



BACKYARD POULTRY FARMING: A PRACTICAL TRAINING GUIDE

Small-Scale Poultry Farming for Sustainable Rural Livelihoods - Skilled Training Program for Farmers

UNIT-VII

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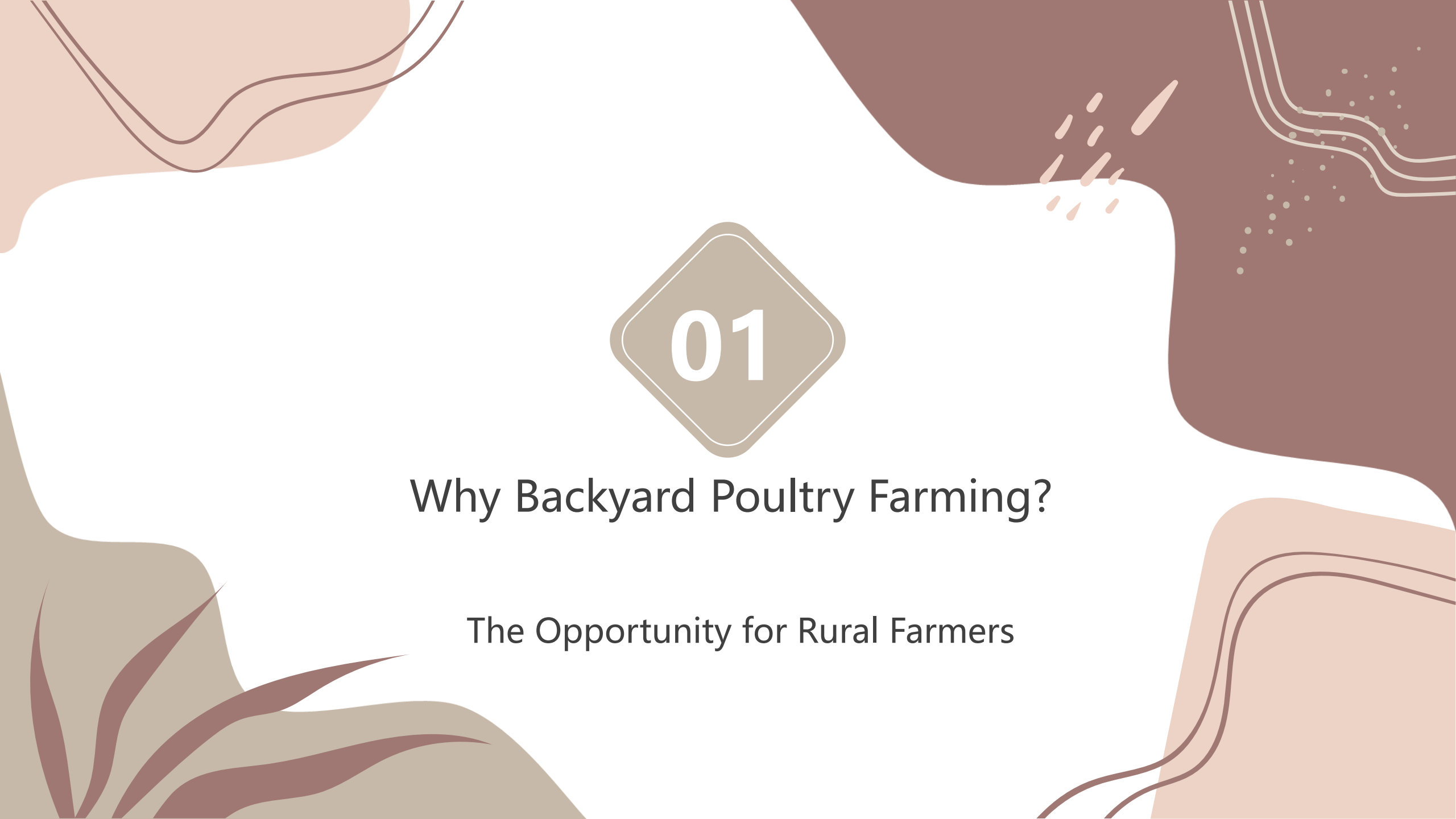
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01

Why Backyard Poultry Farming?

The Opportunity for Rural Farmers

Backyard Poultry Solution Framework

Maximizing Rural Farmer Income

SITUATION



Rural farmers often rely on single income sources with very limited capital, hindering their economic growth and stability.

COMPLICATION

Traditional desi birds yield only 70–80 eggs annually per bird, failing to reach their true commercial production potential.



QUESTION



How can farmers maximize their income using minimal investment and leveraging their existing local agricultural resources?

ANSWER

Switch to improved backyard poultry varieties combined with low-cost management practices to boost productivity and earnings.



Benefits of Desi Poultry

Sustainable Agricultural Income Advantages



Low Investment

Start small with minimal capital and scale profitably. This model ensures high economic returns by reducing the initial financial barriers for new farmers.



Labor Efficiency

This system creates a productive role for elderly family members and children. It effectively utilizes existing family labor without extra hiring.



Negligible Feed

Birds naturally scavenge for insects, seeds, and grain leftovers. Utilizing crop residues significantly lowers the ongoing costs of poultry maintenance.



Instant Liquidity

Birds and eggs can be sold anytime and anywhere for immediate cash. This provides a reliable safety net and flexible income stream for the family.



Premium Pricing

Consumers are willing to pay much more for high-quality desi chicken. Both meat and eggs from natural rearing command top prices in modern markets.



Organic Quality

Stress-free, natural rearing produces superior meat and egg quality. This organic approach ensures better taste and health benefits for all consumers.

Major Indian Poultry Breeds

Characteristics and Production Data

Aseel Breed

01

Known for pugnacity and majesty. Weights: 3-4kg cocks, 2-3kg hens. Produces 92 eggs annually. Varieties include Peela and Yakub.

Chittagong Malay

02

A dual-purpose bird featuring pea combs and overhanging eyebrows. Includes Buff and White varieties with distinctive featherless shanks.

Kadaknath Fowl

03

Features black skin and organs due to melanin. High medicinal value with 25.47% protein meat. Produces 105 eggs per year locally.

Busra Chicken

04

Medium-sized, alert birds found in Gujarat and Maharashtra. They are deep-bodied and light-feathered, though noted as poor layers.



Backyard Poultry Impact Benefits

Sustainable Agricultural Growth Solutions

Traditional Challenges

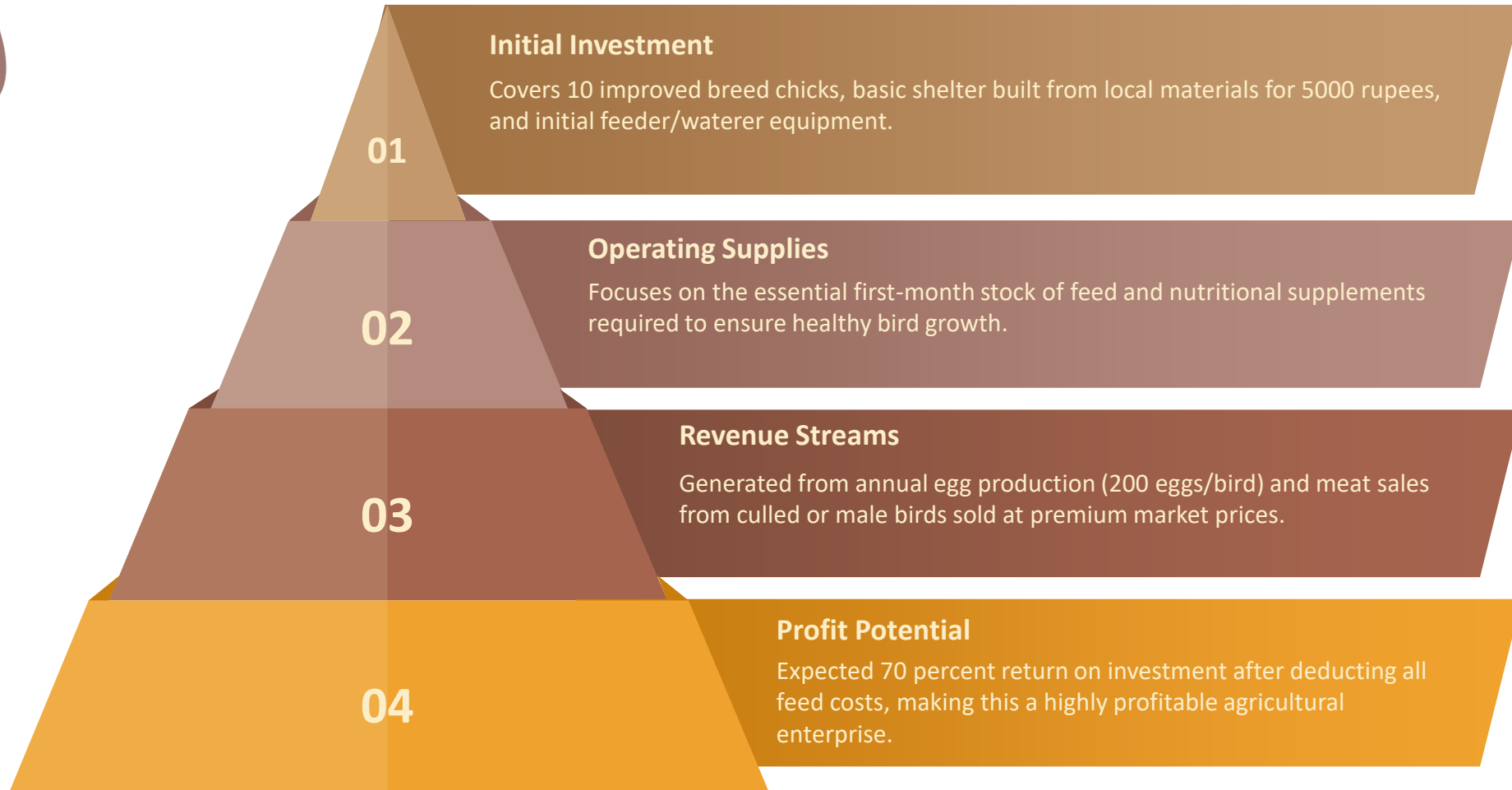
Limited income diversification leads to high financial vulnerability for rural families. High protein malnutrition severely impacts children, while family unemployment reduces overall household productivity levels.

Backyard Solutions

Multiple revenue streams from eggs, meat, and stock ensure financial stability. Nutritious protein is available daily, and farming provides productive engagement for elderly members and youth at home.

Poultry Economic Analysis Summary

Investment and Revenue Breakdown





02

Choosing the Right Breed

Improved & Indigenous Varieties

Improved Poultry Varieties Guide

Characteristics and Recommended Breeds



Choosing the right poultry breeds is vital for successful rural farming. Focus on birds that offer high resilience, excellent scavenging abilities, and strong productivity in tropical conditions.



Selection Criteria

Prioritizing birds with adaptability to village climates, disease resistance, and strong mothering instincts for sustainable rearing.



Gramapriya & Vanaraja

High-yielding dual-purpose varieties producing 200-230 eggs annually with strong immunity and attractive plumage for local markets.



Giriraja & Others

Hardy breeds like Giriraja and Krishna-J are perfectly adapted for free-range backyard foraging in rural or tribal environments.



Breed Performance Comparison Analysis

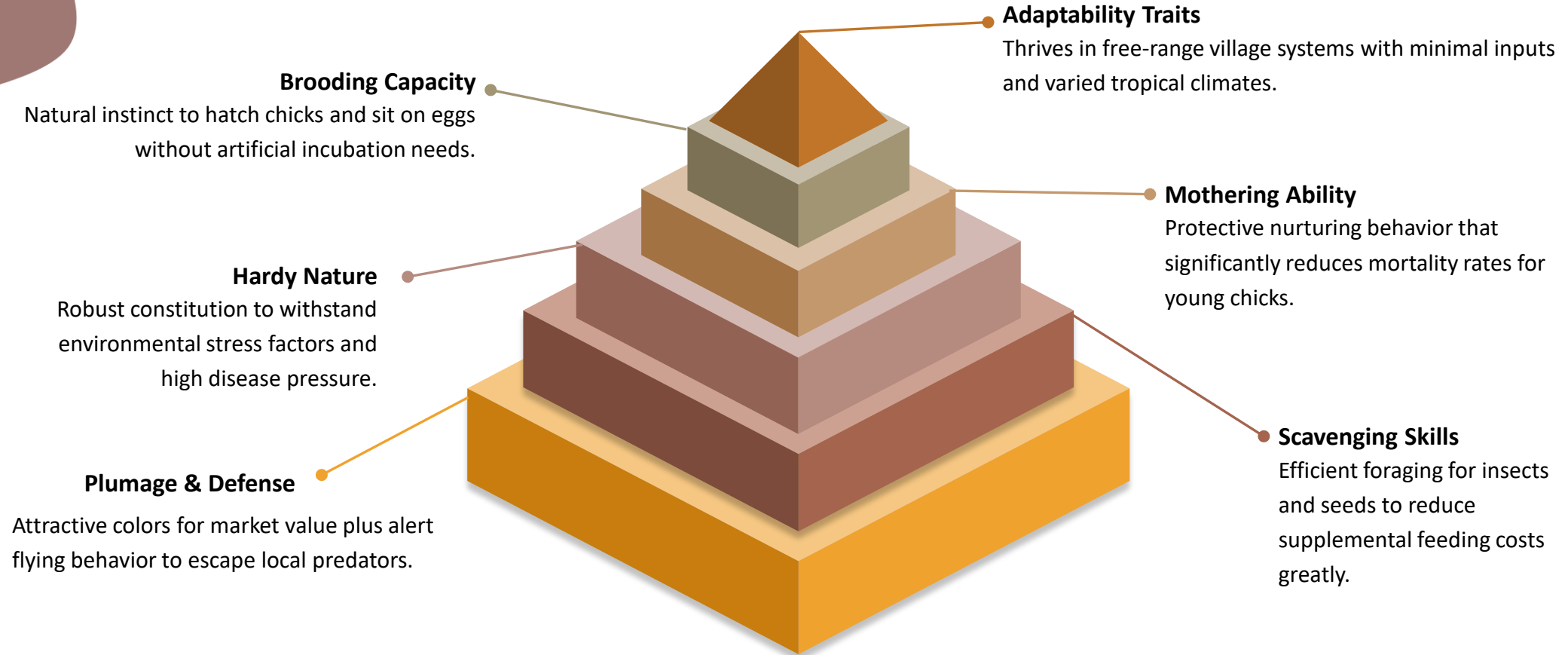
Improved Versus Indigenous Breeds

Comparison Parameter	Improved Breeds	Indigenous Breeds	Performance Gap	Maturity Info	Market Status
Egg Production (Year)	200 to 230 eggs	70 to 80 eggs	+150 Eggs	300% Higher	High Volume
Body Weight (kg)	2.5 to 3.5 kg	1.5 to 2.0 kg	+1.0 kg	160% Higher	Premium Meat
Age at First Egg	200 to 230 days	240 to 270 days	-40 Days	Faster Growth	Early Income
Disease Resistance	Enhanced Immunity	Natural Resistance	Selection-Based	High Survival	Lower Risk
Adaptability Level	Backyard Optimized	Village Adapted	Comparable	Very Hardy	Versatile

- ❑ Improved breeds demonstrate significant advantages in production efficiency, with egg yields nearly tripling those of indigenous varieties and body weights reaching up to 3.5 kg for superior meat yield.
- ❑ While indigenous breeds offer excellent village adaptability, improved breeds are specifically developed for backyard conditions, providing enhanced immunity and commanding premium market prices for farmers.

Backyard Chicken Breeding Characteristics

Key Natural Agricultural Traits





03

Housing Management

Low-Cost, High-Impact Shelters

Housing Construction Specifications Guide

Agricultural Building Standards Overview



Floor Requirements

Concrete or brick floors elevated 2 feet to prevent moisture, ensuring smooth, crack-free surfaces for easy daily hygiene and cleaning.

Wall & Roof Specs

Side walls 8 feet high with mesh windows and sloped roofs using tiles or thatch to provide essential heat insulation and rain drainage.

Ventilation Needs

Upper wire netting and opposite wall windows create cross-ventilation, allowing hot air and ammonia to escape while reducing heat stress.

Essential Agricultural Equipment Guide

Parallel Grid Equipment Specifications



Feeders

Use linear or circular feeders made from bamboo or plastic. Space requirement 2 to 7 cm for chicks and 12 to 15 cm for adults. Keep elevated to prevent contamination.



Waterers

Clean fresh water available at all times in appropriate containers. Space requirement 0.5 to 1.5 cm for chicks. Change water twice daily to maintain hygiene.



Perches

Wooden poles 2 to 3 inches diameter installed at 2 to 3 feet height. Space 8 to 10 inches per bird. Smooth surface prevents foot injuries and ensures rest.



Nest Boxes

One nest box for every 4 to 5 laying hens placed in dark corners. Size 12x12x12 inches with soft straw. Regular cleaning encourages hens to lay eggs inside.



Brooders

Heat lamps maintain 95 degrees Fahrenheit for day-old chicks. Gradually reduce temperature by 5 degrees weekly. Wire mesh guards prevent chick access and fire.



Lighting

Supplementary lighting extending day to 16 hours for optimal production. Use energy-efficient LED bulbs. Proper lighting improves feed intake and productivity.

Core Poultry Housing Principles

Structured Agricultural Management Guide



House Orientation

Orient poultry houses East-West to block summer winds and reduce heat stress, while allowing beneficial winter sunlight for warmth.



Structure Dimensions

Maintain side walls at 7-8 feet and centers at 9-12 feet with slopes to ensure proper drainage and structural integrity.



Building Materials

Utilize low-cost local materials like wood, bamboo, grass, or thatch to construct durable shelters without excessive investment.



Air Circulation

Ensure free air movement in the upper shed to minimize ammonia buildup, creating a healthier environment for your poultry.



Floor Design

Elevate floors at least 2 feet above ground to ensure they are rat-proof, crack-free, and easy to sanitize for bird health.



Sun Protection

Protect birds from direct summer sunlight to prevent heat stress, which is vital for maintaining high productivity and bird welfare.



04

Feeding Management

Maximum Nutrition at Minimum Cost

Poultry Feed Formulation Guide

Starter, Grower, Layer Rations

Maize & Rice

01

Main energy source comprising 50% of starter, 55% of grower, and 52% of layer rations for optimal poultry caloric intake.

Rice & Wheat Bran

02

Fiber-rich components adjusted from 10% in chicks to 15% in growers, providing essential bulk and metabolic support.

Groundnut & Soy

03

Critical protein meals providing 25% for starters, 18% for growers, and 22% for layers to ensure muscle and egg growth.

Fish & Meat Meal

04

High-quality animal proteins contributing 10% for starters, tapering to 7-8% as birds mature and nutritional needs shift.

Minerals & Shells

05

Vital for skeletal health and eggshells; mineral mix remains 4% while shell grit increases to 5% during the laying phase.

Salt & Vitamin

06

Micro-ingredients maintained at a consistent 1% ratio across all growth stages to ensure immune health and vitality.

Natural Feed Resource Layout

Scavenging Resources for Poultry

Insects & Worms

01

Providing 15 to 20 percent of daily protein, birds hunt grasshoppers and earthworms naturally to improve meat quality.

Kitchen Waste

02

Fresh household scraps like vegetable peels reduce costs while providing necessary carbohydrates and minerals daily.

Seeds & Grains

03

Abundant fallen grains and wild seeds provide energy and essential fatty acids for egg production and bird growth.

Green Fodder

04

Fresh grass and shoots rich in Vitamin A improve egg yolk color naturally while birds graze in open farm areas.

Snails & Mollusks

05

A calcium-rich protein source found in moist soil that helps in shell formation and provides vital amino acids.

Crop Residues

06

Agricultural waste like wheat and maize residues offer supplementary energy, converting farm spill into protein.

Poultry Disease Prevention Guide

Common Ailments and Health Solutions



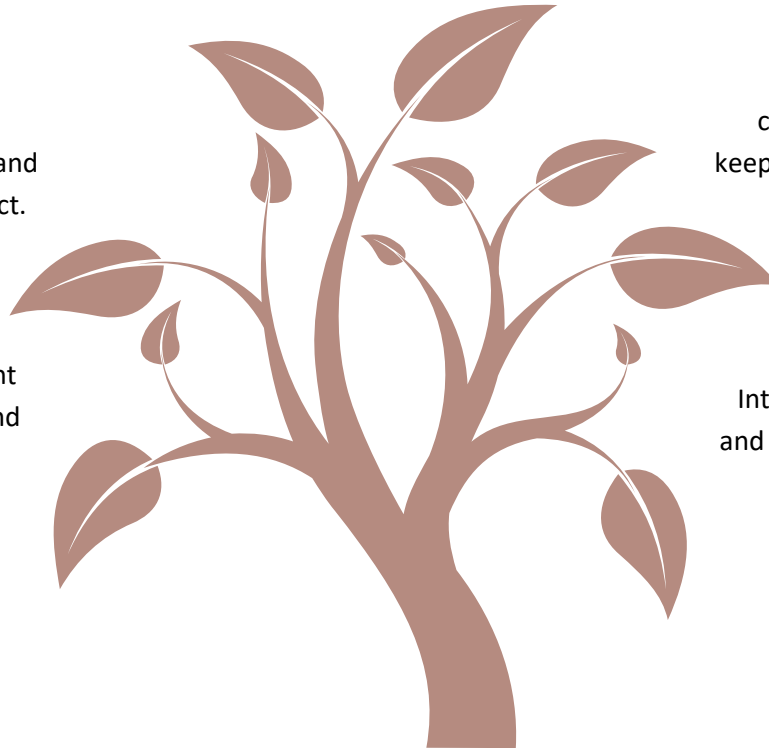
Ranikhet Disease: Viral infection causing respiratory distress, diarrhea, and high mortality. Prevent with F1/R2B vaccines and strict biosecurity to avoid wild bird contact.



Fowl Pox: Viral disease causing wartlike skin nodules and breathing issues. Prevent through annual vaccination at 8 weeks and rigorous mosquito control measures.



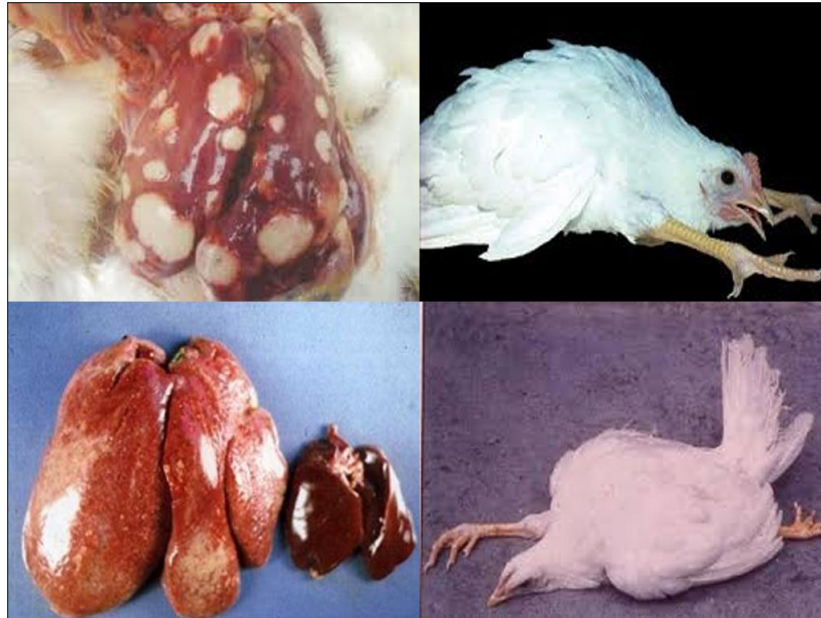
Chronic Respiratory Disease: Bacterial infection causing coughing and low egg production. Prevent through good ventilation, dust control, and optimal stocking density.



Coccidiosis: Parasitic gut disease in young chicks causing bloody diarrhea. Prevent by keeping litter dry, avoiding overcrowding, and using prophylactic medication.

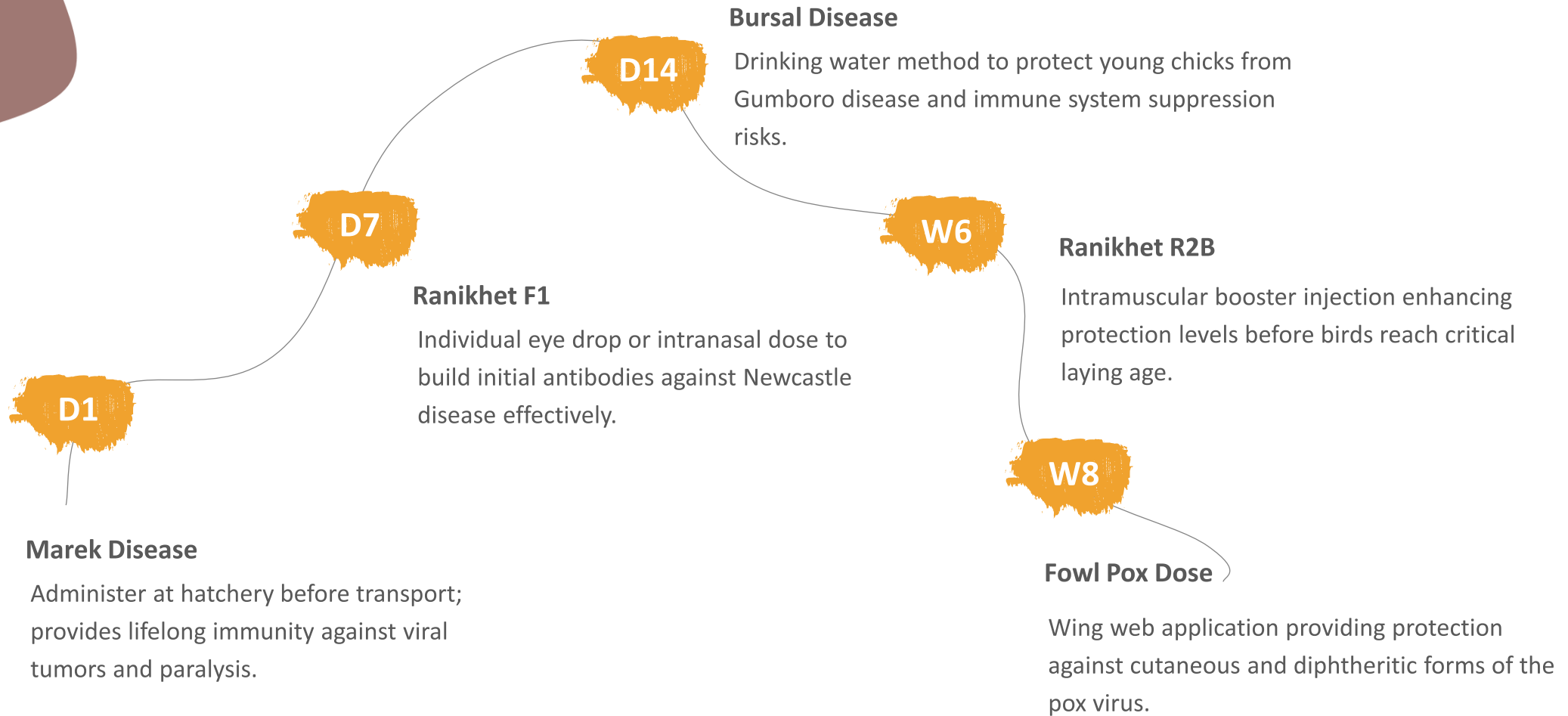


Internal Parasites: Worms causing weakness and anemia in free-range systems. Prevent by deworming every 3 months and rotating grazing areas to ensure hygiene.



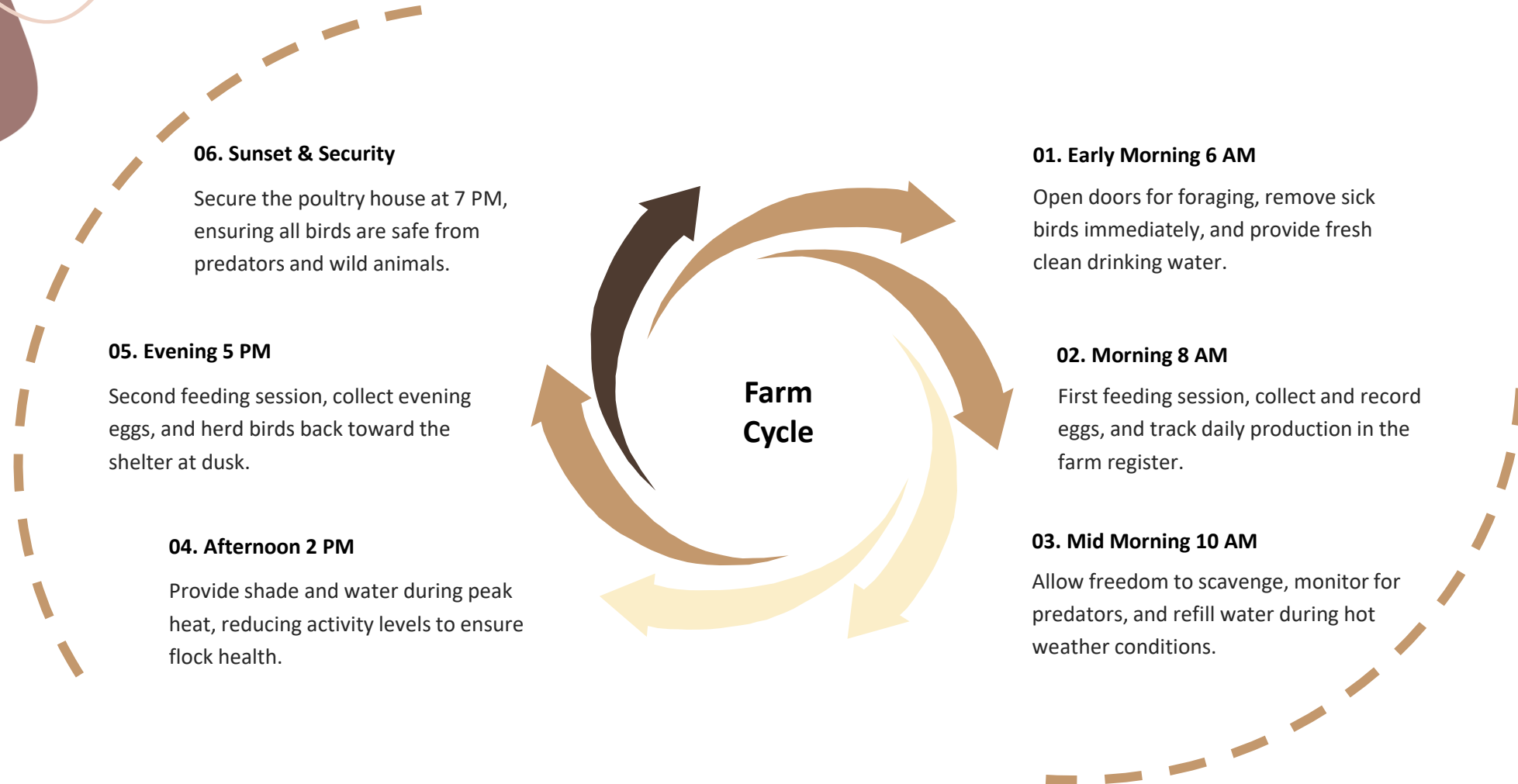
Flock Vaccination Schedule

Chronological Immunization Calendar



Daily Poultry Management Routine

24-Hour Agricultural Practice Cycle



Essential Farm Record Keeping

Natural Agricultural Management Guide



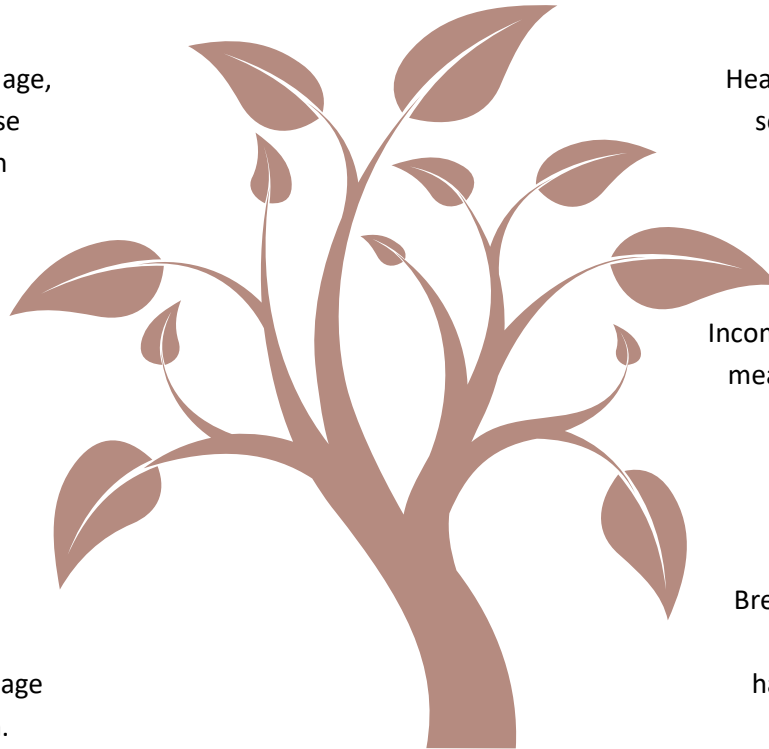
Stock Register: Tracking bird numbers by age, sex, and purpose while recording purchase dates, breeds, and sources to maintain an accurate flock inventory always.



Egg Production: Monitoring daily counts and abnormal eggs to calculate periodic trends and compare actual output with breed standards for culling decisions.



Feed Consumption: Recording daily quantities for each bird category and calculating feed conversion ratios to manage costs and sources effectively for the farm.



Health and Vaccination: Maintaining detailed schedules of vaccines, batch numbers, and deworming dates while tracking disease symptoms and recovery outcomes.



Income and Expenditure: Log sales of eggs and meat alongside expenses for feed, labor, and equipment to analyze monthly profit and return on investment.



Breeding Record: Identifying top-performing hens for stock selection while tracking hatching details and pedigree info for long-term flock improvement programs.



Agricultural Marketing Strategy

Exploring Six Key Market Channels



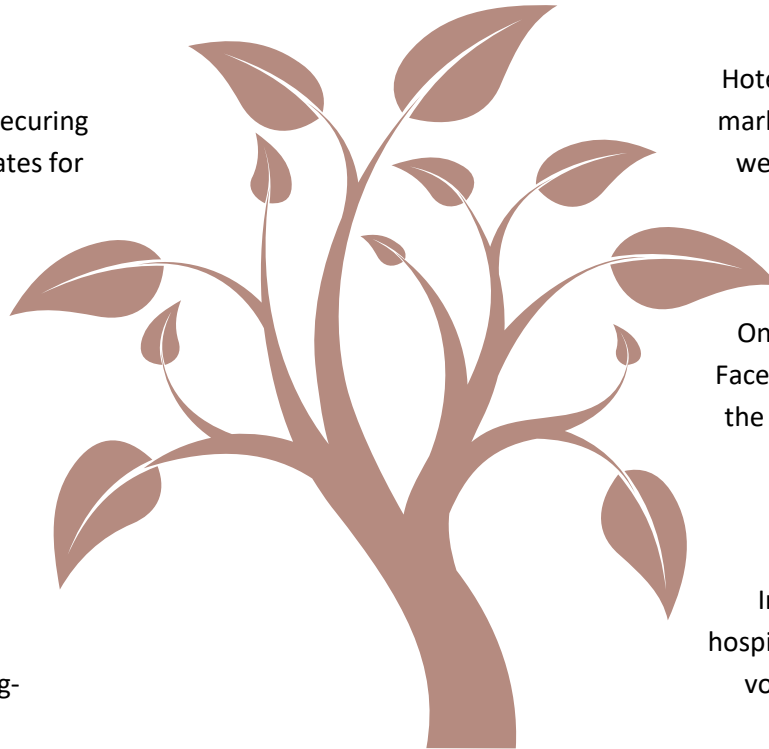
Direct Home Sales: Selling eggs and meat directly to local neighbors at doorsteps, securing premium pricing 20-30% above market rates for freshness.



Local Market Stalls: Operating weekly village bazaar stalls to attract customers via live displays while networking with other regional farmers.



Retail Shop Supply: Providing regular deliveries to grocery and kirana stores, ensuring steady bulk income through long-term business relationships.



Hotels and Restaurants: Serving the premium market for desi chicken meat, utilizing regular weekly contracts for quality-assured organic products.



Online Platforms: Leveraging WhatsApp and Facebook for urban home delivery, expanding the customer base through digital orders and remote payments.

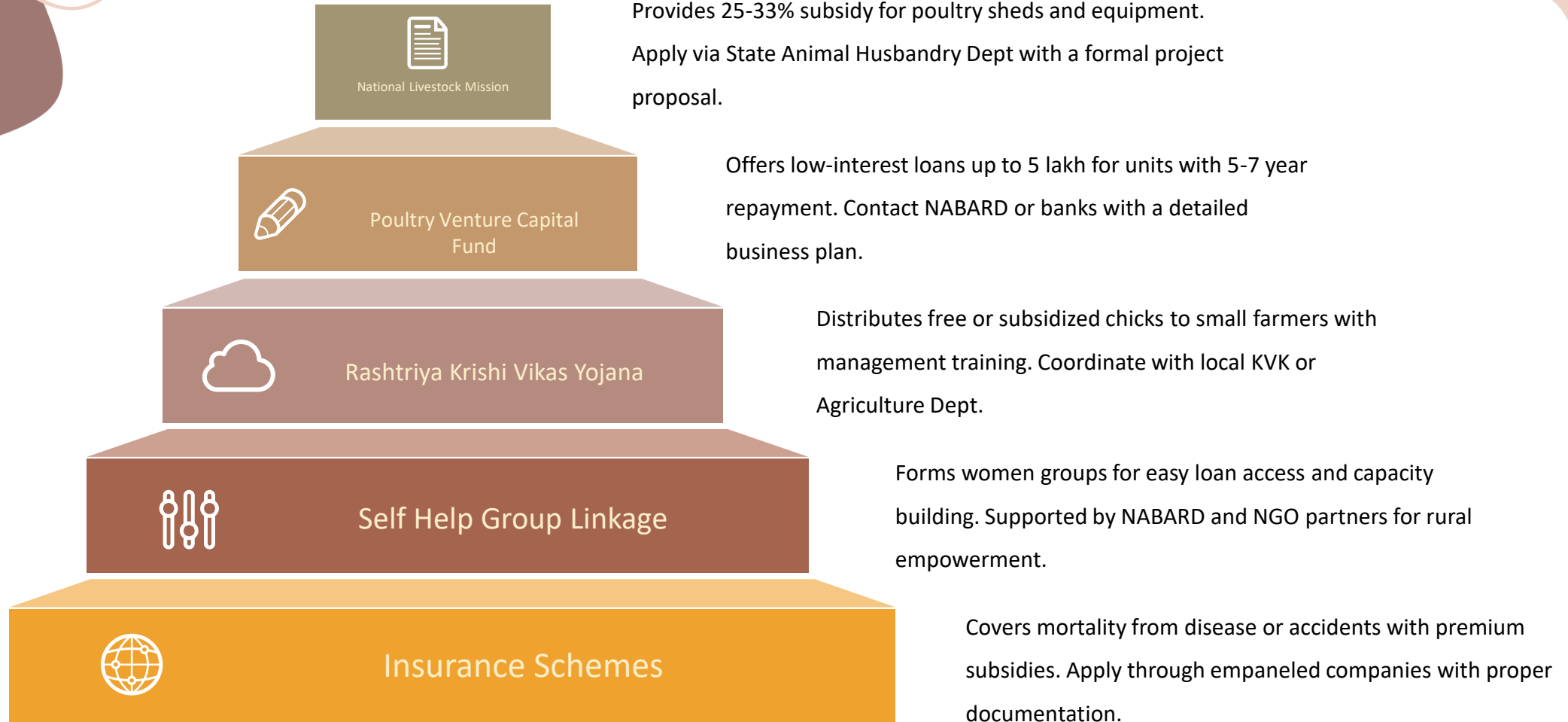


Institutional Buyers: Supplying schools and hospitals through formal tenders, offering bulk volume sales and financial security via long-term contracts.



Government Poultry Support Schemes

Agricultural Subsidies and Programs



Poultry Troubleshooting Guide

Common Problems and Solutions

Low Egg Production

01

Ensure 18% protein diet, check for health stress factors immediately, and provide 16 hours of daily supplemental lighting consistently.

High Chick Mortality

02

Maintain 95°F brooding heat, ensure constant clean water/starter feed, and follow strict vaccination hygiene to prevent disease.

Egg Eating Habits

03

Provide dark nest boxes per 5 hens, collect eggs frequently, and ensure calcium intake while reducing boredom via enrichment.

Aggressive Behavior

04

Allocate 4 sq ft per bird, isolate aggressive individuals, and ensure sufficient feeders to reduce competition and injuries.

Poor Growth Rate

05

Deworm every 3 months, increase dietary protein with quality concentrates, and check for chronic respiratory infections daily.

Predator Attacks

06

Secure wire mesh housing, use guard dogs or geese, and install exterior lighting while clearing bushes to remove hiding spots.

Farmer Success Stories

Sustainable Poultry Livelihood Impact



Biosecurity Disease Prevention Measures

Core Agricultural Safety Protocols

VISITOR ACCESS

Limit entry to poultry areas to essential personnel only, using disinfectant foot dips at all entries.

01

BIRD QUARANTINE

Isolate new birds for two weeks to observe health and provide necessary vaccinations before mixing.

02

WILD BIRD CONTROL

Install netting and barriers to block wild birds and remove food sources that attract outside flocks.

03

RODENT CONTROL

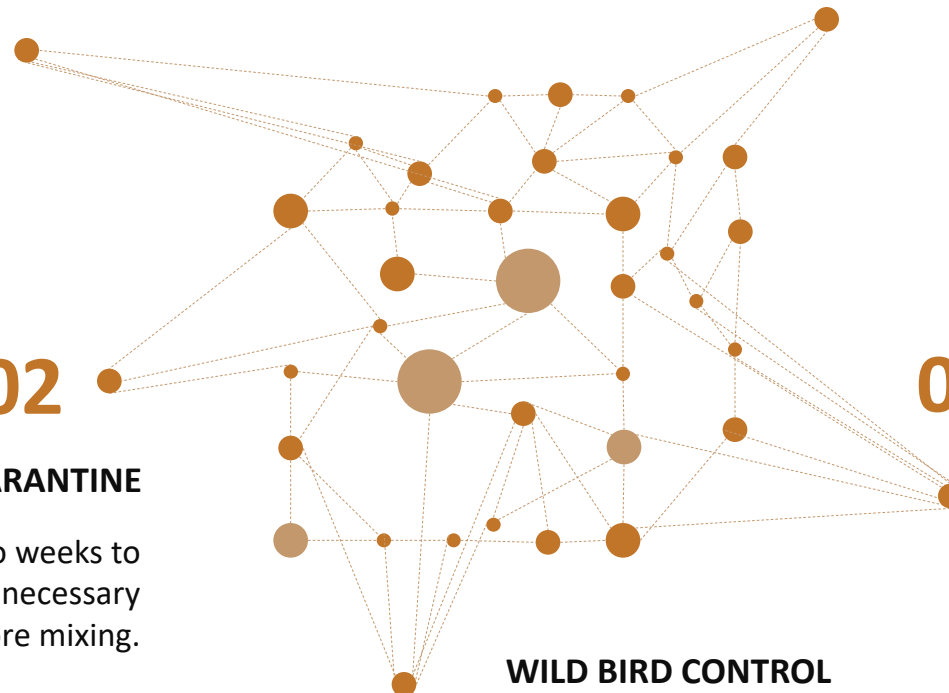
Seal all wall gaps and set strategic traps to prevent rats from contaminating feed and stressing birds.

05

SANITATION RULES

Perform daily cleaning of feeders and weekly disinfection of structures to maintain a hygienic space.

04



Sustainable Agricultural Environmental Benefits

Triple Bottom Line Impact

Economic Benefits

Low capital requirements and high returns ensure accessibility for the poor, turning waste into protein and generating income.

Environmental Gains

Organic manure enriches soil naturally while recycling scraps into food, promoting sustainable and ecological farming balance.

Social Impact

Providing protein-rich nutrition to families daily, empowering women, and strengthening community bonds through shared knowledge.

Integrated Farming Enterprise Layout

Synergistic Agricultural Integration Strategies Dairy Farming

Feed whey to birds and mix manure for biogas, while cross-selling dairy and poultry products.

Vegetable Crops

Utilize manure for organic fertilizer and birds for pest control to complete the nutrient loop.

Fish Farming

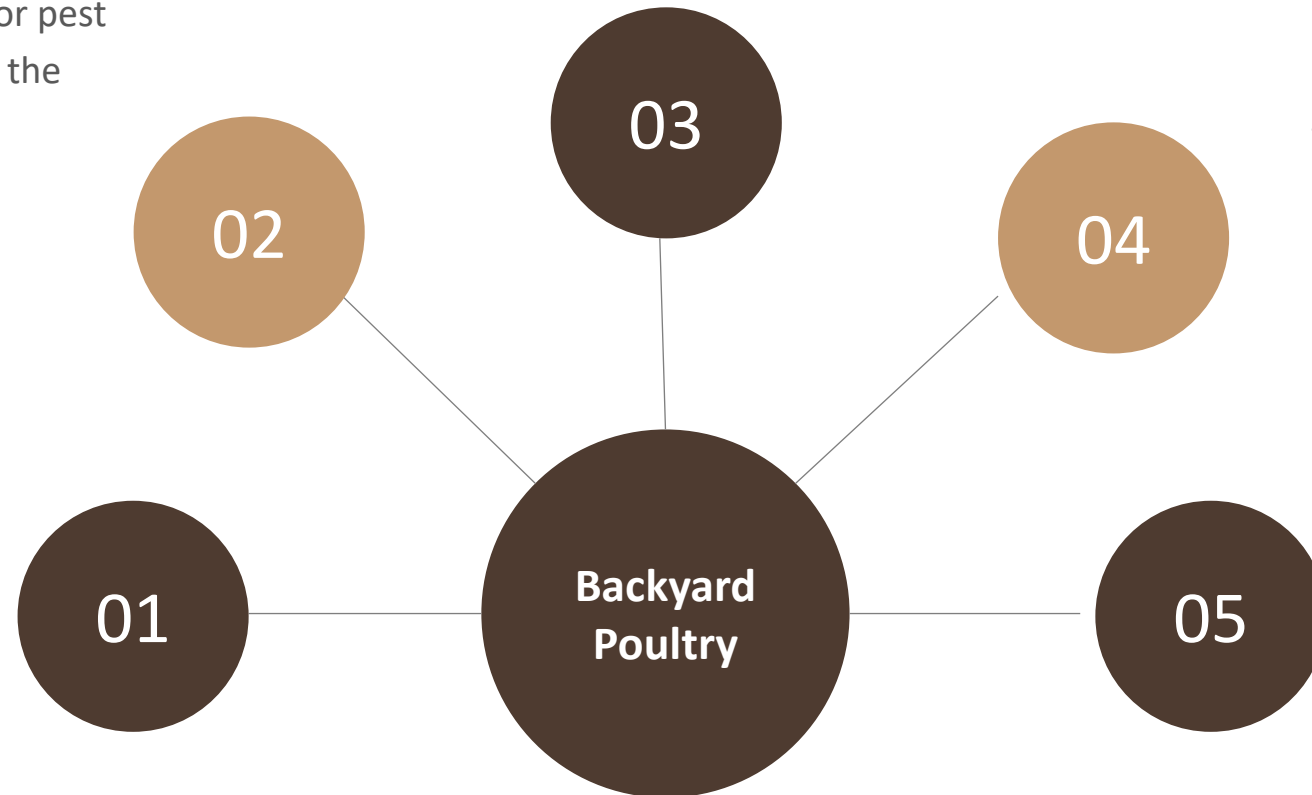
Integrate poultry droppings for pond fertilization and waste for feed to diversify revenue.

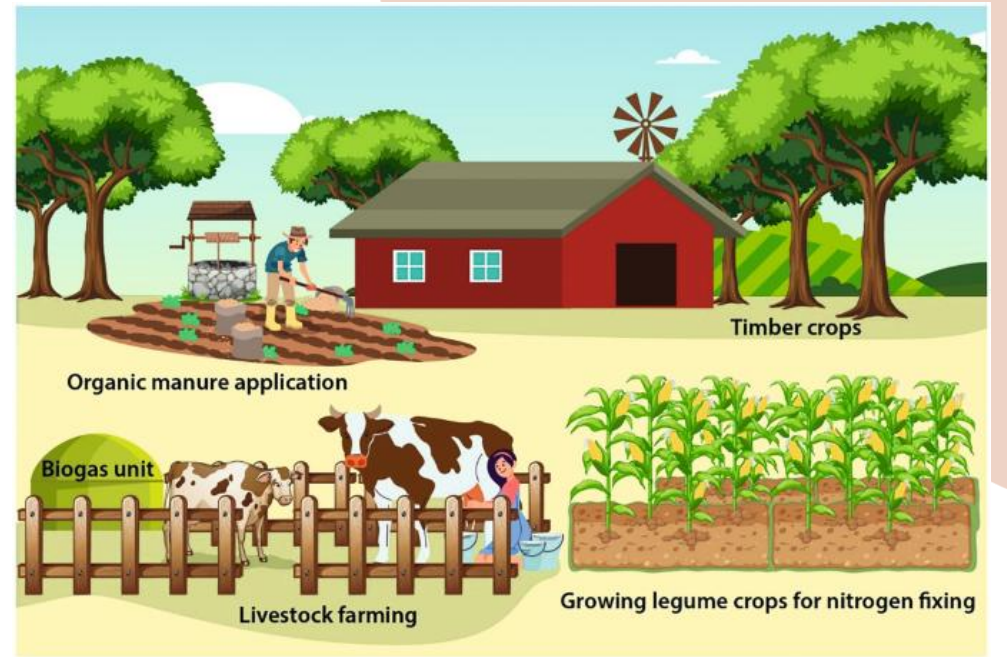
Vermicomposting

Use litter for worm cultivation to produce fertilizer and protein-rich feed supplements.

Mushroom Growth

Apply manure to growing mediums and reuse spent substrate to maximize land productivity.





Agricultural Quality Standard Standards

Egg and Meat Parameters

Egg Quality Standards



Shell cleanliness: eggs should be clean without cracks or spots.

Egg weight: minimum 52-55g with uniform size for market.

Yolk color: deep orange yellow from nutrient-rich diets.

Albumen quality: thick white with Haugh unit above 70.

Shell strength: adequate calcium ensures no breakage.

Meat Quality Standards



Skin color: yellowish tint indicating corn-based natural diet.

Texture: firm and lean meat with minimal fat deposition.

Flavor: distinctive taste and aroma preferred by consumers.

Carcass weight: 1.2 to 1.5 kg ideal for various preparations.

No residues: organic certification fetching 30-50% premiums.

Poultry Farming Success Factors

Five Essential Startup Steps

Initial Launch

Start with 5-10 birds to learn management before scaling up gradually, minimizing initial financial risks.

Stable Housing

Invest in ventilated housing with predator protection and East-West orientation for year-round bird comfort.

Balanced Diet

Provide quality concentrate feed daily to supplement scavenging, ensuring consistent egg production and growth.

Step 1: Small Scale

Step 2: Right Breed

Step 3: Build Shelter

Step 4: Vaccination

Step 5: Nutrition

Optimal Breeds

Select improved varieties suited to local climates from certified sources, focusing on high-yielding performance.

Health Protocols

Strictly adhere to vaccination schedules for diseases like Ranikhet while maintaining detailed health records.

Poultry Help and Support

Key Agricultural Resource Organizations



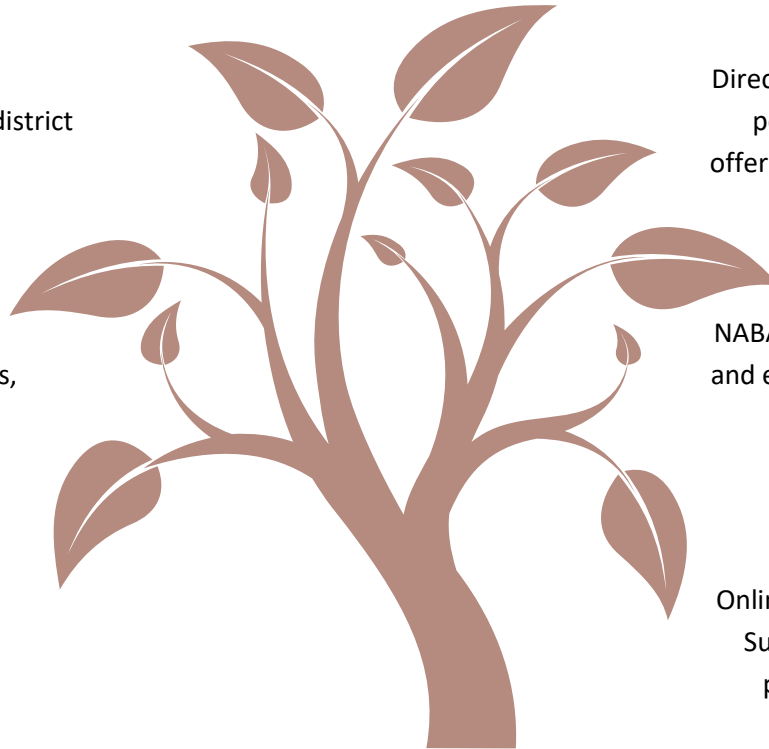
Krishi Vigyan Kendra: Offers free poultry management training and soil testing at district centers, providing farmers with technical guidance and demonstrations.



State Animal Husbandry: Provides government subsidies, veterinary services, and vaccination camps at village levels to support state poultry development programs.



CARI Research Institute: Source for NIRBHEEK and SHYAMA breed chicks; provides technical bulletins and training programs from their Uttar Pradesh headquarters.



Directorate of Poultry Research: Supplies ICAR poultry breeds like Vanaraja nationally and offers expert technical know-how on backyard production systems.



NABARD Bank: Provides rural financing, loans, and entrepreneurship programs for women to support poultry ventures through district offices and partner banks.



Online Resources: ICAR Krishi Portal and Kisan Suvidha app provide video tutorials, market prices, and peer forums for expert poultry farming consultation.





05

Breed Selection Guide

CARI & ICAR Certified Varieties

Improved Poultry Breed Varieties

CARI and ICAR Specifications

CARI Backyard Varieties

CARI NIRBHEEK Aseel Cross: 1220g at 20 weeks, 92 eggs, 66% fertility. CARI SHYAMA Kadaknath Cross: Rich protein/iron, 105 eggs, 55% fertility. HITCARI Naked Neck: 1005g weight, 99 eggs, 71% hatchability.



ICAR Hyderabad Varieties

Gramapriya Layer: 230-240 eggs intensive, 160-180 free-range, hardy brown eggs. Srinidhi Dual Purpose: 228 eggs intensive, 140-150 backyard. Vanraja: 160-180 eggs, multi-colored, high disease immunity.



Commercial Broiler Types

Caribro-Vishal: 1700g at 6 weeks, 75% dressing, 1.94 FCR. Caribro-Dhanraja: Multi-colored, 1650g, 1.90 FCR. Krishibro: 97% survivability, disease resistant, adapted to tropical weather systems.



Action Plan and Key Takeaways

Resource Guide for Certified Chicks

Steps to Get Started

Follow these critical action steps and key performance metrics to successfully launch your poultry venture and ensure high productivity from day one.

01

Select Your Breed

Choose improved varieties like Gramapriya or Vanraja which are better suited to your local climate and market demands.

02

Build Simple Shelter

Use local materials for an elevated floor with East-West orientation to provide proper ventilation and protection.

03

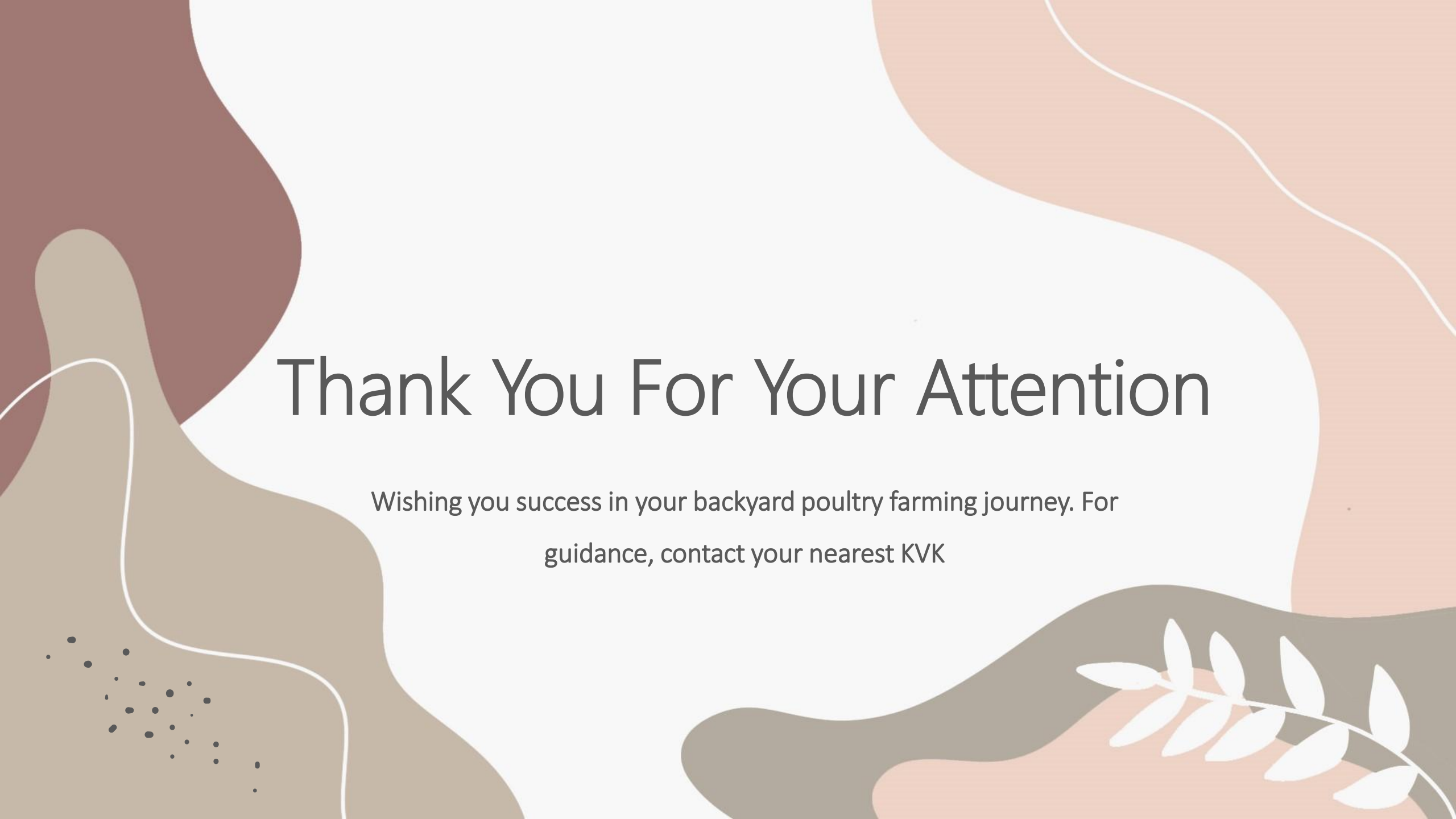
Feed Smartly

Maximize scavenging and supplement with 30-60g of concentrate daily across two feeding sessions to ensure bird health.

04

Key Production Numbers

Target 200-230 eggs per bird annually with a 95% livability rate while reducing feed costs by 70% through scavenging.



Thank You For Your Attention

Wishing you success in your backyard poultry farming journey. For
guidance, contact your nearest KVK