ASSESSING THE SUSTAINABILITY OF CHICKEN COOP MODEL (SEMI-SCAVENGING) FOR INDIGENOUS CHICKENS

Rural Microenterprise Transformation Project (RMTP)

REPORT

On

"Assessing the Sustainability of Chicken Coop Model (Semi-Scavenging) for Indigenous Chickens under RMTP"

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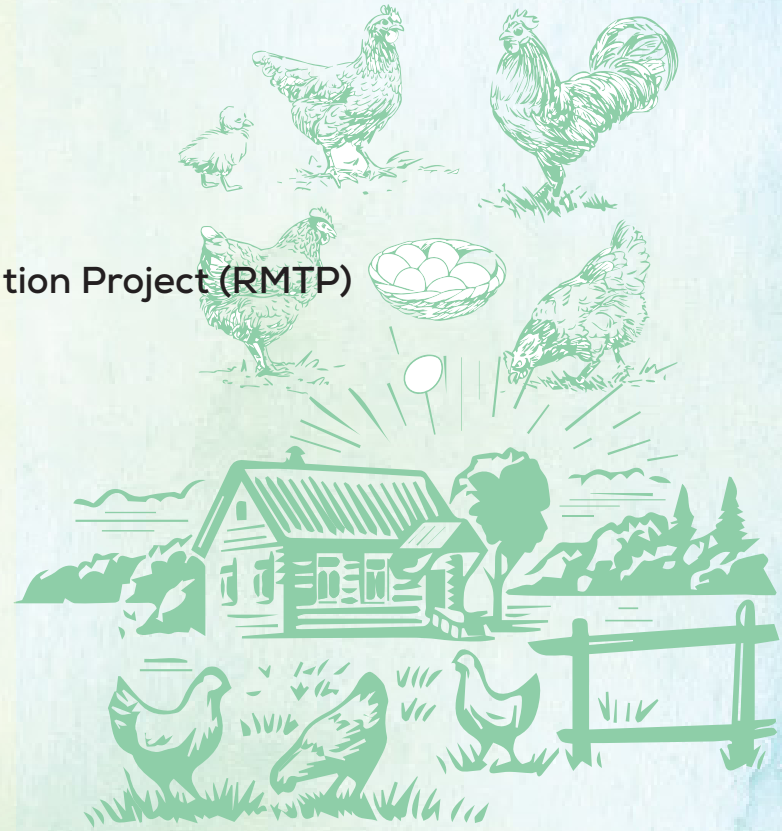

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Acronyms

Abbreviation	Full Form
AAER	Adopt–Adapt–Expand–Respond (Systemic Change Framework)
BAU	Bangladesh Agricultural University
BDT	Bangladeshi Taka
BLRI	Bangladesh Livestock Research Institute
CB	Crossbreed
DAE	Department of Agricultural Extension
DANIDA	Danish International Development Agency
DLS	Department of Livestock Services
GUK	Gram Unnayan Karma
HH	Household
HSC	Higher Secondary Certificate
IFAD	International Fund for Agricultural Development
IDI	In-Depth Interview
KII	Key Informant Interview
LSP	Local Service Provider
MRM	Monitoring& Results Measurement
NGO	Non-Governmental Organization
PM	Project Manager
PKSF	Palli Karma-Sahayak Foundation
PO	Partner Organization
PNGO	Partner Non-Governmental Organization
ROI	Return on Investment
RMTP	Rural Microenterprise Transformation Project
SDS	Shariatpur Development Society
SSC	Secondary School Certificate

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Executive Summary

This assessment report evaluates the **sustainability of the Semi-Scavenging Chicken Coop Model** for indigenous chicken farming introduced under the Rural Microenterprise Transformation Project (RMTP), financed by PKSF and IFAD. The Coop Model was implemented in six districts through six Partner Organizations (POs) and aimed to enhance income, nutrition, and market participation of marginal and smallholder poultry farmers. The study covered 148 farm households (85 direct and 63 replication farmers), using a mix of surveys, interviews, field visits, and systemic analysis based on the **AAER Framework** and the **Three Pillars of Sustainability.**

Key findings show that the Coop Model has been **highly successful in adoption, productivity gains, and social impact:**

- **100% of direct farmers** adopted the model; **92 replication farmers** followed voluntarily. On average, each direct farmer influenced 19 others.
- The average Coop construction size was 2,741 cubic feet, with flexible designs suiting various land and resource capacities.
- On-farm **hatching capacity expanded rapidly**—with most incubator users doubling or quadrupling capacity, while natural hatching practices also scaled.
- Egg production increased by **295%** (from 829 to 3,279 pieces/year), chick production by **332%** (from 138 to 596 per year), and chicken meat by **363%** (from 87 kg to 403 kg/year). Mortality dropped to below 5%, and most farmers achieved **return on investment within 3–4 months**.
- Average production cost rose from BDT 16,462 (free-range) to BDT 92,958 (Coop Model).
- Revenue increased from BDT 23,891 to BDT 67,143, with projected potential over BDT 200,000 annually resulting in average monthly income of over BDT 9,400.
- About 66% of farmers used self-financing; 36% accessed grants; 19% borrowed at interest.
- **Women led 54% of operations** and controlled significant decisions (44%) and earnings (64%). **Youth engagement** was also visible, reflecting intergenerational learning.
- Nutritional outcomes improved as own-farm consumption of eggs and chicken rose sharply, and income was used to buy other nutritious foods.
- Environmental practices included composting of poultry litter (by 47%), regular coop cleaning, and use of eco-friendly materials like bamboo and wood.
- 97% of all farmers expressed confidence to continue; 94% are satisfied with operational activities despite all the hassle of additional caretaking.

The model triggered a **positive system response,** with increased involvement of livestock officers, LSPs, input sellers, and informal farmer-to-farmer knowledge sharing. However, key risks were also identified, including uneven veterinary access, feed price volatility, inconsistent DOC supply, and lack of formal policy recognition.

The Coop Model presents itself as a **scalable, inclusive, and climate-resilient rural livelihood strategy** that bridges the gap between backyard poultry keeping and commercial farming. For sustained success, further support is needed in strengthening market linkages, scaling technical services, improving infrastructure durability, and integrating the model into national livestock policies.

1.0. INTRODUCTION

1.1 Background

1.1.1 Poultry Sector in Bangladesh

Bangladesh's poultry sector plays a crucial role in its economy and social fabric. It contributes around **1.5–1.8% of GDP**, directly and indirectly engaging **6–8 million people** across the value chain – from feed millers and hatchery operators to traders and veterinary service providers[1]. As of 2023–2024, there are approximately **150,000 commercial farms**, producing about **12–23 billion eggs** and **1.4–1.6 million tons** of chicken meat annually[2]. Notably, **backyard and backyard semi-scavenging systems account for 65–70% of the poultry population**, providing critical livelihood and nutrition support for rural households – especially women and landless families[3]. The socio-economic impact is significant: poultry contributes to poverty reduction, women's empowerment, and food security. Around **90% of rural households** maintain at least some poultry, and the sector employs over **one million entrepreneurs** and supports **8 million livelihoods**, with approximately **40% of jobs held by women**[4]. Poultry contributes approximately **37% of total meat production** and **22–27% of animal protein intake**, making it a vital source of affordable nutrition. However, per capita consumption remains low (6–7 kg of meat and around 55-70 eggs per year), well below the FAO-recommended levels[5], highlighting room for growth and improved consumption.

1.1.2 Rearing Types & Techniques

Poultry rearing in Bangladesh falls into several categories:

- **Commercial Intensive**:
  - **Broiler farms**: Raise fast-growing breeds in controlled indoor environments, reaching market weight in 5–9 weeks. There are roughly **65–70 thousand broiler and layer farms** registered[6].
  - **Layer farms**: Focused on egg production using high-yielding breeds.
  - **Breeder farms**: Farms that produce day-old chicks for both broiler and layer farms. There are registered 206 breeder farms (small and large)[7].
- **Traditional:**
  - **Backyard/Scavenging**: Predominantly village-based, small backyard flocks (5–10 birds) rely on free-ranging with minimal supplemental feed. These flocks produce fewer eggs (~35–45 per year) and suffer high mortality (45–84%), yet provide over **50% of eggs and 40% of chicken meat** (Rahman et al, 2017).
  - **Semi-Scavenging**: A hybrid model where native breeds forage under minimal supervision but receive supplemental feed. This system is recognized for its cost-effectiveness and improved productivity over pure scavenging[8].

[1] Dhaka Tribune, One Health Poultry and Wikipedia,
[2] Light Castle Partners and One Health Poultry
[3] FAO and One Health Poultry
[4] Light Castle Partners and One Health Poultry
[5] FAO Round Table Discussion: 20th World Egg Day 2015, 13 October, 2015
[6] World's Poultry Science Association – Bangladesh Branch (WPSA-BB)
[7] World's Poultry Science Association – Bangladesh Branch (WPSA-BB)
[8] FAO

1.1.3 RMTP – Poultry Project

The project titled 'Market Development of Safe Poultry and Poultry Products' under the Rural Microenterprise Transformation Project (RMTP) jointly financed by Palli Karma-Sahayak Foundation (PKSF) the International Fund for Agricultural Development (IFAD) and Danish International Development Agency (DANIDA), is being implemented in 32 Upazilas of 12 Districts in Bangladesh through eight partner organizations (POs) of PKSF. The project aims to increase income, ensure food security and improve family nutrition for marginal and small farmers and poultry related backward and forward market entrepreneurs. The sub-project's high level goals are that the income of 70 percent of the entrepreneurs will increase by at least 50 percent and 30 percent of the project members will be able to add nutritious food to their regular diet. In order for achieving these goals, the project intervened in four major areas–

a) Increasing commercial poultry farming through Good Livestock Practices (GLPs),
b) Increasing farm mechanization through internet of things (IOTs),
c) Increasing backyard poultry farming, and
d) Strengthening the base of relationship of the farmers with input and output market and financial service market players.

Under the third Intervention Area, extension of Coop Model (semi-scavenging) for indigenous chicken farming was one of the flagship intervention work-streams of the project, which was implemented in six (6) districts through six (6) POs[1]. The project teams engaged with their respective poultry related public sector officials/units (such as BLRI, BAU, DAE,), incentivized private sector companies (such as feed, medicine) and selected suitable/potential farm households that would learn and adopt Coop Model chicken farming. The team then facilitated the mobilization of resources from the public and private sector as well as the project itself. Thus, the selected farm households were

(i) Trained and educated on the features and technicalities of Coop Model for indigenous chicken farming,
(ii) Connected with more and better input suppliers (breeder, incubator, feeding & drinking pots, feed, medicine, etc.),
(iii) Supplied with new/more/better poultry health service providers (DLS & LSPs),
(iv) Linked with more output buyers and new market places including digital ones,
(v) Given subsidy to start the Coop Model chicken farming,
(vi) Introduced with the respective PNGO's microfinance program, and
(vii) Monitored regularly and supported on need basis to generate higher rate of return (ROI) for the farmers and the project as well.

1.1.4 Why Chicken Coop (Semi-scavenging) Model

The decision to promote the semi-scavenging Coop Model for indigenous chicken farming under RMTP was grounded in the practical learning from the earlier PACE Project of PKSF. The following factors contributed to selecting this model as a preferred intervention for marginal and small farm households:

- Offers higher short- and medium-term returns compared to free-range systems.
- Requires low initial investment, making it accessible for poor households.

- Demands less labor and infrastructure than commercial/industrial poultry farming.
- Ensures low mortality rates due to better housing and controlled management.
- Promotes women-friendly income-generating activities that fit household routines.
- Increases egg and chick production, leading to surplus for sale and consumption.
- Enhances household nutrition through increased access to animal protein.
- Encourages livelihood diversification by generating additional income.
- Causes minimal environmental degradation and supports compost production.
- Adapts well to local climate conditions, ensuring year-round viability.
- Fits well within existing rural social norms and family farming practices.

However, the following critical learning issues were considered with high importance:

- **Limited scavenging space** led chickens to:
  (i) adopt erratic behaviors like feather plucking,
  (ii) find insufficient natural feed,
  (iii) develop swollen legs,
  (iv) sometimes grow golden feathers resembling the *Sonali* breed (affecting breed integrity), and
  (v) become more disease-prone – ultimately causing slower growth, higher mortality, and lower market demand.
- **Irregular or neglected vaccination** made flocks highly vulnerable to disease outbreaks, often resulting in high mortality or even complete loss of the flock.
- **Inconsistent or insufficient supply of Day-Old Chicks (DOCs)** and grower chicks of indigenous breeds discouraged farmers, weakened trust in supply chain actors, and at times led to the breakdown of local poultry value chains.

In response, the semi-scavenging Coop Model intervention introduced several key improvements to address these issues and enable sustainable indigenous chicken farming:

- Facilitated **larger and secured scavenging areas**, reducing stress and improving natural behavior.
- Ensured **routine vaccination and de-worming** through public and private channels as well as farmer self-practice.
- Introduced and supported **hatching of DOCs using incubators**, ensuring local and timely supply of indigenous chicks.

1.2 Objectives of the Assessment

At this point, the project sees 85 direct farm households and 92 replication households totaling 177 in all of the implementing six districts that started/adopted the Model. Now the project intends to see (and measure) how long it will last and how lasting its effects are. Therefore, the main objective of this assignment is to assess the sustainability of Semi-scavenging Coop Model for Indigenous Chicken Farming. Specific objectives for the sustainability check are

1. Assessing the semi-scavenging chicken coop model for indigenous chickens as a sustainable income generation option for rural marginal farmers.
2. Evaluate the feed intake, growth performance, productivity, and disease surveillance between free- range and semi-scavenging chicken coop models for indigenous chicken.
3. Cost-benefit analysis between free-range and semi-scavenging chicken coop models for indigenous chickens.
4. Assessing the consumption trends of poultry meat and eggs among farmers who are engaged in semi-scavenging chicken coop model technology practice.
5. Analyze the participation and empowerment of rural women in indigenous chicken rearing through the practice of semi-scavenging chicken coop model technology.

2.0. METHODOLOGY

This chapter outlines the methodological approach adopted to assess the sustainability of the Semi-Scavenging Chicken Coop Model under the Rural Microenterprise Transformation Project (RMTP)-Poultry. The methodology was designed to ensure comprehensive, participatory, and evidence-based insights, drawing from both primary and secondary data sources and interpreted through the **AAER Framework of Market System Development** and the **Three Pillars of Sustainable Development**.

2.1 Overall Approach

A **mixed-methods approach** was employed, combining both quantitative and qualitative data to enable triangulation and enrich the assessment. The study captured empirical evidence from 148 farm households (comprising 85 direct beneficiaries and 63 replication adopters) and included insights from public sector actors, implementing NGOs, and private market actors.

2.2 Analytical Frameworks

The assessment was guided by two complementary frameworks:

- **AAER Framework (Adopt, Adapt, Expand, Respond):** This framework helped evaluate the systemic change journey of the Coop Model by analyzing adoption behavior, adaptation practices, replication trends, and broader ecosystem responses.
- **Three Pillars of Sustainability:**
    - ***Economic Sustainability:*** Income generation, cost-efficiency, productivity, return on investment.
    - ***Social Sustainability:*** Participation and empowerment (particularly women), skill enhancement, and social cohesion.
    - ***Environmental Sustainability:*** Waste management, resource utilization, and climate adaptability.

2.3 Quantitative Method

A **structured household survey** was administered digitally using the Kobo Toolbox platform. The survey explored technical practices, production levels, cost-benefit trends, consumption behavior, revenue streams, and sustainability indicators. Key sections covered:

- Baseline vs. post-intervention comparisons
- Cost and revenue analytics
- Consumption and nutritional improvements
- Gendered roles and household decision-making
- Environmental practices and grievances (if any)

2.4 Qualitative Method

To enrich the understanding of local context, stakeholder engagement, and behavioral change:

- **In-depth Interviews (IDIs):** Conducted with selected farmers (both direct and replication), especially focusing on women, to explore empowerment, satisfaction, and scalability factors.
- **Key Informant Interviews (KIIs):** Involved local livestock officers, PO staff, and technical support personnel to understand institutional support and system-level responses.
- **Case Studies and Best Practices:** Documented through field visits by the assessment team and media professional (Mr. Ashraful Alam), focusing on distinct practices, community dynamics, and innovation in implementation.

2.5 Field Observations

Field visits were conducted in **Bogura, Shariatpur, Faridpur, and Cox's Bazar** to observe infrastructure, chicken behavior, cleanliness, and farmer engagement. These visits provided real-time validation of practices and physical condition of coops and surroundings.

2.6 Literature and Document Review

Secondary data was drawn from project reports, academic publications, news articles, workshop or event keynote papers and past evaluations relevant to indigenous poultry systems, semi-scavenging models, and rural market development in Bangladesh. These served to benchmark project performance against wider sectoral insights.

2.7 Sampling

Given the small and defined target group, a **census-based approach** was adopted for quantitative data (all 177 HHs). Qualitative respondents were selected using **purposive and snowball sampling** ensuring geographic, gender, and functional diversity. However, approximately 16% (29 out of 177) of the targeted population could not be covered. The distribution of sample of farm households is as follows:

Table 1: Distribution of Samples across 6 Districts

District	PNGO Name	Population HH			Sample HH		
		Direct	Replication	Total	Direct	Replication	Total
Bogura	GUK	11	5	16	***9***	***5***	14
Cox's Bazar	COAST	10	18	28	***9***	***8***	17
Faridpur	SDC	22	12	34	***24***	***3***	27
Naogaon	Ghasful	15	10	25	***15***	***7***	22
Rangpur	RDRS	15	7	22	***15***	***6***	21
Shariatpur	SDS	12	40	52	***13***	***34***	47
Total		**85**	**92**	**177**	**85**	**63**	**148**

2.8 Data Analysis

Quantitative data was cleaned, coded, and analyzed using descriptive statistics and comparative assessments. Qualitative data was thematically analyzed to identify patterns, contextual drivers, and anomalies. Cross-tabulation of quantitative and qualitative findings was done to validate consistency and depth.

2.9 Ethical Considerations

All data collection adhered to ethical norms including:

- Informed verbal consent from participants,
- Anonymity and confidentiality,
- Respect for local customs and sensitivities, and
- Right to withdraw from the survey at any point.

2.10 Limitations of the Assessment Study

As with any field study, a few constraints should be acknowledged:

a) Time Constraint

The 30-day assignment window limited the scope for:

- Tracking long-term outcomes such as income stability across seasons, and
- Reaching out to local government and institutional stakeholders more comprehensively.

b) Data Depth vs. Breadth Trade-off

Although the survey covered 148 households, some of the in-depth interviews and case studies had to be prioritized due to time and travel limitations. This may have excluded a few marginal or extreme cases.

c) Seasonal Bias

Data collection occurred at the end of the dry season, which may not fully reflect challenges experienced during monsoon or winter seasons, particularly regarding coop maintenance and feed availability.

The Coop Model has made impressive strides in adoption, productivity, and socio-economic outcomes. However, to ensure **scalable and resilient sustainability**, stakeholders must address the challenges identified—especially those related to veterinary access, market systems, infrastructure, and climate risk. These limitations also provide valuable learning points for future design, monitoring, and policy integration of such models.

3.0. FINDINGS

This chapter presents the key findings of the assessment of the semi-scavenging chicken coop model for indigenous chicken farming under Rural Microenterprise Transformation Project (RMTP). The findings are structured around five core themes aligned with the assignment objectives. Each section draws on data from household surveys, qualitative interviews, and field observations across six districts. Demographic data of the surveyed households are as follows:

Table 2: Distribution of Age, Sex, Schooling years and Household members

Attributes	Sample Type	Sample Size (n)	Average	Min	Max
Female respondents (%)	**Total**	**148**	**50%**		
	Direct	*85*	*51%*		
	Replication	*63*	*49%*		
Age (years)	**Total**	**148**	**37.27**	**21**	**58**
	Direct	*85*	*38.55*	*21*	*58*
	Replication	*63*	*35.54*	*24*	*51*
Schooling (years)	**Total**	**148**	**11**	**0**	**16**
	Direct	*85*	*11*	*0*	*16*
	Replication	*63*	*10*	*4*	*16*
Household members (#)	**Total**	**148**	**4.7**	**1**	**10**
	Direct	*85*	*4.7*	*2*	*10*
	Replication	*63*	*4.7*	*1*	*8*

3.1 Adoption and Diffusion of the Coop Model (AAER Adopt & Expand)

The Coop Model has seen enthusiastic **adoption by all 85 direct beneficiary households** and promising **replication by 63 additional households** within the project areas. Survey data shows that **100% of direct adopters learned through project training**, while **100% of replication households learned from neighboring direct adopters**.

- **Adopt:** Beneficiaries expressed high satisfaction with the model, citing training, financial support, and continuous technical follow-up as enabling factors.
- **Expand:** Many replication households adopted the model voluntarily after observing benefits among neighbors. On average, each direct household influenced 1–2 others to Replicate, validating a strong demonstration effect. Shariatpur has been reported to be highest the case of replication (34 through 13 direct farmers).

"We saw our neighbor's chickens growing fast and staying healthy – so we built one ourselves even without the grant."
— said Khadija Begum, a Replication Farmer in Shariatpur

Direct households shared the model with an **average of 19 other households**, influencing **over 1,600** neighbors collectively—demonstrating strong peer-to-peer transmission. The **systemic shift toward coop-based rearing** marks a successful transition from unstructured free-range methods to a more resilient, semi-structured system.

3.2 Productivity, Performance, and Cost-Benefit Analysis (Economic Pillar)

3.2.1 Farm Management

The operational management of indigenous chicken farming under the semi-scavenging Coop Model introduced through RMTP marks a significant departure from conventional free-range systems. Designed with the intent to balance improved productivity with farmer convenience and low-cost sustainability, the Coop Model integrates a number of distinctive management practices that collectively enhance performance, resilience, and scalability.

Key Features of Farm Management under the Coop Model

Table 3: Average, Minimum and Maximum Dimensions (height, width & length), Area and Space of Chicken Coop

(n=148)	Height (Feet)	Width (Feet)	Length (Feet)	Area (W*L)	Volume (H*W*L)
Average	8.70	12.43	21.47	302.66	2741.40
Min	5.00	3.00	4.00	12.00	84.00
Max	15.00	30.00	60.00	1500.00	18000.00

Structured Housing Design:

The Coop Model employs raised and ventilated coops, averaging approximately 2471.42 cubic feet per unit (with 302.66 square feet of surface area and dimensions of H=8.7', W=12.43' & L=21.47'), providing hygienic, predator-safe environments. These coops ensure optimal thermal comfort and disease control, unlike free-range systems where birds often sleep in trees or open sheds vulnerable to theft, climate stress, and infection.

Table 4: Distribution of Average Dimensions (height, width & length), Area and Space of Chicken Coop

	Sample Size (n)	Height (Feet)	Width (Feet)	Length (Feet)	Area (W*L)	Volume/ Space (H*W*L)
Total	**148**	**8.70**	**12.43**	**21.47**	**302.66**	**2741.40**
Direct	*85*	*8.93*	*13.40*	*22.78*	*346.98*	*3129.49*
Replication	*63*	*8.38*	*11.11*	*19.70*	*242.87*	*2217.78*
Bogura	14	7.21	5.21	13.29	101.36	761.50
Cox's Bazar	17	9.41	14.06	22.18	341.12	3650.24
Faridpur	27	10.44	13.81	19.15	288.74	3018.52
Naogaon	22	5.82	12.77	28.23	368.41	2157.45
Rangpur	21	10.29	12.52	17.33	247.62	2608.00
Shariatpur	47	8.51	12.98	23.66	350.53	3176.17

- **Defined Scavenging Area:**

A semi-enclosed scavenging yard adjoining the coop allows birds to forage during the day while remaining protected from environmental and predator risks. This contrasts with free-range systems where movement is uncontrolled, often resulting in injury, loss, or conflict with neighbors.

- **Selection of land for Coop Construction:**

The project staff suggested the direct farmers to select a high piece of land for establishing the coop model farming – and was able to ensure at least for the constructing of the coop. Only a handful of cases reported to have their scavenging area inundated by rainwater during the rainy season. The study found no geographical barrier in establishing and operating coop model indigenous chicken farming.

Table 5: Average, Minimum and Maximum Dimensions (height, width & length), Area and Space of Chicken Coop

	Sample Size (n)	Cocks	Hens	Chicks
Total	**148**	**16**	**51**	**59**
Direct	85	12	44	31
Replication	63	22	61	95
Bogura	14	7	39	106
Cox's Bazar	17	9	26	18
Faridpur	27	11	36	72
Naogaon	22	22	49	46
Rangpur	21	7	54	18
Shariatpur	47	25	72	75

•Selection of Breed and Flock Size:

The project staff linked the direct farmers with Bangladesh Livestock Research Institute (BLRI) in Savar (Dhaka) to procure healthy and pure species of indigenous chicken. They also facilitated to start small for better learning and management. Average flock size across the six districts has been found to be 76 pieces (16 cocks & 51 hens) adult chicken and 59 chicks. Qualitative data suggests that average manageable flock size is approximately 80 to 120 adult chickens. Beyond this size, it gets difficult for a single hand operator (either male or female) to regularly take good care (feeding, vaccinating, cleaning the coop, etc.) of the farm. However, as the farmers kept on learning the proper management of their farm, they kept on reinvesting to expand the flock size. A few of them hired additional hand from outside the family, however, most of them invested more of their time and energy and asked for extra hand of the family members.

- **Growing vegetables and herbal plants in the Scavenging Area:**

A semi-enclosed scavenging yard adjacent to or within the homestead might not always provide sufficient feeding options for the chicken flock. The direct farmers were sensitized by the project team to grow vegetables and various other plants to supplement food for the growing chicken stock.

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•Feed and Water Management:
RMTP-trained farmers adopted mixed feeding practices (70% of farmers), incorporating both household scraps and supplementary feed. A majority (68%) maintained scheduled feeding (twice to thrice daily), improving growth performance and feed conversion ratios. In contrast, free-range systems depend heavily on random scavenging with little to no feed supplementation or feeding schedule.

•Hygiene an Bio-security:
Over 40% of Coop Model farmers reported cleaning litter every 3 days, and 35% regularly produced compost from poultry waste—practices rarely observed in free-range setups. The model promoted strategic use of disinfectants, bedding materials, and cleaning routines to limit disease transmission.

•Health & Vaccination Protocols:
The project ensured timely vaccination and deworming through linkages with public veterinarians, LSPs, and field staff. This resulted in significantly lower flock mortality (<5%) under the Coop Model compared to 15–20% in free-range farming, where healthcare is often ad-hoc or completely absent.

•Breed and Stocking Practices:
RMTP supported farmers in selecting indigenous, climate-resilient breeds and maintaining optimal stocking density. Coop farmers kept flocks of ~100–150 birds on average, managed in cohort batches for ease of monitoring. In contrast, free-range farmers typically raised fewer birds with inconsistent replacement practices and little record-keeping.

- **Operational Planning and Gender Roles:**

The structured routine of the Coop Model (e.g., feeding, cleaning, collection of eggs/chicks) allowed greater involvement of women and youth. Women, in particular, took the lead in day-to-day operations, with over 53% of farms managed by women. This was rarely seen in free-range systems, where informal, unstructured practices often excluded women from key roles.

- **Hatching of Indigenous Chicken Breed**

The RMTP-Poultry sub-project placed strong emphasis on enhancing the availability and self-sufficiency of Day-Old Chicks (DOCs) through both **artificial and natural hatching methods**. Recognizing the recurring challenge of inconsistent supply of indigenous chicks, the project strategically introduced and supported **on-farm hatching systems** to ensure local, timely, and affordable access. Farmers were **facilitated in purchasing small-scale incubators**, with many starting at a capacity of **300 eggs**. These incubators enabled them to hatch DOCs independently, reducing dependence on external hatcheries and unreliable supply chains. Encouraged by early success, most of these breeder farmers were found to have **doubled their hatching capacity**, and a few even **quadrupled it**—indicating strong demand, learning uptake, and confidence in the technology.

In parallel, the project also actively promoted **natural hatching practices**, particularly among smallholders and replication farmers with limited access to incubators. This involved improving traditional brooding techniques and awareness of suitable egg handling, nesting, and timing. As a result, many farmers began maintaining **parallel hatching strategies**, combining natural methods with artificial incubation to balance cost, efficiency, and reliability.

This dual approach—**supporting technological adoption while preserving traditional methods**—ensured that hatching became an embedded, sustainable function within the community. It also laid the foundation for developing a **localized breeder ecosystem**, which is essential for expanding the Coop Model beyond project areas. Most importantly, this intervention addressed a critical bottleneck in the poultry value chain and enhanced farmer autonomy, ultimately contributing to resilience and scalability of the model.

Table 6: Comparative Summary: Coop Model vs. Free-Range System

Farm Management Aspect	Coop Model (RMTP)	Free-Range System
Housing	Raised, ventilated coops with secured fencing	Open spaces, trees, or sheds with no fencing
Scavenging Access	Controlled semi-scavenging area	Unrestricted, often unsafe roaming
Feeding Practice	Mixed feed with scheduled feeding	Random scavenging, little or no feed input
Hygiene & Litter Management	Regular cleaning, composting, structured waste handling	Irregular or no cleaning, unmanaged waste
Vaccination & Health Care	Routine, supported by trained staff and service linkages	Rarely practiced; low awareness or access
Breed Selection & Stocking	Indigenous breeds, guided cohort management	Irregular, unsystematic, often mixed
Mortality Rate	<5% due to preventive health measures	15–20% due to unmanaged exposure
Record-Keeping & Planning	Encouraged under project training	Largely absent
Women's Involvement	High (53% management), due to structured and accessible roles	Low to moderate, limited by cultural norms

3.2.2 Productivity & Growth

Data across all sites shows that compared to free-range systems:

- Average live weight of indigenous chickens reached **~950–1000 grams in 120 days**, a significant improvement over free-range methods.
- **Chicken production** per farm household **increased from 87 kg to 403 kg/year** (363% growth).
- Egg production per bird increased by **40–60%**, depending on feed management and care quality.
- **Egg production increased from 829 to 3,279 pieces/year** (295% growth).
- Chick production increased from an average of 138 to 596 per household (**~332%**).
- **Litter production raise from 40 kg to 203 kg**, and **compost from 1 kg to 104 kg**.
- The **average live weight of chickens** improved significantly across districts (e.g., **Naogaon: 384 kg**, **Shariatpur: 450 kg** total farm-level output).

Table 7: Comparison of average productions from indigenous chicken farm -Free range vs. Coop Model

Sl. #	Production Item	Unit	Before (Free Range)	After (Semi-scavenging)	Change (Quantity)	Change (%)
1	**Egg**	pieces	829	3279	2450	295%
2	**Chick**	pieces	138	596	458	332%
3	**Chicken**	pieces/kg	87	403	316	363%
4	**Litter**	kg	40	203	162	402%
5	**Compost**	kg	1	104	103	8953%

These gains were achieved with **mixed feeding (70%)**, frequent supplementary feeding (68% feed 3times/day), and **proper coop design averaging ~2,741 cubic feet** along with **area for movement and scavenging**.

3.2. 3 Cost-Benefit

Naznin Akhter of Naogaon is a case of above average farmer (flock size 350) that sells 170 eggs, 130 chicks and 20 chickens for BDT 15-20 thousand per month i.e. this suggests yearly sales revenue of BDT 180-240 thousand.

- Initial investments (infrastructure, tools) were higher in the Coop Model, but operational costs remained low due to mixed feed use and self-collected food scraps.
- Sales of eggs, chicks, and mature chickens resulted in higher income margins. Many farmers cited return on investment within **3–4 months** of operation.
- **Average cost of Coop Model farming was BDT 92,958**, compared to **BDT 16,462** in free-range.
- However, **revenue increased nearly threefold** from **BDT 23,891 to BDT 67,143** per year. It was early to conduct the assessment for getting production and income data for the whole year. Despite high initial investment cost and loss of some portion of the flock due to sudden breakout of diseases, it has been estimated that **average revenue would be over BDT 200,000**.
- Feed costs formed the largest input (50% of total), with an average of BDT 58,175.
- Despite higher startup cost (BDT 48,000 for infrastructure), ROI was reached in **3–4 months** for most farmers.
- Notably, **66% of respondents used self-financing**, but **35.8% also received grants (subsidy of BDT 20 thousand)**, and **19% borrowed at interest**.

Table 8: Comparison of Return from Chicken Farming

Model	Avg. Monthly Income	ROI Timeline	Mortality Rate
Free Range	BDT 1,500–2,000	~12 months	15–20%
Coop Model	BDT 9,400–11,400[1]	3–4 months	<5%

- **Litter and compost** emerged as an additional revenue or input-saving source, contributing to circular farm economies.

3.3 Nutritional Outcomes and Consumption Patterns (Social Pillar)

The Coop Model has positively influenced household consumption of protein and nutritious food:

- **Egg consumption rose from 227 to 789 pieces/year** as farmers consumed more from their own production.
- **Chicken consumption rose from 37 to 68 kg/year** as farmers consumed more from their own production.
- Some households reported reduced purchases from the market, while others used chicken-related income to buy fruits, vegetables, milk and other family items. Use of chicken income to purchase **nutritional food** increased from **2% to 16% of households**.

Table 9 : Distribution of average amount of consumption of egg, chick & chicken from own farm and market

Sl. #	Consumption items	Unit	Before (Free Range)		After (Semi-scavenging)		Change/Growth	
			% of Sample	*Avg. Quantity*	*% of Sample*	*Avg. Quantity*	*% of Sample*	*Avg. Quantity*
1	Consumption of egg from own farm	pieces	91%	227	85%	789	-6%	562
2	Consumption of chick from own farm	pieces	22%	33	27%	79	5%	46
3	Consumption of chicken from own farm	kg	54%	37	71%	68	17%	32
4	Consumption of egg from market	pieces	28%	280	6%	341	-22%	61
5	Consumption of chick from market	pieces	9%	129	11%	113	2%	-16
6	Consumption of chicken from market	kg	34%	43	13%	124	-22%	80
7	Nutritious food bought by chicken money	BDT	2%	4600	16%	7914	14%	3314

Children and women were priority recipients, aligning with **gender-sensitive nutrition goals**. Also, market dependency dropped: e.g., **market egg consumption declined by 22%**, and **chicken by 21%**.

3.4 Gender Dynamics and Empowerment (Social Pillar)

The semi-scavenging Coop Model under RMTP has significantly reshaped traditional gender roles and promoted inclusive entrepreneurship at the household level. By aligning poultry farming activities with household routines and enabling structured management, the model has opened up meaningful economic opportunities for women while also engaging children in supportive roles.

Table 10: Gender and Age-wise Roles and Decision-Making Distribution in Coop Model Chicken Farming

Sl.	Question/Criteria	Adult		Child	
		Male (%)	**Female (%)**	**Boy (%)**	**Girl (%)**
1	Initial Entrepreneur	50	50	-	-
2	Main operation Manager/ Doer (Ranking with %)	42	54	2	2
3	Main decision maker in Technical/operation activities	55	44	1	-
4	Main decision maker in Marketing and sales activities	57	42	1	-
5	Who first touches the sales money (Ranking with %)	47	50	2	1
6	Who keeps/holds the money	38	61	1	-
7	Who decides the spending of the money	55	44	1	-
8	Who gets what percentage of spending	47	50	2	1

These figures underline increased entrepreneurship identity and control, although full decision parity is yet to be achieved in some areas.

Women's Engagement in Ownership and Operations

The data shows a remarkable balance in entrepreneurial initiation, with 50% of farms started by women, a notable achievement in rural contexts where male-dominated ownership has been the norm. More importantly, 54% of farms are managed on a day-to-day basis by women, compared to 42% by men, demonstrating that women are not just nominal owners but active operators of the farms. The design of the Coop Model – secured spaces, proximity to home, and manageable daily routines – has enabled this shift.

Decision-Making and Financial Control

While technical decisions such as feeding, health care, and flock management still lean slightly towards men (55%), women are close behind at 44%, reflecting increased technical confidence. The pattern is similar in **marketing and sales decisions** (57% men vs. 42% women), but the gap is narrower than typically seen in rural value chains. This indicates growing female agency in external engagement and income-generating activities.

The most striking gender shift is observed in the **control over income**. Half of the women (**50%**) are the first to handle sales earnings, and **61% hold or keep the money** within the household – more than men (38%). In **spending decisions**, women influence **44%** of choices, and ultimately **receive 50% of the value of household expenditures** from the farm income. This financial role positions women not only as earners but as strategic decision-makers in household budgeting and reinvestment.

Youth Participation

As demonstrated in the Table 8 above, children, though not primary actors, are gradually becoming involved — **2% of boys and 2% of girls** contribute to farm operations. Some also participate in handling money and influencing spending (1–2%), indicating early exposure to financial literacy and responsibility. This suggests that the Coop Model is enabling **intergenerational engagement**, laying the foundation for youth to view poultry farming as a viable livelihood option. The following Table sheds light to youth engagement from different angles.

Table 11: Age Distribution and Intergenerational Engagement

Range of Age (Min-Max)	Average Age	Total (%) (n=148)	Direct (%) (n=85)	Replication (%) (n=63)	Male (%)	Female (%)
21-30	27.05	26%	24%	30%	28%	24%
31-40	35.85	41%	39%	43%	36%	45%
41-50	44.73	25%	25%	25%	27%	23%
51-58	54.58	8%	13%	2%	8%	8%
Total	**37.27**	**100%**	**100%**	**100%**	**100%**	**100%**

The Coop Model appears to have attracted a wide range of adult participants, with a strong presence of economically active age groups. The average age of all farmers is 37.27 years, indicating engagement primarily from those in their productive years. A majority of participants (41%) fall in the 31–40 age group, followed by 26% in the 21–30 age group, suggesting that the model appeals particularly to younger and middle-aged adults. This is encouraging from a sustainability perspective, as younger farmers are more likely to adopt innovation, adapt practices, and continue the business long-term.

The age pattern also shows some variation between direct and replication farmers: replication farmers skew slightly younger (30% under 30, compared to 24% among direct farmers), highlighting the model's appeal to second-generation rural youth who are replicating based on demonstration effects rather than direct support. The presence of farmers above 50 years old remains limited (8% overall), which may be due to physical demands of poultry rearing or risk aversion in later life.

From a gendered perspective, female participation is strongest in the 31–40 age group (45%), suggesting that women in early or mid adulthood are increasingly taking ownership and management roles within their households. This also coincides with a life stage where women's responsibilities for family nutrition and income are most critical — reinforcing the Coop Model's relevance as a gender-responsive livelihood strategy.

A Shift toward Inclusive Family Farming

Overall, the gender and age-disaggregated data reflects a shift from male-dominated to family-based poultry farming, driven by the Coop Model's design and RMTP's supportive training and follow-up. The model's adaptability, technical simplicity, and low capital requirement have enabled women and youth to take on active roles-often for the first time-across the poultry value chain.

"Earlier I was only helping. Now I run the farm and go to the market too."

-Putul Akter

This transformation not only strengthens the social sustainability of the intervention but also builds local capacity and social capital within rural communities. The outcome observed here that empowerment reinforce the model's potential as a replicable and scalable solution for inclusive rural development.

However, challenges remain:

- In a minority of households, cultural norms still limited women's mobility or financial decision-making.

Youth involvement was sporadic, indicating scope for intergenerational engagement strategies.

3.5 Environmental Management and Local Perceptions (Environmental Pillar)

Environmental externalities of the coop model were minimal and manageable:

- Farmers generally maintained **hygienic coop environments**, aided by training and periodic follow-up.
- Approximately 50% households **recycled litter as compost or bio-fertilizer**, minimizing odor and waste, where as 15% did their own compost and 32% sold it to others that would make compost out of it.
- No community complaints regarding odor or noise were reported in all sites.
- Half of the respondents (50%) reported that they clean the litter regularly, however, dispose it into their own neighborhood like canals, ponds, ditches, wetlands, etc.

Table 12: : Litter management practices in the Coop Model chicken farming

	Sample Size (n)	Clean regularly and dispose in the neighborhood	Clean regularly and sell to compost producer	Clean regularly and produce compost
Total	148	50%	15%	32%
Direct	85	47%	15%	35%
Replication	63	54%	14%	29%
Bogura	14	86%	14%	0%
Cox's Bazar	17	6%	41%	41%
Faridpur	27	4%	33%	63%
Naogaon	22	86%	0%	14%
Rangpur	21	52%	5%	43%
Shariatpur	47	62%	9%	28%

Climate-wise, the model proved adaptable:

- The semi-scavenging structure offered **resilience to rain, heat, and predators**.
- Use of low-cost, local materials helped reduce the carbon footprint of coop construction.

Table 13: Distribution of Practices of Cleaning of the Coop

	Sample Size (n)	Everyday	Every 2 days	Every 3 days	Weekly	Fortnightly	Monthly
Total	**148**	**5%**	**5%**	**43%**	**33%**	**5%**	**8%**
Direct	85	6%	2%	41%	31%	6%	14%
Replication	63	5%	8%	44%	37%	5%	0%
Bogura	14	21%	21%	57%	0%	0%	0%
Cox's Bazar	17	6%	0%	29%	59%	6%	0%
Faridpur	27	4%	0%	11%	33%	7%	44%
Naogaon	22	0%	0%	91%	9%	0%	0%
Rangpur	21	5%	0%	38%	57%	0%	0%
Shariatpur	47	4%	9%	40%	34%	11%	0%

- **Cleanliness practices** vary: **43% clean litter every 3 days**, **33% weekly, 5% every 2 days** and **5% everyday**

- This means 53% (43+5+5) demonstrated best practice of cleaning coops at least twice a week or 10 times a month, and **86% are good enough to clean the coop at least 4 times a month**.
- Coop construction materials are mostly eco-friendly: **87% bamboo**, **80% wood**, **75% tin**.
- The model shows low externalities—confirmed by absence of community complaints in most areas.

Cleaning at least	
30 times a month	5%
15 times a month	10%
10 times a month	53%
4 times a month	86%
2 times a month	91%
Once a month	99%

Table 14: Construction materials of the chicken coop and semi-scavenging area

	Sample Size (n)	Bamboo	Net	Rope	Tin, Nails & Wire	Wood	Bricks & Cement	Plastic Materials
Total	148	87%	95%	99%	75%	80%	9%	22%
Direct	85	85%	96%	98%	69%	82%	14%	16%
Replication	63	90%	92%	100%	83%	76%	2%	29%
Bogura	14	36%	100%	100%	36%	100%	0%	0%
Cox's Bazar	17	82%	76%	94%	88%	59%	6%	0%
Faridpur	27	96%	96%	96%	74%	93%	33%	4%
Naogaon	22	100%	100%	100%	32%	95%	0%	5%
Rangpur	21	76%	86%	100%	100%	52%	0%	38%
Shariatpur	47	98%	100%	100%	91%	79%	6%	47%

3.6 System Responsiveness and Support Ecosystem (AAER- Adapt & Respond)

- **Adapt:** Households have customized coop size, feed routines, and breed selection based on local conditions. Innovation at the farm level was evident (e.g., bamboo nesting boxes, shaded scavenging areas).
- **Respond:** The broader system, including PO staff, local livestock officers, and even private input suppliers, have responded positively by:
  - Enhancing service frequency
  - Offering customized feed solutions
  - Linking farmers to nearby markets

Key highlights are:

- 91% received de-worming, 86% vaccination, and 53% medicines.
- Only 7% had access to formal disease diagnosis, reflecting service gaps.
- Farmers adapted feed types (mixed vs. ready), modified coop design, and reused waste efficiently.
- Ecosystem players (LSPs, govt. vets, PNGOs) responded well - though access was uneven across districts.

This demonstrates a responsive and evolving ecosystem - a positive sign of systemic embedding of the Coop Model.

4. DISCUSSION

This chapter interprets the findings of the assessment through two analytical lenses:

(i) The **AAER Framework of systemic change** and

(ii) The **Three Pillars of Sustainability**. This dual approach ensures a comprehensive understanding of the effectiveness, durability, and long-term implications of the semi-scavenging chicken coop model for indigenous chicken farming.

4.1 Systemic Change through the AAER Lens

The AAER (Adopt–Adapt–Expand–Respond) framework helps assess how deeply and sustainably the Coop Model has influenced behaviors, practices, and supporting systems. The findings show strong indications of a **mature systemic change process** across all four domains.

4.1.1 Adopt: Initial Uptake

The project facilitated the initial adoption of the Coop Model by 85 farm households through targeted training, grants, and technical support. Adoption was rapid and enthusiastic due to:

- Tangible early results (increased productivity and income)
- Ease of integration into existing household routines
- Minimal investment barriers owing to project support

- 85 direct adopters,
- 100% trained,
- 91% satisfied with operations,
- 92% satisfied with ROI.

This suggests the intervention had a **strong value proposition** that aligned well with smallholder priorities.

4.1.2 Adapt: Innovation and Improvement

Farmers demonstrated a **capacity to customize** the model based on their family and local conditions:

- Modifying coop size and materials to suit space and budget
- Experimenting with feed combinations (local grains, scraps, greens)
- Rearranging flock management strategies

- 70% adopted mixed feed,
- 94% feeding at least twice/day.
- 83% of coops had both air and light ventilation.
- 44% requested more training,
- 30% requested new technologies (e.g., incubators).

This stage reflects a **decentralized learning process**, indicating not just uptake but a growing sense of ownership and entrepreneurial thinking among adopters.

4.1.3 Expand: Replication and Demonstration Effects

One of the most compelling findings was the spontaneous replication of the model by **92 households** without direct project support. This shows:

- The model is perceived as profitable and accessible
- Knowledge and practices are being transferred informally within communities
- The initial adopters have become **peer influencers**, a key signal of scale potential

- 92 replication HHs adopted the model on their own.
- 100% of them learned from observing neighbors.
- 61% of all respondents now serve as informal peer advisors.

Coop Size Distribution and Replication Trends

The analysis of coop sizes constructed under the RMTP's semi-scavenging model reveals not only diversity in farm scale but also a strong **mirroring pattern between direct and replication farmers**—demonstrating effective knowledge transfer and behavioral replication.

Table 15: Distribution of Coop Sizes Among Direct and Replication Farmers under the Semi-Scavenging Model (n=148)

Range of Coop Space (Min=84, Max=18000	Total (%) (n=148)	Direct (%) (n=85)	Replication (%) (n=63)	Average Volume
84-499	9%	11%	6%	186
500-999	7%	1%	16%	634
1000-1999	**32%**	**22%**	**44%**	**1,492**
2000-2999	19%	21%	16%	2,420
3000-3999	16%	21%	10%	3,165
4000-4999	7%	11%	2%	4,394
5000-9999	7%	9%	5%	6,868
10000-18000	3%	4%	2%	15,750
	100%	**100%**	**100%**	**2,741**

This Table 15 above illustrates the range and frequency of constructed coop volumes by both direct and replication farmers, highlighting the adaptability and scalability of the RMTP Coop Model across diverse farm sizes. While direct farmers – supported with training and startup grants – led in the early adoption of mid- to large-sized coops, **replication farmers consistently followed their lead** across almost every size range, validating the model's practicality and scalability:

- In the **1,000–1,999 cubic feet category**, the most common size band, **44% of replication farmers** and **22% of direct farmers** had their coops, showing how replication households emulated this optimal scale as a manageable starting point.
- In the **2,000–2,999 range**, **16% of replication farmers** closely followed the **21% of direct adopters**, indicating moderate scale-up even without direct investment support.
- Even in the **larger categories** (3,000–4,999 cubic feet), where financial and technical capacity typically limits replication, there were still **replication farmers present in each range** (e.g., 10% in 3,000–3,999 and 2% in 4,000–4,999), illustrating strong confidence and willingness to invest based on observed success.
- Interestingly, **smaller coops (below 1,000 cubic feet)** were more common among replication farmers (**22%**) than among direct farmers (**12%**), suggesting a cautious but determined entry into the model using locally available resources and space.
- The presence of replication farmers even in the **highest coop size range (10,000–18,000 cubic feet)**, though limited (2%), indicates that some second-generation adopters have successfully expanded, potentially outpacing the original demonstration farms in ambition.

This parallel distribution across all coop size categories underscores a key achievement of the intervention: **the Coop Model is not only replicable but scalable**, as replication farmers adapt it to fit their means while aspiring to the standards and outcomes demonstrated by direct adopters. It also highlights the effectiveness of **visual learning, peer-to-peer exchange, and community-based demonstration effects** facilitated under the RMTP-Poultry sub-project. Such expansion confirms that the model has moved beyond dependency on project incentives and into the social fabric of the rural poultry sector.

4.1.4 Respond: Ecosystem-Level Adjustments

The support ecosystem – including public veterinarians, NGO field officers, and local input suppliers – has responded actively:

- Increased visits and advisory services
- Private companies showing interest in market linkages
- Farmers demanding more technical services and newer breeds

- 79% request continued financial support,
- 71% seek ongoing technical support,
- Differences in service quality across districts

This shows a **responsive and evolving system**, an essential ingredient of long-term sustainability and scale. However, there are differences in service quality across districts e.g., **Faridpur: 96% vaccine access vs. Cox's Bazar: 53%** show system responsiveness is uneven.

4.2 Sustainability Assessment through the Three Pillars

The second lens assesses the intervention against the core pillars of sustainable development: **economic**, **social**, and **environmental** sustainability.

4.2.1 Economic Sustainability

The Coop Model has proven economically sustainable for marginal farmers:

- Higher and quicker returns than free-range systems
- Low mortality and high productivity ensuring stable cash flow
- Income diversification through litter/compost sales

Moreover, farmers reported using their income for food, healthcare, education, and reinvestment – indicating **reliable income cycles** that reduce vulnerability.

However, challenges include:

- Continued dependence on affordable input supplies
- Need for better price discovery and market access

4.2.2 Social Sustainability

Social sustainability outcomes were substantial:

- **High women's participation** in day-to-day operations, decision-making, and even revenue handling
- Strengthening of **local social capital**, as knowledge and tools were shared across households and communities
- Increased household food security and improved nutrition, especially for children

The model has indirectly fostered **dignity, inclusion, and self-confidence**, particularly among rural women and youth – an important marker of empowerment.

4.2.3 Environmental Sustainability

Environmental impacts were largely positive or neutral:

- Reuse of litter and waste in composting, reducing external fertilizer needs
- No significant reports of air odor, or noise pollution
- Efficient use of resources like water and space

Moreover, the model's reliance on **low-carbon infrastructure (bamboo, tin, local wood)** and minimal fossil fuel dependency adds to its climate adaptability. The semi-scavenging system also encourages natural foraging, reducing the need for industrial feed.

The study found that the notorious bird flu virus could not affect much to the direct farmers' flocks. Major reasons might include: the natural higher immunity of the indigenous species compared to the hybrid farm species and improved hygiene management practices of the farmers. Another reason might be that there were no commercial chicken farms near their farms and the virus could not travel in the air to infect the flock.

4.3 Limitations and Systemic Risks

While results are promising, a few areas warrant caution:

- **Market vulnerability:** Farmers still face fluctuating prices for eggs and chickens, which could threaten financial sustainability without stronger market linkages.
- **Technical dependency:** Continued access to vaccination and advisory support is critical; without it, disease outbreaks could reverse gains.
- **Scalability beyond project areas:** For the model to thrive nationally, policy recognition and integration into extension services are necessary.

The model also offers a **middle pathway** between subsistence and industrial poultry farming—making it scalable and inclusive for smallholders.

The AAER framework reveals a promising trajectory toward **systemic change**, with adoption leading to adaptation, expansion, and a supportive response from the ecosystem. Simultaneously, analysis through the sustainability pillars shows strong performance across economic, social, and environmental dimensions.

Thus, the semi-scavenging chicken coop model demonstrates high potential as a **transformational rural livelihood strategy**. However, to ensure that this potential is fully realized and scaled, targeted support in market development, input supply systems, and institutional integration will be crucial in the post-project phase.

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Clockwise from the top left,
Pic 1: A 1200 egg hatching capacity automated incubator,
Pic 2: Day Old Chicks (DOCs) of Indigenous chicken species,
Pic 3: Preparation of homemade herbal feed with ***neem*** leaves,
Pic 4: Brooder of the DOCs for intensive care

5.0. CHALLENGES AND LIMITATIONS

While the semi-scavenging chicken coop model under Rural Microenterprise Transformation Project (RMTP) has demonstrated strong potential for sustainability and scale, the assessment also identified several challenges and limitations that could affect its long-term success. These are categorized under three levels: **farm-level**, **system-level**, and **methodological**.

5.1 Farm-Level Challenges

5.1.1 Disease Surveillance and Response Gaps

Although mortality rates have been significantly reduced, some farmers expressed concern about delayed responses to poultry illnesses. While training on vaccination and de-worming was provided, challenges persist:

- Limited on-site veterinary services in remote areas
- Irregular access to vaccines and medicines
- Dependence on project-supported outreach workers

- 80% reported disease as a top concern, but only **7% had access to diagnostic services**.
- Reliance on informal providers remains a systemic risk.

"When one of my chickens got sick, I didn't know whether to isolate it or treat it. The local seller gave a medicine, but it didn't help." – Shapla Khatun, Bogura.

5.1.2 Input Price Volatility

Increased dependence on ready or mixed feed has exposed farmers to price fluctuations in the local market. While food scraps and foraging reduce costs, many farmers reported:

- Increased monthly feed expenses due to inflation
- Inconsistent supply of specific supplements or premixes

- Feed cost accounted for **50% of operating expenses**, averaging **BDT 58,175**.
- Market-linked volatility requires collective input procurement strategies.

5.1.3 Infrastructure Maintenance

Some coops showed signs of wear and tear during field visits, particularly in flood-prone or cyclone-affected areas. Issues included:

- Roof leakages
- Weak fencing
- Unplanned drainage in enclosed scavenging areas

Only **9% used bricks & cement**, with most using bamboo and tin—affordable but fragile.

This raises concerns over climate resilience and the need for design improvement and low-cost reinforcement materials.

5.2 System-Level Challenges

5.2.1 Market Access and Price Negotiation

Table 16: Sales Channel of the Coop Model farmers

Sales Actors	# of Sample	% of Sample
Wholesaler	46	31%
Retailer	38	26%
Local Market	120	82%

Although farmers increased production, many still depend on:

- Middlemen or local traders for sales
- Fixed market days with limited bargaining power
- Lack of information on prevailing prices

This dependency reduces income potential and limits scalability without:

- Collective marketing models (e.g., producer groups)
- Access to digital price information or cooperative buyers

5.2.2 Limited Policy Recognition

Despite its promise, the Coop Model is not yet formally recognized in national livestock development policies or extension guidelines. As a result:

- Govt. livestock officers are supportive but unofficially engaged
- Technical service support is adhoc and project-dependent
- There is no structured mechanism for up-scaling the model through national programs

5.2.3 Uneven Support across POs

Interview with the project staffs revealed that the intensity and quality of implementation varied slightly across partner organizations:

- Some POs provided continuous mentorship and market facilitation
- Others were more limited in scope, especially in post-training follow-up

This variation affected replication trends and long-term sustainability of practices in some areas.

5.3 Gender and Social Constraints

While women's participation was high, some households continued to follow patriarchal norms that restricted:

- Women's mobility to sell in markets
- Full control over revenue use
- Recognition as "entrepreneurs" rather than "helpers"

In addition, a few women-headed households struggled to manage coop operations without external male support, particularly for coop construction and feed purchase.

5.4 Environmental and Climate Limitations

- In low-lying areas, coops are exposed to **water-logging**, affecting sanitation and chicken health.
- Extreme heat waves or rain disrupt scavenging schedules.
- There was no structured support for **climate-adaptive coop designs** or early warning mechanisms for disease outbreaks linked to environmental factors.

6.0. RECOMMENDATIONS

6.1 Recommendations for the New Entrants

When the coop model farmers were asked what they would like to tell a newcomer they came up with the following recommendations:

- **Training First:** Gain knowledge and technical skills before starting.
- **Ensure Bio-security:** Maintain hygiene, timely vaccination, and de-worming.
- **Proper Housing:** Build suitable, ventilated, raised coops to prevent disease.
- **Start Small:** Begin with a manageable number of birds and scale up gradually.
- **Management Discipline:** Regular cleaning, feed management, and temperature control.
- **Financial Planning:** Budget carefully, consider loans or grants.
- **Market Linkage:** Develop buyer networks and maintain contact with wholesalers.
- **Climate Adaptation:** Use climate-resilient breeds and plan for weather impacts.

Hard Work & Patience: Consistent care and monitoring are key to success.

Table 17: Recommendations for the new entrants of Coop Model chicken farming by the current ones

Recommendation	% Respondents Mentioned	Highlights
Ensure Proper Vaccination, Bio-security, and Management	~70%	Follow vaccine schedules, hygiene, litter management, feed systems
Get Prior Training and Technical Knowledge	~50%	Attend SDS or NGO trainings before starting
Build Proper Coop House (raised, ventilated, protected)	~40%	Coop design critical for health and productivity
Maintain Hygiene and Litter Cleanliness	~35%	Regular cleaning key to preventing diseases
Use Native Breeds for Profit and Sustainability	~30%	Deshi chickens preferred due to adaptability and demand
Maintain Patience and Consistent Monitoring	~25%	"Hard work and patience" repeated as key success mantra
Start Small and Scale Gradually	~25%	Better to learn with fewer birds
Develop Buyer Linkage / Market Plan	~20%	Fixed buyers or SDS-facilitated linkages suggested
Plan for Climate and Temperature Control	~15%	Recommendations for coop orientation, roof design, and heat management

6.2 Lessons Learnt

The recommendations for the new entrants came from the farmers' hard learnt lessons gained from experiencing the journey of doing Coop Model for indigenous chicken farming along with some relevant vertical and horizontal activities. The major lessons learnt by the interviewed farmers are as follows:

- **Profitability:** Coop model chicken farming is financially viable even with limited capital.
- **Disease Control:** Enclosed rearing helps reduce disease and mortality.
- **Safe Food Production:** Promotes clean, safe, and healthy meat and egg output.
- **Technical Knowledge:** Learning about vaccinations, feeding, brooding, and hygiene practices.
- **Efficiency:** Faster growth of chickens under controlled conditions.
- **Eco-Friendliness:** Model is environmentally safer and more manageable than free-range systems.
- **Low Mortality:** Cleaner environment and good management reduce losses significantly.
- **Empowerment:** Enhances food security and provides a livelihood option, especially for women.

Table 18: Hard learnt lessons and the key insights regarding Coop Model chicken farming

Lesson Learned	% Respondents Mentioned	Key Insights
Coop Model Is Profitable with Low Investment	~60%	"Less investment, more profit", "High return in short time"
Reduced Mortality and Better Disease Management	~55%	Safe housing reduces exposure, lower death rates
Importance of Vaccination, Feeding, Housing Techniques	~45%	Learned vaccine schedules, coop design, feeding techniques
Safe Meat and Egg Production	~40%	Bio-security leads to clean, healthy output
Easier Management & Suitable for Beginners	~35%	Simple to follow if trained, even for women and first-time farmers
Better than Free Range (efficiency, safety, control)	~30%	Coop model considered more productive and manageable
Learning through PNGO/Project Support and/or Neighbors	~25%	Valuable learning came from training or observation
Contribution to Family Income and Nutrition	~20%	Boosts both earnings and household food security

6.3 Challenges Faced

The lessons are learnt mainly when challenges are faced. The major challenges faced by the interviewed farmers are as follows:

Table 19: Challenges faced and typical responses

Challenge	% Respondents Mentioned	Typical Responses / Actions Taken
Disease Outbreaks (e.g., New Castle Disease, Fowl Pox)	~80%	Regular and scheduled vaccination, de-worming, vet consultation, improved bio-security
High Feed and Medicine Costs	~50%	Use of kitchen waste, low-cost alternatives, financial planning; approximately 42% of the respondents did not spend on feeding.
Marketing Issues (no fixed buyer, low price)	~40%	Linkages with buyers, Project Staff support, contract buyers
Financial Constraints (startup or expansion)	~35%	Loans, Project donations, personal savings
Lack of Technical Knowledge	~30%	Training from Project, learning from neighbors or vets
Time Management Issues (work-family balance)	~10%	Family involvement, daily task planning
Climate Change Impact (seasonal stress, ammonia)	~20%	Adaptation measures, climate-resilient breeds, improved ventilation
Mortality due to Lack of Bio-security	~15%	Improved hygiene, proper coop construction, regular monitoring

6.4 Needs of Coop Model Farmers for Expansion and Replication

Ninety seven percent of the Coop Model farmers expressed their confidence that they would continue this. Below is a snapshot summary of four satisfaction level questions that were asked to them during the interview.

Table 20: Satisfaction and attitude of the current Coop Model chicken farmers

	Sample Size (n)	Positive Satisfaction on Operation Management	Positive Satisfaction on ROI	Positive Confidence on Continuing Coop Model	Positive Confidence on Expanding Coop Model
Total	148	94%	95%	97%	97%
Direct	85	91%	92%	98%	98%
Replication	63	98%	98%	97%	97%
Bogura	14	100%	100%	100%	100%
Cox's Bazar	17	82%	88%	88%	94%
Faridpur	27	100%	100%	93%	96%
Naogaon	22	100%	100%	100%	100%
Rangpur	21	71%	71%	100%	100%
Shariatpur	47	100%	100%	100%	96%

However, for their own continuation and others to enter this innovative Model, they would also require continued and more support. They mentioned of the following needs:

Table 21: Support areas mentioned by the Coop Model chicken farmers

	Sample Size (n)	Financial	Technical	Technology	Infrastructure	Input & materials etc.	Policy or regulation
Total	148	**79.73%**	**70.95%**	**33.11%**	4.05%	2.03%	2.03%
Direct	85	**76.47%**	**72.94%**	**28.24%**	5.88%	3.53%	2.35%
Replication	63	**84.13%**	**68.25%**	**39.68%**	1.59%	0.00%	1.59%
Bogura	14	100.00%	100.00%	85.71%	0.00%	0.00%	14.29%
Cox's Bazar	17	11.76%	70.59%	5.88%	11.76%	0.00%	5.88%
Faridpur	27	70.37%	92.59%	25.93%	0.00%	0.00%	0.00%
Naogaon	22	95.45%	81.82%	13.64%	0.00%	0.00%	0.00%
Rangpur	21	80.95%	76.19%	57.14%	19.05%	14.29%	0.00%
Shariatpur	47	95.74%	42.55%	29.79%	0.00%	0.00%	0.00%

Explanation of the Specific Needs

Table 22: Specific financial support needs for Coop Model chicken farming business expansion

Specific Financial Support Needs	# of Sample	% of Sample
Need money to make the farm bigger	35	24%
Need financial support to run the business	18	12%
Need higher loan ceiling with less interest	15	10%
Need easy term loan service benefits from NGOs and Govt.	10	7%
Need grants to cover past and future shocks	4	3%
	82	**55%**

Table 23: Specific technical support needs for Coop Model chicken farming business expansion

Specific Technical Support Needs	# of Sample	% of Sample
Training on Good Farming Practices and Disease Management of Semi-scavenging Coop Model for native chicken	44	30%
Need availability of **veterinary doctors** for consultation on both regular and emergency situations	18	12%
Need availability of effective **vaccines**	11	7%
Need availability of **Disease Diagnosis Services** for regular and emergency situations	4	3%
Want continued support (facilitation, linkage) from the **Project Staff**	4	3%
More support from **PNGO**	2	1%
	83	**56%**

Table 24: Specific Technological and Infrastructure needs for Coop Model chicken farming business expansion

Specific Technological Support Needs	Specific Infrastructure Support Needs
Introduction and increased access to new technological issues and tools & equipment such as Incubator, Brooding, Auto Drinker, Temperature system.	Some 34 (23%) respondents sporadically mentioned about some various support needs regarding Infrastructure, Input & Output market, etc. A few, though lacking representativeness, sparkling needs are New market linkage with improved input sellers and forward market buyers, Subsidy on ready-feed, feed-items and chicks, and Cross visit or Exposure visit on cost sharing basis.

6.5 Recommendation for Future Project Design

Examination of the project documents (activities & budget) and interview with the project implementation team at the ground level suggest that ***the current design*** of activities for the expansion of Coop Model under RMTP-Poultry Project ***is a very good one***. Informal Interview with some farmers and the HH questionnaire survey suggests that the project staff across all districts have provided immense support (both time and effort) to the direct farmers. Congratulations to the project design and the implementation staff that brought this success – profitability for the farmers and scalability of the Model. Based on the urges of the interviewed farmers, the following support areas can be considered for the next level project design.

Table 25: Summary of the specific supports

Support Area	% Respondents Needing It	Key Needs
Financial	~80%	Grants, low-interest loans, scaling capital
Technical	~71%	Vaccine access, training, disease diagnostics
Technological	~33%	Incubators, brooders, auto-drinkers
Infrastructure & Market	~4%	Market linkages, improved input delivery
Policy / Institutional	~2%	Formal model recognition

7.0 CONCLUSION

7.1 Summary of Key Findings

The assessment of the semi-scavenging Chicken Coop Model under the RMTP-Poultry sub-project reveals strong indications of success across economic, social, and environmental dimensions, along with promising signals of systemic change and replication potential. The following are the key findings:

- **Widespread adoption and replication**: All 85 direct beneficiary farmers adopted the Coop Model with project support, and an additional 92 replication farmers followed voluntarily. Replication was driven by visible demonstration effects and community-level peer learning.
- **Improved productivity and returns**: Coop-based farming led to a 295% increase in egg production, 332% in chick production, and 363% in meat production compared to free-range systems. Most farmers recovered their investment within 3–4 months.
- **Cost-effective and manageable**: The average cost of Coop Model farming was BDT 92,958, with feed forming the largest share. Despite higher startup costs, the structured approach resulted in higher revenues and lower mortality (<5%).
- **Enhanced household nutrition**: Farmers reported increased consumption of eggs and chicken from their own production, leading to improved dietary diversity. Use of poultry income to purchase other nutritious foods (fruits, milk, etc.) also increased.
- **Strong women's leadership**: 50% of farms were initiated by women, and 54% are currently operated by them. Women hold significant control over sales revenue, spending decisions, and day-to-day management, showcasing a clear shift toward gender-responsive farming.
- **Youth and intergenerational involvement**: Though small in proportion, children were involved in operations and money handling, indicating gradual intergenerational engagement.
- **Environmental benefits and low externalities**: The model promoted composting of poultry litter, minimal odor or waste issues, and use of eco-friendly materials like bamboo and wood in coop construction.
- **System-level responsiveness**: Public and private actors responded positively with improved service delivery (vaccines, inputs, advisory), although gaps remain in disease diagnostics and consistent DOC supply.
- **Infrastructure diversity and scalability**: Coop sizes ranged widely (84–18,000 cubic feet), with an average size of 2,741 cubic feet, reflecting adaptability to different farmer capacities and aspirations. Replication farmers closely mirrored direct farmers in design and scale.
- **Innovation in hatching practices**: Farmers adopted both artificial incubation and improved natural hatching methods. Many breeder farmers expanded their capacity from 300 to 600–1,200 eggs, with some scaling up even further.

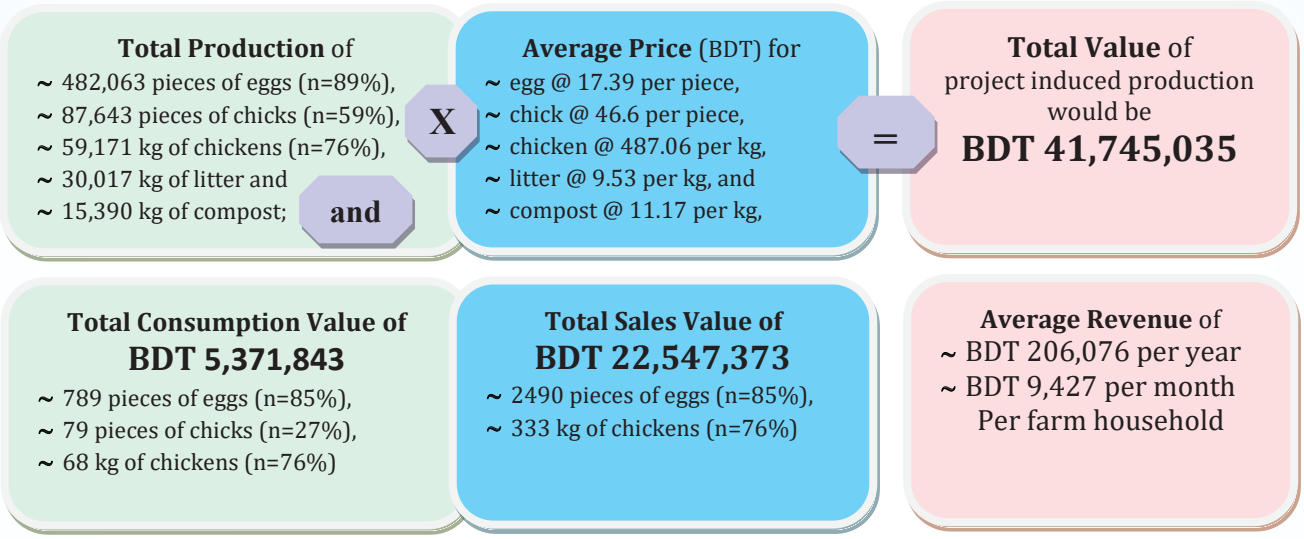
Collectively, these findings affirm the Coop Model as an **economically attractive, socially empowering, and environmentally adaptive solution** for small-scale poultry development in rural Bangladesh. However, its continued success depends on strengthening ecosystem support and mitigating emerging systemic risks.

7.2 Achievement of the Coop Model Intervention of RMTP-Poultry

The Semi-scavenging Coop Model for indigenous chicken farming has demonstrated strong potential as a sustainable, inclusive, and scalable rural livelihood strategy. The assessment shows evidence of systemic change along the AAER framework—Adopt, Adapt, Expand, and Respond—with over 60% of respondents now acting as informal peer advisors in their communities.

Economically, the model is profitable (yearly average ROI of 122%-148%, or yearly gross income of BDT 113-137 thousand) and provides reliable income within a short-time cycle (3-4 months). Socially, it enhances food security (consumption of egg, chick & chicken from own farm and market) and empowers women. Environmentally, it is low-impact and climate-resilient.

The extension of Semi-scavenging Coop Model for indigenous chicken farming among the interviewed direct 85 demo farmers and 63 replication farmers has generated at least -



However, challenges such as input price volatility, disease management gaps, uneven service delivery, and limited policy recognition must be addressed. The overwhelming willingness (97%) among farmers to continue and expand the model signals readiness for scale—provided there is structured support in market access, veterinary services, and institutional integration.

7.3 Why would Chicken Coop Model be Sustainable?

The semi-scavenging Chicken Coop Model introduced under RMTP demonstrates several compelling features that position it as a **sustainable rural livelihood strategy**, particularly for marginal and smallholder farmers. Its sustainability rests on three strong pillars—economic viability, social inclusiveness, and environmental adaptability:

- **Economically viable and profitable**: The model generates high short-term returns (ROI in 3–4 months), with low mortality rates, structured production cycles, and income from multiple sources (eggs, chicks, meat, litter compost). Most farmers expressed confidence in continuing and even expanding their operations.

- **Low capital, high return**: The model requires modest investment, especially when compared to commercial poultry farming, yet delivers significant income increases—making it ideal for rural households with limited resources.
- **High production, more consumption, more revenue**: Improved farm management reduces morbidity and mortality and also increases egg production and quickens chicken growth leading to increased household consumption of egg and chicken and more revenue from more sales.
- **Ease of sales**: High market demand for indigenous chicken meat and egg all around the year at the consumer level thus presence of many traders at national and local level makes the farm produce sell very quickly.
- **Ease of operation:** The model is easy enough to operate with minimal formal education and by any working age group (20-60 years) both male and female. Also, it is compatible with household responsibilities, thus fostering women's empowerment and family-based farming.
- **Socially inclusive and gender-responsive**: Women account for more than half of all farm managers and hold significant control over income and decision-making.
- **Flexible and scalable**: The model has proven replicable across regions and adaptable in size—from small backyard units to larger breeder farms. The replication pattern among second-generation farmers shows strong peer learning and self-scaling capacity.
- **Resilient and climate-adapted**: With low external input dependency, eco-friendly materials, and support for both artificial and natural hatching, the model aligns well with climate-smart agriculture practices. It is also adaptable in any geographical condition and climate in the country.
- **Systemically embedded**: The integration of public-private veterinary support, feed suppliers, incubator adoption, presence of the MFIs, knowledge bank (the trained direct farmers) and improved market linkages signals early signs of systemic change—making the model less dependent on project incentives over time.

These features—backed by project facilitation, farmer buy-in, and ecosystem responsiveness—suggest that the Coop Model is not just viable during the project cycle but capable of sustaining itself well beyond.

7.4 Why might Chicken Coop Model Fail?

Despite its promise, the Chicken Coop Model faces **real risks** that could undermine its long-term sustainability if not properly addressed. These risks are both structural and behavioral in nature:

- **Weak value chain links**: Inconsistent supply of DOCs and vaccines, unreliable feed inputs, and dependence on intermediaries for sales can disrupt farmer operations and profitability. Any breakdown in these chains risks eroding trust and discouraging continued investment.
- **Health management vulnerabilities**: Irregular or neglected vaccination and poor bio-security practices can lead to disease outbreaks. Even a single outbreak can result in significant losses—especially for households dependent on poultry as their primary income source.
- **Market volatility and price shocks**: Sudden drops in live bird or egg prices, input inflation, or lack of price information can reduce margins and make the enterprise less attractive. Farmers without collective bargaining or storage/selling strategies may exit in frustration.

- **Infrastructure fragility**: Many coops are made with bamboo and tin—materials that degrade quickly under harsh weather. Poor maintenance or lack of technical design could make farms climate-vulnerable, especially in flood- or cyclone-prone areas.
- **Youth disengagement and migration**: If younger household members do not see poultry farming as inspirational or scalable, knowledge and labor gaps may emerge, particularly in replication households.
- **Lack of formal policy recognition**: Without structured inclusion in national livestock extension or subsidy programs, the Coop Model risks remaining a "project innovation" rather than a national-scale solution.

7.5 Conclusion and Way Forward

The success of the Coop Model in redefining farm management practices is a testament to the thoughtful design of the intervention by PKSF and its implementation teams. Field training, follow-up visits, service facilitation, and practical demonstrations enabled farmers to transition from traditional practices to structured, semi-intensive poultry farming systems. The integrated approach not only minimized operational risks but also empowered marginal farmers—especially women—with new skills, tools, and confidence.

While a few data points on daily operational nuances may have been missed in the assessment, the field observations, case studies, and farmer feedback clearly indicate that the Coop Model under RMTP has redefined how small-scale indigenous chicken farming can be practiced efficiently and sustainably.

However, **sustainability is not guaranteed—it must be actively protected**. The Coop Model's success depends on continued system support, farmer discipline, strong input-output relationships, and adaptive capacity to overcome emerging risks. Project design teams and policymakers must anticipate and mitigate these threats through institutional integration, infrastructure support, market facilitation, and continuous capacity-building.

This assessment concludes that the Coop Model should not only be continued but strategically mainstreamed into national poultry development efforts with tailored support to unlock its full transformational potential.

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8.0. APPENDICES

Annex 1: Questionnaire to the Farm Households and the Answers in Summary Analysis Tables
Annex 2: Case Studies

Distribution of Project Induced Farming of Additional Indigenous Chicken through Semi-scavenging Coop Model

	Sample Size (n)	Cocks	Hens	Chicks
Total	148	2372	7544	8663
Direct	85	1016	3721	2649
Replication	63	1356	3823	6014
Bogura	14	92	545	1483
Cox's Bazar	17	150	434	314
Faridpur	27	299	985	1949
Naogaon	22	494	1068	1003
Rangpur	21	153	1127	380
Shariatpur	47	1184	3385	3534

Section 2: Technical Issues (what is done)
Q 2.1 Farming Management
2.1.1 Coop/Nest Size: (in cubic feet) (H*W*L)

	Sample Size (n)	Height (Feet)	Width (Feet)	Length (Feet)	Area (W*L) (SqFeet)	Volume (H*W*L)
Total	148	8.70	12.43	21.47	302.66	2741.40
Direct	85	8.93	13.40	22.78	346.98	3129.49
Replication	63	8.38	11.11	19.70	242.87	2217.78
Bogura	14	7.21	5.21	13.29	101.36	761.50
Cox's Bazar	17	9.41	14.06	22.18	341.12	3650.24
Faridpur	27	10.44	13.81	19.15	288.74	3018.52
Naogaon	22	5.82	12.77	28.23	368.41	2157.45
Rangpur	21	10.29	12.52	17.33	247.62	2608.00
Shariatpur	47	8.51	12.98	23.66	350.53	3176.17

2.1.4 Distribution of the Use of Ready Feed & Mixed Feed in Chicken Coop Farming

	Sample Size (n)	Ready Feed	Mixed Feed	Both Ready & Mixed Feed
Total	148	45%	70%	16%
Direct	85	33%	75%	8%
Replication	63	62%	63%	25%
Bogura	14	100%	21%	21%
Cox's Bazar	17	18%	100%	18%
Faridpur	27	11%	89%	0%
Naogaon	22	5%	100%	5%
Rangpur	21	81%	19%	0%
Shariatpur	47	62%	72%	34%

Note: Cost data of Feed suggests 50% spent for it, here shows more

2.1.5 Distribution of the Frequency of Supplementary Feeding in Chicken Coop Farming

	Sample Size (n)	Three Times Per Day	Two Times Per Day	One Time Per Day	Once Every 2-3 Days	Once Every Week
Total	148	68%	26%	3%	1%	3%
Direct	85	64%	28%	2%	1%	5%
Replication	63	75%	22%	3%	0	0
Bogura	14	36%	64%	0%	0%	0%
Cox's Bazar	17	71%	24%	6%	0%	0%
Faridpur	27	67%	15%	0%	4%	15%
Naogaon	22	77%	18%	5%	0%	0%
Rangpur	21	43%	52%	5%	0%	0%
Shariatpur	47	85%	13%	2%	0%	0%

94% respondents provide more than two times feeding per day

2.1.6 Distribution of the Feeding Different Types of Food Scrap to Chicken in Coop Farming

	Sample Size (n)	Kitchen Waste	Food Waste	Vegetable leaves	Fruit waste
Total	148	59%	18%	12%	9%
Direct	85	68%	20%	9%	13%
Replication	63	46%	16%	16%	5%
Bogura	14	21%	50%	7%	0%
Cox's Bazar	17	35%	6%	0%	6%
Faridpur	27	89%	0%	7%	0%
Naogaon	22	100%	82%	45%	59%
Rangpur	21	86%	0%	10%	0%
Shariatpur	47	30%	2%	6%	0%

2.1.7 Distribution of the Frequency of Food Scrap Feeding in Chicken Coop Farming

	Sample Size (n)	One Time Per Day	Two Times Per Day	Three Times Per Day	Total
Total	148	15%	45%	6%	66%
Direct	85	7%	60%	8%	75%
Replication	63	25%	24%	3%	52%
Bogura	14	57%	7%	0%	64%
Cox's Bazar	17	0%	29%	6%	35%
Faridpur	27	11%	89%	0%	100%
Naogaon	22	9%	86%	5%	100%
Rangpur	21	5%	62%	24%	90%
Shariatpur	47	17%	9%	4%	30%

2.2 Mean Distribution of Healthcare Services Sought by the Coop Model Farmers

	Sample Size (n)	Deworming	Vaccination	Medicines	Vitamins	Consultation Service	Disease Diagnosis Service
Total	148	91%	86%	53%	51%	20%	7%
Direct	85	93%	94%	60%	55%	26%	12%
Replication	63	87%	76%	43%	46%	11%	0%
Bogura	14	86%	93%	0%	7%	0%	0%
Cox's Bazar	17	65%	53%	12%	12%	6%	0%
Faridpur	27	100%	96%	93%	85%	78%	37%
Naogaon	22	77%	82%	95%	68%	0%	0%
Rangpur	21	100%	86%	71%	29%	0%	0%
Shariatpur	47	98%	94%	32%	62%	15%	0%

2.4 Incidence of Sharing Coop Model Information with Other Farm Households

	Sample Size (n)	Average	Total	Min	Max
Total	148	17	2361	1	150
Direct	85	19	1613	2	150
Replication	63	13	748	1	60
Bogura	14	37	515	10	60
Cox's Bazar	17	9	122	2	30
Faridpur	27	30	821	6	150
Naogaon	22	7	162	1	15
Rangpur	21	12	231	4	22
Shariatpur	47	11	510	2	35

Q-4.2 How was your production (in a year) from Coop Model chicken farming?

Before (Free Range)

	Sample Size (n)	Egg (Pieces)	Chick (Pieces)	Chicken (kg)	Litter (kg)	Compost (kg)
Total	148	829	138	87.01	40.41	1.15
Direct	85	888	112	94.33	70.35	0.00
Replication	63	749	173	77.14	0.00	0.00
Bogura	14	238	6	192.14	0.00	0.00
Cox's Bazar	17	317	0	17.47	0.00	0.00
Faridpur	27	865	206	144.88	204.00	4.00
Naogaon	22	2341	89	60.68	16.36	0.91
Rangpur	21	122	60	66.62	11.90	2.38
Shariatpur	47	790	60	75.21	5.74	0.00

After (Semi-scavenging)

	Sample Size (n)	Egg (Pieces)	Chick (Pieces)	Chicken (kg)	Litter (kg)	Compost (kg)
Total	148	3279	596	402.52	202.82	103.99
Direct	85	4183	664	416.55	349.21	143.29
Replication	63	2041	503	383.29	5.30	50.95
Bogura	14	809	132	622.14	92.86	0.00
Cox's Bazar	17	2508	49	336.76	0.00	0.00
Faridpur	27	3010	787	437.60	832.52	60.00
Naogaon	22	4730	1118	384.09	22.73	596.36
Rangpur	21	2308	218	200.67	335.71	28.57
Shariatpur	47	4262	768	449.62	7.53	3.62

Section 5: Cost and Finance for Chicken Farming

Q-5.1 Please tell us about all the costs incurred for doing free range chicken farming

Average, Minimum and Maximum Cost of Production for free range indigenous chicken farming

	Total	Count	%	Average Cost (BDT)	Min (BDT)	Max (BDT)
Infrastructure (Nest, Coop, etc.)	148	135	91.22%	9263	1500	120000
Tools, equipment, etc.	148	67	45.27%	970	80	8000
Chick/Chicken	148	70	47.30%	5638	200	33000
Feed (ready-made/mixed)	148	46	31.08%	13286	30	97000
Medicine, vaccination, etc.	148	50	33.78%	2292	200	15000
Food scrap (left over food, kitchen waste, etc.)	148	0	0.00%	0	0	0
Water (for drinking)	148	0	0.00%	0	0	0
Water (for cleaning)	148	0	0.00%	0	0	0
Labor (regular, periodical)	148	0	0.00%	0	0	0
Labor (occasional, incidental)	148	0	0.00%	0	0	0
Marketing & sales	148	0	0.00%	0	0	0
Total	148	143	0.966216216	16462	0	144000

Q-5.3 Please tell us about all the costs incurred for doing Coop Model chicken farming.
Average, Minimum and Maximum Cost of Production for Semi-scavenging Coop Model indigenous chicken farming

	Total	Count	%	Average Cost (BDT)	Min (BDT)	Max (BDT)
Infrastructure (Nest, Coop, etc.)	148	141	95.27%	48017	600	400000
Tools, equipment, etc.	148	102	68.92%	9878	0	200000
Chick/Chicken	148	57	38.51%	21283	1600	80000
Feed (ready-made/mixed)	148	74	50.00%	58175	1750	180000
Medicine, vaccination, etc.	148	66	44.59%	4864	300	36000
Food scrap (left over food, kitchen waste, etc.)	148	0	0.00%	0	0	0
Water (for drinking)	148	2	1.35%	1250	500	2000
Water (for cleaning)	148	0	0.00%	0	0	0
Labor (regular, periodical)	148	8	5.41%	16050	4400	50000
Labor (occasional, incidental)	148	0	0.00%	0	0	0
Marketing & sales	148	0	0.00%	0	0	0
Total	**148**	**147**	**99.32%**	**92958**	0	455000

Section 7: Revenues from Chicken Farming

Q-7.3 How was the revenues from chicken farming used for?

Sl. #	Chicken Revenues Used for	Before (Free Range)		After (Coop Model)	
		% Responded	% Used	% Responded	% Used
1	Food	27.21%	48.80%	75.51%	46.67%
2	Family healthcare	9.52%	16.43%	54.42%	30.75%
3	Child(ren)'s education	5.44%	15.38%	49.66%	35.57%
5	Reinvesting in chicken farming	0.00%	0.00%	38.10%	56.14%
4	Buying asset(s)	1.36%	20.00%	4.76%	28.57%
7	Loan repayment	0.00%	0.00%	4.08%	15.83%
6	Investing in other business	0.00%	0.00%	1.36%	80.00%
8	Any other consumables (cloth, entertainment, etc.)	0.68%	50.00%	0.68%	10.00%
9	Savings	3.40%	4.60%	37.41%	23.82%

Section 9: Sustainability (Satisfaction, Interest &Attitude) Check

Q 9.1 On a 5 point scale how much satisfied/happy are you regarding the day-to-day and overall operational management of this chicken coop (semi-scavenging) model for indigenous chicken?

	Sample Size (n)	Very much dissatisfied	Moderately/ Somewhat dissatisfied	Neutral	Moderately/ Somewhat satisfied	Very much satisfied
Total	148	1%	0%	5%	20%	74%
Direct	85	1%	0%	8%	13%	78%
Replication	63	0%	0%	2%	30%	68%
Bogura	14	0%	0%	0%	0%	100%
Cox's Bazar	17	6%	0%	12%	47%	35%
Faridpur	27	0%	0%	0%	4%	96%
Naogaon	22	0%	0%	0%	0%	100%
Rangpur	21	0%	0%	29%	33%	38%
Shariatpur	47	0%	0%	0%	30%	70%

94% enjoyed the additional hassle and/or responsibilities that were generated because of confining the flock into a specific area for scavenging i.e. semi-scavenging.

Q 9.2 On a 5 point scale how much satisfied/happy are you with the return on investment of this chicken coop (semi-scavenging) model for indigenous chicken?

	Sample Size (n)	Very much dissatisfied	Moderately/ Somewhat dissatisfied	Neutral	Moderately/ Somewhat satisfied	Very much satisfied
Total	148	1%	0%	5%	18%	76%
Direct	85	1%	0%	7%	13%	79%
Replication	63	0%	0%	2%	25%	73%
Bogura	14	0%	0%	0%	7%	93%
Cox's Bazar	17	6%	0%	6%	18%	71%
Faridpur	27	0%	0%	0%	4%	96%
Naogaon	22	0%	0%	0%	0%	100%
Rangpur	21	0%	0%	29%	33%	38%
Shariatpur	47	0%	0%	0%	32%	68%

Q 9.3 On a 5 point scale how much confident/sure are you on/of continuing this chicken coop (semi-scavenging) model for indigenous chicken?

	Sample Size (n)	Very much unconfident / unsure	Moderately unconfident / unsure	Neutral	Moderately confident/sure	Very much confident/sure
Total	148	0%	0%	3%	17%	80%
Direct	85	0%	0%	2%	13%	85%
Replication	63	0%	0%	3%	22%	75%
Bogura	14	0%	0%	0%	7%	93%
Cox's Bazar	17	0%	0%	12%	18%	71%
Faridpur	27	0%	0%	7%	19%	74%
Naogaon	22	0%	0%	0%	0%	100%
Rangpur	21	0%	0%	0%	24%	76%
Shariatpur	47	0%	0%	0%	23%	77%

Q 9.4 On a 5 point scale how much confident/sure are you on/of expanding this chicken coop (semi-scavenging) model for indigenous chicken?

	Sample Size (n)	Very much unconfident / unsure	Moderately unconfident / unsure	Neutral	Moderately confident/sure	Very much confident/sure
Total	148	0%	0%	3%	14%	83%
Direct	85	0%	0%	2%	13%	85%
Replication	63	0%	0%	3%	22%	75%
Bogura	14	0%	0%	0%	7%	93%
Cox's Bazar	17	0%	0%	6%	6%	88%
Faridpur	27	0%	0%	4%	11%	85%
Naogaon	22	0%	0%	0%	0%	100%
Rangpur	21	0%	0%	0%	24%	76%
Shariatpur	47	0%	0%	4%	23%	72%

Cost Benefit Analysis

		Egg (Pieces)	Chick (Pieces)	Chicken (kg)	Litter (kg)	Compost (kg)
	Total Production (Q) (Survey data sum)	482063	87643	59171	30017	15390
	Response Count (n=f)	131	88	113	36	25
	Response %	89%	59%	76%	24%	17%
	Sample Size (N)	148	148	148	148	148
	Sample Size (N xc cleaned)	147	147	147	148	148
	Population Size	177	177	177	177	177
Case 1	Average Production (Maximum) (Q/131)	3680	996	524	834	616
Case 2	Average Production (Minimum) (Q/148)	3257	592	400	203	104
Case 3	Average Production (MS Excel formula) (Q/147)	3279	596	403	203	104
Case 4	Average Production (Average of Max & Min)	3469	794	462	518	360
Case 5	Average Production (Estimated) (Q/177)	2724	495	334	170	87

		Egg (Pieces)	Chick (Pieces)	Chicken (kg)	Litter (kg)	Compost (kg)	Total
	Average Price per Unit	17.39	46.6	487.06	9.53	11.17	
	Total Values of Production	8,383,076	4,084,164	28,819,827	286,062	171,906	41,745,035
Case 1	Average Value of Production(Maximum) (n=f)	63,993	46,411	255,043	7,946	6,876	380,269
Case 2	Average Value of Production (Minimum) (n=N)	56,642	27,596	194,729	1,933	1,162	282,061
Case 3	Average Production (MS Excel formula)	57,028	27,783	196,053	1,933	1,162	283,959
Case 4	Average Value of Production (Average of Max & Min)	60,318	37,003	224,886	4,940	4,019	331,165

	Egg (Pieces)	Chick (Pieces)	Chicken (kg)	Litter (kg)	Compost (kg)	Total
Average Consumption	789.19	79.47	68.33			
Response %	85%	27%	71%			
Response Count (n=f)	126	40	105			
Average Value of Consumption from own farm	13,724	3,703	33,281			50,708
Total Value of Consumption from own farm	1,729,226	148,132	3,494,485			5,371,843

Sales, Cost & Benefit Scenario

		Egg (Pieces)	Chick (Pieces)	Chicken (kg)	Litter (kg)	Compost (kg)	Total
Scenario 1	Average Sales Quantity (Avg Pn - Avg. Con)	2490	517	334			
	Average Sales Revenue	43,304	24,080	162,772			230,156
	Total Sales Revenue (n=147)	6,365,645	3,539,778	23,927,548			
	Average Cost (per year) (n=147)						92,958
	Average Benefit (per year)						137,198
	Average ROI (per year)						148%
	Average Benefit (per month)						11,433

		Egg (Pieces)	Chick (Pieces)	Chicken (kg)	Litter (kg)	Compost (kg)	Total
Scenario 2	Average Sales Quantity (Estimated from survey data)	2516	723	264	614	235	
	Average Sales Revenue	43,750	33,697	128,501	5,855	2,625	214,427
	% of Sample	84%	49%	85%	20%	4%	
	Average Cost (per year)						92,958
	Average Benefit (per year)						121,469
	Average ROI (per year)						131%
	Average Benefit (per month)						10,122

		Egg (Pieces)	Chick (Pieces)	Chicken (kg)	Litter (kg)	Compost (kg)	Total
Scenario 3	Average Sales Quantity (AP-AC)	2490		334			
	Average Sales Revenue	43,304	-	162,772			206,076
	Total Sales Revenue (n=)	5,456,268	-	17,091,106			22,547,373
	Average Cost (per year)						92,958
	Average Benefit (per year)						113,118
	Average ROI (per year)						122%
	Average Benefit (per month)						9,427

Annex 2: Case Studies

Case Study 1: Putul Akter – From Gifted Hens to a Thriving Hatchery Business

Location: Baniyakandi, Chikondi, Shariatpur,
Partner NGO: SDS
Interview Date: 26 May 2025
Putul Akter's journey into indigenous chicken farming began with a pair of hens gifted by her mother during her marriage in 2021. From these humble beginnings, she built a multi-tiered, semi-intensive Coop Model farm specializing in indigenous layer chickens. By May 2025, her enterprise had grown to include:

- **250+ layer hens, 150 breeders, 250+ growers, and multiple batches of day-old chicks.**
- **A hatchery producing up to 1,200 DOCs per 20–30 days, generating weekly sales of BDT 60,000–65,000.**

Her entrepreneurial model now influences more than 30 local women and youth, as well as nearby poultry medicine retailers. The success attracted media attention from Jamuna TV, DBC, and Jagoo TV. Putul also runs an online sales channel, "Chowdhury Agro & Hatchery", delivering orders locally and to Dhaka. She is self-reliant in vaccination, operates her own delivery system, and maintains hygiene with regular litter cleaning. Recently, she expressed interest in biogas production and egg shell reuse in gardening.
Recognized in her community, she was even invited to mediate a local dispute—symbolic of her rising social capital. Her story is one of vision, grit, and exemplary replication of project support in real life.

Case Study 2: Khadija Begum – Inspiration to Replication

Location: Baniyakandi, Chikondi, Shariatpur
Partner NGO: SDS
Interview Date: 26 May 2025
Khadija Begum started her chicken farming journey after witnessing the success of her neighbor, Ms. Putul. Inspired, she adopted the semi-scavenging Coop Model, starting with just 40 day-old chicks.
As of May 2025, her flock has grown to 150+ chickens. The poultry business, although demanding constant supervision—even at night—has brought satisfaction and pride to her family. Her husband's active support underscores the household's shared vision for expansion.
While motivated to scale up, she identifies gaps in access to formal training and financial support, which, if addressed, can enhance replication of successful models like Putul's. Khadija's case shows how community-level demonstrations can trigger peer-led transformations.

Case Study 3: Suman Bepari – Scaling with Innovation in Faridpur

Name: Mr. Suman Bepari
Address: Faridpur Sadar, Faridpur
Partner NGO: SDC
Date of Interview: 27 May 2025

Background

What began as a humble gesture to please his wife with a gifted pair of indigenous chickens turned into a thriving enterprise for Suman Bepari of Faridpur Sadar. Coming from a household familiar with free-range poultry through his mother's traditional practices, Suman's interest in poultry farming began informally after his marriage in 2020. The gifted chickens reproduced rapidly, growing to over 300 by mid-2024. His natural instincts, commitment, and innovative handling soon brought him into the spotlight of SDC's RMTP-Poultry Project team, who selected him as a demonstration farmer under the semi-scavenging Coop Model. As of the interview date, his flock had surpassed 1,200 chickens.

Innovative Practices and Farm Setup

Suman's poultry operation is not only large but also highly organized and innovative. His infrastructure includes:

- Five large coops divided into eight functional partitions for different flock stages and sizes.
- Dedicated units: one for parent stock, one for brooding chicks (0–3 weeks), two for medium growers (4–8 weeks), and three for meat stock (12 weeks+).
- A sickbay unit to isolate injured or ill birds.
- A spacious homestead (104 decimals), featuring 25 decimals of pond and 40 decimals of grassy scavenging land.
- Filtered water supply to ensure clean drinking water.
- Herbal supplementation: weekly feeding of ginger, garlic, and black seed paste, along with neem leaves to enhance immunity, reduce disease risk, and minimize aggressive behavior.

Suman practices controlled scavenging—allowing chickens to roam freely in his spacious area from morning to dusk. Special care is taken for younger birds, who scavenge in a designated section.

Business Expansion and Impact

Suman now supplies chicks and grower birds to over 150 households in his village. He maintains a diversified flock including improved indigenous breeds such as Subarna (for eggs), Sonalika (for meat), and Hili (dual-purpose), sourced via a project-facilitated linkage with BLRI Savar.

He has also established his own hatchery with a 300-egg capacity and maintains an average hatch rate of 70%. With efficient feeding and management, he can grow chicks to 1 kg within four weeks, fetching BDT 500 each. Just last month, he sold 350 chickens for over BDT 85,000.

Despite poultry being his passion, Suman also runs a successful bicycle spare parts trading business with an annual turnover exceeding BDT 2 million. Yet, he finds a special joy in poultry. He claims to intuitively understand his chickens' clucks and behaviors, which guide his daily routines. Remarkably, he even uses their early-morning calls as his natural Fajr prayer alarm.

Outlook

Suman's success is a result of keen observation, continuous learning, and an empathetic relationship with his animals. With project support, family encouragement, and his own entrepreneurial drive, he has transformed a personal hobby into a vibrant, scalable rural enterprise.

"Chickens speak if you listen—my flock tells me when something's wrong, and I respond. We understand each other."— Suman Bepari

Case Study 4: Naznin Akhtar – From Personal Setback to Poultry Success

Name: Ms. Naznin Akhtar
Spouse: Md. Rashedul Islam
Address: Chak Dochai, Patnitala, Naogaon
Partner NGO: Ghasful

Background

Naznin Akhtar's journey is a story of resilience, reinvention, and rural entrepreneurship. Born in Chak Dochai village of Patnitala Upazila, she faced an early life crisis when her first marriage—initiated while she was still in school—ended in divorce after three years. Left with a young son and emotional distress, she returned to her parental home with limited prospects. However, instead of giving in to despair, Naznin chose to resume her education and began raising poultry at home to support her family.

Path to the Chicken Coop Model

What started as a small initiative with a few local chickens gradually evolved into a serious livelihood option. Naznin's curiosity, determination, and discipline in managing poultry caught the attention of the RMTP-Poultry Project, implemented in her area by Ghasful NGO. Learning about the opportunity to become a demonstration farmer under the chicken coop model, she enrolled in training and accessed a grant and a loan of BDT 20,000. With that support, Naznin established a model chicken coop as per project specifications and procured 50 one-day-old indigenous chicks. Her mother became her primary supporter in this journey. Around this time, Naznin completed her Higher Secondary Certificate (HSC) and was later married to an expatriate, though she continued to reside in her father's home to manage the farm and raise her son.

Current Status

Naznin has become a model entrepreneur in her community. Her farm now houses approximately 350 indigenous chickens. Every month, she sells about:

- **20 adult chickens**
- **130 chicks**
- **170 eggs**

This provides her with a stable monthly profit of BDT 15,000–20,000. In addition to chickens, she also raises:

- **25 swans**
- **30 Khaki Campbell ducks**
- **25 Beijing ducks**

To support chick production, she has invested in a mini hatching machine with a capacity of 300 eggs. With regular financial support from her husband abroad, Naznin now ensures a stable and dignified livelihood for her family. Her son from her first marriage is currently studying in Class V.

Future Vision

Naznin envisions scaling her farm to 500–600 indigenous chickens and creating employment opportunities for others in her village by supplying chicks. She is committed to producing safe, healthy chicken meat and eggs while addressing local protein needs. By promoting low-cost, indigenous chicken rearing through the chicken coop model, she hopes to contribute to reducing rural unemployment. Her ultimate aspiration is to support her son's higher education and build a secure, respected family life.

"Raising chickens has not only given me income, but also independence, confidence, and a purpose."
— Naznin Akhtar, Patnitala, Naogaon.

Case Study 5: Moin Uddin – From Student to Poultry Changemaker in Cox's Bazar

Name: Moin Uddin
Location: Thoingakata, Ramu, Cox's Bazar
Partner NGO: COAST Foundation

Background

In 2018, Moin Uddin, a young student from the scenic hills of Ramu in Cox's Bazar, decided to chart his own path to self-reliance—one that did not depend on government jobs or conventional employment. With a deep love for animals and a desire to do something meaningful in his village, Moin began exploring ideas online and discovered the promise of indigenous poultry farming. Deshi chickens appealed to him due to their low risk, disease resistance, and high consumer demand.

Moin began with just 3 cocks, 8 hens, and 13 chicks in a simple bamboo coop he built by himself. The endeavor, though humble, was driven by passion and a desire to learn. Recognizing his enthusiasm, the COAST Foundation under the RMTP-Poultry Sub-Project offered him technical training, mentorship, and financial assistance. With that support, he gradually expanded his farm.

Today, Moin runs a thriving poultry business with approximately 300 parent chickens and a mini-hatchery that produces 300 chicks per batch. He raises chicks for both his own farm and for sale to other farmers. In just one year, he has sold more than 15,000 chicks, along with thousands of eggs and chickens.

Moin's yearly revenue stands at BDT 2.52 million, with an annual net benefit of BDT 1.84 million—averaging around BDT 153,000 per month. His revenue comes from the sale of:

- **8,750 eggs (BDT 175,000)**
- **6,600 chicks (BDT 330,000)**
- **4,480 kg of chicken (BDT 2,016,000)**

But for Moin, profit is not the only reward. "The greatest joy for me is seeing the chicks grow day by day. They feel like part of my family," he shares. His connection with his flock is deep and emotional—he finds joy in their presence and sorrow when they fall ill or are sold after months of care.

Beyond business, Moin has become a mentor and role model. Over 100 new poultry entrepreneurs have been inspired by his work and have started their own farms in Cox's Bazar. As the region is a tourist hub, the demand for safe and organic deshi chickens is high. Moin plans to further scale his operations to meet this growing demand.

"They understand me. It's a bond beyond business. I never imagined my dream could grow wings like this." — Moin Uddin

Case Study 6: Poli Begum – Rooftop Farming to Rural Empowerment in Bogura

Name: Poli Begum
Location: Patita Para, Phanpur Union, Sadar Upazila, Bogura
Partner NGO: GUK

Background

Poli Begum, a determined woman from Patita Para village in Bogura, transformed her rooftop into a thriving poultry farm—and in doing so, reshaped the future of her family. Her husband, a local mechanic, was the main breadwinner while Poli tended to her home and raised a few deshi chickens as a hobby. Occasionally, she sold an egg or a chicken, but never imagined poultry could be a path to prosperity.

That changed when the RMTP-Poultry Sub-Project, implemented by GUK, conducted a household survey in her area. She learned that indigenous chickens could be commercially raised using modern methods—even on rooftops. Inspired by this knowledge and eager to make meaningful use of her time and space, she proposed a chicken coop model to the project team, who then supported her with financial aid and training.

With project guidance, Poli constructed two modern poultry shelters on her roof, surrounded the area with netting for safety, and built two smaller sheds for age-based grading of chicks. She received technical training on vaccination, disease control, herbal feeding, and even vegetable cultivation to ensure a natural food supply for the chickens.

around BDT 153,000 per month. His revenue comes from the sale of:

Today, Poli operates a vertically integrated farm with:

- **860 indigenous chickens, including 300 parent stock**
- **Mini hatchery producing 300 chicks/month**
- **Monthly sale of 300–350 chickens and chicks**
- **Average income of BDT 20,000–22,000 per month**

She uses black cumin, neem leaves, ginger juice, and other herbs in feed to reduce disease and antibiotic use. This improves both flock health and consumer confidence. Waste from the farm is composted for organic fertilizer, minimizing environmental pollution.

Her chickens are raised in a clean, enclosed, and waste-free environment—unlike many conventional farms. As a result, demand for her chickens comes from local buyers, wholesalers, and meat processors. With the profit, Poli has invested in her home, purchased two brick-breaking machines with her husband, and is financing her children's education.

Poli's farm was the first rooftop coop model in Bogura, and her success has inspired at least five other similar farms in the district. Her journey is a testament to how vision, training, and the right support can help rural women rise as entrepreneurs—even in spaces once thought too small.

"I never imagined chickens could change my life. Today, my family smiles because of them—and the chicken coop made it all possible."

— Poli Begum

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