

National Workshop on Entrepreneurship Development through Duck Farming



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Animal Protein (average) in Indian Diet

Animal Protein source	Percentage
Milk	68.10
Meat	11.00
Egg	6.30
Fish	12.80

(Source: 19th Livestock Census (2014). DADF, Ministry of Agriculture, GoI.)

Animal Protein Status

Production – Availability - Need

Commodity	Total Production (per year)	Per Capita Availability	ICMR Recommendation
Milk	165.4 MT	355 grams/day	280 grams/day
Meat	7.4 MT	2.96 kg/year	11 kg/year
Eggs	88.1 billion	69 eggs/year	182 eggs/year

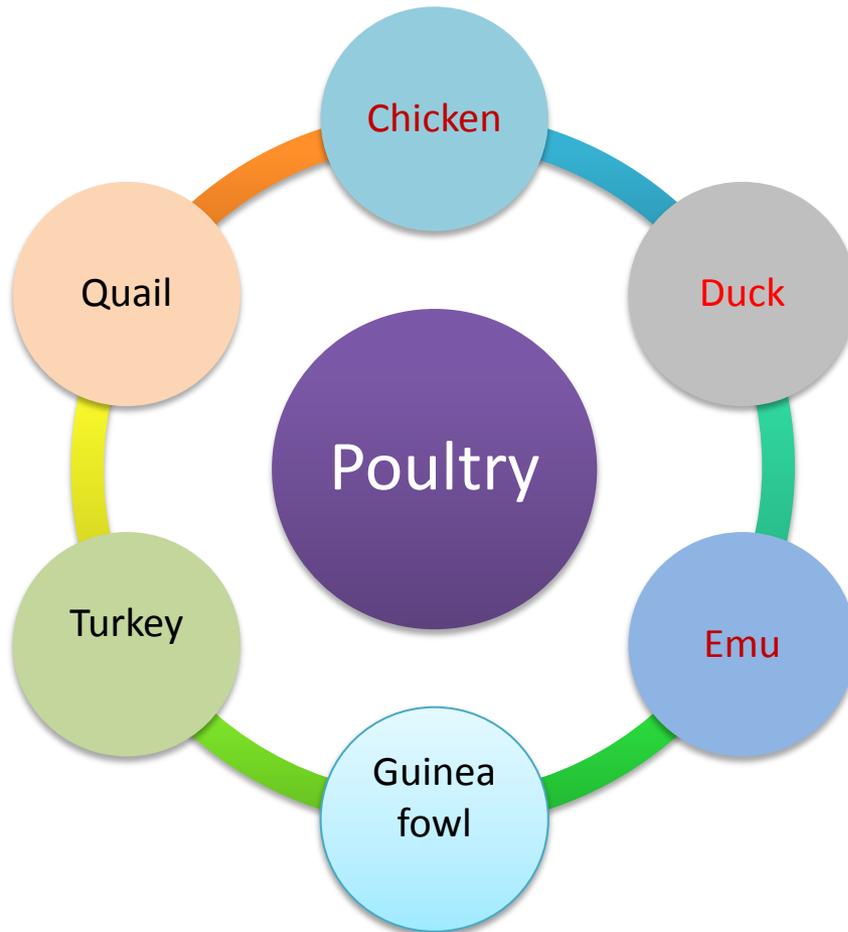
Source: Livestock Production Statistics of India – 2017

Species Wise Contribution to Total Meat Production in India

Species	Percentage of Total Meat
Poultry	49.64 per cent
Buffalo	18.85 per cent
Goat	13.74 per cent
Sheep	7.94 per cent
Pig	5.22 per cent
Cattle	4.61 per cent

Source: Livestock Production Statistics of India – 2017

Poultry- major contributor- livestock revolution



Food and nutritional security

Sustainable livelihood option for small / marginal farmer

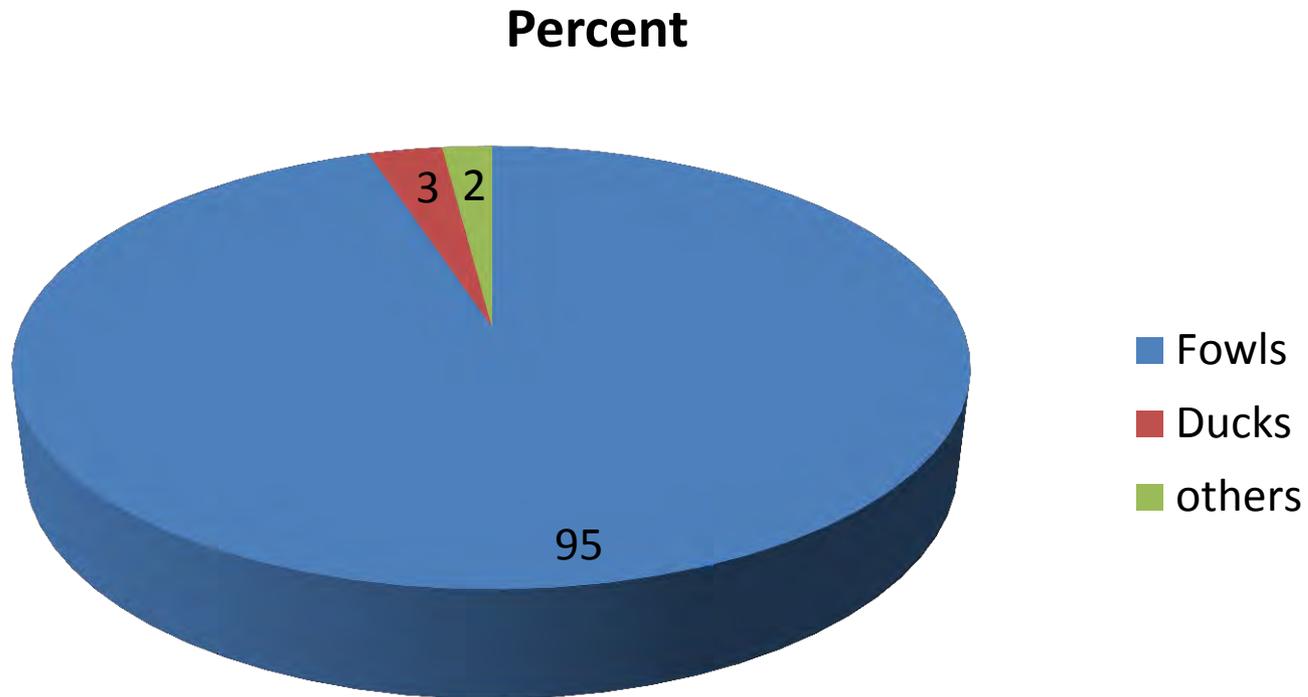
Woman empowerment

Increasing soil-water fertility

Employment generation

.....Still one billion world population is undernourished (FAO)

Percentage share of poultry birds in poultry production (19th Livestock Census, 2012)



Around 214 million layer birds population

Source: Livestock Production Statistics of India – 2017

Species Wise Egg Contribution to Total Egg Production in India (2019)

Species	Percentage of Total Eggs
Improved fowl	86.99 % (<i>commercial layer</i>)
Desi fowl	11.83 % (<i>Backyard</i>)
Desi duck	0.91 % (<i>Backyard</i>)
Improved duck	0.26 % (<i>Semi-intensive & backyard</i>)

Source: Livestock Production Statistics of India – 2017

State wise Duck Population in India (2012)

State	Duck Population
Assam	36 43 515
West Bengal	15 59 962
Kerala	6 42 511
Tripura	2 64 010
Manipur	1 72 846
Bihar	1 69 944
Uttar Pradesh	1 45 392
Jharkhand	1 45 252
Andhra Pradesh	1 37 563
Odisha	1 18 967
India	74 54 324

Source: 19th Livestock Census of India – 2012

Large Scale Duck Production in Free Range



Transformation in chicken production



Backyard Poultry



Poultry Industry

Transformation in Duck Production



Not at par with chicken

Few Advantages of Duck farming

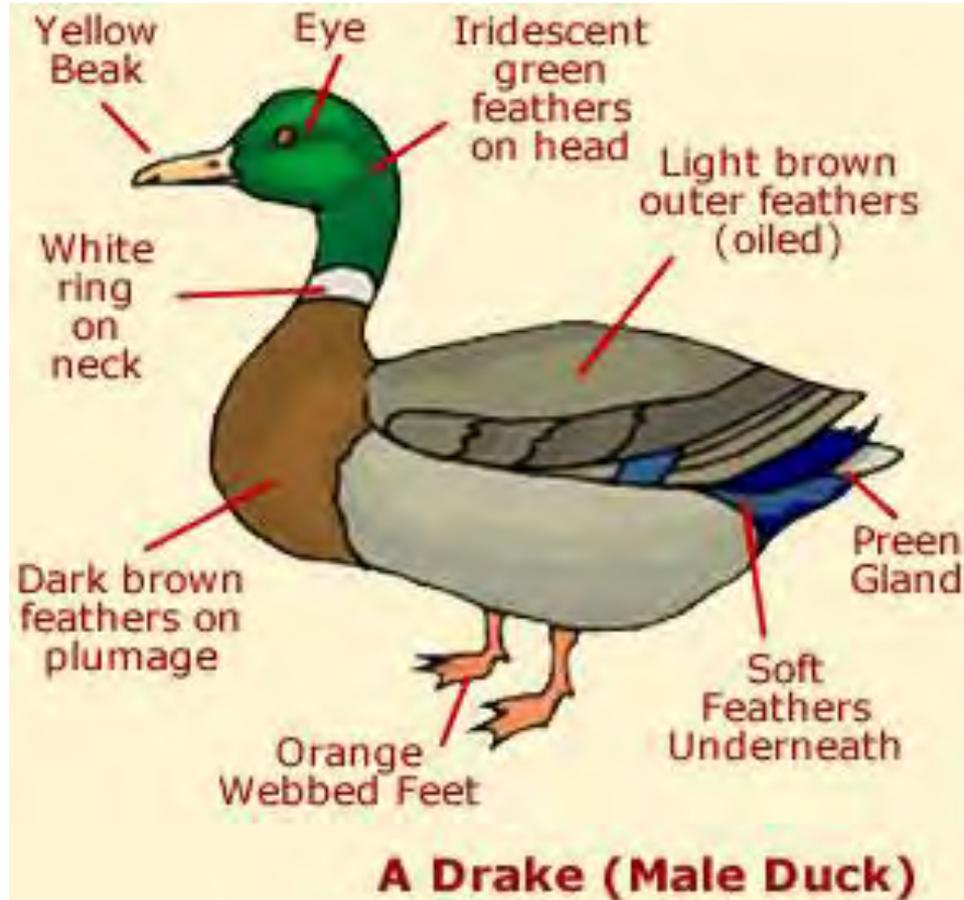
- ❖ Easy source of protein for nutritional security.
(Bigger egg size: 10-15 g more than chicken egg)
- ❖ Used to lay **eggs for long** period (3-4 yrs)
- ❖ Utilise feeding source from both **land & water**
(Consume snail, molluscs, weeds & aquatic feed)
- ❖ Enriches soil and water
- ❖ Hardy and withstand **calamities** *(less disease)*
- ❖ **Integrated** with other crops *(Rice-Fish-Duck)*
- ❖ Less infrastructure and **capital investment**
- ❖ Women Friendly

Nutrient composition of fresh Duck & Chicken egg

Proximate Composition	Unit	Duck Egg (Per 100g)	Chicken Egg (Per 100g)
Water	g	70.83	76.15
Energy	kcal	185.00	143.00
Protein	g	12.81	12.56
Total Lipid	g	13.77	9.51
Ash	g	1.14	1.06
Carbohydrate & sugar	g	2.38	1.09
calcium	mg	64.00	56.00
Iron	mg	3.85	1.75
Magnesium	mg	17.00	12.00
Vitamin A	µg	194.00	160.00
Vit B12	µg	5.40	0.89

DUCK

(The Water Fowl)



Breeds / Varieties of Duck (Layer / Egg type)



Khaki Campbell

B. wt. at 20th wk. ~ 1700g
Egg production ~ 280-300 nos



Native (KUJI)

B. wt. at 20th wk. ~ 1550g
Egg production ~ 230-250 nos



Male & Female KC Ducks



Male & Female Kuzi Ducks

Breeds / Varieties of Duck (Broiler / Meat type)



White Pekin

B. wt. at 6th wk. ~ 2200g,
Egg production ~ 110-130 nos



Male & Female Pekin Ducks



Moti (Muscovy type)

B. wt. at 6th wk. ~ 1500g,
Egg production ~ 40 - 50 nos



Male & Female Moti Ducks

Behaviour of Ducks



Web Foot



Cage rearing

**Not
suitable
for Cage**



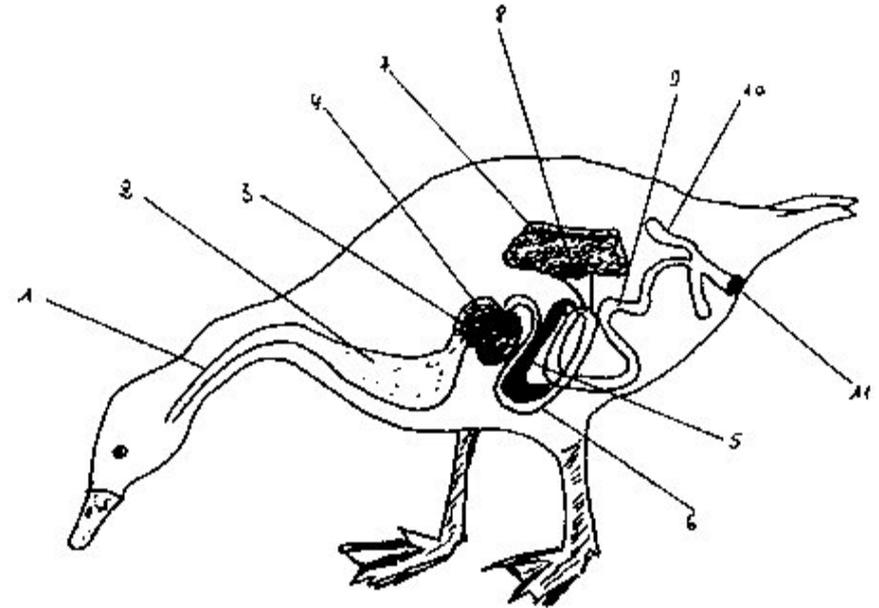
Swims fast



Artificial Insemination



Handling of ducks by tribal women, Odisha



Long Neck

Ducks use to take **full bill feed and then water** every time.
Feed need to be wet to avoid chocking.



Concept of separate Run-Space and night shelter developed.

Floor space requirement 2.5-3.0 sq ft / adult duck

Like to deep head in water which prevents blindness as duck grows



Water channel inside duck house

Sex Differentiation in Ducks



A duck (female) **quack** loudly but a drake (male) produce raspy, muffled call.

*Drake has tail feather **curling** at the tip.*

❖ In Moti/Muscovy; male has comb like structure and much heavier than female.

Duck Production Management



Day old Khaki Campbell ducklings



Day old White Pekin ducklings

Hatching of Ducklings

Incubation period of duck egg is **28 days.**

Eggs are kept inside incubator for 24 days (98.5°F & 85 % RH). Automatic turning is there.

On 14th day fertility test conducted by candling.

On 25th day, eggs are transferred to Hatcher (99.0 °F & 95 % RH)

Hatched ducklings collected on 28th day



Management of ducks (Brooding)

Lighting and proper **temperature** to be maintained for 7-10 days

Soaked feed (duck starter mash) to be offered 4 times day

Sufficient clean drinking water

Change of litter material at regular interval is required

Hurdling during night to be taken care to control mortality.





2 month old Khaki Campbell ducks



2 month old Deshi/Native ducks

Management of ducks (Growing)

Clean duck house, sufficient floor space is essential

Soaked feed (duck grower mash) to be offered 2 times day

Sufficient clean drinking water

Allowing to go pond (water body) is beneficial.

Water channel under intensive system is essential.

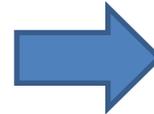


Farmers taking the Growing ducks (flock) to their pond for feeding them from water body.

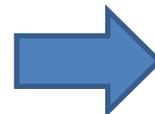




Duck House (Intensive rearing)



Day & Night keeping
in one place (@ 4 sq
ft floor space/duck)

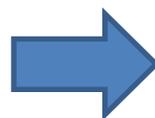


Separate house for
day and night (@ 2
sq ft floor pace/duck
in each place)
(less mortality)



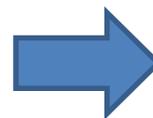
Duck House of farmer

(only for night shelter
and unfair weather)



Low cost

Straw thatched, dry sand
as litter material with
moderate ventilation



Wooden, properly
ventilated, hygienic



Ducks **scavenging** in pond and collecting feeding source from environment



Feed composition of Ducks (*Intensive management*)

Ingredient (kg)	Starter (0-8 wk)	Grower (9-16 wk)	Layer (Above 17 wk)
Wheat	60	55	55
Deoiled rice bran	--	25	07
Soyabean meal	32	14	18
Fish meal	05	03	07
Mineral mixture	02	02	03
Oyster shell grit	01	01	10
	100 kg	100 kg	100 kg
Crude protein (%)	20.11	16.09	18.19
M Energy (K cal/kg)	2723	2538	2608

Cost of feed = Rs 34/- per kg (approx)

Maize is replaced by wheat due to aflatoxin

Wheat can be partially (upto 50 %) replaced by broken rice, casava /other locally available energy source and cost can be reduced.

Performance of ducks (Production and Reproduction) under intensive management

Parameters	Khaki Campbell	Native ducks	White Pekin
Body wt (12 th wk)	1426 g	1313 g	2251 g
Body wt (20 th wk)	1540 g	1515 g	2512 g
Age at first egg	18 th wk	20 th wk	26 th wk
No of eggs by 40 th wk age	102	88	---
Average wt of egg	66 g	68 g	76 g
Mortality up to 10 wk age (%)	5 - 7	3 - 4	--

Feeding of Ducks under backyard management

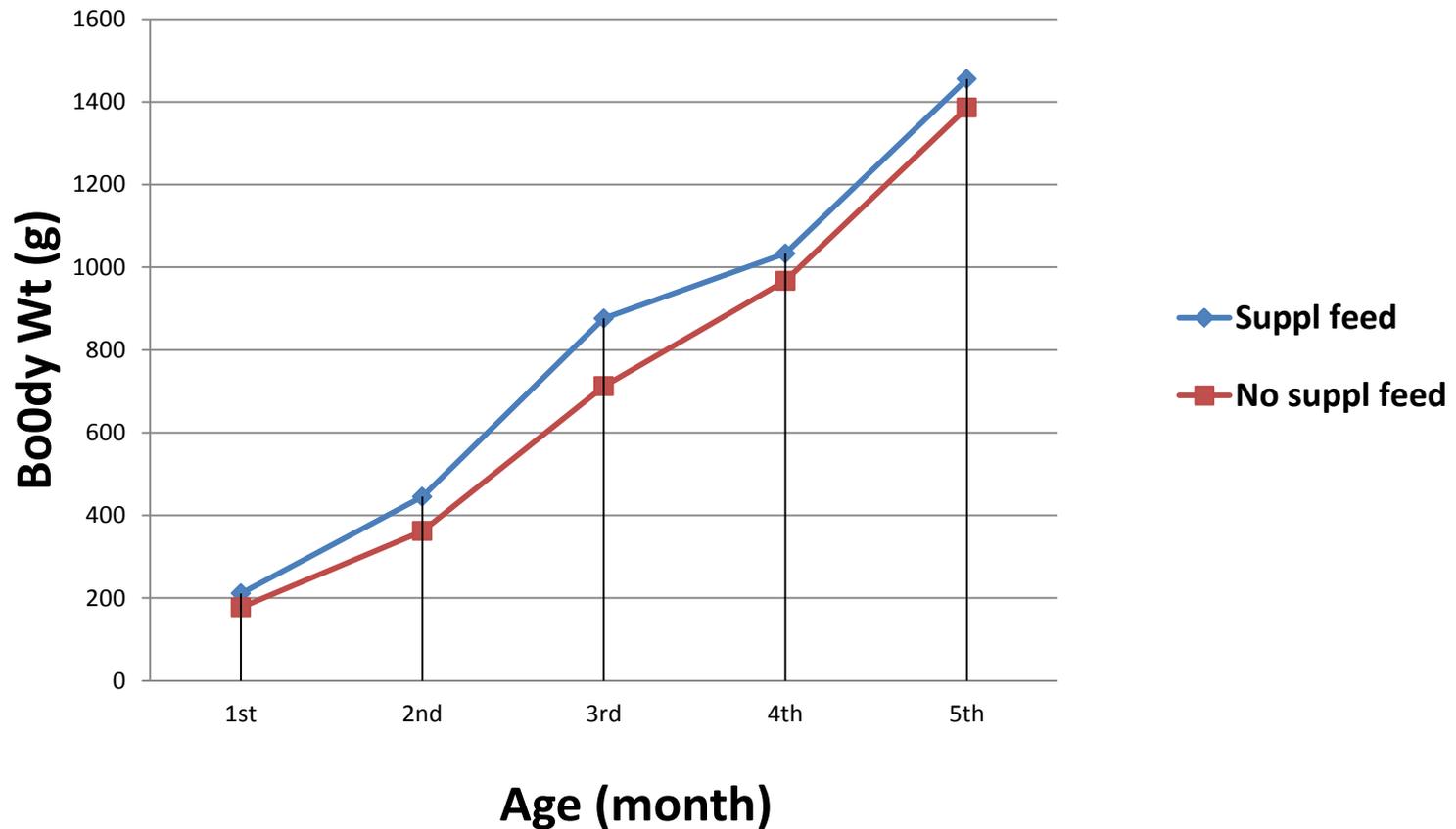
Left over rice
Vegetable peels
Fish scales & offal
Kitchen wastes



Growth Performance under Backyard

(With and without supplemental feed)

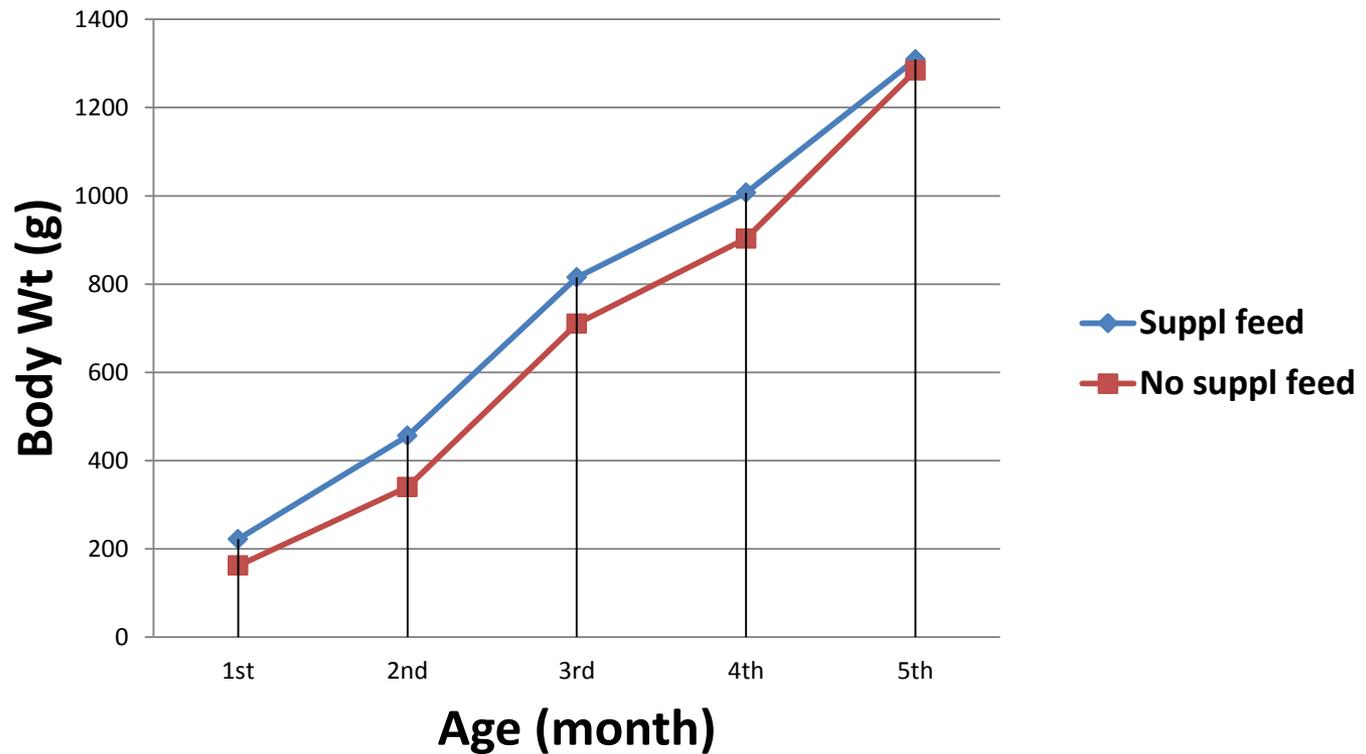
Khaki Campbell ducks



Growth Performance under backyard

(With and without supplemental feed)

Native (KUJI) ducks



(Better Scavenging ability of Native ducks)



Laying Management

Provision of laying nest / earthen pot for egg laying

Calcium & Vitamin supplementation improves laying

No drakes to be kept for Table egg purpose

*Fertile egg production
(Male : Female :: 1 : 4)*



Diseases of Duck



Vaccination against Duck Plague
s/c injection at 12th wk age
Immunity for one yr

Important diseases:

Duck Virus *Enteritis* (Duck plague)
(profuse diarrhoea & dehydration)
(High mortality rate)

Duck Virus *Hepatitis* (Picorna virus)
(affects liver, greenish faeces etc)

Duck *Cholera* (*Vibrio cholerae*)
(Mucous diarrhoea, high temp etc)

Less important diseases:

Salmonellosis

Aspergillosis

Aflatoxicosis

Gout &

Parasitic diseases



Duck egg production in tribal villages

Nutritional security

Means of livelihood

Prevention of
malnutrition

Employment
generation

Women empowerment



Economics of Backyard Duck Rearing : *(Unit of 25 nos)*

Expenditure

Cost of 25 day old ducklings (@ 20/- per duckling)	: Rs 500/-
Cost of 10 kg feed (@ 30/- per kg)	: Rs 300/-
Cost of one feeder and one drinker& bulb	: Rs 150/-
Vaccination and medication etc (@ 10/- per bird)	: Rs 250/-

	Total	Rs 1200/-
Expenditure for second batch		Rs 1200/-

Total expenditure Rs 2400/-

Return:

Sale of 10 nos of male ducks (@250/- per duck)	Rs 2,500/-
Sale of eggs (6 eggs/day for 250 days & sold @ 6/- per egg)	Rs 9,000/-
Sale of 10 nos of male birds (@250/- per bird) from second batch	Rs 2,500/-
Sale of 8-10 nos of hen (culled) from first batch	Rs 2,000/-

	Total	Rs 16,000/-
Cost of 10 nos of hens (second batch @ 300/- bird)		Rs 3,000/-

Grand Total return : Rs 19,000/-

Net Profit : Rs 19,000 – Rs 2400 = Rs 16,600/- per unit per year

Integrated Duck Farming



ICAR-CARI-Model of **Duck –cum- Fish**
Farming
(Economic gain: 1.6 times of return than
aquaculture alone)

Benefits:

No precipitation on water surface and better **oxygenation** of water.

Maintain **uniform temperature** in the water so that surface feeder fish will not move bottom.

Plankton (feed for fish) growth accelerated due to high Nitrogen and Phosphorus.

Ducks collect snails, weeds, predator fishes as **feeding source** and water for physiological need.



Rice-Fish-Duck Integration

Benefits:

Three components in one field.

Enrichment of soil through duck faeces causes minimisation of chemical fertiliser.

Plankton growth in water as feeding source for fishes

Biological control of insects (Stem burrower in rice)

Ample feeding material for ducks
Economic gain: **2.6 times** of return if rice alone

1.0 Hectre land

100 ducks

4000 fish fingerlings (Carp)

Rice- Fish –Duck Integrated practice
Collaboration with ICAR-NRRI, Cuttack

The innovative technology of CARI, for sustainable Duck rearing

THE HINDU

S & T » Science

Farmer's notebook

Rearing ducks in polythene pond proves rewarding



At 3-4 weeks of age, grown up ducklings are allowed to enter the polythene pond.

It is usual for landless labourers or small farmers who rear ducks to herd the flock everyday towards some water source in the morning and return during evening.

But a new model of duck rearing promises to be different. The model has been tested in Sambalpur, Mayurbhanj, Keonjhar and Khurda districts of Odisha among 150 farmers and can be successfully replicated in other places.

Rectangular pit

A rectangular (6ft x 4ft) or square (5ft x 5ft) pit of 1.5-2.0 ft depth is dug on the ground and the inner sides completely lined with a thick polythene sheet of 7-8 feet width.

The outer edge of the sheet should be properly secured using large stones so that the sheet doesn't slip inwards when the pit is filled with water.

About 200 litres of water is required to fill the pit of this size. Once every 10 days about half the water needs to be changed. A small duck house of 10ft x 3 ft is built using locally available materials. About 25 day-old ducklings (Khaki Campbell breed for laying) are introduced inside the duck house.

Other states

In other States, farmers can take the help of the local veterinarians to know what breeds are suitable for them. One 100 watt electric bulb must be provided to maintain brooding temperature.

Dry rice husk or sand is used to line the floor of the house. Duck mash/feed (wheat based) soaked in water is kept as feed in a plastic bowl. Clean drinking water is made available daily.

After 10 days of brooding, the ducklings are left to roam outside the duck house in order to make the birds accustomed to the environment within a confined area where water in a trough and food are available.

**“Rearing ducks in
polythene pond proves
rewarding”: Published
in “The Hindu”
(*Farmer's Note book*)
Dated 13.02.14**



Polythene ponds:
10ft X 5 ft X 2.5 ft
Single polyethene mulching
(More than 500 families adopted the technology successfully)

Duck Rearing in polythene pond

Duck production in villages where there is no pond / water body.

A flock of 25-30 ducks can be managed with kitchen wastes of a family.

Net profit of Rs 16,000/- (approx)/unit in a year

Nutritional security to farmer family.

(Popular in tribal districts scarcity of water)

Performance Study of Polythene Pond Technology in Farmer's Field

Parameters	Khaki Campbell	Native ducks
Age at first egg in (days)	163.45	169.00
Weight of birds at first egg	1429.74	1521.59
Average egg weight (35 th wk) g	61.09	66.21
Egg laid / duck (up to 72 weeks of age)	193	178

(Source: DST Funded Project between 2013-17)

Tribal Women Farmers adopted the Technology



Koderma, Jharkhand



Mayurbhanj, Odisha



Keonjhar, Odisha



Sambalpur, Odisha

Entrepreneurship Development (*Value Chain*)

1. Establishment of **Hatchery**

(Production of day old ducklings)

2. Production of **Fertile Eggs**

(Establishing Parent-line Farm)

3. Supply / Outlet for **Critical inputs**

(ducklings – Feed – Medicine)

4. **Marketing** of Duck produce (Meat and Egg)

5. **Value addition** to duck meat and egg



Hatchery Establishment

Requirements

*Incubator
Hatcher
Uninterrupted
electricity
Fertile eggs*

*Cost: Rs 7-10 lakh
(capacity: 12000 eggs)*

*Hatching of 2000
ducklings / wk*

Entrepreneurship Development (1)



Veeky Duck Hatchery



Bill Book
V.K.Y POULTRY
 Plant-Site Hamrahi Motipur,Muz.

NO _____ Date _____
 Name: _____

Challan No. _____ Date _____

Sl. NO.	Description	Quantity	Rate	Amount Rs. P.	
(1)	एग्स बिलक डक				
(2)	एग्स ड्राई डक				
(3)	एग्स ड्राई फ्लो				
(4)	बिलक डक				
(5)	बिलक डक				
(6)	अन्य				
			ToTal		



Mr Veeky
Hamrahi, Motipur, Bihar
Entrepreneurship

Entrepreneurship Development (2)

*Shiva Prasad
Allahabad
(Selling table eggs only)*





Group activity in duck production

SHG are formed and participating in duck production along with **aquaculture** by taking lease of village pond and availing **loans** from financial organisations.



Constraints in duck farming

1. Availability of Critical Inputs (**ducklings**)
2. Poor **Fertility and Hatchability** of duck eggs
3. Poor **Marketing** of duck egg and meat
4. **Capacity Building** of Farmers
5. **Financial Need** to Initiate Duck Farming



Artificial Insemination in duck



Training to Farmers at ICAR-CARI

Artificial Insemination Technology in Duck



Multi-colour

Higher growth

**More egg
production**

Good scavengers

Better adaptability

WP x KC

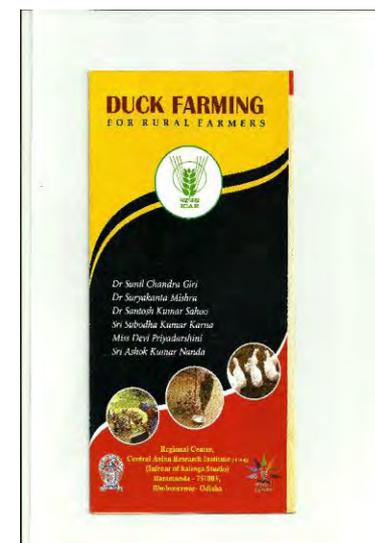
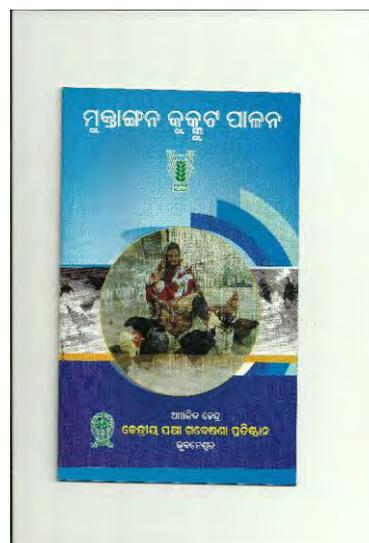
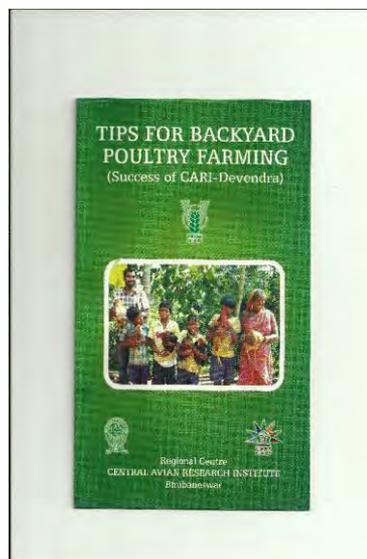
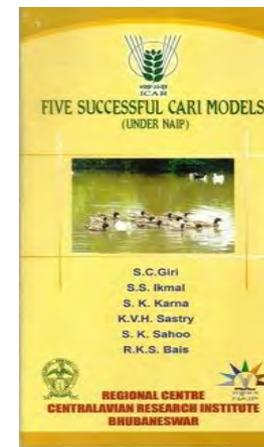
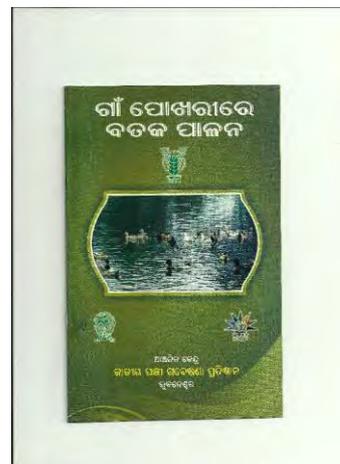
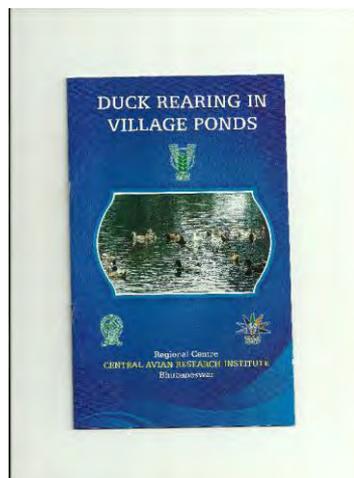
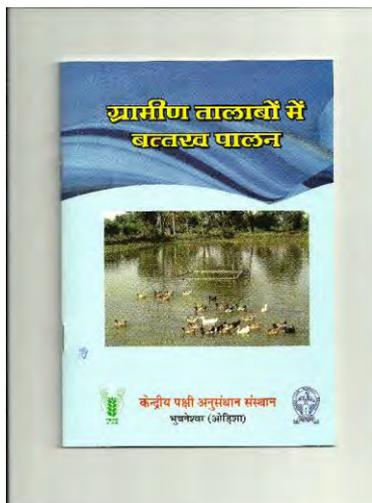
(Dual purpose duck)

Farmer's choice

Researchable Issues in Duck Production

- Improvement in **fertility and hatchability**
- Safe and **low cost feed**
- Minimisation of **water** requirement
- A **dual variety duck** for backyard production
- Availability of **Germ-plasm /ducklings** for farmers
- **Value addition** and product technology for duck produce
- **Commercialisation** of duck production

Publications from ICAR-CARI for farmers





Please Visit our Centre in Bhubaneswar Odisha

Thanks



National Workshop on Entrepreneurship Development through Duck Farming

Dr. Thomas Jacob
Assistant Director
Duck Farm, Niranam, Kerala

KERALA- HISTORY AND GROWTH RATE OF DUCK REARING IN THE STATE

NO	YEAR OF CENSUS	DUCK POPULATION	RATE OF GROWTH
1	2003	6,61,000	
2	2007	9,94,866	50.51%
3	2012	17,09,223	71.81%
4	2019	17,76,956	3.96%

REDUCED GROWTH RATE DURING THE LAST 7 YEARS

- 1. BIRD FLU DURING 2014 & 2016 – 20 LAKHS OF DUCKS AND DUCKLINGS WERE DESTROYED IN KUTTANADAN AREA**
- 2. FLOOD DURING 2018 – 4 LAKHS DUCKS, 75,000 DUCKLINGS AND 8 LAKHS OF EGGS IN DIFFERENT STAGES OF INCUBATION WERE DESTROYED**

LAYER FARMING IN KERALA

1. LARGE FARMERS WITH FLOCKS FROM 10,000 TO 15,000 - 10 NOS
2. MEDIUM FARMERS WITH FLOCKS FROM 5000 AND ABOVE - 70 NOS
3. SMALL FARMERS WITH FLOCKS FROM 1,500 TO 5,000 - 100 NOS
4. EMERGING FARMERS MAINTAINING 100 TO 1500 LAYERS - 700 NOS
5. BACKYARD DUCK REARING
6. AGENTS AND VENDORS

BREED OF KERALA

KUTTANADAN

KUTTANADAN CHARA & KUTTANADAN CHEMPALLY

- Body weight-1.5-2 kg. at 11 weeks of age.
- Start egg production by 18-19 weeks.
- Annual egg production 200.
- Egg weight 65-75g.
- Productive life 3yrs
- Easy to herd.

Breed Characteristics

Chara Female -

dark brown with dark spots , dark gray bills, bluish coloured patch with metallic sheen on wings



Chara Male

Dark body, Head - bluish green with metallic sheen and olive green bill, bluish green coloured patch with metallic sheen on wings



Chempally Female-

Fawn colour body with yellow bill and legs



Chempally Male -

Body colour-light mahogany with dark head with no metallic sheen, bills and legs are light orange in colour



COMPARISON BETWEEN KHAKI CAMPBELL AND KUTTANADAN DUCKS

SL. NO.	QUALITY	KHAKI CAMPBELL	KUTTANADAN DUCKS
1	EGG WEIGHT	50-55g	65-75g
2	BODY WEIGHT	1.3-1.5kg	1.5-2kg
3	ANNUAL EGG PRODUCTION	230-250	200
4	PRODUCTIVE LIFE	2 years	3 years



**SNOW WHITE OF NIRANAM
DUCK FARM**

PROFIT STUDY

DUCKS FED WITH COMMERCIAL FEED ONLY AND FEED+BROILER/FISH WASTE

N O	ITEM	RATE (RS)	RATE (RS)
1	COST OF DUCKLINGS	45	45
2	TRANSPORTATION	10	10
3	LITTER,WATERER,BULB ETC	5	5
4	ELECTRICITY CHARGES	5	5
5	1)FEED at RS 35/Kg (7Kg) (feed only)	245	
	2)FEED 3Kg+Fish/broiler waste		105
6	DRESSING	50	50
7	TOTAL EXPENDITURE	360	220
8	TOTAL INCOME (2.5 KG LIVE WT) (1.75 KG DRESSED WT)	$350 * 1.75 =$ 612.5	$350 * 1.75 =$ 612.5
9	PROFIT	252.5	392.5



Workshop on

“Entrepreneurship development through duck farming”

Opportunities and challenges in duck farming in Goa and adjoining areas



Dr Nibedita Nayak
Scientist (Poultry Science)



A southwest coastal state.....



- ❖ Smallest state but highest land holdings
- ❖ North-Maharashtra, S&E-Karnataka
- ❖ Highest number of non-veg population
- ❖ Large influx of tourists- Restaurants
- ❖ Congenial Environment
- ❖ Natural water-bodies: Duck welfare (7 major rivers + 138 islands + 400 streams)



Ducks are the new chicken.....



- ❖ Highly prolific and **better adaptability to free range**
- ❖ More resistance to diseases
- ❖ No elaborate housing and lesser attention
- ❖ **Supplement their own feed** by foraging
- ❖ Exterminator of weeds and insects
- ❖ Suitable for **integrated farming system**
- ❖ **Higher egg weight and more** nutritious meat

Scope of duck farming in Goa



OPPORTUNITIES

1. “Niche market”- High ticket for duck egg and meat
2. Inland water bodies natural potential for duck rearing
3. Integrated Farming System with Duck
4. Ecologically sound management of natural resources
5. High tourist influx - value addition of duck products
6. Bread making - More fluffy and soft

Integrated Farming system(Lowland)



- ❖ Low cost housing- Low land IFS
- ❖ Duck-Fish-Rice- FYM (4-tier System)

Integrated Farming systems.....



- ❖ Area = 0.1ha/20 ducks
- ❖ Duck-Fish-bound crops



Integrated Farming system(Upland)



Upland IFS: 30 nos. of Ducks

Fish-Duck-Rice based IFS

Natural exterminators of weeds & insects

Enhancing organic carbon of soil

Biodiversity Conservation

Kuttanad (Chara & Chemballi)

- ▶ Native to Kuttanad area of Kerala
- ▶ Dual purpose Indigenous breed
- ▶ Plumage color– Grey Brown and Bronze with spots etc.
- ▶ Annual egg production > 250
- ▶ Suitable for value addition



Intensive system of rearing

Muscovy and Mule ducks

- ▶ Neither a duck nor a goose
- ▶ Plumage: Black and white
- ▶ Male: Red Caruncles
- ▶ ASM: 240 to 310 days.
- ▶ Weight @ 30 weeks 2.85kg (M) and 1.92kg (F)
- ▶ Mule ducks: Muscovy x Domestic duck
- ▶ Lean Meat purpose



A Pair of Muscovy Ducks

Performance Indices of Kuttanad ducks



Day old body weight	45.86 gm
Body weight at 6 week	1.15 kg
Body weight at 12 week	1.80 kg (M) 1.55 kg (F)
Feed consumption up to 12 WK	7.56 kg
Age at first egg	135 days
Daily feed consumption/ bird	100gm +4 hr scavenging
Egg weight at 40 wk	68-70gm
Ducklings mortality(0-8wks)	4%
Grower mortality(8-20 wks)	0.8%

Field Performance of White Pekin



Day old weight	40-45gm
Body weight at 7-8week	2.3-2.8kg
Feed consumption up to culling	9.8-11.2kg
FCR(Feed consumed/Wt gain)	4.1
Ducklings mortality (0-8wks)	4.3%



Value added duck products

- Increased demand: Diversification of duck egg and meat
- Bakers love Duck eggs: High protein and fat content
- Cakes: Fluffier, lightness, better texture and rich flavour
- Duck eggs can replace chicken eggs in all products by weight
- Products: **Cured /Salted egg yolk**, Pavlov, Pidan, Balut etc.





Seared Duck



Confit Duck (curing)



Smoked duck breast



Xacuti



Duck fritters (Roasted)

What's the Duck farm

Rearing White Pekin ducks in a semi-intensive rearing system

Effective Value Chain from “Farm to fork”

Retail Bird sale-Rs 100/kg, After slaughter- Rs 450/Kg

Gross Profit: Around 2 lakhs (Depends upon batch size)



Shon Agro farm

- Integrated farming system model at Ponda, Goa
- Semi-intensive type of rearing pond facility – 2000 sq mts
- Feeding of unconventional feeds to supplement feed
- Sale of ducklings to other farmers
- High demand for duck eggs @ Rs 15/egg



The Nunes Farm, Old Goa

- Diversified poultry farming with other species
- Demand for duck eggs and meats among the local community
- High demand mainly during Christmas and Easter
- Value addition of meat – Sausages and Pickles
- She earns nearly Rs50,000 -70,000 per batch



Questionnaire based interview

Interview Schedule

Respondent No.-
Name of Village- Dhabandora

Date of Interview-
Name of Block and District-

I. SOCIO-ECONOMIC CHARACTERISTICS

- Name of the Respondent- Tackie Faruq 2. Age- 51
- Sex- Male/ Female
- Education of respondent- Above high school/High school/Middle Primary/Can read and write/can read only/Illiterate
- Family- 1.type- joint/ Nuclear 2. Size of family- 4
- Caste- General/SC/ST/OBC Scheduled Privileged Caste with good health
- Total land possessed by the family- Cannot measure
- Occupation - Main Subsidiary- Development
- Source of Income-

Source	Rs./Month (Average)
<u>Backyard poultry</u> <u>Pekin Duck Farming</u>	
Agriculture	
Animal Husbandry (Excluding poultry)	
Services	
Business	
Labour	
Others	

10. Type of house- Hut/Katcha /pucca/Mixed

II. BACKYARD POULTRY FARMING PRACTICES

- Backyard poultry farming experience-
- Preference of Varieties- 1. Egg 2. Meat 3. Dual
- Flock Characteristics-

Species of birds	Chicken	Ducks	Guinea fowl	J. Quail	Turkey	Geese
a. Flock size at Beginning		<u>400</u>				
b. Flock Size At present		<u>400</u>				
c. Breed /Strain of Bird		<u>White Pekin</u>				

16. Risk Taking ability-Give your agreement about each of the following

Statement	Strongly agree	Agree	Undecided	Disagree	Strongly Disagree
A backyard poultry farmer should have more numbers of businesses to avoid greater risk involved in having one or two	<input checked="" type="checkbox"/>				
It is good for a backyard poultry farmer to take risk when he knows his chance of sources is fairly high.		<input checked="" type="checkbox"/>			
It is better for backyard poultry farmer not to try new methods unless most other in the locality have used it with success				<input checked="" type="checkbox"/>	
Trying an entirely new method in backyard poultry involves risk but is worth it.		<input checked="" type="checkbox"/>			
A backyard poultry farmer who is willing to take greater risk than the average one usually does better financially.		<input checked="" type="checkbox"/>			
A backyard poultry farmer takes loan if he believes that a big flock more profit than one.			<input checked="" type="checkbox"/>		

17. Attitude toward backyard poultry farming - Answer your degree of agreement or disagreement on the following attitude statement

Sr.No	Statement	Strongly agree	Agree	Undecided	Disagree	Strongly Disagree
1	Emergency Financial need can be met from selling chicken		<input checked="" type="checkbox"/>	<u>NA</u>		
2	It is risky to rear chicks as worm infestation is fatal in them				<u>NA</u>	
3	One should not keep poultry as they bring lice and fleas into home				<input checked="" type="checkbox"/>	
4	Since kitchen waste and crop byproduct can be utilized as feed ,backyard poultry is highly economical	<input checked="" type="checkbox"/>				
5	One can get a high return out of a few high producing strain of chicken kept in the backyard		<input checked="" type="checkbox"/>			
6	One can get a high return out of	<input checked="" type="checkbox"/>				

20. A) What is the adoption level of the improved practices?

Sr.No	Improved practices	Adoption	
		yes	no
1	Supplementary feeding	✓	
2	Vaccination and treatment		✓
3	Low cost housing /night shelter housing	✓	
4	Cleaning /disinfection of night shelter	✓	
5	Chick production and recycling	✓	

B.) Extent of adoption of selected practices-

Technologies	Extent of adoption- frequency (%)			
	Non-adoption	Discontinuation	Partial adoption	Full Adoption
Supplementary feeding			✓	✓
Vaccination and Treatment	✓			
Low cost housing/Night shelter				✓
Cleaning/Disinfection of night shelter				✓
Chick production and recycling		✓		

C) Reason for overall adoption behavior of Backyard poultry-

1. Nutritious
2. Organic / Easy to Control
3. Innovative

23) Marketing information on backyard poultry

Chicken	Duck	Eggs	Demand				Supply
			Chicken	Duck	Eggs		
low	high	low	high	low	high	low	high
Time of year							
Summer					✓		
Rainy winter					✓	✓	
Main Delivery System							
Household							
Village Market							
Urban market					✓	✓	
Remark							
Hotels Restaurants + few individuals							

24. Cross Sectional Data on Backyard chicken production system-Please answer the following

A) Housing-

1. Where do the chickens ^{ducks} rest at night?
Do not know /kitchen/store/in the main house/perch on trees/Woven basket/other
Night sheds
2. Who constructed the chicken house?
Adult male/adult female /Young boys/young girls
Local Constructor
3. Do you clean the chicken house? Yes No
myself + staff
4. If yes, how frequently do you clean the chicken house?
 Daily / weekly / monthly
5. Who clean the house?
Adult male / Adult female / Boys / girls

B.) Supplementary feeding (other than Scavenged feed)

Type of supplement	Source	If purchased unit price	Quantity and time of feeding per day	Person who feeds the chickens
Azolla	Ponds on farm		3-4 tubs /day	Male Female Staff
Local grass	Neighboring fields		Birds all over farm /day	Female Staff

1. What feed material is available in your scavenging system? Give quantity/bird. *Duck*
2. When do you feed your birds? *Woods*
1. In morning 2. In noon 3. Afternoon 4. Evening *Constant Feeding*
3. Source of clean water?

1. Pond 2. tubewell 3. Tap 4. other *Spring*
Do you provide water to the chicken? *Yes* no. if, provide the following information

1. Source of water (tap, river, bore, well) *Spring*
2. Type of drinkers- *Christidya, Dribble*
3. How frequently do you provide water? *Automatic*
4. How far is the source of water from the homestead? *500m*
5. What is the walking distance to the water source? *500m*

C. Breeding practices-

1. From where do you get chicks?

- a) Natural hatching at home b) Purchase from local market

c) Purchase from Govt/Private Hatchery

2. How many eggs are used during natural hatching for incubation? *150*

3. What is the frequency of egg Collection? *Daily*

4. What is the source of fertile/hatching eggs?

- a. ~~Own~~ *Own* b. Other poultry owner in village

D. Health-

What are the important disease you noticed in your flock.

1. *Diarrhea*
2. *Muscle atrophy in a few*
3. *Vitamin deficiencies*

25. Use and functions of Backyard Birds and Ranking

	Rank I	Rank II	Rank III
Source of food	✓		
Source of income	<i>Savings</i>		
Source of function	<i>Food</i>	✓	

30. Cost and Benefits Component in Backyard poultry production

Cost	Amount	Returns	Amount
Chick Cost	<i>₹ 22 - 135 / chick</i>	Live Birds	
Feed	<i>₹ 7.50 / 50 kg bag</i>	Eggs	
Medication/vaccine		Litter	
Any other staff <i>staff</i>	<i>₹ 30,000 / month</i>	Any other	

31. What are the constraint in backyard ^{*Duck*} poultry farming?

1. *Farm is 29 km away from home. Too much travel time*
2. *Buying feed*
3. *Slowly buildy client who value quality duck*
4. *Expensive Meat for general public*

32. What are your Suggestion to improve the Backyard Poultry farming?

1. *Cooperative*
2. *Prepare feed*
3. *Slow + steady training of staff*
4. *Difficult seasonal changes, humidity*
5. *heat etc.*

Constraints.....



- ❖ Limited availability of quality germplasm
- ❖ Financial support from the Govt. sector
- ❖ High cost of feed and Aflatoxin
- ❖ Timely veterinary service
- ❖ Limited extension service in duck rearing



Semi-intensive system of rearing.....



ICAR – CCARI, Old Goa – 403402, Goa

THANK YOU



WEBINAR
on
Entrepreneurship Development
through
Duck Farming



NCDC

Assisting Cooperatives. Always!

National Cooperative Development Corporation
A Statutory Organization Under Ministry of Agriculture & Farmers Welfare, GoI
An ISO 9001:2015 Certified Organization



NCDC

Assisting Cooperatives. Always!

Role of Collectives - Cooperatives, SHGs and others in Duck Farming

- 01** Overview of NCDC
- 02** Poultry Development Initiatives by NCDC
- 03** Why Duck Farming through Collectives?
- 04** Challenges and Solutions
- 05** Duck Based Entrepreneurship Development Model

Overview of NCDC



- ✓ A Statutory Organization Setup under NCDC Act, 1962
- ✓ Financial Institution Working for the Development of Cooperatives under Ministry of Agriculture & Farmers Welfare, GoI
- ✓ An ISO 9001:2015 Certified Organization
- ✓ Zero NET NPA Since Inception
- ✓ No Minimum, No Maximum Limit for the Assistance, Viability is the Criteria
- ✓ Support to Cooperatives for – Project Formulation, Project Funding, Investment Loan, Working Capital/Margin Money

Poultry Development Initiatives by NCDC



Poultry - A very important subsidiary activity in rural areas for the landless and weaker sections

NCDC supporting Poultry Cooperatives since 1974-75 by providing assistance in following activities:

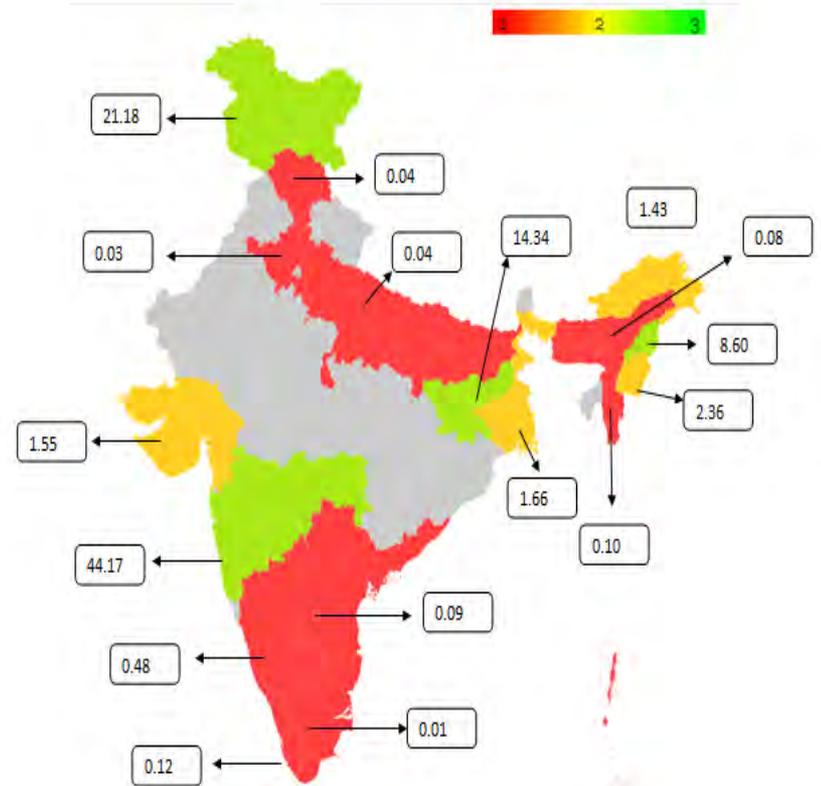
- ✓ Establishment of cluster of poultry units
- ✓ Establishment of incubators, hatcheries and accessories for providing Day Old Chicks (DOCs)
- ✓ Poultry dressing units
- ✓ Training for members of cooperative societies
- ✓ Sanction of additional funds/ margin money to existing Integrated Cooperative Poultry Projects.

NCDC Assistance in POULTRY sector

(as on 30.06.2020)



Sl.No.	State	Cumulative position as on 30.06.2020	
		Projects sanctioned (nos.)	Amount released(Rs. Cr)
1	Andhra Pradesh	2	0.09
2	Arunachal Pradesh	1	1.43
3	Assam	1	0.08
4	Bihar	1	0.00
5	Gujarat	1	1.55
6	Haryana	1	0.05
7	Himachal Pradesh	1	0.04
8	Jammu & Kashmir	87	21.18
9	Jharkhand	5	14.34
10	Karnataka	7	0.48
11	Kerala	3	0.12
12	Maharashtra	78	44.17
13	Manipur	33	2.36
14	Meghalaya	1	0.00
15	Mizoram	1	0.10
16	Nagaland	143	8.60
17	Tamil Nadu	1	0.01
18	Uttar Pradesh	2	0.12
19	West Bengal	8	1.66
Total (Poultry)		377	96.38



NCDC Assistance in POULTRY in last 5 years

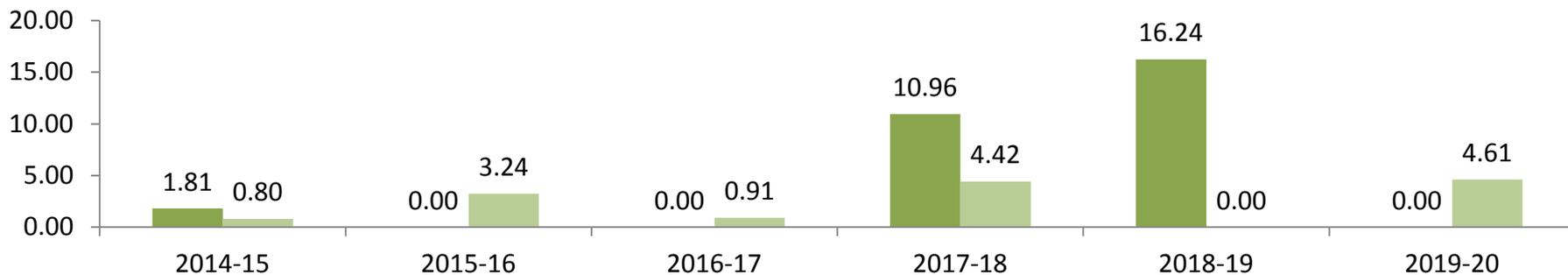
(as on 30.06.2020)



Year	No. of birds reared-Broiler (no. in '000)	No. of birds reared-Layer (no. in '000)	Amount sanctioned (Rs. Cr)	Amount released (Rs. Cr)
2014-15	15	0	1.81	0.80
2015-16	0	0	0.00	3.24
2016-17	0	0	0.00	0.91
2017-18	5	120	10.96	4.42
2018-19	1510	0	16.24	0.00
2019-20	0	0	0.00	4.61
Total	1530	120	29.01	13.97

■ Amount Sanctioned (Rs. in crore)

■ Amount Released (Rs. in crore)

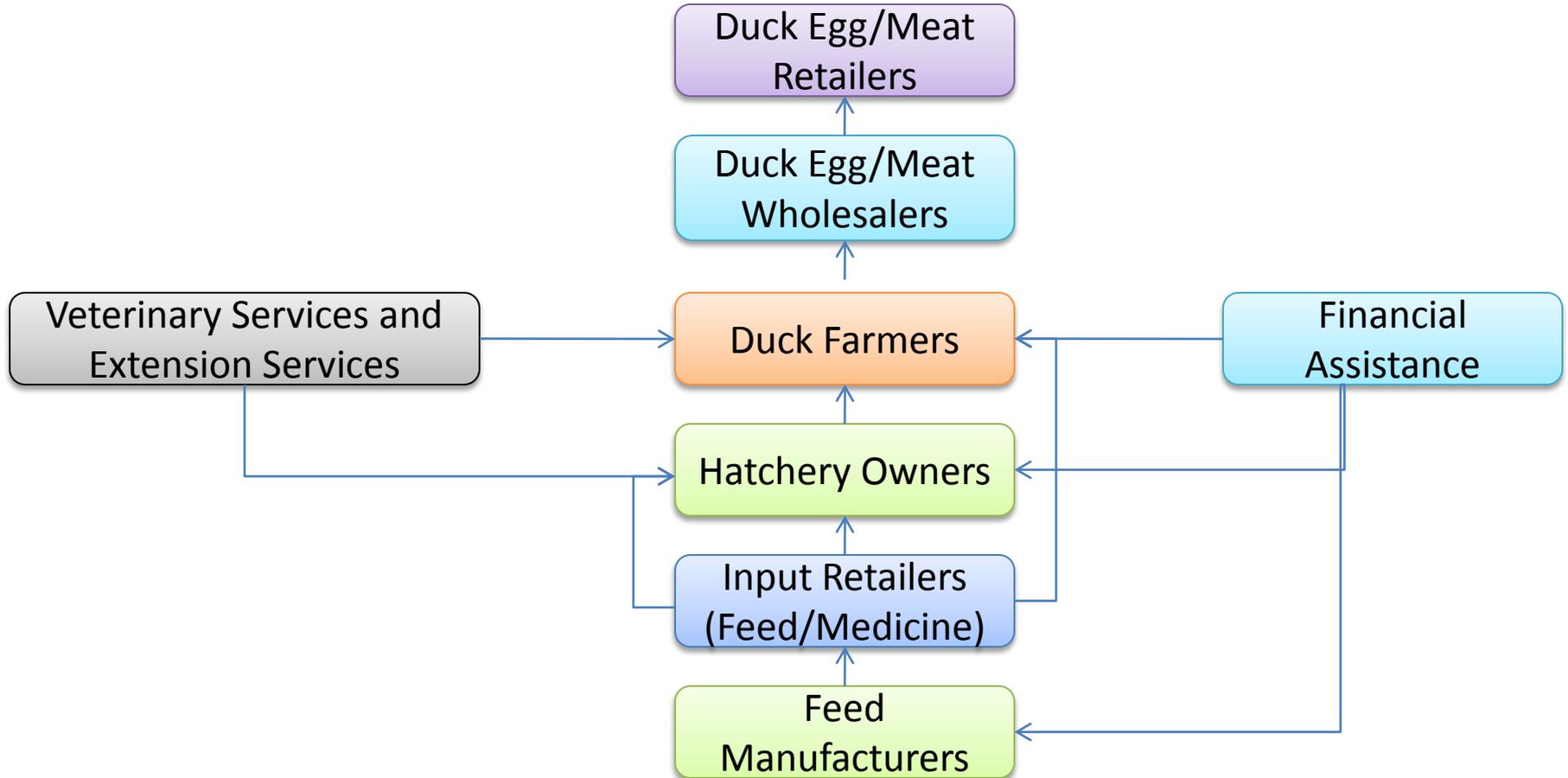


Why should Collectives take up Duckery?



- ✓ Low interest financing
- ✓ Linkage of farmers with the traders
- ✓ Collective bargaining power
- ✓ Group Insurance Coverage
- ✓ Ensuring vet services and vaccine availability
- ✓ Improving information dissemination through feed sellers
- ✓ Training for farmers and local hatchery owners
- ✓ Formation of producer group
- ✓ Backward and forward market linkages
- ✓ High growth potential, opportunity for increased income
- ✓ Easy to enter the business and easy for women entrepreneurs to take up

Duck Farming Value Chain



Challenges in Duck Farming

Challenge I

Availability of Quality Germplasm



Increase the availability of quality Germplasm with various poultry research institutes



Creation of supply network from the research institutes /hatchery units to the duck farmers/ entrepreneurs



Financial assistance for establishing hatcheries units/ brood banks



Challenge II

Availability of Quality Feed



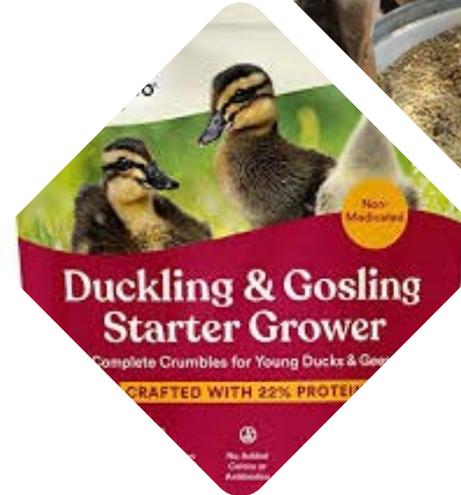
- ✓ Increase Extension activities
- ✓ Intensive education to empower rural households to increase duck production



- ✓ Promote Organic farming
- ✓ Encourage Integrated Farming Practices (Fish- Duck/ Paddy-Duck)



- ✓ Financial assistance for setting up duck feed manufacturing plants
- ✓ Assistance to Collectives involved in Organic & Integrated Farming Practices.



Challenge III

Finance



✓ Model Duckery projects for various breeds and scales.

✓ Increased efforts of financial Inclusion



✓ Promote institutional financial support for duckery projects through FIs

✓ Increase coverage under insurance for Duck farmers/ Duck poultry businessmen



✓ Financial assistance to cooperatives/federated SHGs through State level Coop. Federations under direct finding or through state governments for setting up small and large scale duckery units



Challenge IV

Marketing



- ✓ Map current and potential markets
- ✓ Undertake market research to understand the preferences and tastes of customers



- ✓ Promote Marketing and Branding for Duckery based products, popularise duck based cuisines



- ✓ Financial assistance for infrastructure development such as packaging and processing units and cold storages



Challenge V

Avian Diseases



✓ Duck farmers to be educated in the good production practises which can control the duck diseases.

✓ Veterinary support to duck farmers

✓ Practice bio-security.



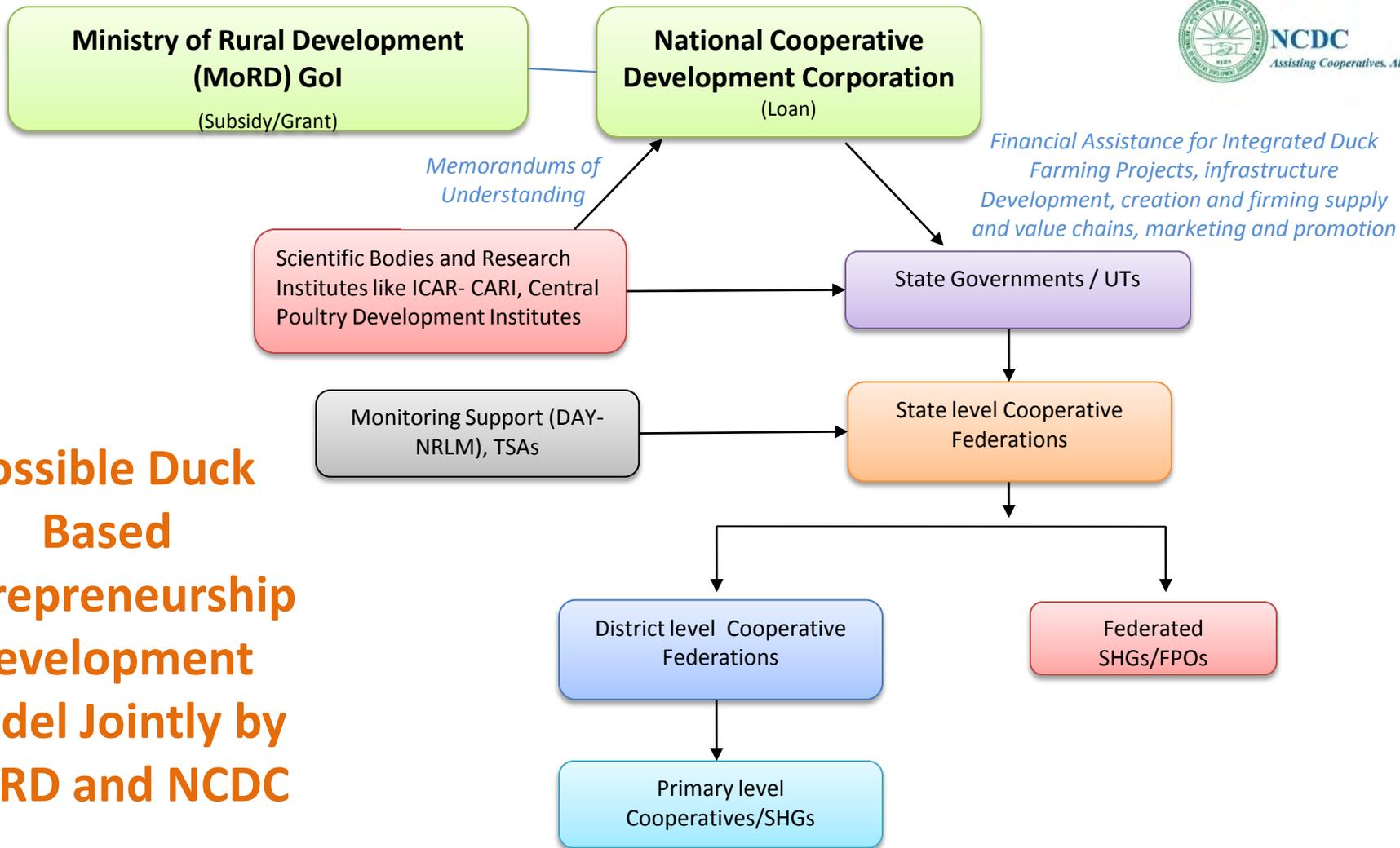
Challenge VI

Commercialization



✓ Growth and popularity of Duck Farming are slow and steady and can be explored better as it is one of the promising species for future.





Possible Duck Based Entrepreneurship Development Model Jointly by MoRD and NCDC

MoRD and NCDC together are endeavouring to facilitate better duck farming through the development of a sound value chain linked to financing so that duck farmers and entrepreneurs in the country can get competitive benefits and form profitable enterprises.

- ✓ Assured availability of quality germplasm by ICAR or PPP models
- ✓ Feed production technology development and transfer, on large scale feed production and marketing
- ✓ Marketing- Strengthen the supply chain by encouraging private sector partners
- ✓ Disease control – ICAR Institutes and Govt Departments to have special focus on vaccination and timely veterinary services
- ✓ Commercialization- Integration of MoRD and NCDC support for large scale and backyard duckery projects
- ✓ Finance- NCDC is willing to create a special pipeline to financially assist Cooperatives and federated SHGs for Duck based enterprising projects

THANK
YOU



NCDC

Assisting Cooperatives. Always!

