

Small Scale Poultry Rearing The Bangladesh Model



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Bangladesh: Economic Context

- Land area- 1,44,000 sq. km, Population- 15.8 million
- Poverty: 40.4% < poverty line ,19.5% as `ultra poor', Women head 20-30%
- Unequal distribution of land - 59% of HH owning< 0.20 hectare, 32% < 1 hectare (small farmers) and 9%>1 hectare (medium and large farmers)
- Poor have little access to the formal banking system- they are unable to provide collateral for loans, deal with small amounts of money
- Credit plus approach is identified as a major tool to improve economic well-being
- Women in rural areas – had no access to institutional credit until the 1980s.
- In early 1980s specialized programs were designed by NGOs and Government to provide credit support to women
- **BRAC feels that poverty is characterized by lack of income, resources, access to services, justice and rights**

Disadvantaged poor, especially women, deserve more attention.

Poultry in Bangladesh

- Contributes to poverty reduction, employment generation and food and nutrition security
- Density: Human-1075/sq km, Poultry- 1194/sq km (1470/sq km including duck)
- 80 to 90% of rural HH keep 3 to 10 birds (Average 6.8)
- Poultry represents an asset, which can be liquidated when the need arises
- Investing in small-scale poultry is an effective strategy to sustain a pro-poor and inclusive growth
- Investment of US \$ 350 in a poultry litter based biogas plant can earn an income of US \$15/ month

Poultry in Bangladesh (cont . .)

- Employment in poultry sector: 6 million
- Growth of commercial poultry sector: 15-20% (annually)
- **Growth of Indigenous Chicken- 6.7% (annually)**
- 150 thousand commercial farms in the country
- Backyard poultry - annual household income BDT 2000-5000 (\$ 30-75)
- Input-output ratio for poultry: with 10 Kg of similar feed gives more protein than swine, milk, beef and mutton
- Productivity of local hen is 40-60 eggs/ bird /year compare to commercial layer at 270-300 eggs/ bird /year
- Poultry production system in Bangladesh is categorized into
 - (a) **Traditional rural backyard scavenging system**
 - (b) **Semi-scavenging system**
 - (c) **Commercial farming system (small, medium, and large)**

Poultry—A sustainable option for poverty alleviation

Backyard poultry

- Consumers prefer native chicken for meat and egg
- A range of production systems - birds of different breeds with differing productive performance; mixed flock (day-old chicks, pullets, grown hens and few cocks)
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- Mortality rate is variable, egg spoilage and birds are not marketed at any definite age
- Farmers prefer selling birds when these fetch maximum price or to meet unexpected expenditures
- Cost of birds and other inputs are difficult to measure due to barter exchange, value of supplemental feed, local materials etc
- Social value of birds is hard to quantify, as contribution to women empowerment, participation in social events
- ***Bulk of poultry meat and eggs still comes from traditional poultry***



Difficult to measure the over all contribution of Small-Holder Poultry Rearing

Commercial poultry

- In early 90s, private Parent Stock Poultry Farms started operations to produce commercial DOC (both Broiler and layer)
- People are getting attracted to this sector and taking it up as a business
- 7 Grand Parent Stock Farms supply 80% of the demand
- 82 parent stock farms are producing 50-55 Lac day old broiler and 5 Lac day old layer chicks per week
- 76 feed mills are producing concentrated feed
- Outbreak of Avian Influenza affected the sector in 2007 and 2008
- Situation improved from July 2008 on account of prompt and collaborative initiatives taken by Govt., NGOs, Private Sector and communities

With rise in per capita income, rapid urbanization and growth in population, demand for quality poultry has increased

Disease and Veterinary Services

- Losses due to disease and predators high, particularly in back-yard poultry.
- Due to lack of structured service delivery, remote rural areas remain un-served
- Four government field staff, one veterinary officer and one livestock officer are responsible for about 200,000 poultry birds
- Commercial farms have their own vaccination schedule
- 4 types of vaccines are produced in Bangladesh
- NGOs collaborate to extend service delivery system by developing local manpower

BRACs poultry activities with small inputs help to improve livelihoods of poor by increasing productivity

Sourcing of Birds

- Backyard poultry birds are sourced locally or through self-reproduction
- Backyard poultry have undergone periods of natural selection and are a reservoir of excellent genetic diversity
- Easily available in rural areas, though culling in response to outbreaks of avian influenza has put their existence under threat
- Pure indigenous birds in some districts (Aseel and Naked Neck)
- Some indigenous breeds have undergone genetic erosion due to indiscriminate crossing with indigenous chickens and introduction of exotic stock
- In the commercial poultry sector, farmers purchase birds from NGOs, private or government parent stock farms
- In semi-scavenging poultry systems, Sonali and Bovans Nera has been propagated through the 'Bangladesh Poultry Model' implemented by the government and BRAC.

Demand and supply of meat and eggs

Product (Person per year)	Requirement	Availability	Deficit	Deficit %
Meat (Kg)	43.25	9.12	34.13	78.9
Eggs (Nos.)	104	36	68	65.35

About BRAC

- A development organization founded by Fazle Hasan Abed in February 1972
- Largest NGO employs more than 120,000 people, reaches 110 million people with development interventions in Asia and Africa
- Established itself as a pioneer in recognizing and tackling different poverty dimensions
- Unique and holistic approach to poverty alleviation and empowerment of poor
- A range of core programmes in economic and social development, health, education, human rights and legal services
- Committed to poverty alleviation and empowerment of the poor through provision of training, technical and other support
- Programme partner of the South Asia Pro Poor Livestock Policy Programme, and has taken the lead in documenting good practices from within Bangladesh

BRAC believes that delivering essential services and ensuring availability of inputs to the poor in a reliable way and at a competitive price will enable them to become economically self-reliant

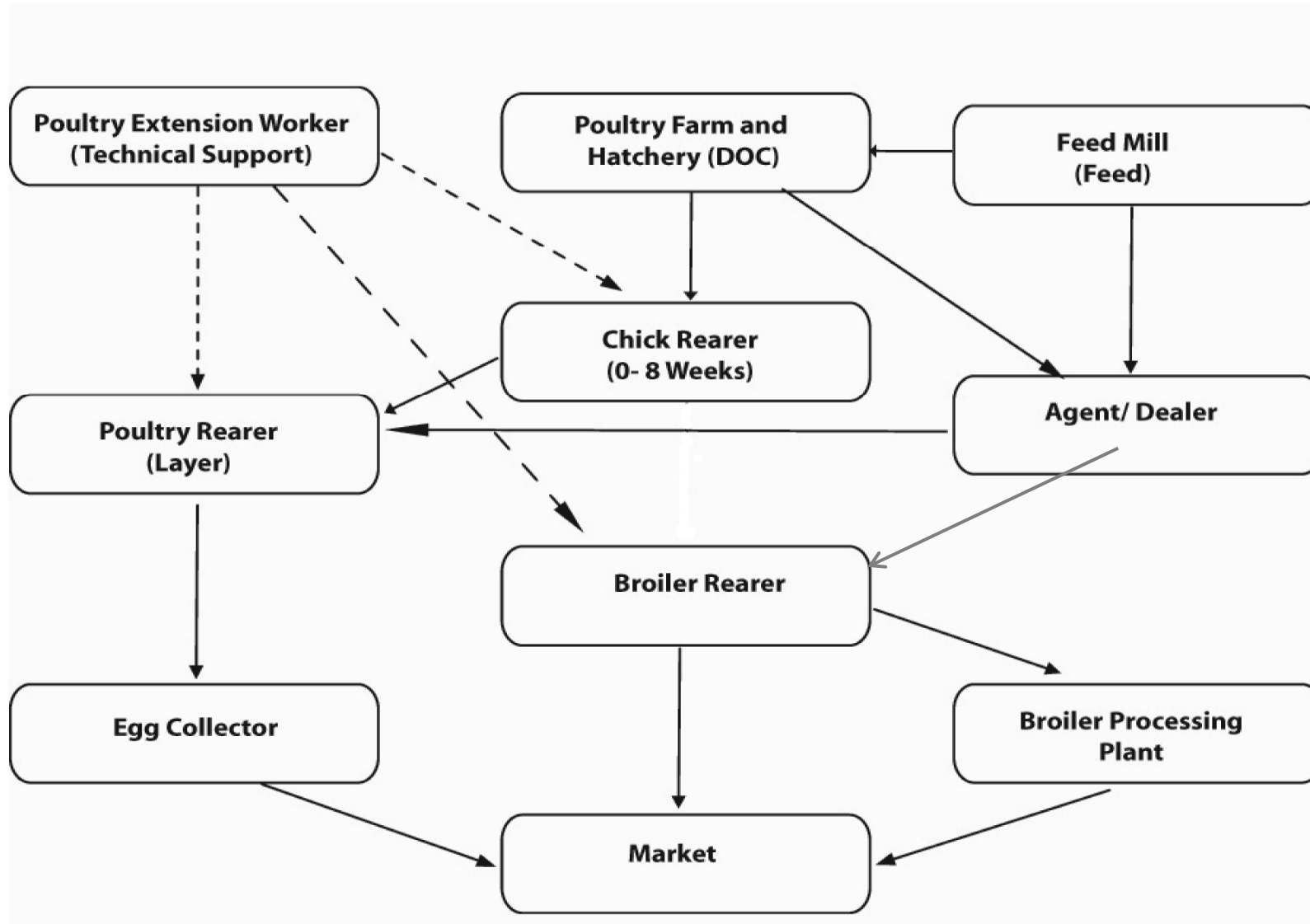
The Bangladesh Poultry Model

- Public- Private Partnership
- Combined a holistic package of practices and interventions
- Provides access to credit, information, skills and technologies
- Model ensures backward and forward integration
- Basic model consists of 7 enterprises - *Poultry Vaccinators, Chick Rearers, Key Rearers, Feed Sellers and Egg Collectors , {Model Breeders, Mini Hatchery}*
- Each component targeted at poor women
- Each component has economic viability

Objectives

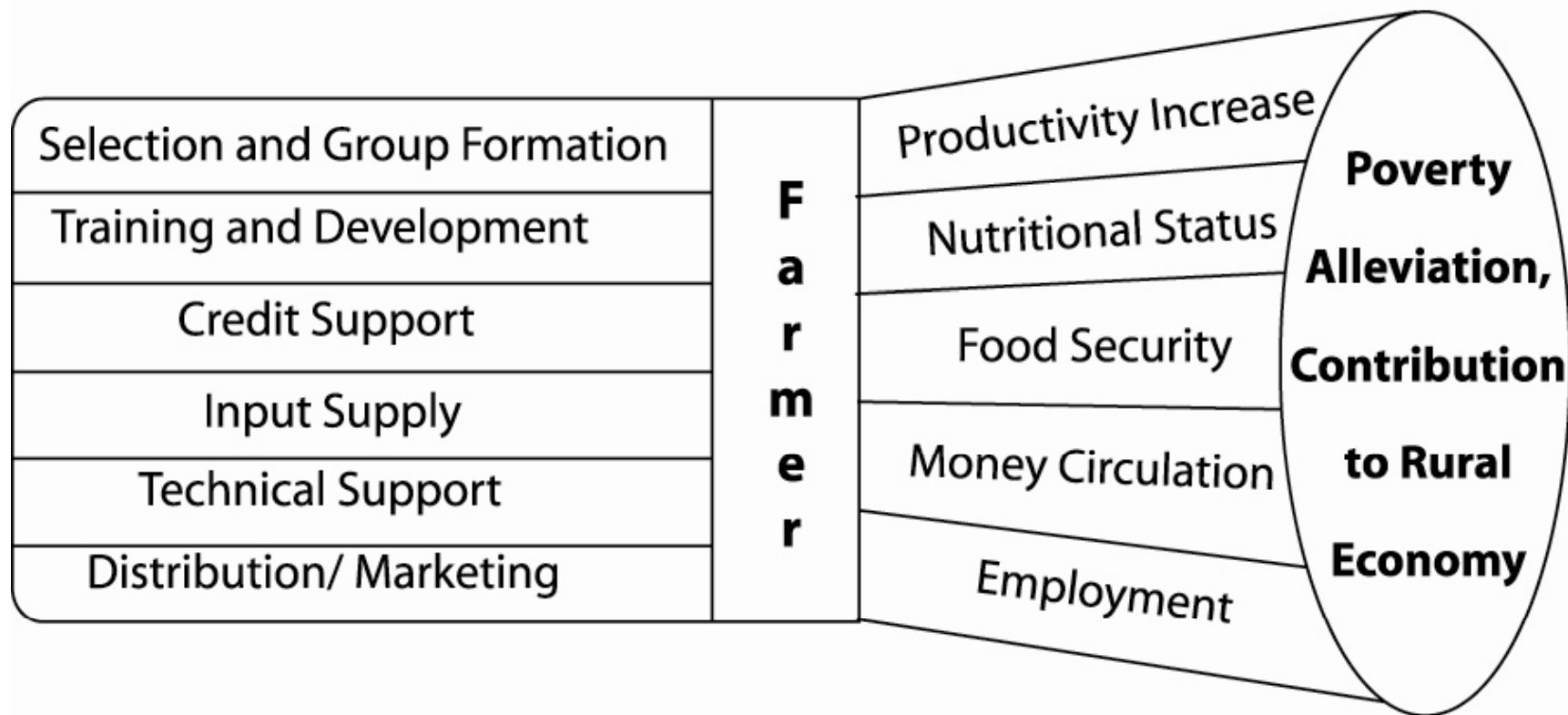
- Integration of small farmers especially women into poultry rearing activities
- Create new employment opportunities
- Generate income and alleviate poverty through poultry development
- Reduce mortality of poultry
- Increase the availability of animal protein in the country

The Bangladesh Poultry Model: Key Elements



Methodology and Model Development

Over the last 25 years BRAC designed specific model/framework in poultry sector to support small and marginal farmers in Bangladesh, as :



A comprehensive package is needed to address the requirement of different categories of farmers

Methodology and Model Development

Components and purpose

Service Provider	Items/inputs	Target People
Poultry Worker	Vaccine, drugs, information	Chick rearer, Key rearer
Chick Rearer	Pullet, Cockerel	Key rearer, layer rearer
Key Rearer	Egg, Live chicken	Egg collector, Market
Broiler Rearer	Live Broiler	Market
Small scale commercial layer rearer	Egg	Egg collector, Market
Egg Collector	Egg	Market
Poultry Farms	DOC	Chick rearer, Broiler rearer
Feed Mills	Balanced feed	Chick rearer, Key rearer, Broiler rearer, Layer rearer
Dealers/Agents	Balanced feed/Vaccines	Chick rearer, Key rearer, Broiler rearer, Layer rearer

Integrated and holistic approach and intervention are required to improve productivity and profitability

Activities and economic scale of different Cadres

Poultry worker

- Poultry vaccinators are identified and trained, selection is from amongst semi-literate women from respective villages (priority is given to widows, destitute, married women, permanent residents, having motivating capability and social acceptability) – 19200 Nos
- 5 days training (technical session, practical demonstration, trial and field visit)
- Training on vaccination, de-worming and first aid to poultry .
- One poultry vaccinator is appointed for about 1500-2000 birds.
- Refresher course/month (attendance-90%)
- BRAC provides vaccination kits and equipment
- Vaccines are supplied by Government and distributed twice a month
- Charge a small fee, Tk.0.50 -1.00 or payment in kind for vaccination and other services per bird



Activities and economic scale

Chick Rearer

- Rear 200-300 DOC for 2 months , supplied by government, private hatcheries and BRAC farms
- Birds are sold to poultry rearers (key and layer rearer)
- Birds are fed with balanced feed supplied by feed sellers

Key Rearer

- Rear 5 to 10 birds (both local and HYV) in scavenging or semi- scavenging system
- Birds are kept for producing egg
- 90% of poultry farmers are involved

Broiler rearer

- Rear 200 - 500 day old broiler chicks up to 6 weeks
- Depend on concentrated feed, vaccination and medication
- Sell live broilers to local market

Activities and economic scale

Small scale commercial layer rearer

- Developed from upgraded key rearers
- Rear 50-500 layers
- Produce table eggs

Egg Collector

- One is selected from each village
- Buy eggs from key and layer rearers and sell to market
- Get short orientation from BRAC on egg quality and transportation system

Feed Seller

Received balanced feed from BRAC and Private mill

Sell to rearers

BRAC decided to promote homestead poultry rearing to offer regular and sustainable income as well as empower women at family and social level

Choice of Programme Participants

- A - Availability
- Q - Quality
- A - Accessibility



Technical Support by BRAC

- Veterinary supplies and animal health services are not adequate in rural areas.
- Delivery of animal health services and veterinary supplies are shared between Department of Livestock Services (DLS) and BRAC
- Beyond sub-district level, animal health services and drugs are provided by poultry workers supported by BRAC

Impact of poultry workers (vaccinators) on mortality of poultry

Particulars	Before	After
Poultry mortality due to Newcastle Disease (%)	35-40	15

The Bangladesh model of animal health services delivery / drugs to smallholders builds an innovative public private partnership.

Marketing

- Indigenous birds have ready markets available locally
- Live birds and eggs are crucial for commercially oriented small scale farmers
- Small-scale commercial poultry units can be established successfully when farmers have access to a reliable market
- Integrated approach is needed with significant support provided all along supply chain
- BRAC is providing marketing services in two ways –
 - a. By developing entrepreneurs among farmers to buy products and sell to large cities*
 - b. In remote areas, BRAC Broiler Marketing assists contract growers to sell live broilers*

Biosecurity

- Practices of bio-security do not have to be cumbersome, confusing or expensive
- Small investments of time and money can produce benefits for farmers and other stakeholders along the supply chain
- Public-private partnership, private entrepreneurs, can be effective tools to expand coverage and quality of services
- Community based bio-security approaches can help
- Movable wooden shelter developed by BRAC, help farmers in taking appropriate bio-security measures at lower costs



“Biosecurity – An Effective means for Disease Prevention and Control”

Impact of Poultry Programme on Livelihood

Individual level – Increase in Income, food security and nutritional status, empowerment of women

Sub-sector level – yield/ production increase, disease/ pest decrease, farm size increase, socio- economic impact

Government activities and policy – more support from govt. & encouragement to private sector, establishment of Public-Private Partnership

“BRAC analyzes a problem from national perspective and search for a solution from the grass-roots.”

Impact on Livelihoods

Changes in weekly food intake by households before and after joining poultry programme

Particulars	Egg Consumption (Nos)				Meat Consumption (gms)			
	Before	After	Change	% growth	Before	After	Change	% growth
PLEW	2.6	5.6	3.0	115	66.3	113.1	46.8	71
Chick rearers	2.7	5.9	3.2	119	95.3	145.2	49.9	52
Key rearers	2.5	4.8	2.3	92	73.5	120.9	47.464	
Model rearers	3.2	.6	3.4	106	58.8	120.0	61.2	104
Feed sellers	2.8	5.3	2.5	89	108.3	114.4	6.1	6
Mini hatchery	3.2	7.6	4.4	138	96.0	137.8	41.8	44
Average	2.6	5.3	2.7	104	72.4	122.1	49.7	69

Monthly income and the effect on income utilisation

Particulars	Monthly income (Tk)			Change in pattern of income utilisation						
	Prior	After	% Change	Food	Clothing	School	Health	Housing	Saving	other
Chick rearer	2955	4455	50.8	1.0	0.7	0.6	0.5	0.4	1.4	0.1
Key rearer	2122	3315	56.2	0.8	0.7	0.8	0.7	0.4	1.0	0.3
PLEW	1770	2795	57.9	1.1	0.9	0.8	0.9	0.7	1.7	0.2

What are the Problems and Where?

- Limited availability of suitable and sustainable HYV and crossbred poultry
- High mortality and low productivity of scavenging and semi scavenging birds
- Poor poultry healthcare services in remote areas
- Higher price of feed ingredients
- Limited source of feed
- Lack of organized marketing system
- Inadequate government livestock service delivery
- Limited access to institutional credit and extension services
- Limited attempts to improve and conserve indigenous breeds

Integrated approach is needed to address the problems

Major considerations for small scale poultry production

The key elements of success are-

- Need assessment
- Developing a community based approach in the value chain
- Provision of training and other support services
- Ensure supply of inputs and strong delivery chain
- Credit Support
- Improve marketing channel
- Promote the private sector
- Public- Private Partnership
- **Role of Government Agencies**

Conclusion

- Bangladesh has tremendous opportunity in poultry sector Little or no job opportunities for landless, disadvantaged women, poultry rearing is only viable option to participate
- BRAC works to generate new approaches to release poor from the cycle of poverty through different programme
- Poultry programme made significant contribution in raising income level of disadvantaged women
- Growing market opportunities will stimulate growth of poultry
- Increase income and employment, training, technical support and supply of input to poor farmers will contribute in the country's overall growth
- Increased income brings educational and nutritional benefits to children
- Close cooperation between Government and Non-Government Organizations

Conclusion

The present and future

- **Can we meet the rising requirement for poultry –Self sufficiency**
- **Can we produce economically – Is it selling price or cost per kg**
- **Can we efficiently utilize available raw materials**
- **Can we meet quality standard**

“Can small scale poultry compete with large scale?”

Thank you all