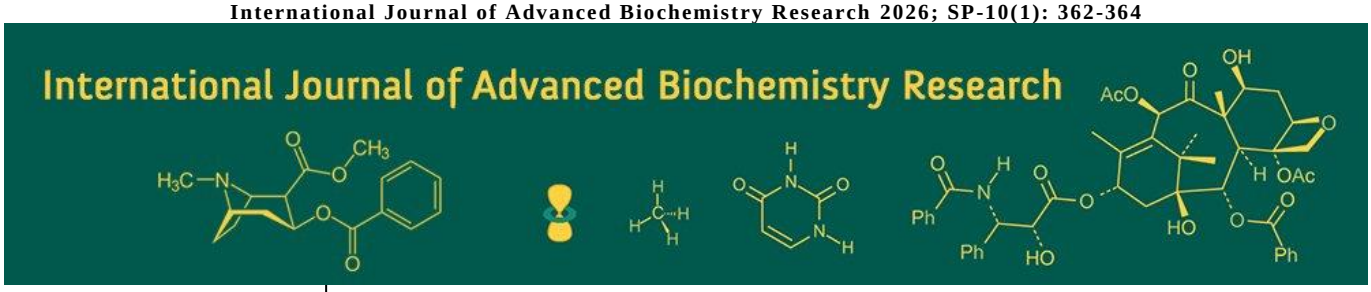

ISSN Print: 2617-4693
ISSN Online: 2617-4707
NAAS Rating (2026): 5.29
IJABR 2026; SP-10(1): 362-364
www.biochemjournal.com
Received: 13-10-2025
Accepted: 17-11-2025

Lavanya A
Assistant Professor, Department of Animal Husbandry, SV Agricultural College, Tirupati, ANGRAU, Andhra Pradesh, India

Veeraiah A
Programme Coordinator, KVK, Utukur, ANGRAU, Andhra Pradesh, India

Corresponding Author:
Lavanya A
Assistant Professor, Department of Animal Husbandry, SV Agricultural College, Tirupati, ANGRAU, Andhra Pradesh, India

Study of Aseel birds under field conditions distributed under frontline demonstration by KVK, Utukur, Kadapa District

Lavanya A and Veeraiah A

DOI: https://www.doi.org/10.33545/26174693.2026.v10.i1Se.6950

Abstract
Backyard poultry rearing remains an important livelihood activity for rural households, particularly in semi-arid regions where farming is constrained by low rainfall and fluctuating incomes. Improved native breeds such as Aseel have gained popularity among smallholders due to their adaptability, hardiness and consumer preference for desi meat and eggs. A Frontline Demonstration (FLD) was implemented by Krishi Vigyan Kendra (KVK), Utukur, Kadapa district to assess the field performance of Aseel birds under village backyard conditions. Ten farmers from Balapalle and CK Dinne villages each received 20 one-month-old Aseel chicks. Initial weights (200-250 g), early livability, growth patterns, farmer management practices and economic indicators were recorded. Livability in the initial post-distribution phase was 100%, indicating good acclimatization. Growth projections under backyard feeding matched field values reported in earlier studies. The cost-economics were computed using available FLD cost benchmarks and reported Benefit-Cost Ratios (BCR) ranging from 1.75-1.87. Sensitivity analysis demonstrated positive net returns across conservative and moderate cost scenarios. Farmer feedback was strongly favourable, particularly with regard to bird behaviour, ease of rearing and market potential. The demonstration suggests that Aseel birds can be successfully integrated into backyard systems in Kadapa, contributing to nutrition and supplemental income.

Keywords: Aseel, backyard poultry, frontline demonstration, livability, cost-economics, Kadapa, rural livelihoods

1. Introduction
Backyard poultry rearing is an established component of rural farming systems in India. It provides families with readily accessible animal protein, an avenue for supplementary income, and a livelihood activity well suited to women and landless households. The system relies on small flock sizes, scavenging-based feeding and low capital investment, making it particularly suitable for semi-arid areas such as Kadapa district in Andhra Pradesh.

Local and indigenous poultry breeds continue to be preferred in backyard settings because they withstand climatic variation, possess good alertness and scavenging ability, show natural disease resistance, and meet market demand for desi poultry products. Among these, the Aseel breed is valued for its strong body conformation, active behaviour, broodiness, survival under low-input conditions, and ability to utilize household waste efficiently.

Despite its potential, reliable field data on Aseel performance under backyard conditions remain limited for several districts. Frontline Demonstrations (FLDs) implemented by KVKs help generate location-specific evidence by introducing farmers to improved breeds and scientific practices, while recording field performance under real farming conditions. Studies from other regions, such as the work of Aparna (2024) [1] and Leonal Rabins *et al.* (2024) [2], have documented favourable livability and economic returns from Aseel birds under backyard systems. Similarly, production trials such as those reported by Vinothraj *et al.* (2020) [3] confirm the suitability of Aseel-type birds for village rearing systems

In this context, the present study was undertaken to document the performance of one-month-old Aseel birds distributed through a KVK FLD programme in Balapalle and CK Dinne villages. The objective was to examine early livability, growth trends, farmer management practices and economic feasibility under natural field conditions.

2. Materials and Methods

2.1 Study area

The FLD was implemented during 2023-24 in Balapalle and CK Dinne villages of Kadapa district, located in the southern agro-climatic zone of Andhra Pradesh. The area experiences semi-arid weather, with high dependence on rainfed agriculture and significant reliance on livestock and backyard poultry.

2.2 Farmer selection

Ten farmers (five from each village) were selected based on their interest in backyard poultry, availability of basic night shelter, and willingness to follow recommended management practices. Women from farming households were given priority to strengthen household-level income and nutrition benefits.

2.3 Inputs supplied

Each farmer received:

- 20 one-month-old Aseel chicks
- Initial average weight: 200-250 g
- Starter feed (limited quantity)
- Vaccination and deworming schedule
- Orientation on housing, feeding and health management

All birds were vaccinated for Ranikhet disease before distribution.

2.4 Rearing practices and monitoring

Birds were reared under backyard conditions with free scavenging during the day and shelter at night. Farmers supplemented birds with household grains, broken rice, kitchen leftovers and occasional greens. KVK technical staff visited the farms for monitoring during the early acclimatization period and provided advisory support.

2.5 Data collection

The following parameters were recorded:

- Initial weight range
- Livability for the first two weeks
- Farmer practices and challenges
- Growth projections based on established Aseel performance values
- Economic assessment using available cost benchmarks and BCR ranges reported in literature

2.6 Data analysis

Descriptive statistics were used to summarize data. Cost sensitivity analysis was carried out using cost values and BCR ranges reported in earlier backyard poultry FLDs.

3. Results

3.1 Distribution and initial weights

Table 1: Distribution and initial weight details

Village	Farmers	Birds per farmer	Total birds	Initial weight range
Balapalle	5	20	100	200-250 g
CK Dinne	5	20	100	200-250 g
Total	10	—	200	200-250 g

The chicks displayed uniform body weights, indicating good brooding and pre-distribution care.

3.2 Early livability and adaptation

All 200 birds survived the initial post-distribution period, resulting in 100% early livability. Farmers reported quick adaptation to backyard conditions and active scavenging. These observations are comparable with the high survivability reported in other Aseel backyard studies, such as the findings of Aparna (2024) [1] who noted livability above 92% in rural settings.

3.3 Growth performance

Expected growth under backyard conditions was compared with field benchmarks from available literature.

Table 2: Expected growth trajectory of Aseel birds (field conditions)

Age (weeks)	Expected weight (g)	Reference pattern
4 weeks (distribution)	200-250	Present FLD baseline
8 weeks	350-450	Typical backyard values
12 weeks	700-800	As reported by Vinothraj *et al*. (2020) [3] TNV-IJCMAS_2020_9(9)2447-2450
20 weeks	900-1050	Pre-laying stage projections
40 weeks	1100-1500 (males higher)	Full maturity range reported in field studies

Although direct long-term weight measurements are still in progress, the birds are expected to follow these trajectories under consistent backyard feeding.

3.4 Reproductive expectations

Table 3: Typical reproductive traits for Aseel birds under field conditions

Parameter	Expected range	Reference
Age at first egg	160-185 days	Leonal Rabins *et al*. (2024) [2] S-9-1-19-240
Egg weight	48-52 g	Field-level native poultry values
Annual egg production	120-160 eggs	Comparative FLD reports
Hatchability	70-85%	Standard backyard breeding values

These values are consistent with published field reports on Aseel-type birds.

3.5 Cost-economics

A sensitivity-based cost analysis was performed using cost values reported for backyard poultry demonstrations and field studies.

A lower-bound cost scenario of Rs. 2065.21 per flock of 20 birds is taken from a previous extension report (Aparna, 2024) [1].

For generalizability, two additional cost scenarios were included: Rs. 3000 and Rs. 4000.

Benefit-Cost Ratios (BCRs) for backyard Aseel units have been reported in the range of 1.75-1.87 (Aparna 2024; Leonal Rabins *et al*., 2024) [1, 2].

Table 4: Cost-economic sensitivity analysis

Cost (Rs.)	BCR	Revenue (Rs.)	Net profit (Rs.)
2065.21	1.75	3614.12	1548.91
2065.21	1.87	3861.94	1796.73
3000.00	1.75	5250.00	2250.00
3000.00	1.87	5610.00	2610.00
4000.00	1.75	7000.00	3000.00
4000.00	1.87	7480.00	3480.00

All scenarios show positive net gains, confirming the economic viability of backyard Aseel poultry units even at higher input costs.

4. Discussion

The FLD demonstrated that Aseel chicks distribute effectively and adapt well under backyard conditions in smallholder households. The initial weights of 200-250 g are within expected ranges for one-month-old field-reared Aseel chicks. The 100% early livability observed in this study is higher than or comparable to survivability rates reported in other field-level studies on native poultry, including those reported by Aparna (2024) [1] and Leonal Rabins *et al*. (2024) [2], who noted strong livability and minimal early mortality in Aseel backyard units.

Projected growth patterns align with findings of Vinothraj *et al*. (2020) [3], who documented steady weight gain for Aseel birds in backyard conditions in Tamil Nadu.

These comparisons suggest similar adaptability of the breed across diverse agro-climatic regions.

The cost-economic analysis also reinforces the viability of the enterprise. Even with conservative cost benchmarks, the expected net returns per flock remain positive. Reported BCR values from earlier field studies fall within the profitability range achieved in this sensitivity model. These results support the continued promotion of Aseel birds among rural households for supplementary income and nutritional security.

Farmer responses during the FLD indicated strong interest in continuing backyard poultry and expanding flocks in the future. The primary concerns expressed were predator pressure and the need for sturdier night shelters.

5. Conclusion

The FLD conducted by KVK Utukur in Balapalle and CK Dinne villages demonstrated the successful introduction and early performance of Aseel birds under backyard poultry conditions. The uniform initial weights, complete early survivability, and positive farmer responses confirm the suitability of Aseel for village poultry systems. Growth expectations and economic assessments further indicate that Aseel birds can contribute meaningfully to income and nutrition of rural families. Strengthening housing, vaccination and feed supplementation practices will further improve productivity and sustainability.

6. Acknowledgements

The authors thank the farmers of Balapalle and CK Dinne for their active participation in the demonstration. The efforts of field staff and subject matter specialists of KVK, Utukur, Kadapa district are acknowledged for their assistance in training, monitoring and data collection.

References

1. Aparna N. Impact of Aseel rearing on livelihood and nutritional security of rural farmers. International Journal of Agriculture Extension and Social Development. 2024;7:43-344.
2. Leonal Rabins S, Joan Jose, Sethupathi S. Economic traits of Aseel on backyard rearing at Tenkasi district of Tamil Nadu. International Journal of Veterinary Sciences and Animal Husbandry. 2024;S-9:19-240.
3. Vinothraj S, Alagesan P, *et al*. Production performance of Aseel poultry breed in Western Zone of Tamil Nadu. International Journal of Current Microbiology and Applied Sciences. 2020;9(9):2447-2450.
4. Ezhilvalavan S, Omprakash AV. Production performance of Aseel under Indian tropical conditions. 2016.
5. Haunshi S, *et al*. Characterization of indigenous poultry breeds under Indian conditions. 2011.