



**Original Article**

**Evaluation of existing poultry development policy and way forward to its development in Bangladesh**

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**ABSTRACT**

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The study was conducted to evaluate present status and the gaps of the existing poultry policy and to recommend the output to the concerned policy makers of the Government of Bangladesh. Among the existing policies, poultry development policy was considered for investigation. Research gaps were addressed through published data, SWOT analyses, structured questionnaires survey, FGDs (Focus Group Discussions) and Key Informant Interviews (KIIs). The study was carried out in seven divisions of Bangladesh namely Dhaka, Chittagong, Rajshahi, Khulna, Sylhet, Barisal and Rangpur. Total 177 representative samples (covering all stakeholders like farmers, dealers and distributors, parent stock/hatchery owners) were interviewed from selected seven divisions. Three FGDs and 50 KIIs were administered with different stakeholders. Descriptive statistics like percentage, mean, ranks, bar and pie chart were used for data analyses. Binary logistic regression and Z test were also used to identify the variables influencing the acts and policy. SPSS 20 software was used for data analyses. From the findings it reveals that the authority is not functioning properly due to lack of action plan and monitoring cell. Policy itself faulty in respect of filing case with DLS permission, terms of punishment, nature of bail, lack of magistracy power of DLS officials, lack of diagnosis of diseases, feed, medicine, drugs and livestock products analyses laboratory. Policy should be implemented on step by step basis targeting a period by 2020. Govt. should enforce action plan by implementing acts and policy considering organic and safe food showing zero tolerance to offenders. If policy is implemented ensured not only nutritional security, food safety and sustainable animal production but also livestock business and industry people will be benefitted and consumer will get safe food. Therefore, proper implementation of act and policies will ensure the development of poultry sector in Bangladesh.

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**Introduction**

Poultry meat alone contributes a substantial part (37%) of the total meat production in Bangladesh (Begum *et al.*, 2011). About 75% of the population rely to some degree on livestock for their livelihood specially the landless farmers (Tareque and Chowdhury, 2010).

Considering the potential contribution of livestock sub-sector, the Government of Bangladesh has formulated Poultry Development Policy to guide the effective implementation of activities and program in the livestock sub-sector. The overall objective of poultry development policy is to promote sustainable livestock production and productivity through improved management in order to attain

household food security and increased income. A comprehensive policy for the livestock sector was launched only in 2005 whose effective implementation and success remains to be seen. Government should encourage private investment in livestock sector providing necessary facilities but simultaneously ensuring same quality standards such as quality assurance of day old chicks (DOC), drugs, vaccines, feeds, and breeding materials through legal and regulatory framework is necessary for sustainable development of the livestock sector (Rahman *et al.*, 2014). Many of the old policies have lost relevance to face new challenges ending up as costly experiments with little or no tangible outcomes. The Policy defines the overall objectives and sets specific

policy guidelines based on priority and strategies for achieving the vision of the government for livestock development. This policy works as the vehicle for coordinating and providing a common framework for interventions by different implementing agencies through the shared vision, objectives and strategies. Since good policy is defined as “synoptic and long-term, strategic and proactive, crosscutting and substantive” (Peters, 1996) this can obviously be achieved only through solid human and institutional arrangements to facilitate the policy-making process.

With little or no public sector regulation these developments may force competing small producers out of the market. With this backdrop, it is the role of government to safeguard the sub-sector and to develop appropriate policy guidelines for development of the sector with proper guidance by the respective ministry. Development of the prospective policy will be of great value to the respective Ministry and all the stakeholders in the livestock sector in Bangladesh. Accordingly, National Livestock Development Policy (NLDP, 2007) has been prepared to address the key challenges and opportunities for a comprehensive sustainable development of the livestock sub-sector through creating an enabling policy framework. The existing policy defines the overall objective of the Ministry within the next 5-10 years, and sets specific policy guidelines and strategies for achieving the objectives. It also sets priority areas upon which all the stakeholders should focus on livestock production, animal health and livestock marketing. It is expected that the policies will become a vehicle for coordination by Ministry of Livestock and Fisheries (MoLF) and provide a common framework for interventions by different implementing agencies (NGOs, DLS, livestock professional associations) through a shared objectives, agreed targets and clearly defined responsibilities, with an overall aim of increasing the impact of the programmes of the MoLF.

The livestock sub-sector in Bangladesh is currently governed by the following legislation: Bengal Cruelty to Animals Act, 1920, Prevention of Cruelty to Animals Ordinance, 1962, Bangladesh Veterinary Practitioners Ordinance, 1982, Animal Disease Act, 2005, Bangladesh Animal and Animal Product Quarantine Act, 2005, National Livestock Development Policy, 2007, National Poultry Development Policy, 2008, Avian Influenza Compensation Strategy and Guidelines, 2008, Bangladesh Zoo Act, 2009 (Draft), Animals Slaughter and Meat Control Act, 2011, Fish Feed and Animal Feed Act, 2010, National Livestock extension policy, 2012 (<http://www.dls.gov.bd/livestockdevpolicy.php>). These pieces of legislation will continue to be updated from time to time in accordance with the policy changes and production trends. In any given country, it is the role of a Government Ministry to develop appropriate policy guidelines for development of the sector the Ministry is involved in. However, development of such policies must involve all the key stakeholders for the guidelines to adequately address real problems and gaps that hinder the development of a sector.

All the attempts in livestock sector development are running to increase production in respect of milk, meat and egg. No activity has yet been taken giving special emphasis for producing safe and healthy food in relation to Hazards Analysis and Critical Control Point (HACCP) and Sanitary and Phytosanitary Standards (SPS). In spite of having increased production of animal protein the consumers are not

getting safe food as well as the animal industrialists cannot export their products as per World Trade Organization (WTO) regulations. The dynamic potential of this emerging sub-sector thus requires critical policy attention. Implementation of the Livestock Policy will promote interactive participation in the livestock sub-sector and encourage complementary efforts, building upon the comparative advantages of various implementing agencies and institutions. Investment into the livestock sub-sector takes a while to yield the desired results. The role of the public sector will gradually be confined to policy formulation, enforcement of legislation, regulation and inspection, provision of market information, financing the control of vectors and diseases of national economic importance. Although gains have been achieved in the sector to some extent, several gaps still exist that have not been addressed in the previous policies. There is need to give direction to the industry by putting in place a policy that will guide the development of the livestock sub-sector in Bangladesh. The policy needs to be reviewed from time to time, taking into account the dynamics of the domestic, regional and global socio-political and economic environment. The rationale behind the livestock policy is to improve the industry and stimulate its development in order to increase incomes of the livestock producers, enhance food production of animal origin and increase the contribution of the livestock sector to the national economy in general. Implementation of policies and strategies is a crying need for the government of Bangladesh to stimulate livestock production, promote exports, safeguard domestic industries and protect both domestic and foreign consumers of livestock and livestock products. Bangladesh should implement the poultry policy in line with its national and international obligations. The economy of the country depends much on livestock and livestock products. There is no work yet been done on the evaluation of existing poultry policy in Bangladesh. If this policy is implemented fully then quality and safe animal food must be produced which is crying need at this moment. If the acts and policies are not implemented at all, human health would be in great risk. If the policy is implemented partially people would be remained in between safe and unsafe situation as well as production would be decreased and opportunity of export would be threatened.

With above facts and circumstances to gain new explanatory insight a holistic survey analysis was carried out having different stakeholders on poultry development policy with the following objectives:

- (i) Critical analysis of the existing poultry development policy in Bangladesh.
- (ii) To investigate the status of poultry policy with different stakeholders.
- (iii) To identify the gaps between existing policy and expectations from the perspective of stakeholders on the implementation of policies.
- (iv) To recommend the output of the study to the concerned policy makers of the Government of Bangladesh.

## Methodology

### Selection of the study area

The study was carried out in seven divisions namely Dhaka, Chittagong, Rajshahi, Khulna, Sylhet, Barisal and Rangpur. These seven divisions were chosen as these locations are contributing significantly in livestock and poultry sector of Bangladesh.

### Selection of sample and sampling technique

Table 1 shows the sampling technique of the study. Total 177 representative samples (covering all stakeholders) were interviewed from selected seven divisions. A total of 177 respondents were interviewed consisting 116 farmers, 10 Parent stock/Hatchery owners, 39 Govt. official of livestock sector and 12 feed mill owners. In addition, three FGDs (Focus Group Discussions) at BAU, DLS, BLRI and 50 Key Informant Interviews (KII) were administered with different stakeholders.

**Table 1. Population, Sample Size and Sampling Techniques**

Objectives	Data Source	Divisions	Population	Sample
One	Secondary sources: desk review, BBS, DLS, BER, Scientific articles, Internet, Compendium, SWOT analyses	-	-	Poultry development policies
Two	FGDs (Three), KIIs (50), Questionnaire survey	Seven divisions	Livestock & poultry producers, DLS personnel, academicians, researchers & consumers	10-12 persons in each FGD, 50 KIIs
Three	Questionnaire survey, KII, FGD	Seven divisions	Livestock & poultry producers, input companies, meat processors, butchers, DLS personnel, academicians, researchers & consumers	177
Four	Previous sources	-	-	-

### Selection of policy and acts

Poultry production policy was chosen for critical analysis from the existing policies and acts of Bangladesh. To investigate the different factors of the existing policy

secondary data were collected. The SWOT analysis was performed for policy.

### SWOT analysis

A SWOT analysis was carried out to critically analyze the existing poultry development policies. This tool was used for policy-review approach aiming at Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis of the existing poultry related Strengths: characteristics of the business or project that give it an advantage over others.

### Preparation of survey instruments and pre-testing

To collect the required data, seven types of questionnaires were prepared in accordance with the objectives set for the study. The questionnaires were checked by the supervisory team. Questionnaires then pre-tested in the field among some stakeholders before final data collection. After pre-testing, the final questionnaires were prepared after making necessary corrections, modifications.

### Data collection and processing

The research relies on both primary and secondary data. Secondary information were sought from various publications, DLS reports, previous survey reports, compendium and the strategic plan documents of the Ministry of Livestock and Fisheries and livestock and poultry census report of BBS. Data was collected by the trained enumerator including the researcher himself through face to face interview.

### Data analyses

Descriptive statistics like percentage, mean, ranks, bar and pie chart were used for different variables to describe the present status of different stakeholders regarding different feed act. Binary logistic regression was used to identify the variables influencing the feeding act. Most of these analyses were conducted by using the statistical package named SPSS 20 (IBM, 2011).

### Results

#### Study on SWOT analyses of poultry development policy, 2008

Poultry development policy was formulated in 2008. The strength, weakness, opportunities and threats of the poultry development policy is given in Table 2.

**Table 2. Results of SWOT analysis of poultry development policy, 2008**

SL. No.	Strength	Weakness	Opportunities	Threats
1	Scope and areas of poultry development policy is well defined in article 4.	Written in paper but might not be practiced.	To explore unhidden areas and scope.	Non-cooperation from different stakeholders.
2	Poultry policy implementation strategy is mentioned in article 6.	Lack of work plan for policy implementation.	Different stakeholders would be able know about Govt. strategy.	Commercial, breeder and hatchery owner are main obstacle for implementation
3	Family poultry rearing is mentioned in article 6.1.2	Lack of skilled manpower, vaccination and extension and e-livestock services.	Conservation of indigenous poultry genetic resources.	Non-cooperation from Govt. officials and other stakeholders.
4	Poultry feed production and import is shown in article 6.2.	Might have lack of monitoring and regulation from authority.	Information on feed data base would be available.	Threat may arise from feed mill owner.
5	Entrepreneur development mentioned in article 7.	Lack of subsidy, monitoring and evaluation.	Nutritional security and foreign market could be explored.	Lack of Govt. initiatives and vision.

SL. No.	Strength	Weakness	Opportunities	Threats
6	Extension, treatment and disease control, human resource development, and institutional development are mentioned in articles 8.	Lack of extension activities, treatment facilities, human resources and development activities.	Production and employment opportunities might have increased.	Ministry and DLS people's noncooperation.
7	Quality control of chicks, feed, vaccine and medicine mentioned in 9.	Lack of execution of provision and laws accordingly.	To produce quality chicks, feed, vaccine and medicine.	Obstacles from different stakeholders.
8	Miscellaneous (animal disease act 2005, animal feed ordinance) mentioned in 10.	Not updated time to time.	Production of quality meat and egg would be ensured.	Misapplication of law and order.

#### Farmer's knowledge about poultry development policy

Table 3 shows farmers knowledge about poultry development policy. Seventy two per cent farmers do have knowledge about this policy. More than 60% farmers get introduced with bio-security and become ensured that Marek's and BCRDV given to the day-old chick at the time of delivery. From 50% to 70% farmers opinion is that they are aware of the matter that included in the policy such as standard body weight day old chicks, received training for poultry rearing, facing problem of getting DOC, salmonellosis disease free chick, received any support in making organic fertilizer from poultry waste and veterinary surgeon visit to farm for surveillance are not ensured from the authority.

**Table 4. Farmers knowledge about poultry development policy**

Particulars	Yes (%)	No (%)	Rank
Knowledge about poultry development policy	72	28	1
Information about bio-security for your farm	68	32	2
Is 1 <sup>st</sup> vaccine is given to the DOC during delivery of chicks or not	66	34	3
Grading of chicks is enacted or not	60	40	4
Buying good quality chicks or not	57	43	5
Getting standard body weight of day old chicks or not	47	53	6
Received any training for poultry rearing or not	47	53	6
Facing problem of getting DOC or not	37	63	7
Salmonellosis disease free chick bought or not	32	68	8
Veterinary surgeon visit your farm for surveillance or not	31	69	9
Knowledge on special healthy market for selling poultry birds and products	28	72	10
Receiving any support in making organic fertilizer from poultry waste	27	73	11
Knowledge on organic farming mentioned in the poultry policy	26	74	12
Any demonstration exhibited for poultry farm	25	75	13
Any support for homestead and commercial poultry rearing	21	79	14
Assistance from BLRI/DLS for confirmation the quality of medicine and vaccine	19	81	15
Information about the restriction to sell live bird in the city corporation	16	84	16
Any support received for feed analysis from nutritionist	13	87	17
Observing national poultry week or not	4	96	18

#### Knowledge and perception of dealer and distributors related to Poultry development policy

Table 5 shows knowledge and perception of dealer and distributors related to Poultry development policy. Most (77%) of the dealer and distributors prefer pellet feed using in the poultry as ready feed than that of mesh feed. From 60% to 73% respond positively that net weight, production date and expire date, the name of ingredients and percentages is given in packaged feed. More than 50% respondent reacted prices of feed per bag fluctuate and feed packages have registration no., air tight condition, permitted packet and container, identification code for source of ingredients included in the package.

More than 60% respond negatively about lot number is not given to identify animal feed, marketing of feed are allowed without fulfilling the requirements of policy, not getting coccidiostat, antibiotic, probiotic mixed feed from feed mill, not facing problem of shortage of vaccine, chicks or feed and not buying and selling salmonellosis disease free chick. In reality it stands opposite in the market. More than 70% respondent answered the weight of per bag feed is not fluctuated, lot number is not given for identifying the poultry feed, mash feed has not been used in ready feed, not buying and selling locally available feed ingredient for poultry feed, the offence committed for violating feed act should be non-bailable and cognizable and fine for penalty amounted Tk. 50,000 or the sentence for one year imprisonment in jail sufficient for committing offence under this act not at expected level. It should be increased. More than 80% told that authorized officers did not visit and collect sample for quality testing, inspector did not visit enterprise for destroying rotten, unhealthy, adulterated and polluted feed, expiry dated feed not selling at farmers level and tannery waste as a source of protein concentrate being is not kept at shop.

**Table 5. Knowledge and perception of dealer and distributors related to Poultry development policy**

Particulars	Yes (%)	No (%)	Rank
Pellet feed is preferred or not	77	23	1
Net weight is given in packaged feed	73	27	2
Production date and expire date are mentioned in packaged feed	66	34	3
Name of ingredients and percentages are given	60	40	4
Price of feed per bag is fluctuated	54	46	5
Registration no., air tight condition, permitted packet and container, identification code for source of ingredients are having in the package	53	47	6
Mash feed is found available	46	54	7
Good quality chicks is supplied to farm	44	56	8

Particulars	Yes (%)	No (%)	Rank
Grading of chicks is enacted	44	56	9
Ready feed without antibiotic and growth promoter are bought and sold	43	57	10
1 <sup>st</sup> vaccine is given to the DOC during delivery of chicks	41	59	11
Lot No. is given to identify animal feed	40	60	12
Marketing of feed are not allowed if above mentioned requirement are not found in the package	39	61	13
Coccidiostat, antibiotic, probiotic mixed feed from feed mill are found	36	64	14
Problem of shortage of vaccine, chicks or feed are faced	34	66	15
Salmonellosis disease free chick are bought and sold	33	67	16
Weight of per bag feed is fluctuated or not	30	70	17
Lot number is given for identifying the fisheries and livestock feed	30	70	18
Mash feed has been used in ready feed	29	71	19
Buying and selling locally available feed ingredient for poultry feed has been done	26	74	20
Offence committed for violating feed act should be bail able and non-cognizable	23	77	21
Fine for penalty Tk. 50,000 or 1 year imprisonment in jail is sufficient for committing offence under this policy	21	79	22
Authorized officers are visited and collected sample for quality testing	13	87	23
Inspector is visited at enterprise for destroying rotten, unhealthy, adulterated and polluted feed	13	87	24
Expiry dated feed is selling	12	88	25
Tannery waste as a source of protein concentrate being kept at your shop	10	90	26

### Hatchery and Parent Stock owner knowledge about poultry development policy

Table 6 shows Hatchery and Parent Stock owner knowledge about poultry development policy. All the Hatchery and Parent Stock owner answered in straight that grading of chick is enacted, grading system is followed in case of supplying chick, and supplied chicks are free from avian influenza diseases. Most (80%) Hatchery and Parent Stock owner come to know good quality chicks supply to their hand and first vaccine such as Mareks or Ranikhet are administered into the chicks by spraying at the time of chick delivery. Sixty per cent Hatchery and Parent Stock owner told that they are enriched in sufficient technician for providing vaccine. From 50% to 80% respond negatively that they are not getting support for promoting genetically potential chicks in context of local environment, getting no cooperation for controlling trans boundary poultry diseases at regional and global level, and parent stock and grandparent stock are not existed within the provision of poultry development policy that clearly indicated 2 km away is binding upon setting shed of hatchery and parent stock.

**Table 6. Hatchery and Parent Stock owner knowledge about poultry development policy**

Particulars	Yes (%)	No (%)	Rank
Grading of chick is enacted	100	0	1
Grading system is followed in case of supplying chick	100	0	1
Avian influenza free chicks is certified by designated authority of exported country	100	0	1
Known to the poultry development policy	90	10	2
Chicks are free from all kind of physical defects and disease	90	10	2
Day old parent stocks chicks is imported or not	90	10	2
Environmental friendly hatchery in suitable place has been set up to ensure bio-security	90	10	2
Hatchery waste is disposed of in a healthy way	90	10	2
Good quality chicks is supplied to farms	80	20	3
At the time of delivery of chick-1st vaccine such as Mareks or Ranikhet vaccine is given into the chicks	80	20	3
Bio-security is maintained or not	80	20	3
Sufficient technician for providing vaccine	60	40	4
Supportive for promoting genetically potential chicks in context of local environment	50	50	5
Cooperation for controlling trans boundary poultry diseases at regional and global level	30	70	6
Parent stock and grandparent stock 2 km away from other farm	20	80	7

### Knowledge and perception of ULO/DLO about different components of poultry production policy

Table 7 shows knowledge and perception of ULO/DLO about different components of poultry production policy. It has been revealed out from the official of livestock officials about poultry development policy clearly indicated that they are giving advice to the farmers about feed formula, housing management suggestions to the farmers, know about the veterinary practitioner act, working practically in poultry disease surveillance at govt. and private level farm, following the veterinary practitioner act, also know it very well that non-registered veterinary surgeon not allowed to practice. More than 80% livestock officials reacted positively that they are encouraging the farmer to sell dressed broiler and poultry meat instead of selling live bird. They are also taking initiative on epidemiology, disease reporting and recording system and disease control extension program. They advise farmers not to sell live birds in case of spreading disease and maintenance of bio-security protocol. From 70% to 80% officials comment in the positive that they are registered veterinary surgeon, working for maintaining standard of chick feed, medicine and vaccine, conscious about live bird marketing, bio-security in City Corporation and Pouroshava are must mentioned in policy, residual effect of medicine must not have in the poultry product and they are maintaining it properly. More than 60% livestock personnel encouraged and assist to set up disease diagnostic lab at private level do follow the poultry development policy. Fifty six per cent officials remain alert about quarantine facilities has been ensured in the policy in case of import of

animals and advising farmer for maintaining cool chain method in selling dressed poultry. Twenty eight and forty six per cent officials stated that they are taking any steps in producing poultry medicine and vaccine and working for entrepreneurship development or exporting poultry products.

**Table 7. Knowledge and perception of ULO/DLO about poultry production policy**

Particulars	Yes (%)	No (%)	Rank
Feed formula, housing management suggestions to the farmer is given or not	100	0	1
Veterinary practitioner act is known or not	95	5	2
Involvement in poultry disease surveillance at Govt. and private level farm	95	5	3
Veterinary practitioner act is followed or not	92	8	4
Non-registered veterinary surgeon not allowed to practice is known or not	92	8	5
While setting up farm, registration, control of food value, disease control and others the act/provision/ordinance is followed or not	90	10	6
Poultry development policy is known or not	90	10	7
Feed act is known or not	90	10	8
Farmer is encouraged to sell dressed broiler and poultry meat	87	13	9
Taking initiative on epidemiology, disease reporting and recording system	85	15	10
Taking initiative or not on disease control extension program	85	15	11
Farmer is advised not to sell live birds	85	15	12
Bio-security protocol reached to the farmer or not	82	18	13
Veterinary surgeon is registered or not	80	20	14
Working for maintaining standard of chick feed, medicine and vaccine	79	21	15
Live bird marketing, bio-security in city corporation and Pouroshava mentioned in policy known or not	77	23	16
Residual effect of medicine must not have in the poultry product are maintained or not	77	13	17
Have long term planning in preventing and controlling diseases such as bird flu and other infectious disease	77	23	18
International standard is followed in case of using probiotic and antibiotic	77	23	19
Withdrawal period of drugs is maintained in prescription	74	26	20
Poultry development policy is followed or not	72	28	21
Encouraging and assisting to set up disease diagnostic lab at private level	69	31	22
Follow the poultry development policy or not	67	33	23
In case of animal importing quarantine facilities is created or not	56	44	24
Farmer is advised for maintaining cool chain method in selling dressed poultry	56	44	25
Working for entrepreneurship development or exporting poultry products	46	54	26
Taken any steps in producing poultry medicine and vaccine	28	72	27

### Binary logistic regression for farmer's knowledge about Poultry Development Policy

Table 8 shows binary logistic regression for farmer's knowledge about poultry development policy. Here knowledge about Poultry development policy is considered as binary (dependent variable) and others as endogenous variable. By conducting one sample proportion test (Z test) it can be easily conclude about the population of farmers in particular area that less than 50% of farmers have knowledge about poultry development policy.

**Table 8. Binary logistic regression for farmer's knowledge about poultry development policy**

Variables	B	S.E.	Wald	P value	Exp(B)
Age	-0.024	0.020	1.433	0.231	0.976
Education	0.005	0.043	0.016	0.899	1.005
Farm size	0.020	0.145	0.019	0.891	1.020
Yearly Income	0.000	0.000	0.094	0.759	1.000
Farming Experience	0.003	0.034	0.008	0.927	1.003
Constant	-0.344	1.320	0.068	0.794	0.709

p > 0.05 = Not-Significant

### Binary logistic regression for dealer and distributors on poultry development policy

Table 9 shows binary logistic regression for dealers and distributors on poultry development policy. Here knowledge of dealer and distributors about poultry development policy is considered as binary (dependent variable) and others as endogenous variable. The Table reveals that, most of these endogenous variables are insignificant effect. Only yearly income is significant at 5% level of significance as p < 0.05. By conducting one sample proportion test (Z test) it can be easily conclude about the population of dealer and distributors in particular area that less than 50% of them have knowledge about the poultry development policy.

**Table 9. Binary logistic regression for Dealer and distributors on poultry development policy**

Variables	B	S.E.	Wald	P value	Exp (B)
Age	-0.023	0.031	0.542	0.462	0.977
Education	0.009	0.062	0.021	0.885	1.009
Farm size	0.012	0.166	0.005	0.941	1.012
Yearly Income	0.001	0.000	5.508	0.019	1.000
Farming Experience	0.047	0.105	0.204	0.652	1.049
Constant	-2.403	2.186	1.209	0.272	0.090

\* p < 0.05 = Significant

### Binary logistic regression for Parent Stock and Hatchery owner about poultry development policy

About 100% of the parent stock and hatchery owner are known about poultry development act. So, no regression model can't be fitted due to value of dependent variable is not varying among the sample unit. By conducting proportion test (Z test) it can be easily conclude about the population of parent stock and hatchery owner that less than 50% of them are known about the poultry development policy. Findings of FGD and KIIs are given in discussion section.

## Discussion

### Outcome of the SWOT analyses on poultry development policy 2008

Farmers always remain in great loss by farming that is why they are reluctant to have Govt. registration. Risk and uncertainty are quite common facts of poultry business. As a developing country like Bangladesh, where majority of the people are under poverty level, poultry farmers faced different constraints such as lack of capital, inadequate knowledge of poultry rearing, outbreak of diseases, inadequate availability of inputs, inadequate institutional credit, guaranteed and profitable markets for output etc (Begum, 2006).

There is no stability of market price of live broilers and table eggs. On the other hand, production costs are increasing day by day. Transformation from backyard to commercial farming was not only due to technological progress or sectors' development policy but also by institutional innovations in input delivery and marketing of outputs. The expansion of the commercial poultry sector has resulted in a decline in real prices of poultry products and consumption has consequently increased (Begum *et al.* 2011), but marketing system of poultry products are not well organized yet. Feed price is increasing tremendously and chicks price also fluctuating. One of the major problems of the development of the poultry sub-sector in Bangladesh is related to lack of sufficient and appropriate feeds (Mitchell, 1997). The hatchery owners set the price of DOCs independently but consider the reaction of competitors in the market. The price of DOCs varies month to month, as for example during 2010, broiler DOCs price varied from Taka 18 to Taka 75, and Layer DOCs varied from Taka 12 to Taka 75 (Chowdhury, 2011). They get chicks from hatcheries at lower price paying in cash. They can sale their live birds and eggs directly to Aratdar. As a result farm profitability is increasing. The findings of Rana *et al.*, 2012 revealed that broiler production is a profitable enterprise in Bangladesh.

### Farmer's knowledge about poultry development policy

More than 60% farmers get introduced with bio-security and become ensured that first vaccine given to the day-old chick at the time of delivery. Grading of chick which is enacted in the policy and good quality of chicks has been supplied from hatchery to farm. From 50% to 70% farmers opinion is that they are aware of the matter that included in the policy such as standard body weight day old chicks, received training for poultry rearing, facing problem of getting DOC, salmonellosis disease free chick, received any support in making organic fertilizer from poultry waste and veterinary surgeon visit to farm for surveillance are not ensured from the authority. From The daily Samokal (16 February 2016) reported that DOC price is very high. Farmer has to buy layer DOC by BDT 115 per chick. According to this report the demand of weekly DOC in Bangladesh is around one crore, daily egg demand is 2.25 crore and daily chicken meat demand is 1700 tons. More than 70% to 96% farmer's response negatively on having special healthy market for selling poultry birds and products, whether they received any support in making organic fertilizer from poultry waste, come to know about organic farming mentioned in the poultry policy, demonstration of poultry farm, support for homestead and commercial poultry rearing, assistance from BLRI/DLS for confirmation the quality of medicine and vaccine, information about the restriction to sell live bird in

the city corporation, support for feed analysis from nutritionist and observing national poultry week.

### Knowledge and perception of dealer and distributors related to Poultry development policy

More than 50% respondent reacted prices of feed per bag fluctuate and feed packages have registration no., air tight condition, permitted packet and container, identification code for source of ingredients included in the package. The price of poultry raw materials has increased sharply in the international market. Very naturally, the production costs have also hiked up. Gopalkrishnan and Mohanlal (2013) argue that feed costs represents 65 to 75 per cent of total cost of commercial poultry production, depending mainly in the relative costs of feed constituents, labour, housing and costs of miscellaneous items in a particular situation. More than 70% respondent answered the weight of per bag feed is not fluctuated, lot number is not given for identifying the poultry feed, mash feed has not been used in ready feed, not buying and selling locally available feed ingredient for poultry feed, the offence committed for violating feed act should be non-bailable and cognizable and fine for penalty amounted Tk. 50,000 or the sentence for one year imprisonment in jail sufficient for committing offence under this act not at expected level. It should be increased. More than 80% told that authorized officers did not visit and collect sample for quality testing, inspector did not visit enterprise for destroying rotten, unhealthy, adulterated and polluted feed, expiry dated feed not selling at farmers level and tannery waste as a source of protein concentrate being is not kept at shop. In section 4 of poultry development policy it encouraged to involve different organizations like GOs, NGOs, autonomous and private organizations for the development of poultry industry. Effective private sector participation and performance requires conducive environment which is being created by the government. The private sector will be responsible for undertaking commercial activities such as production, processing and marketing of animals and animal products, curative clinical veterinary services, and importation and distribution of animal inputs in order to develop the livestock industry. In the long run the private sector is expected to take up provision of some of the public services such as extension, research and training and provide opportunities for employment (NLP, 2006-2016).

### Hatchery and Parent Stock owner knowledge about poultry development policy

All the Hatchery and Parent Stock owner answered in straight that grading of chick is enacted, grading system is followed in case of supplying chick, and supplied chicks are free from avian influenza diseases. It's good news that they are doing it accordingly being inspired by the poultry development policy. In the past a massacre happened in the poultry business suffered from avian influenza diseases resulting in closing down of the farms incurring a great loss in poultry industry. At this Biman Poultry Complex the biggest farm in Bangladesh forced to shut down their business due to import avian influenza disease affected chicks from Thailand. Due to Avian Influenza, the industry suffered losses of around Tk 700 crore (as per Breeder's Association of Bangladesh, 2015). This was a huge loss for the producers and they did not get any sort of financial help to mitigate it. As per FAO report (20 April, 2015),

Bangladesh and five other countries like India, China, Egypt, Indonesia and Vietnam, has been suffering from the H5N1 virus. Avian flu is still endemic due to poor veterinary and livestock production services that retard appropriate revealing and managing of infection. Hatchery owner must have kept in mind whether mass vaccination by spraying has been done accurately and lawfully. Bio-security is maintained in the farm but it is witnessed that dead bird are thrown into the open place adjacent to the rearing farm elsewhere in the country. Sixty per cent Hatchery and Parent Stock owner told that they are enriched in sufficient technician for providing vaccine. From 50% to 80% respond negatively that they are not getting support for promoting genetically potential chicks in context of local environment, getting no cooperation for controlling trans boundary poultry diseases at regional and global level, and parent stock and grandparent stock are not existed within the provision of poultry development policy that clearly indicated 2 km away is binding upon setting shed of hatchery and parent stock. They stated that Bangladesh is a country with very little area and the availability of land is limited so it is very difficult to follow up the policy. With the increase of 1.2% population per year and industrialization the area of land is going to be decreased 0.73% year on year (Hasan et al, 2013).

#### **Knowledge and perception of ULO/DLO about different components of poultry production policy**

It has been revealed out from the official of livestock officials about poultry development policy clearly indicated that they are giving advice to the farmers about feed formula, housing management suggestions to the farmers, know about the veterinary practitioner act, working practically in poultry disease surveillance at govt. and private level farm, following the veterinary practitioner act, also know it very well that non-registered veterinary surgeon not allowed to practice. They are following the act/provision/ordinance in setting up farm, registration, control of food value, disease control and others. They become familiar with the feed act and poultry development policy. They are also taking initiative on epidemiology, disease reporting and recording system and disease control extension program. They advise farmers not to sell live birds in case of spreading disease and maintenance of bio-security protocol. From 70% to 80% officials comment in the positive that they are registered veterinary surgeon, working for maintaining standard of chick feed, medicine and vaccine, conscious about live bird marketing, bio-security in City Corporation and Pouroshava are must mentioned in policy, residual effect of medicine must not have in the poultry product and they are maintaining it properly. In reality what they stated is totally false and fabricated. They have long term planning in preventing and controlling diseases such as bird flu and other infectious disease. They do follow international standard in case of using probiotic and antibiotic and following withdrawal period of drugs in prescription. So far, it is known that they are getting commission from low standard medicine company for using medicine in giving prescription to the farmers. They do not bother that international standard has to be maintained in case of drug selection. They are running after money how to be richer from getting commission from Medicine Company. So, it is alarming message to our country for having safe food. In The daily papers it was published fake medicine company was caught red handed by mobile team while making injectable medicine for growth promoter, tablet, powder and sentence

with fine. In section 7.3.1 of poultry development policy it is encouraged to form cooperative society with the farmers for marketing. Emerging grass-root organizations are important for development of the livestock industry. Several services such as credit, extension, input supplies and marketing channels for livestock production are provided by these organizations. These organizations will be encouraged to support increased production and productivity, processing, marketing and credit mobilization. Communities and their organizational involvement are essential for successful implementation of the policy. Adequate support in terms of awareness creation regarding policy to farmers' organizations is crucial (NLP, 2006-2016).

#### **Binary logistic regression for farmer's knowledge about Poultry Development Policy**

Here knowledge about Poultry development policy is considered as binary (dependent variable) and others as endogenous variable. None of these endogenous variables did not have significant ( $p > 0.05$ ) effect on the knowledge of farmers about poultry development policy. By conducting one sample proportion test (Z test) it can be easily conclude about the population of farmers in particular area that less than 50% of farmers have knowledge about poultry development policy.

#### **Binary logistic regression for dealer and distributors on poultry development policy**

Here knowledge of dealer and distributors about poultry development policy is considered as binary (dependent variable) and others as endogenous variable. Most of these endogenous variables had insignificant effect. Only yearly income is significant at 5% level of significance as  $p < 0.05$ . So, it may indicate that distributors with higher income have the probability of getting known about the poultry development policy. By conducting one sample proportion test (Z test) it can be easily conclude about the population of dealer and distributor in particular area that less than 50% of them have knowledge about the poultry development policy.

#### **Binary logistic regression for Parent Stock and Hatchery owner about poultry development policy**

About 100% of the parent stock and hatchery owner are known about poultry development act. So, no regression model can't be fitted due to value of dependent variable is not varying among the sample unit. By conducting proportion test (Z test) it can be easily conclude about the population of parent stock and hatchery owner that less than 50% of them are known about the poultry development policy.

#### **Qualitative results on Focus Group Discussion (FGD) and Key Informant Interview (KII)**

We had collected opinions from different stakeholders like researchers, academicians, GOs and NGOs, local leaders, civil society and CAB personnel, mass media personnel, lawyers, and bankers and from different professionals through Key Informant Interview (KII). From FGD and KII main points are discussed here. Hatchery owners are not producing quality chicks. Although they are committed to supply salmonella free chicks, A and B graded chicks keeping up body weight as per poultry development policy, but they are handing over chicks to farmers with salmonella pullorum, naval infected and underweight chicks, blind paralytic chicks which should be culled from the hatcheries.



Their parent stock contains pullorum affected but they are not culling. Mycoplasma, leukosis, mareks affected chicks found in the hatcheries. In spite of that they are producing chicks from the affected flocks. Parent stock owners are not maintaining binding distance from shed to shed within farm which should be 200m and from farm to farm 2 km.

### Conclusions

It may be concluded that there are lack of action plan for implementation of the policy. Considering the views and perceptions of different stakeholders if this policy is implemented safe animal protein production will be ensured and livestock industry people will be benefitted.

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