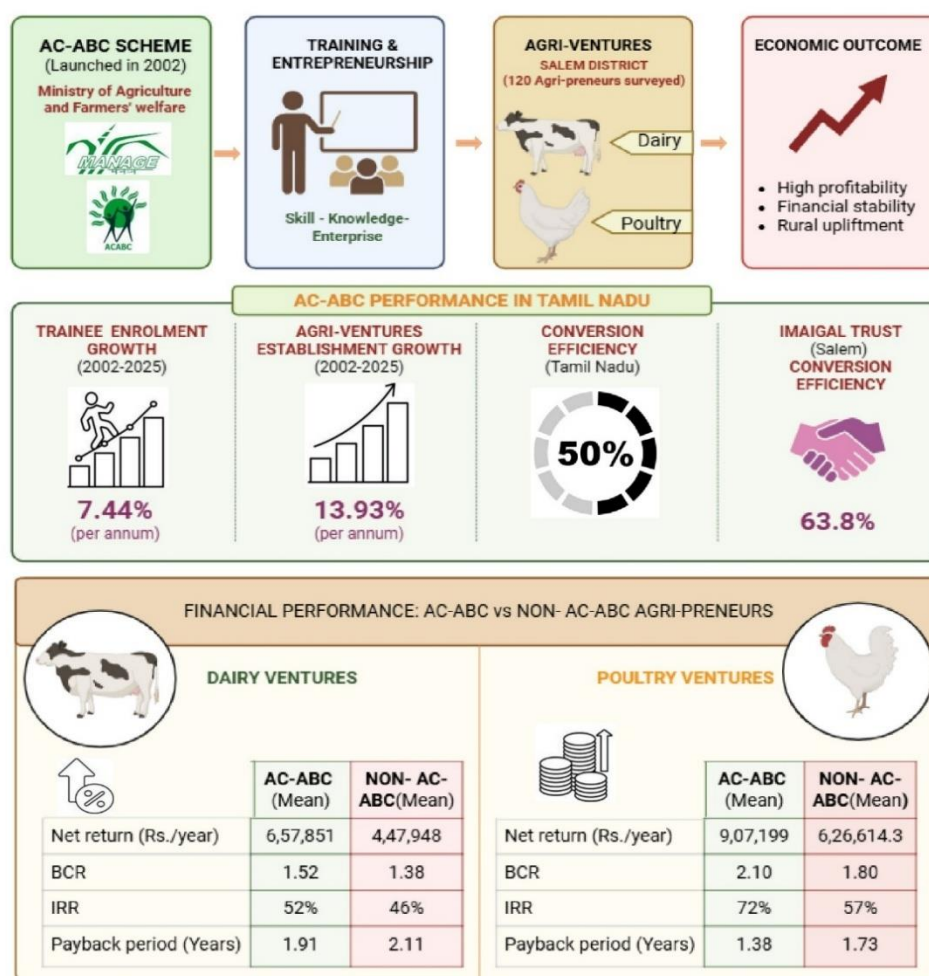


Figure. Graphical Abstract (Created in <https://BioRender.com>)

1. Introduction

Indian agriculture depends heavily on rural livelihoods, but small and marginal farmers still lack timely, location-specific advisory support. At the same time, there is a decline in the number of personnel and resources available for the public extension system, and the opportunities for structured self-employment among agriculture graduates are limited (Shekar et al., 2014). The Ministry of Agriculture and Farmers' Welfare under MANAGE and NABARD has introduced the Agri-Clinics and Agri-Business Centres (ACABC) scheme in 2002, which aims to support the creation of agri-ventures, thereby fostering agri-preneurship. The scheme trained 97,353 candidates and enabled 42,713 ventures, with a conversion rate of 43.8 per cent, nationally. The Tamil Nadu state has 10,188 trainees and 5,099 ventures with a higher conversion efficiency of 50 per cent. The highest was in the Salem district with the Imaigal Trust Nodal Training Institute at 63.8 per cent within the state. Previous research has indicated that institutional support, credit access and post-training follow-up are factors that impact the outcomes of ACABC. According to Bharathi (2023), institutional networks were stronger in southern states, and hence, better performance was observed (Bharathi, 2023). Subsidy delay was noted as one of the key constraints by Patel et al. (2020) (Patel et al., 2020), while Parihar and Boyal (2018) emphasised the need for improved coordination between MANAGE, NABARD, and banks (Parihar & Boyal, 2018). Bairwa et al. (2023) found that education, farming experience, and credit access have a significant impact on the formation of the venture (Bairwa, 2023), while Deshmukh et al. (2024) noted a significant gender disparity, where women make up less than 15 per cent of the national training population (Deshmukh et al., 2024). Shekar et al. (2014) reported that the agripreneurs under ACABC in Karnataka experienced a 46 per cent increase in their income (Shekar et al., 2014), while Palanichamy et al. (2024) reported that structured training enhances the performance of the poultry ventures (Palanichamy N et al., 2024). Furthermore, high loan interest rates, subsidy delays and fluctuations in input prices, as cited by Ahmad et al. (2016), are obstacles before and after venture establishment (Taufiq Ahmad, 2016).

2. Statement of the Problem

Even after 22 years of its implementation, no study has attempted to study the growth and instability, conversion efficiency and financial performance of the ACABC scheme at the district level simultaneously in Tamil Nadu. Furthermore, there is limited comparative evidence about the economic outcomes of ACABC-trained and non-ACABC livestock agripreneurs.

3. Need of the study

It is important to measure the effectiveness of the ACABC scheme for understanding its contribution to agripreneurship development and rural employment. The results will support policy makers, training institutes and financial institutions in strengthening programme implementation, credit support and sustainability of agripreneurs in Tamil Nadu.

4. Objectives of the Study

- To analyse the growth, instability, and NTI-wise conversion efficiency of the ACABC scheme in Tamil Nadu during the period 2002 to 2025.
- To assess the financial viability of ACABC-trained and non-ACABC agripreneurs in the dairy and poultry sectors through discounted cash flow techniques.
- To identify the major scheme-related constraints faced by ACABC agripreneurs.

5. Hypotheses of the Study

H01: There is no significant growth in trainee enrolment under the ACABC scheme in Tamil Nadu during 2002-2025.

H02: There is no significant growth in agriventure establishment under the ACABC scheme in Tamil Nadu during 2002-2025.

H03: There is no significant difference in the financial viability of dairy agriventures between ACABC-trained and non-ACABC agripreneurs.

H04: There is no significant difference in the financial viability of poultry agriventures between ACABC-trained and non-ACABC agripreneurs.

6. Study Area Selection

The Salem district in Tamil Nadu (as shown in Figure.1) was chosen as a purposive sample as it has performed well in ACABC training and establishment of agriventures. There is also a significant number of agripreneurs who are either ACABC or non-ACABC in both the dairy and poultry sectors in the district, which is useful for making comparisons. In addition, Salem has the leading active nodal training institute in terms of conversion efficiency.



Figure 1. Map of Selected District in Tamil Nadu.

7. Data Collection

The study was conducted using both primary and secondary data. Secondary data was collected for Tamil Nadu with respect to the training of candidates and establishment of the agri-venture from the Agriclincs.net portal and verified with institutional records during 2002-2025. The primary data were collected from 120 agripreneurs in Salem district (as shown in Figure. 2), with equal number of ACABC and non-ACABC respondents from dairy and poultry enterprises. ACABC respondents were identified from Imaigal Trust (NTI) candidates' records, while non-ACABC respondents were selected through Agriculture Department records and snowball sampling. Data collection was done in the form of a structured questionnaire and personal interviews.

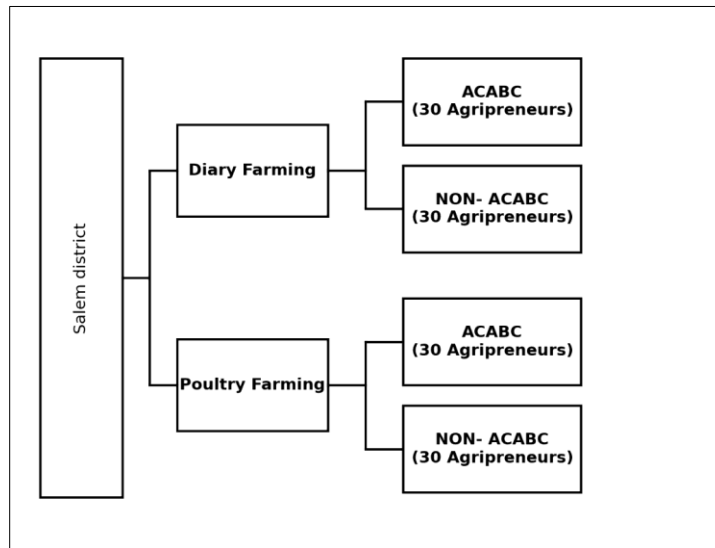


Figure 2. Analytical Framework (Source: Author's compilation)

7. Period of the Study

Secondary data were obtained from the operational period of ACABC (2002-2025). Primary data were collected during the 2025-26 period. Discounted cash flow analysis was done to determine the financial feasibility of the agriventures for 10 years.

8. Tools Used (Analytical Framework)

The study used descriptive statistics, growth analysis and financial appraisal techniques.

8.1 Growth Rate Estimation

The compound growth rate (CGR) for trainee enrolment and agriventure establishment was estimated using this log-linear regression model:

$$\ln Y_t = \beta_0 + \beta_1 t + \varepsilon$$

Where Y_t is the value of the variable in the year t , β_0 is the intercept, β_1 is the regression coefficient representing the instantaneous growth rate, ε is the error term.

CGR (%) was calculated as $(e^{\beta_1} - 1) \times 100$.

The significance of the growth coefficient was tested using the t-test at the 1 per cent and 5 per cent levels. A positive and significant β_1 indicates an upward trend (Rawal et al., 2021)

8.2 Cuddy-Della Valle Instability Index

The Cuddy-Della Valle Instability Index (CDVI) was used to measure residual year-to-year fluctuations after removing the underlying trend:

$$CDVI = CV \times \sqrt{1 - R^2}$$

Where CV = Coefficient of Variation SD/Mean100, R^2 = coefficient of determination from the log-linear regression. The instability levels were interpreted as low (0-15), moderate (15-30), and high (above 30) (Patel et al., 2022)

8.3 Conversion Efficiency Ratio

Conversion efficiency ratio indicates the effectiveness of the programme in converting training into enterprise creation (K. K. Desai, & Kathare, H. N, 2026)

$$\text{Conversion Efficiency (\%)} = \left(\frac{\text{Total Agriventures Established}}{\text{Total Candidates Trained}} \right) \times 100$$

8.4 Financial Viability Assessment

Financial viability was assessed using ten-year discounted cash flow analysis at 12 per cent and 15 per cent discount rates, using these criteria:

Net Present Value (NPV): Sum of discounted net cash flows minus initial investment. A positive NPV confirms economic viability.

$$NPV = \frac{P_1}{(1+i)^{t1}} + \frac{P_2}{(1+i)^{t2}} + \dots + \frac{P_n}{(1+i)^{tn}} - C. \text{ (Subba Reddy, 2017)}$$

Benefit-Cost Ratio (BCR): Ratio of the present value of total benefits to the present value of total costs. BCR > one confirms viability (Subba Reddy, 2017)

$$BCR = \frac{\sum_{t=0}^n Bt(1+r)^{-t}}{\sum_{t=0}^n Ct(1+r)^{-t}}$$

Internal Rate of Return (IRR): Discount rate at which NPV = 0, computed by interpolation between two discount rates. (Subba Reddy, 2017)

$$IRR = \text{Lower discount rate} + \frac{\text{Difference between the two discount rates} \times \text{Present worth of the cash flow at the lower discount rate}}{\text{Absolute difference between the present worth of the cash flow at the two discount rates}}$$

Payback Period: Time to recover the initial investment from cumulative net cash inflows

$$P = I/E$$

Where I - total investment, E - average annual net cash earnings (Subba Reddy, 2017).

8.5 Rank-Based Quotient (RBQ)

The RBQ method was used to prioritize the constraints encountered by ACABC agripreneurs.

$$R.B.Q = \frac{\sum f_i (n+1-i) \times 100}{N \times n}$$

Where;

f_i = Number of respondents reporting a particular problem under the i th rank

N = Number of Respondents

i = Number of ranks

n = Number of constraints identified (Gowdhaman et al., 2024)

Respondents ranked constraints according to their severity, and the weighted scores were then normalised to produce RBQ scores ranging from 0 to 100 per cent. Higher RBQ scores represent more widely felt constraints and more severe constraints.

9. Limitations

The study was limited to the Salem district, and the results may not apply to other areas. The number of participants was small due to the limited availability of agripreneurs. We gathered financial information through personal interviews, which may have resulted in some minor reporting errors. Additionally, the study was limited to dairy and poultry agri-ventures in the ACABC scheme.

10. Analysis and Discussion (Including Test of Hypothesis)

10.1. Growth, Instability and NTI-Wise Conversion Efficiency of the ACABC Scheme in Tamil Nadu (2002-2025)

10.1.1. Growth Rate and Instability Analysis

The year-wise data on ACABC candidates trained and agri-ventures established during 2002-2025 in Tamil Nadu were subjected to log-linear regression analysis (Table 1), and the growth and instability measures are summarised in Table 2. The CGR of 7.44% per annum, with a CDVI of 54.00, was statistically significant for trainee enrolment, indicating positive growth and high instability. These findings contrast with the observations of Seema and Sangwan (2025), who reported predominantly low and negative growth rates in Haryana, with positive CAGR observed during 2007-2102 (Seema, 2025). The number of trainees increased from 137 in 2002 to a peak of 1,036 in 2013, with noticeable declines during 2020 and 2024.

Table 1: Year-wise ACABC Candidates Trained and Agri-ventures established in Tamil Nadu (Source: Agriclincs.net)

Year	No. of Trainees	log (Trainees)	Agri-Ventures	log (Ventures)	Year	No. of Trainees	log (Trainees)	Agri-Ventures	log (Ventures)
2002	137	4.9200	3	1.0986	2014	858	6.7546	584	6.3699
2003	80	4.3820	55	4.0073	2015	657	6.4877	366	5.9026
2004	55	4.0073	1	0.0010	2016	822	6.7117	286	5.6560
2005	131	4.8752	35	3.5553	2017	470	6.1527	360	5.8861
2006	139	4.9345	72	4.2767	2018	425	6.0521	163	5.0938
2007	177	5.1762	94	4.5433	2019	637	6.4568	167	5.1180
2008	233	5.4510	69	4.2341	2020	337	5.8201	143	4.9628
2009	261	5.5645	178	5.1818	2021	472	6.1570	122	4.8040

2010	361	5.8889	200	5.2983	2022	709	6.5639	541	6.2934
2011	603	6.4019	203	5.3132	2023	446	6.1003	202	5.3083
2012	508	6.2305	291	5.6733	2024	292	5.6768	216	5.3753
2013	1036	6.9431	562	6.3315	2025	375	5.9269	186	5.2257

Table 2: Growth and Instability Analysis of ACABC Trainees and Agriventures (2002-2025, Tamil Nadu)

Statistical Parameter	Value (Trainees)	Value (Agri-ventures)
Regression Coefficient (β_1)	0.07172	0.13309
e^{β}	1.07436	1.13927
CGR (%)	7.44*** per annum	13.93*** per annum
Instability Index (CDVI)	54.00 (High Instability)	70.61 (Very High Instability)

Note: Significance level - *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

The CGR of Agriventures established under the scheme was 13.93% per year, which is higher than the enrolment of trainees. However, the CDVI value of 70.61 indicated extremely high instability, with venturers from 1 in 2004 to 584 in 2014. While both components recorded statistically significant growth at the one per cent level, there is greater variability of agriventures compared to trainee enrolment. This finding is consistent with Desai and Kathare (2026), who reported substantial variations in ACABC venture success rates due to external disruptions such as the COVID-19 pandemic, and with Seema and Sangwan, who observed fluctuating and often negative growth trends in trainee enrolment and agriventure establishment in Haryana (K. K. Desai, Kathare, H. N., 2026; Seema, 2025).

The fluctuations in trainee enrolment (Figure. 3) and agriventure establishment (Figure. 4) under the ACABC scheme in Tamil Nadu during 2002-2025 were mainly influenced by policy revisions, subsidy restructuring and institutional credit dynamics. The first phase (2002-2009) had a low enrolment because of the criteria for eligibility and the capital-interest subsidy system. (MANAGE, 2010). The 2010 revision brought a simplified back-ended composite subsidy of 36% for the general category and 44% for women and SC/ST candidates, and a better project cost ceiling, which greatly enhanced participation. (MANAGE, 2010). The design of training under the scheme was also modified, from 60 days to 45 days in later revisions, to make training more efficient. (MANAGE, 2018).

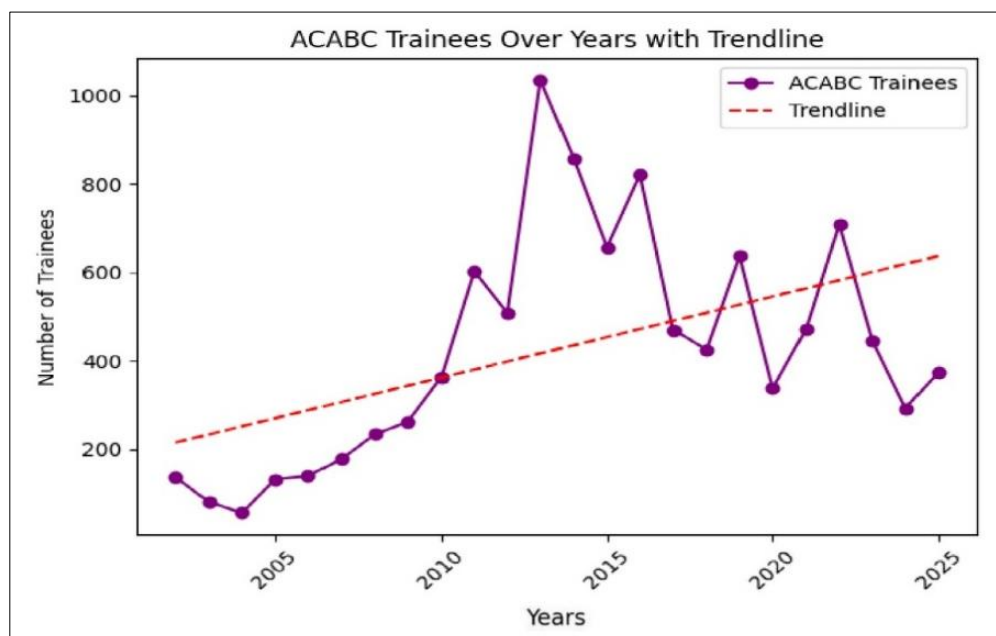


Figure 3. Year-wise ACABC Trainees in Tamil Nadu with Trend Line (2002-2025)

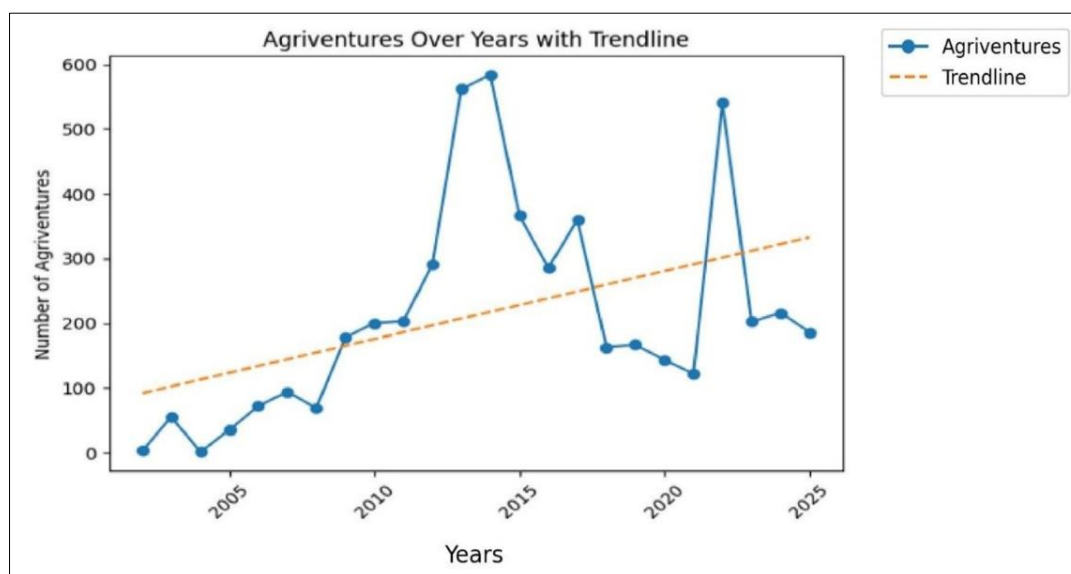


Figure 4. Year-wise ACABC Agriventures Established in Tamil Nadu with Trend Line (2002-2025)

The current operational guidelines mandate training to be delivered in structured training batches, with a maximum of 35 candidates per batch, and with manageable delivery and monitoring standards. (MANAGE, 2018; NABARD, 2015). However, after 2015, the enrolment exhibited a negative trend because of the tightening of the credit appraisal process by banks, with the increase of NPAs as discussed in the review of NABARD. (MANAGE, 2025). Further administrative changes implemented in the 2018 Compendium (such as compulsory digital registration, standardisation of training processes, etc.) resulted in adjustment effects rather than in structural decline. COVID-19 had a significant impact on training operations and credit flow, leading to a sharp decline in 2020. Recent changes under the 2025 Compendium have improved attendance and accountability, including through the use of technology-driven monitoring and systems, as well as conditions for training institutes linked to their success rates, including minimum success rate thresholds, that should improve the quality of the programmes and may limit enrolment growth in the short term. (NABARD, 2015)

10.1.2. NTI-wise Conversion Efficiency Analysis in Tamil Nadu

The overall conversion rate of the trained candidates to entrepreneurship was 50% in Tamil Nadu, which is better than the national average of 43.7% (Source: Agriclincs.net). The NTI-wise Conversion data are presented in Table 3:

Table 3: NTI-wise Conversion Efficiency of ACABC Scheme in Tamil Nadu from 2002-2025 (Source: Agriclinic.net)

S.No.	Name of the Institute	No. of Candidates Trained	No. of Ventures Established	Conversion Efficiency (%)
1	Voluntary Association for People Service, Madurai	2,583	1,424	55.1%
2	Centre for Alternate Rural Employment, Namakkal	2,168	1,091	50.3%
3	National Agro Foundation, Chennai	1,133	565	49.9%
4	Health Educational Awareness for Lacklustre Rural People Charitable Trust, Erode	661	405	61.3%
5	Biofarm Nodal Training Institute, Coimbatore	532	238	44.7%
6	Imaigal Trust, Salem	503	321	63.8%
7	Centre for Entrepreneurship Development, Madurai	330	132	40.0%
8	Rajalakshmi Polytechnic College, Tiruvannamalai	247	89	36.0%
9	Saraswati Foundation for Rural Development & Training, Karur	228	103	45.2%
10	Small Industries Product Promotion Organisation, Madurai	193	100	51.8%

11	The Institute of Entrepreneurship Development (IED), Dharmapuri	189	86	45.5%
12	Vanavarayar Institute of Agriculture, Pollachi	150	61	40.7%
13	Stella Maris Institute of Development Studies (SMIDS), Kanyakumari	105	28	26.7%
14	Centre for Agricultural and Rural Development Studies, Coimbatore	103	29	28.2%
15	Shanmuga Arts, Science, Technology & Research Academy, Thanjavur	84	15	17.9%
16	Agro Clinical Development Trust, Kodaikanal	74	15	20.3%
17	International Institute of Biotechnology and Toxicology, Padappai	61	35	57.4%
18	SRS Institute of Agriculture and Technology, Dindigul	57	14	24.6%
19	Annamalai University, Chidambaram	55	17	30.9%
20	Nalanda College of Agriculture, Trichy	32	1	3.1%

Imaigal Trust, Salem, has the highest NTI-level conversion rate (63.8%) as shown in Figure 5, partly due to good mentorship, bank linkages and intensive follow-up after training. This confirms Salem as a high-performing ACABC implementation zone.

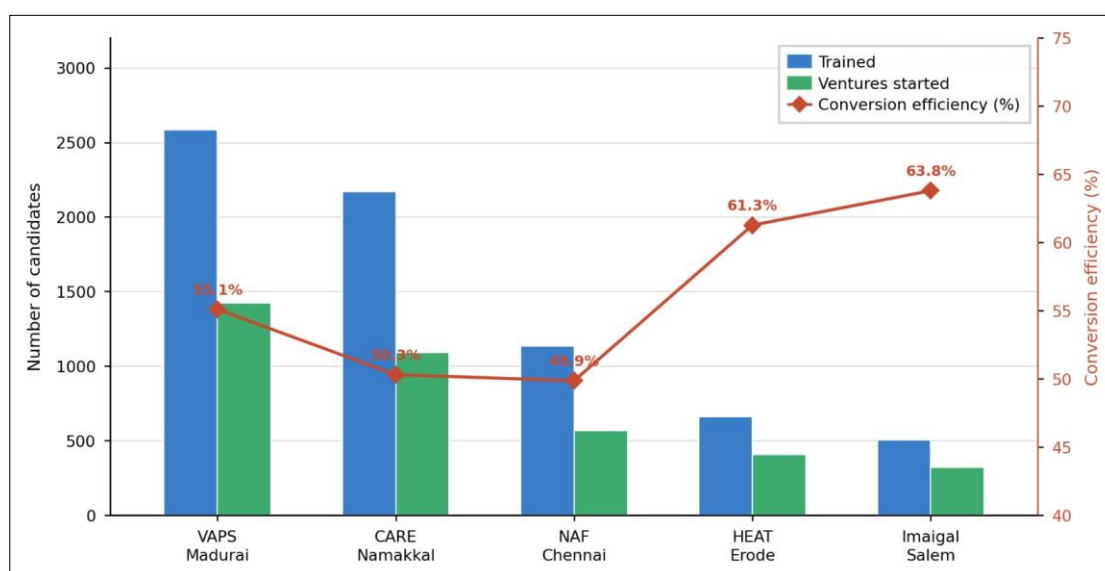


Figure 5. Top NTIs in Tamil Nadu-Candidates Trained and Ventures Established (Source: MANAGE Database)

10.2. Financial Viability of Agriventures

10.2.1. Cost and Returns of ACABC and Non-ACABC Dairy Agripreneurs

The comparative cost and return analysis indicated that there was greater economic efficiency and larger scale in ACABC-trained dairy agripreneurs compared to non-ACABC dairy agripreneurs. The higher economic efficiency and larger scale of operation observed among ACABC-trained dairy agripreneurs are in agreement with earlier studies. Evidence from Rajasthan showed that dairy clinic beneficiaries maintained larger herd sizes and earned higher gross income than non-beneficiaries (Srilatha, 2005). Likewise, studies in Uttar Pradesh reported significantly higher net returns from dairying among ACABC beneficiaries (Roy & Ahamad, 2019).

Table 4 indicates that the average number of milking animals per dairy unit in ACABC condition was 18.7, average number of calves/heifers/dry animals was 6.25 and average milk yield 49275 litres per year while the average number of milking animals per dairy unit in non ACABC condition was 16.65, average number of calves/heifers/dry animals was 8.1 and the average milk yield was 41850.90 litres per year. Overall, ACABC dairy farms realised higher gross returns and better Benefit Cost Ratio (BCR) (1.52) than non-ACABC farms (1.38), suggesting that training had a positive impact on enterprise

performance besides scaling up. The study conducted by Roy et al. (2019) in Uttar Pradesh and Savapandit et al. (2017) in Assam reflects improved resource-use efficiency and enhanced economic returns through ACABC training facilities (Roy & Ahamad, 2019; Savapandit et al., 2017). But Ramgopal and Ramu (2017) contradicted their findings that the ACABC scheme has only a limited effect on dairy enterprise performance in the Telangana region (RAMGOPAL & RAMU, 2017).

Table 4: Cost and Returns of ACABC and Non - ACABC Dairy Agriventures, Salem (in INR/Farm/Yr.) (Source: Primary survey)

Particulars	Amount (Rs.) (ACABC agripreneurs)	Amount (Rs.) (Non- ACABC agripreneurs)
A. Cost of Establishment		
Purchase of Milch Animals	12,77,750	11,13,750
Shed / Fencing / Water Trough	4,14,272	3,92,418
Milking Machine	40,979	40,500
Chaff Cutter	25,849	24,750
Total Establishment Cost	17,58,850	15,71,418
B. Variable Costs (per year)		
Feed & Fodder Cost	6,35,150	5,27,014
Labour Cost	1,07,034	1,02,742
Veterinary & Medicine Cost	24,956	32,969
Electricity, Manure Packaging & Transport	30,150	23,028
Miscellaneous Cost	10,748	10,774
Interest on Working Capital (12%)	96,964	83,473
Total Variable Cost (a)	9,05,002	7,80,000
C. Fixed Costs (per year)		
Depreciation on Fixed Assets	1,55,170	1,37,520
Interest on Fixed Assets (10%)	1,10,154	1,57,141
Insurance	34,225	29,950
Rental Value of Land	45,000	45,000
Total Fixed Cost (b)	3,44,549	3,69,611
Total Cost (a + b)	12,49,551	11,49,611
D. Returns (per year)		
Sale of Milk (ACABC: 49,275 L at Rs. 34.83/L Non-ACABC: 41,850.9 L at Rs. 34.7/L))	17,16,002	14,52,226
Sale of Calves	55,600	55,054
Sale of Manure	1,35,800	90,279
Gross Returns	19,07,402	15,97,559
Net Returns	6,57,851	4,47,948
Benefit-Cost Ratio (BCR)	1.52	1.38

Note: All costs and returns were estimated from the average of 60 dairy agriventures (30 ACABC and 30 Non-ACABC). Lower interest on fixed assets in ACABC units was due to subsidy assistance.

As shown in Table 5, discounted cash flow analysis confirmed the superior financial viability of ACABC-supported dairy agriventures compared to non-ACABC farms. At discount rates of 12 and 15%, ACABC farms recorded higher NPVs (Rs. 35,75,642 and Rs. 29,65,210, respectively) than non-ACABC farms (Rs. 27,20,459 and Rs. 22,29,243). ACABC farms also had a higher IRR (52%) than non-ACABC farms (46%) and a shorter payback period (1.91 years versus 2.11 years). The findings suggest that the dairy agripreneurs trained through ACABC had higher returns, faster payback and stronger financial sustainability. Overall, the higher NPV, BCR, IRR, and lower payback period of ACABC dairy agriventures indicated positive profitability and viability of dairy enterprises in the ACABC study area, highlighting the effect of ACABC training.

Table 5: Investment Appraisal Metrics of ACABC and Non-ACABC Dairy Agriventures for 10 Years

Particulars	@ 15% Discount Rate (ACABC Dairy farm)	@ 15% Discount Rate (Non-ACABC Dairy farm)	@ 12% Discount Rate (ACABC Dairy farm)	@ 12% Discount Rate (Non-ACABC Dairy farm)
Net Present Value (NPV)	Rs. 29,65,210	Rs. 22,29,243	Rs. 35,75,642	Rs. 27,20,459
Benefit-Cost Ratio (BCR)	1.44	1.38	1.49	1.42
	ACABC Dairy Farm		Non-ACABC Dairy farm	
Payback Period	1.91Years		2.11Years	
Internal Rate of Return (IRR)	52%		46%	

Evidence from the study made in Rajasthan demonstrated that ACABC beneficiaries earned significantly higher annual and net incomes from dairying than non-beneficiaries. In addition, improvements in reproductive efficiency and milk productivity among beneficiary farms contributed to enhanced enterprise profitability (Srilatha, 2005)

10.2.2. Cost and Returns of ACABC and Non-ACABC Poultry Agripreneurs

Comparative results for poultry agriventures indicated a better performance among ACABC-trained agripreneurs. As shown in Table 6, the average batch size of a poultry unit in ACABC was 10,500 birds, while in non-ACABC, the average batch size was 5.6 birds per year. The mortality rate was comparatively lower among ACABC agripreneurs (1.43%) than among non-ACABC agripreneurs (2.33%). Moreover, the ACABC farms had a higher Benefit-Cost Ratio (2.10) than the non-ACABC farms (1.80), and also higher annual net returns, suggesting that trained agripreneurs performed better in terms of output performance and managerial efficiency. The higher net returns realised by ACABC-trained poultry agripreneurs are consistent with the findings of Savapandit and Gogoi (2017), who reported significantly higher net income from poultry rearing among ACABC beneficiaries than non-beneficiaries in Assam.

Table 6: Cost and Returns of ACABC and Non - ACABC Poultry Agriventures, Salem (in INR/Farm/Yr.) (Source: Primary survey)

Particulars	Amount (Rs.) (ACABC agripreneurs)	Amount (Rs.) (Non- ACABC agripreneurs)
A. Cost of Establishment		
Shed & Electricity Installation	13,80,574	12,85,000
Feed Box Cost	28,440	26,460
Nipple/Drinker System	1,90,000	1,77,323
Outside Sprinkler	7,150	6,700
Total Establishment Cost	16,06,164	14,95,483
B. Variable Costs (per year)		
Feed Cost	7,537	11,200
Casual Labour Cost	94,750	92,540
Electricity & Cylinder Cost	45,900	45,800
Litter Material Cost	1,78,250	1,62,400
Veterinary & Medicine Cost	1,37,200	1,19,987
Miscellaneous Cost	5,375	5,512
Interest on Working Capital (12%)	28,141	39,532.7
Total Variable Cost (a)	4,97,153	4,76,971
C. Fixed Costs (per year)		
Depreciation on Fixed Assets	1,60,616	1,49,548
Interest on Fixed Assets (10%)	94,576	85,298
Repair & Maintenance	6,650	6,550
Rental Value of Land	60,000	60,000
Total Fixed Cost (b)	3,21,842	3,01,396
Total Cost (a + b)	8,18,995	7,78,367

D. Returns (per year)		
Commission Returns from Broiler Rearing (ACABC: 10,500 birds x 5.6 batches at Rs.11.4/kg, average weight 2.525 kg) Non-ACABC: 9,800 birds x 5.25 batches at Rs. 11.06/kg, average weight 2.42 kg)	16,61,771	13,44,951
Sale of Poultry Manure	37,333	34,300
Sale of Gunny Bags	27,090	25,730
Gross Returns	17,26,194	14,04,981
Net Returns	9,07,199	6,26,614
Benefit-Cost Ratio (BCR)	2.1	1.8

Note: All costs and returns were estimated from the average of 60 poultry agri ventures (30 ACABC and 30 Non-ACABC). Farms operated under a contract/grower system in which the integrating company supplied feed; therefore, the reported feed cost represents supplemental feed expenses. Lower fixed asset interest in ACABC units was due to subsidy assistance.

The investment appraisal results also showed the better financial performance of ACABC poultry agri ventures (Table 7). The Net Present Value (NPV) of the ACABC farms was higher than that of the non-ACABC farms at 12% (Rs. 50,13,331 vs. Rs. 34,20,108) and 15% discount rates (Rs. 42,67,320 vs. Rs. 28,64,952). Similarly, ACABC farms recorded a higher Internal Rate of Return (72%) and a shorter payback period (1.38 years) compared to non-ACABC farms (57% and 1.73 years, respectively).

Table 7: Investment Appraisal Metrics of ACABC and Non-ACABC Poultry Agri ventures for 10 Years

Particulars	@ 15% Discount Rate (ACABC poultry farm)	@ 15% Discount Rate (Non- ACABC poultry farm)	@ 12% Discount Rate (ACABC poultry farm)	@ 12% Discount Rate (Non-ACABC poultry farm)
Net Present Value (NPV)	Rs. 42,67,320	Rs. 28,64,952	Rs. 50,13,331	Rs. 34,20,108
Benefit-Cost Ratio (BCR)	1.96	1.67	2.04	1.74
	ACABC Poultry Farm		NON- ACABC Poultry farm	
Payback Period	1.38 Years		1.73 Years	
Internal Rate of Return (IRR)	72%		57%	

The better performance of ACABC poultry units across NPV, BCR, IRR and payback period indicated improved financial management and enterprise efficiency among trained agripreneurs. Lower mortality, better batch scheduling and efficient investment utilisation contributed to the higher financial viability of ACABC poultry enterprises in Salem district. The results from a study made in Assam suggest that ACABC training enhances managerial efficiency and adoption of improved production practices, thereby contributing to increased profitability and economic sustainability of poultry enterprises (Savapandit et al., 2017).

10.3. Scheme-related Constraints Faced by ACABC Agri Ventures (RBQ analysis)

The scheme-related constraints indicate that financial and institutional issues significantly affect the establishment of ACABC agri ventures (Figure. 6). Inadequate own margin money (RBQ: 93%) emerged as the most critical constraint, as many agripreneurs struggle to arrange the initial investment required for starting enterprises. It is also consistent with earlier findings of Taufiq Ahmad et al. (2016), where the authors stated that the margin money requirement is a major obstacle.

Delay in subsidy release (RBQ: 86%) further creates financial pressure and affects business continuity. Further, difficulty in meeting bank eligibility requirements such as CIBIL score norms (RBQ: 70%) and excessive documentation procedures (RBQ: 49%) makes the process of availing scheme benefits more difficult for beneficiaries. In addition, inadequate post-training follow-up support from NTIs (RBQ: 34%) limits the technical guidance and handholding support needed for sustaining agri ventures successfully. These findings are consistent with earlier studies of Ahmad et al. (2016) that recognised cumbersome loan sanction procedures, document requirements and poor credit profiles as significant impediments to accessing the scheme benefits (Ahmad et al., 2016).

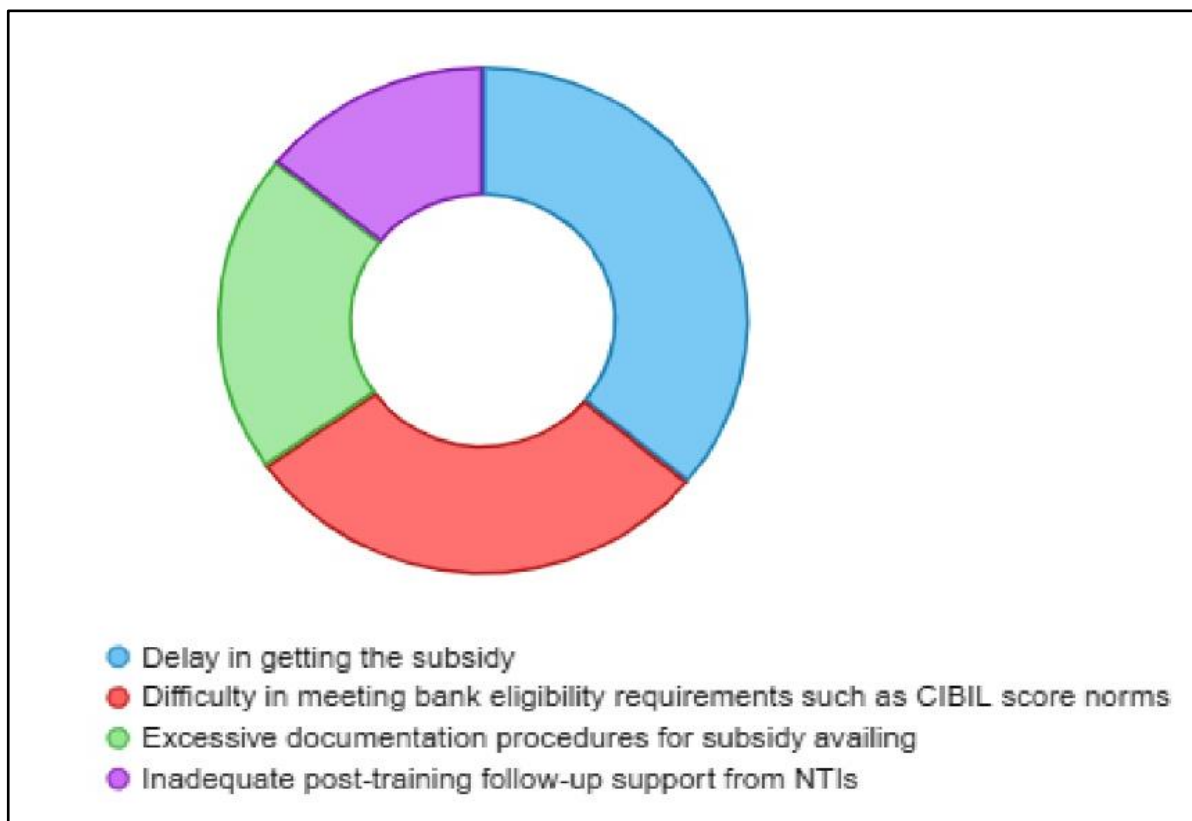


Figure 6: Scheme-related constraints faced by ACABC Agripreneurs (RBQ Analysis) (Source: Primary survey)

11. Findings and suggestions

Increase in the number of trainees registered in ACABC (7.44 per cent per annum) and in the number of agri ventures established (13.93 per cent per annum) occurred during 2002-2025, and there is evidence of a growing and expanding base of agripreneurial activity in the State of Tamil Nadu. The high nodal level conversion efficiency of Tamil Nadu (around 50 per cent) was better than the national average of 43.7 per cent, with Imaigal Trust, Salem, having the highest conversion efficiency (63.8 per cent). ACABC-trained agripreneurs dairy or poultry showed better performance in terms of financial indicators as compared to its non ACABC counterpart and achieved higher IRR, higher NPV and a shorter payback period, indicating better profitability and capital recovery. Inadequate margin money, delay in receiving subsidy, and strict norms of bank eligibility were found to be major constraints, so policy interventions should be made for strengthening institutional credit access, making loan and subsidy procedures simple and improving coordination among MANAGE, NABARD and lending banks by using digital monitoring systems. Enhancing training capacity through greater participation of women and graduates from allied disciplines, with increased outreach to underrepresented regions, along with rationalising training duration to 30 days, promoting digital learning, creating awareness and providing hand-holding support for enterprises after training, through universities, KVKs and extension systems, can enhance enterprise sustainability and conversion efficiency.

12. Conclusion

The study concludes that the ACABC scheme in Tamil Nadu experienced substantial expansion in trainee enrolment and establishment of agri ventures in the period 2002 to 2025, with some degree of instability suggesting uneven implementation. The state achieved higher conversion efficiency than the national average, with Imaigal Trust, Salem, emerging as the best-performing NTI. Economic analysis revealed that ACABC-trained dairy and poultry agripreneurs obtained higher returns, greater profitability and faster investment recovery compared to non-trained agripreneurs. The key barriers to venture establishment and sustainability were identified as inadequate margin money, delayed subsidy and strict bank eligibility requirements.

13. Scope for Further Research

This analysis could be repeated for other districts and southern states in the future to compare. The long-term panel studies, gender-wise performance analysis, digital advisory effects and post-training assistance models would offer more evidence to reinforce the scheme.

Acknowledgements

We would like to extend our heartfelt appreciation to all the individuals and organisations who have contributed to the publication of this research.

Authors' contributions

Genetics and Molecular Research 25 (11s): 2026

Authors MS and GS were responsible for designing the study, conducting the statistical analysis, developing the protocol, and drafting the initial manuscript; PM, IVM, and PS revised the manuscript.

Data Availability Statement: The datasets generated and analysed during the current study are available from the corresponding author upon reasonable request.

Funding statement: This research received no funding from any agency in the public, commercial, or not-for-profit sectors.

Conflict of interest: Authors do not have any conflicts of interest to declare.

Ethical issues: None.

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