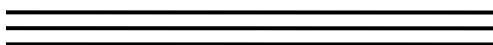


Conservation and Promotion of Indigenous Poultry Breeds of Bangladesh



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Introduction

- Poultry is one of the fastest growing segments of the agricultural sector in Bangladesh (Faruque *et al.*, 2011)
- Indigenous chicken still remains the main chicken genetic resources for the rural farmers (Yamamoto *et al.*, 2011)
- About 75% of the eggs and 78% of meat are consumed from indigenous / native chicken (Bhuiyan *et al.*, 2005)
- Indigenous / local chicken breed share 90% of the total population in developing countries (Bebes, 2009)

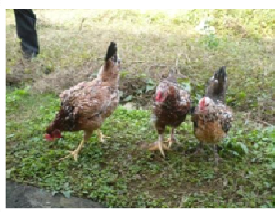
Introduction (contd.)

- Perform a variety of functions, e.g. laying eggs, hatching chicks, brooding and caring of them (Shahjahan *et al.*, 2011)
- They have several valuable characters over “exotic” chicken
- Good adaptability to local climate and disease resistance
- The indigenous chicken of Bangladesh are composed of
 - Non-descript Desi / Local
 - Aseel
 - Naked Neck
 - Hilly
 - Some dwarf chickens and
 - Red Jungle Fowls

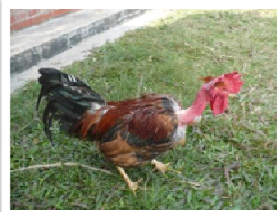
Indigenous chicken gene pool of Bangladesh



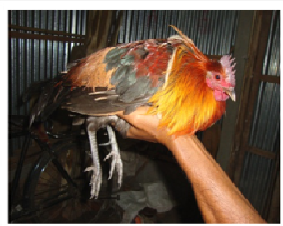
Non-descript Desi / Local



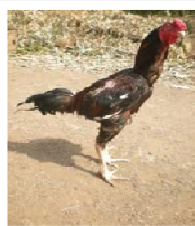
Hilly



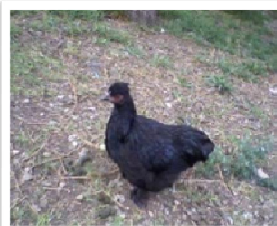
Naked Neck



Red Jungle fowl



Aseel



Dwarf chicken

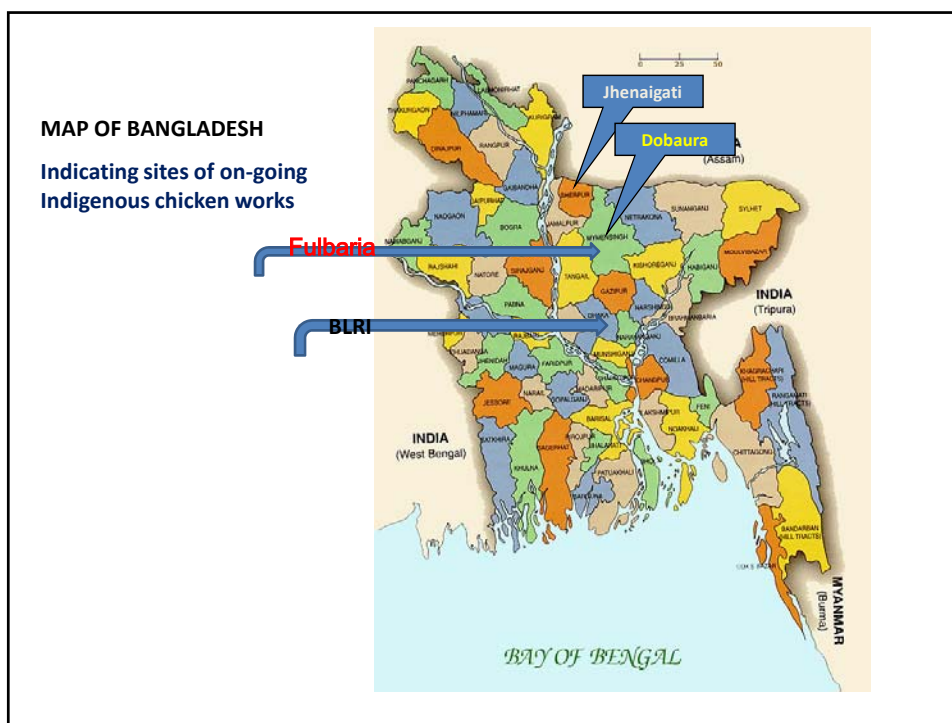
Introduction (contd.)

- **Appropriate for traditional low input/low output farming system**
- **A growing consensus to increase the genetic potential of Indigenous chickens in the developing countries**
- **Need to conserve, develop and promote indigenous chicken resources of a country for the livelihood improvement of keepers**
- **Concurrently develop high yielding breeding stocks using native stock**

On-going Activities in Bangladesh

Pilot programs undertaken by

- 1) BAU-WVB at Fulbaria**
- 2) BAU-WVB at Dhobaura**
- 3) Bangladesh Agricultural University (BAU) and**
- 4) Bangladesh Livestock Research Institute (BLRI)**



On-going Activities (contd.)

1. BAU-WVB at Fulbaria

Aim: Promotion, conservation of chicken and bettering household income of rural people

Activities: Driven by Mr. S.M. Samiul Awal, an animal production graduate and is being paid by WVB

Activities of BAU-WVB at Fulbaria (contd.)

Baseline Survey (November, 2010)

- ✓ 334 households at Bakta Union in Fulbaria, Mymensingh
- ✓ Prepared a complete profile of each household

Analysis of survey data and selection of households (February, 2011)

A three day training (13- 25 March, 2011)

- ✓ 200 selected farmers (women and men) in 8 groups
- ✓ The contents of training management , disease prevention and marketing of eggs and chicks etc

Activities of BAU-WVB at Fulbaria (contd.)

Selection of 2 groups from 8 (26th March, 2011)

- ✓ for indigenous chicken rearing
- ✓ 2 groups consisted of a total of 35 members
- ✓ each group has a committee & arranges monthly meeting and collect a savings of TK. 50/head/month

Free Field Vaccination Campaign (27th April, 2011)

- ✓ At Majar Ali Madrasa, Bakta Union
- ✓ BCRDV, RDV and Fowl Pox vaccines provided to farmers' chicken

Activities of BAU-WVB at Fulbaria (contd.)

Chicken house distribution

(20th May, 2011)

- ✓ 35 chicken houses (6×3×3) cft constructed and distributed

Regular Group Meeting

- ✓ Held at 09th May, 06th June, 09th July, 2011

Indigenous Cock Fair

(27th June, 2011)

- ✓ The objectives of the fair were
 - to grow awareness on the value of conserving and promoting indigenous chicken
 - to inform villagers on the need for keeping big and mature cocks

Cock Fair at Fulbaria



Activities of BAU-WVB at Fulbaria (contd.)

Future plan of action

- ✓ Distribution of superior indigenous chicken
- ✓ Establishing a Community Brooder House
- ✓ Community egg collection, hatching and chick distribution
- ✓ A “bio-security zone” through mass vaccination program
- ✓ Refresher training course
- ✓ Adoption of known good practices
- ✓ Finally, group marketing of products

Activities of BAU-WVB at Dhobaura

2. BAU-WVB at Dhobaura

- ✓ Initiated on 7th February 2010 entitled with “**Livestock and Livelihood Through Indigenous Chicken Rearing**”
- ✓ The motto of this project : to execute sustainable indigenous chicken rearing for income generation by poor households
- ✓ distribution of chicken among the households was performed with set-in terms and conditions
- ✓ the range of income from the sale of egg and chicken lied in the scale of Taka 200 to 6920 per household

Activities of BAU-WVB at Dhobaura (contd.)

Activities performed

- ✓ baseline data collection
- ✓ organizing awareness workshop
- ✓ household selection
- ✓ training the selected households
- ✓ disbursing hens and cocks
- ✓ technical support through vaccination, de-worming, medication,
- ✓ regular monitoring, technical team visit at regular intervals, follow-up training, co-operative activities and
- ✓ regular feedback meeting with the farmers

Chicken distribution at Dhobaura



Activities at BAU

3. Bangladesh Agricultural University

Project title (UNEP-GEF-ILRI FAnGR Asia Project)

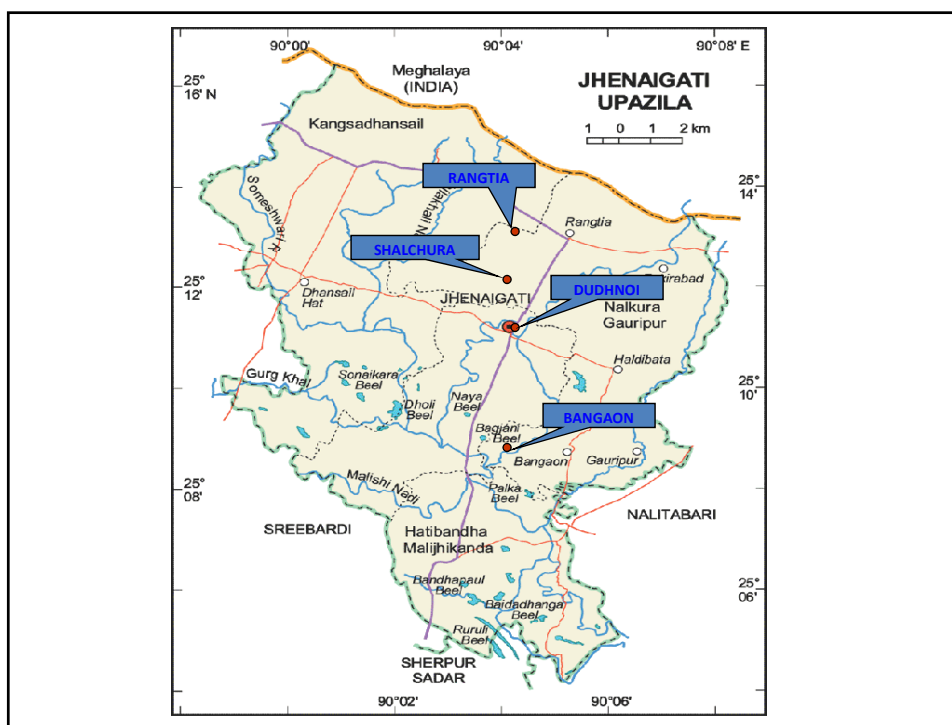
“Development and Application of Decision-Support Tools to
Conserve and Sustainably Use Genetic Diversity in Indigenous
Livestock and Wild Relatives”

Objective

Conservation of indigenous livestock for future generations and their
increased contribution to livelihoods through enhanced use

Pilot site

Three villages of Jhenaigati, Sherpur



Activities at BAU (contd.)

Benchmark Study

(November 2009 to July 2010)

PRA (8), HHS (165) & MAS (23) in 3 villages



Awareness Workshop

(11 March & 29 March, 2010)

Participants - rural farmers, representatives from WVB, DLS, UNO, Upazila Chairman, NPD, academicians of BAU, Project Site Managers



Farmer selection

A total of 100 farmers selected in February, 2010

Baseline Survey and PRA



Activities at BAU (contd.)

Capacity building training (February to May, 2010)

Five batches in total 100 farmers on chicken rearing details & conservation



Distribution of superior indigenous chicken

(March to June 2010)

Among 100 targeted farmers (@ 20 chicken per farmer)



Interventions provided

Routine vaccination, deworming, hatching plan, cock rotation, feed supplementation during lean period

Activities at BAU (contd.)

Blood sampling, phenotypic characterization and flock monitoring

Blood sampling: 16 October 2010 to 10 April 2011

In-depth Flock Monitoring: 12-26 June 2011



National Steering Committee Meeting

16 November 2009 and 24 January 2011



Site Committee Coordination Meeting

On a quarterly basis

Activities in picture



Activities at BAU (contd.)

Village Committee Meeting

9 committees in all and they meet at monthly interval



In-depth Flock Monitoring 1st & 2nd round

12-06-211 to 24-06-2011 and 13-08-2011 to 06-09-2011 (Expected)



Follow up services

Regular farm and home visit by the project technical staffs

Activities at BAU (contd.)

Project visitors

National and international team and individual visits (8 visits by ILRI team)



Financial gain of the participating farmers

Taka 2000 - 5000 per farmer / year



ILRI team visit, Survey workshop & others



Activities at BAU (contd.)

Limitations of the initiative

- ✓ Lack of attention to rearing as they believe chicken will grow automatically without special attention
- ✓ Not interested in record keeping and reluctant to analyze cost-benefit
- ✓ Continuous input / supplementation are not available
- ✓ Farmers always expect to get something (cash or kind) from project
- ✓ Attitude of implementation partner like a relief work not development work

Activities at BLRI

4. Bangladesh Livestock Research Institute

Inception: May, 2010 (an *on-station* research under a Ph. D program)

Types of chicken used for this study namely

- Naked Neck (NN)
- Hilly (H) and
- Non-descript Desi (ND)

Foundation stock established by utilizing

- the long-existing (since 1990s) stock of BLRI
- screening of males/females/eggs from wider gene pool of country

Activities at BLRI (contd.)

- ✓ **Bird identification:** wing banded and reared separately according to genotypes
- ✓ **Improvement target**
 - egg weight increment by 1g
 - egg production rate increment by 2 % per generation
- ✓ **Selection:** practiced at 3 (three) stages of birds life
 - Firstly at 8 weeks
 - Secondly at 16 weeks of age (selection based on breeding value)
 - Thirdly at 40 weeks of age (on the basis of an index value)

Activities at BLRI (contd.)

- | | |
|---|---|
| <p>Non-descript genotype was better for</p> <ul style="list-style-type: none"> ▪ Fertility ▪ hatchability ▪ dead in germ ▪ mortality ▪ egg production (whole group) ▪ egg weight and ▪ Haugh unit | <p>Hilly genotype was better for</p> <ul style="list-style-type: none"> ▪ Chick weight ▪ daily growth ▪ FCR ▪ live weight ▪ egg production (selected group) ▪ shape index and ▪ expected response to selection for egg production |
|---|---|
- ✓ On the other hand, carcass characteristics and breaking strength were better in Naked Neck genotype

Activities at BLRI (contd.)

- ✓ The findings of the study to date indicated that indigenous chicken would respond to selection program and hence the research needs to continue for more generations for achieving its set goals.

Summary of Indigenous chicken conservation & promotion pilot programs

| Parameter | At Fulbaria | At Dhobaura | In BLRI | At Jhenaigati |
|-----------------------|-------------------|-------------------------------|-------------------------|-------------------|
| Program started | November, 2010 | 7 th February 2010 | May 2010 | November 2009 |
| Breed of chicken used | Indigenous / Desi | Indigenous / Desi | Desi, Naked Neck, Hilly | Indigenous / Desi |
| In-situ / Ex-situ | In-situ village | In-situ village | Ex-situ (on-station) | In-situ village |
| No. of villages | One | Two | - | Three |
| No. of HH engaged | 200 | 40 | - | 100 |
| Farmer participatory | Yes | Yes | No | Yes |
| Source of chicken | Own | Gift | Govt. | Own + Gift |

Summary of Indigenous chicken conservation & promotion piloting works

| Parameter | At Fulbaria | At Dhobaura | In BLRI | At Jhenaigati |
|-----------------------|---|---|----------------------------|--|
| Management system | Traditional extensive / scavenging | Traditional extensive / scavenging | Intensive / not scavenging | Traditional extensive / scavenging |
| Interventions applied | Awareness workshop, baseline survey, farmer selection, farmers' training, vaccination, Marginal Producers' Group formed, 35 chicken house distributed, regular group meetings held, Cock Fair organized | Awareness workshop, baseline survey, farmer selection, farmers' training, vaccination | | Awareness workshop, baseline survey, farmer selection, farmers' training, vaccination, village committees formed |

Summary of Indigenous chicken conservation & promotion pilot programs

| Parameter | At Fulbaria | At Dhobaura | In BLRI | At Jhenaigati |
|------------------------------|-------------|-------------------------------|---------------|----------------------------|
| Chicken distributed | Not yet | 7 Feb. 2010, 9-15 Sept., 2010 | - | March to June 2010 |
| Dropout rate (%) | - | 4 % | - | 3% |
| Flock size at beginning | 5.04 | 4.76 | - | 18 |
| Present flock size | - | - | - | 40 (including baby chicks) |
| Annual household income (Tk) | - | Tk. 200 to 6920 | - | Tk. 2000-5000 |
| Avg. mortality (%) | | 5 % | Less than 2 % | 4 % |
| Funded by | WVB | WVB | Government | GEF-WVB |
| Technically backstpped | BAU | BAU | BLRI-BAU | ILRI-BAU |

| Future plan of activities | | | | |
|---|--|--|---|--|
| Indigenous chicken conservation & promotion pilot programs | | | | |
| At Fulbaria | At Dhobaura | BLRI | At Jhenaigati | |
| <ul style="list-style-type: none"> ✓ Chicken distribution ✓ Community Brooder House ✓ Community egg collection, hatching and chick distribution ✓ Creating a “bio-security zone” ✓ Refresher training ✓ Improved information recording ✓ Adoption of good practices ✓ Group marketing | <ul style="list-style-type: none"> ✓ Improved information recording ✓ Organizing “Cock Fair” ✓ Refresher training ✓ Creating a “bio-security zone” | <p style="text-align: center; color: yellow;">Program will continue for more generations</p> | <ul style="list-style-type: none"> ✓ Community Brooder House ✓ Community egg collection, hatching and chick distribution ✓ Creating a “bio-security zone” ✓ Refresher training ✓ Group marketing ✓ Organizing “Cock Fair” | |

Emerg ed issues on indigenous chicken conservation in Bangladesh

- Greater public awareness on CBD & indigenous conservation
- **Pro-poor national livestock policy**
- **Policy translated into clear national action plans**
- **Regulatory bodies to monitor policy implementation**

Actions needed to promote indigenous chicken conservation in Bangladesh

- **Production of sufficient poultry vaccines**
- **Availability of quality vaccines at the grass root level**
- **Awareness ad. in mass media to promote indigenous chicken**
- **Government “subsidy scheme” on indigenous chicken conservation**

Actions needed at regional level

- **Regional collaborative project on indigenous chicken conservation**
- **Strengthening regional bio-security measures**
- **Experience sharing to be continued**

Conclusion

- Farmers are on move to earn more by selling eggs and chicken
- Seriousness noticed among the participating households
- Programs have created significant awareness among others
- Similar new programs on indigenous chicken are underway
- **On-going pilot works will continue**

Our hope

- Indigenous chicken promotion may create a motion in Bangladesh
- Indigenous chicken diversity may be better conserved
- May bring a change in the livelihood of her keepers
- **Pro-poor economy through indigenous chicken would be geared.**

**THANKS
FOR YOUR
KIND ATTENTION**