

Study of Egg Self Sufficiency Scheme in Bihar



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Disclaimer

This Study Report has been prepared by Dr. Vivek Pathania, Faculty Member, National Bank Staff College (NBSC), Lucknow based on the field study conducted by him from 4-8 February 2019 in Bihar. The views expressed in the report are that of the author. It does not necessarily represent or reflect the policy or view of National Bank Staff College (NBSC) or National Bank for Agriculture & Rural Development (NABARD). NBSC and NABARD accept no financial liability or any other liability whatsoever to anyone using this report as also for the accuracy of facts and figures quoted in the report.

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Executive Summary

1. Livestock sector plays an important role in nutrition and self-employment. Milk, Egg and Meat are the major output contributors of Livestock Sector. Gross Value Added (GVA) from livestock sector contributes to 25.8% of the GVA from agriculture at current prices (2017-18). India is 3rd largest egg producer in the world after China and USA. The total egg production in our country during 2017-18 stood at 95217 million registering a growth rate of 8.03% over 2016-17.
2. Bihar ranks 16th in terms of egg production in the country, contributing 1218.5 million eggs (1.2%). The per capita egg availability in the state is 11 eggs per annum. The egg production in the State is rising for the past five years with a Compounded Annual Growth Rate (CAGR) of 7.8%. Backyard poultry farming with desi birds predominates in the state. However, the total contribution of desi birds in egg production has reduced from 68% in 2015-16 to 62% of the total egg production in 2017-18.
3. Govt. of Bihar in 2013-14 had made an assessment of egg demand and supply pattern in the State. During the assessment it was gathered that the daily egg requirement of the state was around 2.8 crore as against production of 15 lakh eggs per day. Govt. of Bihar decided to adopt commodity (poultry) specific approach for sufficiency and employment generation. Shri Sanjeev Srivastava, Member, State Innovation Council (SIC) was pioneer in identifying Poultry as enterprise in the State. The idea was supported overwhelmingly by Shri. Vijoy Prakash, Principal Secretary, Department of Planning & Development (P&D), Govt. of Bihar. Initially, the scheme was implemented in 8 districts (Bhojpur, Saran, Gopalganj, Siwan, Jehanabad, Sheikhpura, Kishanganj and Banka) on pilot basis. The scheme aimed at setting up of 1600 units having 5000 birds per unit, with a total financial outlay of Rs.42 lakh. Later it was extended to the entire state.
4. Under the scheme, entrepreneurs are being trained by Bihar Vidyapeeth Centre for Incubation and Entrepreneurship (BVCIE), Bihar Agriculture Management Extension Training Institute (BAMETI), Agri. University, Deptt. Of AH, etc. BVCIE is involved in issue of advertisements for potential entrepreneurs, conducting workshops at incubation centre, sourcing inputs, meeting logistics requirements, marketing, preparation of project report, facilitating loan through facilitation of CIBIL report generation, estimation of the collateral with the potential entrepreneurs and in getting loans sanctioned from banks. The incubation centre also supervises the implementation and provides also technical inputs to the entrepreneurs for 3 years.
5. There are three main players, namely M/s Venky's India Ltd. Pune, M/s Skylark Hatcheries, Jind and M/s Sugna Poultry, Coimbatore which are operating in Bihar with annual placement of around 48.97 lakh commercial layer birds. All

the suppliers are providing 3-4% free chicks to the farmers on purchase. However, waiting list of 5-6 months for supply of DOC at farm level has been observed.

6. Feed is being supplied by companies such as M/s Godrej, Skylark, Venky's, Jafba, Hariom feeds, Deepak feeds, Ace feed, etc. Feed is being supplied either in advance or on credit to push their sales.
7. The poultry units are availing services of Veterinary doctors attached to DOC or feed suppliers. Their number is estimated to be around 15 in the entire state. Prolapse in birds is a major problem in the farms. CRD, Gumboro, IB, coccidiosis, etc were the major diseases reported in the farms.
8. NABARD, Regional Office was involved in implementation of the scheme through sensitisation workshops of the stakeholders. Bank wise targets were fixed for financing of 1600 poultry units in 8 districts. Besides this, District level awareness programme were also conducted to promote the scheme. DDM is a member of District Level Implementation and Review committee under the scheme.
9. It is reported that more than 600 units have been setup under the scheme, most of them self-financed. About 85% of the units in the study districts were self-financed. High level of self-financing in poultry farming is attributed to flow of remittances from Middle East, ban on liquor, ban on brick kilns and sand mining, real estate slump, etc. BVCIE has also tied up with several banks such as Madhya Bihar Gramin Bank (MBGB), Syndicate Bank, PNB, SBI, DCCB (Siwan & Gopalganj), etc. for facilitating poultry financing
10. Network of DCCB branches is limited in the districts. Further, DCCBs are mainly financing short term KCC and WC loan. Majority of the DCCBs are saddled with high NPAs and some of them were BR act Section 11 non complaint as on 31 March 2017.
11. Lack of adequate and suitable collateral as also high conversion charges in respect of converting agricultural land into non agriculture purpose have been reported to be major reasons for lack of bank financing.
12. Poultry insurance scheme has been conceived by IRDA but is not popular because of selective risk coverage by insurance companies and high premium. Under the scheme, some of the banks (PNB, SBI) have insurance cover for poultry but coverage excludes poultry birds. The coverage of insurance for poultry stock and structure has been done only by National Insurance Company and that too through insurance broking company M/s Howden Insurance Brokers India Pvt. Ltd

13. Viability of 5000 birds unit and 250 birds commercial layer unit has been established taking into consideration the standard management parameters vis-à-vis the actual management level in field.
14. Egg traders were available in almost all the blocks of the study districts. The traders were collecting eggs from the farmers at the farm itself. The price of egg at farm gate is being fixed by the local traders based on the NECC (Barwala) rates. The farmer has to bear the packing cost in the range of 0.18-0.20 per egg. Trader has to incur an additional cost of Rs. 0.03 per egg towards collection from the local farms. The net share of the producers in the consumer's rupee was ranging from 66% (Patna) to 75% (Gopalganj) indicating the largest portion of the consumer price.
15. It was observed that none of the farmers were aware of bio-security measures to be adopted. This poses a grave threat to the poultry unit for spread of disease especially in Gopalganj and Siwan districts which have become concentrated poultry belts.
16. Scheme has brought about lot of socio-economic change in the State. It has also resulted in reverse migration of people from Middle East to venture into poultry enterprise. The small scale commercial poultry unit piloted under the scheme has further deepened the outreach of poultry into rural areas. This model is complementing the income of the small and marginal farmers as also the weaker section of the society. Each poultry farm (5000 birds) is providing self-employment to the promoter as also wage employment to 5-6 persons directly or indirectly through ancillary & input services.
17. The scheme hold great potential for replication in different parts the country having shortage of eggs under income generation and poverty alleviation programmes such as NRLM, Deendayal Antyodaya Yojana-National Urban Livelihoods Mission (DAY-NULM), Prime Minister's Employment Generation Programme (PMEGP), etc.

Study of Egg Self-sufficiency scheme in Bihar

1.0 Introduction

Livestock sector plays an important role in nutrition and self-employment. Milk, Egg and Meat are the major output contributors of Livestock Sector. Gross Value Added (GVA) from livestock sector contributes to 25.8% of the GVA from agriculture at current prices (2017-18). Besides Dairy, Poultry farming has been recognised as a major intervention in many poverty alleviation and livelihood programmes. Poultry is one of the fastest growing segments of the agricultural sector in India with growth rate hovering around 6-8%.

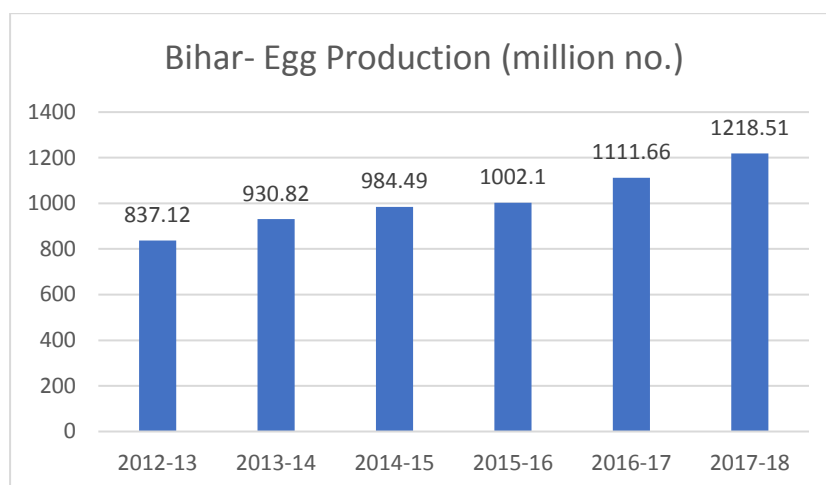
India is 3rd largest egg producer in the world after China and USA, The total egg production in our country during 2017-18 stood at 95217 million registering a growth rate of 8.03% over 2016-17. Around 87% of the production comes from improved birds and 12% from desi birds. Balance is being contributed by ducks. Andhra Pradesh, Tamil Nadu, Telangana, West Bengal and Maharashtra are the leading states in egg production contributing around 64% of the total production.

ICMR has recommended per capita consumption of 180 eggs and 10.80 kg of poultry meat per annum. As against this, the per capita availability of eggs and poultry meat is 74 and 2.5 kg per annum respectively. According to National Egg Coordination Committee (NECC) poultry plan projections for the year 2015, a capital investment of about USD 3.3 billion was required to meet the ICMR target, considering an average growth of 10% and 15% for the egg and broiler industry respectively.

2.0 Structure of Poultry farming in Bihar

As per GoI's Basic Animal Husbandry Statistics 2018, Bihar ranks 16th in terms of egg production in the country, contributing 1218.5 million eggs (1.2%). The per capita egg availability in the state is 11 eggs per annum which is far below the country average of 74 eggs per annum. The state has tremendous potential for development of poultry. It is 5th largest maize producing state in the country, which is an important ingredient in poultry feed formulation. The state is producing around 10% of the total maize produced in the country (21.55 Million MT {2017-18}). As against this production, 66% of maize is being procured for use in poultry and cattle feed units located in the state as well as other parts of the country.

2.1 Egg production



Source: Basic Animal Husbandry & fisheries Statistics, GoI, 2018

The egg production in the State is rising for the past five years with a Compounded Annual Growth Rate (CAGR) of 7.8%.

2.2 Poultry population:

The breed wise total number of birds and their egg production in the state during the last 3 years is presented as under:

Year	Back yard poultry farming production						Comm. layer farms production		Total Egg Production (million)
	No. of Desi birds (lakh)	Egg prod. (Million)	No. of imprv. birds (lakh)	Egg prod. (Million)	No. of Ducks (lakh)	Egg prod. (Million)	No. of birds (lakh)	Egg prod. (Million)	
	1	2	3	4	5	6	7	8	(2+4+6+8)
2015-16	39.88	678.2	7.77	246	2.82	55.9	0.69	22.04	1002.14
2016-17	42.39	719.9	8.56	271	3.06	60	2.27	60.7	1111.6
2017-18	44.43	758.71	9.19	291	3.27	63	4.18	105.8	1218.51

Source: Basic Animal Husbandry & fisheries Statistics, GoI

As observed from the table, backyard poultry farming with desi birds predominates in the state. However, the total contribution of desi birds in egg production has reduced from 68% in 2015-16 to 62% of the total egg production in 2017-18. Further, the number of commercial layer birds is increasing rapidly.

2.3 Schemes for promotion of Poultry in State

2.3.1 National Livestock Mission, is a GoI scheme which provides impetus to poultry farming through its Poultry Venture Capital Fund- Employment Generation and Entrepreneurship Development (PVCF-EDEG) scheme. The scheme is being implemented in the state also. Besides this, the other State specific schemes which promote poultry farming or its components are presented as under:

2.3.2 Scheme for promotion of 5000/ 10000 bird Layer units

(Rs. In lakh)

Particular	5000 birds unit		10000 birds unit	
	SC/ST	General	SC/ST	General
Total fin. outlay	48		85	
Margin	10%	12%	10%	12%
Capital Subsidy	40%	30%	40%	30%
	(Rs.19.20 lakh max.)	(Rs. 25.50 lakh Max.)	(Rs 34.00 lakh max.)	(Rs. 25.50 lakh Max.)
Interest subsidy for 4 years	3.60 lakh		6.34 lakh	7.38 lakh
Land requirements	0.5 acre		1 acre	

2.3.3 Scheme for setting up of poultry feed units

Govt. of Bihar under Bihar Udyami Yojna has launched a scheme for setting up of poultry feed units for SC/ST population in the State. Under the scheme, support to the tune of Rs. 10 lakh is being provided. Of the total support, Rs. 5 lakh is capital grant support and Rs. 5.0 lakh is interest free loan.

2.3.4 Scheme for setting up of egg cold room

Subsidy scheme for Setting up of cold room for eggs with TFO of Rs. 13 lakh and subsidy component of 50% is also being implemented in the State.

2.3.5 Egg in Mid-Day Meal scheme

Egg has also been included in mid-day meal scheme by State Govt. At present egg is being offered on Fridays in winter.

3.0 Egg Self Sufficiency scheme

Govt. of Bihar in 2013-14 had made an assessment of egg demand and supply pattern in the State. During the assessment it was gathered that the daily egg requirement of the state was around 2.8 crore as against production of 15 lakh eggs per day. Major

supply of eggs in the State was from Andhra Pradesh and Tamil Nadu States. The per capita availability of eggs in Bihar (excluding imports) was 8 eggs compared to the ICMR prescribed recommendation of 180 eggs per person per year. Against this backdrop, Govt. of Bihar decided to adopt commodity (poultry) specific approach for sufficiency and employment generation. Shri Sanjeev Srivastava, Member, State Innovation Council (SIC) was pioneer in identifying Poultry as enterprise in the State. The idea was supported overwhelmingly by Shri. Vijoy Prakash, Principal Secretary, Department of Planning & Development (P&D), Govt. of Bihar. Thereafter, State Innovation Council under P&D was entrusted with work of awareness creation and promotion of poultry in the State from 2013.

'Bihar Egg Sufficiency scheme was launched in 2016 by State Govt, through Centre for Incubation & Entrepreneurship (CIE) established at the Bihar Vidyapeeth a charitable organisation. The programme has been facilitated by NABARD in collaboration with the Bihar State Innovation Council. This model encompasses both “Entrepreneurship & Skill Development” and ‘Commodity based self-sufficiency’. Starting egg production units will not only make state egg-sufficient but also generate employment opportunities apart from ensuring nutrition. It was estimated that each unit will create employment opportunities for around 4-8 people through egg production units and its allied sectors.

Initially, the programme was implemented in 8 districts (Bhojpur, Saran, Gopalganj, Siwan, Jehanabad, Sheikhpura, Kishanganj and Banka) on pilot basis. The scheme aimed at setting up of 1600 units having 5000 birds per unit, with a total financial outlay of Rs.42 lakh. Ex-serviceman and war widows were prime target under the scheme. Thereafter, the programme has been extended to all entrepreneurs and districts.

Under the scheme, entrepreneurs are being trained by Bihar Vidyapeeth Centre for Incubation and Entrepreneurship (BVCIE), Bihar Agriculture Management Extension Training Institute (BAMETI), Agri. University, Deptt. Of AH, etc. BVCIE is involved in issue of advertisements for potential entrepreneurs, conducting workshops at incubation centre, sourcing inputs, meeting logistics requirements, marketing, preparation of project report, facilitating loan through facilitation of CIBIL report generation, estimation of the collateral with the potential entrepreneurs and in getting loans sanctioned from banks. The incubation centre also supervises the implementation and provides also technical inputs to the entrepreneurs for 3 years.

4.0 Study Objectives

It was reported by BVCIE that more than 600 units of different capacity have been grounded under the scheme. Further, majority of the units have been grounded without bank finance. Study of the scheme was undertaken mainly to assess the role of BVCIE and other stakeholders in promotion and implementation of the scheme as also the viability of 5000 layer bird's model. Based on the feedback from Bihar Vidyapeeth and our DDMS, three districts namely Gopalganj, Siwan and Nawada were selected for the study. As per livestock census 2012, the poultry population in Gopalganj, Siwan and Nawada was 1.46, 2.31 and 2.73 lakh respectively. This population includes broiler, layers and ducks.

The study was conducted in 3 districts from 4-8 February 2019. In addition, smaller unit of 250 birds had also been introduced for implementation on pilot basis in October 2018. The study involved visits to layer farms, interaction with banks, Bihar Vidyapeeth, representatives of support mechanism (Skylark, Venky's), insurance, etc. The objectives of the study were as under:

1. Understanding and documentation of the proactive role played by the incubation centre in identifying potential entrepreneurs, training, project prep., loan facilitation, and handholding support for 3 years.
2. Studying the financial viability of 5000 layer birds model
3. Study the marketing strategy for sale of eggs in respect of 250 commercial layer birds unit
4. Banks experience in financing the scheme - Only one DCCB (Siwan) in the State had financed the scheme.
5. Poultry insurance scheme formulated for the state, its premium and claim settlement pattern

5.0 Limitations of the study

- i. BVCIE did not maintain district wise data of the units grounded in the field and type of funding availed.
- ii. Feedback is based on the views, opinions and information provided by the farmers/ their family members from their memory, the accuracy is subject to the recall bias. Efforts have been taken to minimize the error through checks and cross checks at the time of interview.
- iii. To ascertain cost, income and profit, the averages of the values furnished by the respondents have been taken into account.

- iv. Estimation of the total profit or loss for the previous years was difficult as most of the farmers had not kept correct accounts of their receipts and expenditures. Most of the data gathered from the respondents was only from their memory which may not be accurate.

6.0 Role of Bihar Vidyapeeth and Other Stakeholders in Promotion of the Scheme

Bihar Vidyapeeth was established in 1921 by Mahatma Gandhi and Dr Rajendra Prasad as a national university to support Non Cooperation Movement. Later Swavalamban Vidyalaya was established in Vidyapeeth for producing entrepreneurship based education. Bihar Vidyapeeth Centre for Incubation and Entrepreneurship (BVCIE) finds its origin from Swavalamban Vidyalaya with a vision to promote entrepreneurship.

6.1 Genesis and Evolution of the concept

- While formulating 12th Five Year plan document in 2013, emphasis was placed on commodity based planning which factored input, land, manpower requirements.
- State Innovation Council (SIC) under Department of Planning and Development (P&D), Govt. of Bihar was identified as nodal agency for commodity based planning.
 - ✓ In 2013, Egg Self Sufficiency Scheme was conceived and was driven by Shri Sanjeev Srivastava, Member, State Innovation Council (till 2016). The concept got approval and thrust through Shri. Vijoy Prakash. IAS, Principal Secretary, Department of Planning and Development (P&D), Govt. of Bihar. The planning aimed at creation of enabling environment in Bihar for egg production.
 - ✓ The scheme outline was discussed by SIC with different stakeholders from Banks, Line Departments, and Agriculture Universities in meetings with P&D.
 - ✓ Two districts Siwan and Gopalganj were selected on pilot basis, keeping in view the existing level of awareness about poultry in these districts. The awareness about poultry in these district was primarily due to catalytic effect of adjoining Gorakhpur and Deoria districts of UP. In these districts of UP, poultry had picked up due to ongoing poultry layer scheme by the State govt.

Further, these districts in Bihar were maize production belts which is an important component of poultry feed.

- ✓ Prospective entrepreneurs were trained in technical and financial aspects by Venkateshwara Hatcheries and RSETI in Gopalganj and Siwan districts.
- In 2014, Department of P&D requested Circle heads / Regional Heads of PNB, CBI, Canara Bank, SBI, Madhya Bihar Gramin Bank, etc. for setting up of centralised processing cell in their controlling office for speedy disposal of layer poultry cases. Chhapra district was tagged along with Gopalganj and Siwan for promotion of layer farming through bank finance.
 - ✓ At this stage potential entrepreneurs approached SIC which facilitated their training through RSETI and in project proposal preparation. Thereafter, the proposals were forwarded to the respective banks for sanction.
 - ✓ Review meetings were held by Principal Secretary, P&D with each bank on the progress made in sanction of projects forwarded by SIC and to identify bottlenecks in smooth implementation.
 - ✓ Principal Secretary (P&D) also addressed sensitisation meetings of the branch managers of different banks for smooth implementation of the scheme.
- In 2015
 - ✓ Shri. Vijoy Prakash, IAS, took over charge as Agriculture Production Commissioner (APC), Govt. of Bihar. In order to further push the concept, he ensured that layer poultry farming through bank finance was part of the SLBC Sub Committee on Agriculture which was headed by him. Thereafter, the scheme was included as agenda item in SLBC.
 - ✓ In addition to SIC, awareness and review meetings on Egg self-sufficiency scheme were held by Agriculture department involving line departments, including Deptt. Of Animal Husbandry (DAH) and banks. NABARD was also one of the participating members to these meetings.
 - ✓ In addition, meeting with poultry integrators like Venky's India, Skylark, Sugna, CB group from Thailand, ITC (maize aggregator), etc. was conducted by APC.

- ✓ Bihar Vidyapeeth Centre for Incubation and Entrepreneurship (BVCIE) was setup in Bihar Vidyapeeth for promotion of poultry activity in the State.
- In 2016
 - ✓ Agriculture Department through Bihar Agriculture Management and Extension Training Institute (BAMETI), a State level autonomous institution, took up the role of promotion of the scheme in the state. The institute is mandated with organizing need based training programmes for the project implementation functionaries of different line departments as well as the farming community.
 - ✓ A district level Implementation and Review committee was also formed with DDM, NABARD as Chairman and LDM, Bank representatives, Shri Sanjeev Srivastava, SIC, District Animal Husbandry Officer, ATMA, Sainik Welfare Officer as members. District Poultry officer was identified as recommending authority for bank finance proposals.
 - ✓ BAMETI organised special workshops under egg self-sufficiency scheme and issued paper advertisements for promotion of the scheme as also coordinating screening of entrepreneurs.
 - ✓ **Bihar Egg Sufficiency Campaign was launched by BVCIE.** The centre was mandated to provide technical inputs, project report, facilitating documentation for bank finance, marketing of eggs, etc.
 - ✓ APC advised District Collectors to direct the Line departments at district level to facilitate implementation of the scheme.
 - ✓ NABARD was actively involved in promotion and implementation of the scheme. This led to
 - ✚ Standardisation of loan documentation developed by SBI
 - ✚ Standardisation of the 5000 birds model project prepared by CA in consultation with SBI



6.2 Role of the Bihar Vidyapeeth Centre for Incubation and Entrepreneurship

The prime objective of BVCIE was to shift the focus from subsidy support to handholding for viable project management. The centre aimed at providing single point support to entrepreneurs through.

- ✓ Awareness generation
 - Advertisement through Newspapers
 - Facebook Campaign
 - District level awareness meetings with DDMs/ LDMs
 - Setting up of a Tele Call centre at BVCIE
 - The interested poultry farmers were required to attend one day awareness programme at BVCIE especially on Saturday. During the programme a one page entrepreneur profile is being generated which provides details of Aadhaar no., PAN card, collateral available, nearest Bank branch etc.
 - During awareness programme the participants are briefed about the poultry management and its prospects.
- ✓ Screening of entrepreneurs
 - The participants of the awareness programme are given 4-5 days to express their interest in taking up poultry enterprise. Follow-up is through call centre or directly by staff of BVCIE.

- ✓ Project preparation
 - A model project report for 5000 birds has been prepared under the scheme.
 - The interested entrepreneurs approach BVCIE with documents pertaining to KYC, Collateral, etc. which are required for bank finance. A project report is prepared for the entrepreneur by modification of the model project report by the empanelled Chartered Accountant.
 - BVCIE is charging Rs. 5000/- per participant for the project report.
- ✓ Assistance in training
 - The prospective entrepreneur is being provided with training on poultry and finance at RSETI/ Central Poultry farm/ Agriculture University. The training period varies from 7-10 days.
- ✓ Supply of input services
 - BVCIE has empanelled input suppliers w.r.t supply of chicks, equipment manufacturers, construction engineers, veterinary cover. The entrepreneurs are provided with the list of input suppliers to meet their requirements.
- ✓ Handholding in statutory compliances
 - Once the project proposal is prepared and ready to be submitted to the bank, BVCIE registers the entrepreneur with one time charge of Rs. 10000/- for handholding and liasoning support for 3 years. This support would be in the form of follow-up with banks, Govt. Departments for project sanction, pollution control, land conversion, insurance, Income tax filing (80JJA), etc.
- ✓ Preparation of data base of the project proposed for finance, sanctioned, grounded (with/ without bank finance).
- ✓ Creation of a platform for coordination of all stakeholders
 - Organising Loan Mela at District level for faster processing of loan
 - BVCIE organised training programmes for Cooperative Banks, MBGB, Canara Bank, CBI officials to develop their capacity of loan appraisal.

- BVCIE is also involved in Policy advocacy with State Govt. for coming out with an Agri investment policy framework- especially with regard to land conversion charges. At present the land conversion charges are @ 10% of the agricultural land value. Under industrial policy conversion charges of agricultural land into non agriculture are being borne by State Govt.
- Facilitates construction/ monitoring of sites for promoters and banks through own/ empanelled engineers.
- Dispute resolution between farmers and input suppliers through its advocate.
- Organisation of State Level Seminar on Poultry
- Development of social media groups through Facebook and Whatsapp for social and economic interaction among the egg farming community.
- Visit of Poultry Farmers/entrepreneurs to Poultry India 2018 conclave organised at Hyderabad

6.3 Digital Incubating Bihar Cooperative Society

Digital Incubating Bihar Co-Operative Society Ltd. has been established under Bihar Co-operative Society Act 1935 to help Bihar Government with good governance using Information Technology and boarding all the Ministries and departments on single platform to access the reports and progress. The society has undertaken projects on computerisation of Primary Agricultural Cooperative Societies (PACS) in select districts of the State.

Digital Incubating Bihar Cooperative Society is also promoting poultry farming in the State from August 2018 onwards. The society has block level presence which will help in further deepening the awareness efforts as travelling of poultry farmers from remote districts to BVCIE, Patna for orientation camps, training is cumbersome. The society has tied up with PMKVY in 13 districts for training of Poultry farmers. The training is being imparted under Agriculture Skill Council of India mission which has 'Layer Farm worker' course of 240 hours which comprises of 80 hours theory, 120 hours practical and 40 hours Entrepreneur & soft skills.

Incubating Bihar also conducts orientation programmes for prospective farmers and communicates with the potential poultry farmers through SMS and whatsapp after

getting feedback from their block functionaries. Depending upon the participation size orientation camps are organised at block level also. The camp is convened by the society wherein DDM, LDM, NSHM representatives besides society professionals address the participants.

6.4 Role of leadership in promotion of the scheme

Scheme was promoted by State Government to develop entrepreneurship and small business as potential solutions to augur economic growth and rising unemployment. However, this would not have been possible without the charismatic leadership of **Shri Sanjeev Srivastava**, who conceived the scheme and has been instrumental in its implementation as a member of State Innovation Council, thereafter as Director, BVCIE and now as Professional Director, Digital Incubating Bihar. He took on the responsibility for promotion of poultry farming as the change agent and integrated his insight on field level opportunities with the institutional framework. The policy advocacy and Institutional backing to the scheme has been provided by **Shri Vijoy Prakash, IAS** who was principal Secretary Department of P&D, Govt. of Bihar, APC, Department of Agriculture and now is Chairman, Bihar Vidyapeeth. Both the leaders made deliberate efforts to guarantee goal congruence between the policy makers and field requirements. Their high levels of engagement and connect with poultry farming as also their acquired domain knowledge made a difference in promotion and proliferation of the scheme in the State.

7.0 Input supply system

7.1 Day Old Chicks

Under layer farming, there are three main players, namely M/s Venky's India Ltd. Pune, M/s Skylark Hatcheries, Jind and M/s Sugna Poultry, Coimbatore which are operating in Bihar. Besides, another company namely M/s Ishwar Research & Breeding Farm Pvt. Ltd. Jind under brand name 'Crystal' has also launched its bird in the state. It is also understood that Hyline is also opening its office in Bihar for supply of DOC.



The placement profile of the day old chick suppliers in the State as per the discussions with respective representative is presented as under:

7.1.1 Venky's in Layer farming in Bihar

2010-11	-	22000 DOC placement in Gopalganj
2011-12	-	42000 DOC placement in Gopalganj and Siwan
2012-13	-	1.17 lakh DOC placement in Gopalganj, Patna and Siwan
2013-14	-	2.23 lakh DOC placement in Patna, Chapra, Gopalganj & Siwan
2014-15	-	2.68 lakh DOC placement in 6-7 districts

No bank finance in all of the above units

2015-16	-	Liquor ban in Bihar:	6.6 lakh DOC placement in Bihar
2016-17	-	Ban on Brick Kiln:	11.16 lakh DOC placement in Bihar
2017-18	-		17.11 lakh DOC placement in Bihar
2018-19	-		24.50 lakh DOC placement in Bihar (Target)

Venky's is having two hatcheries one at Mujaffarpur (15 lakh DOC per month) and other at Ara (8 lakh DOC per month). No breeders are kept in Bihar for production of hatching eggs. Hatching eggs are being brought in these hatcheries from farms in other states for supply of DOC. The prevailing rate of DOC was @ Rs. 41 and performance record of its bird BV 300 was 378 eggs in 80 weeks (62 week laying period). The company also has a feed unit in Mujaffarpur which produces 4600 MT per month both layer and broiler feed.

7.1.2 Skylark Hatcheries

M/s Skylark started its operations in 2016-17. The year wise placement of layers is as under:

2016-17	-	7 lakh DOC placement
2017-18	-	10 lakh DOC placement
2018-19	-	24 lakh (Target)

Skylark is having a hatchery at Purnea with production of 9 lakh DOC per month. It is also supplying DOC to West Bengal, Jharkhand and Bihar from this hatchery. The commercial layer produces 480 eggs (100 weeks cycle) with DOC cost of Rs. 41/-. The company also supplies feed from its feed unit in Purnea (6000 MT per month). In addition, the company also supplies pre-fabricated panels for poultry shed construction and semi-automatic cage system.

7.1.3 Sugna

Sugna has started its operations in 2018-19 with present placement of 80000 and confirmed order booked for supply of 6.38 lakh chicks. It has outsourced hatcheries at Hazipur (3.0 lakh DOC/ Month) and Hazaribagh (Jharkhand) {1.5 lakh DOC/Month} for meeting its DOC requirements. The DOC cost is Rs 41 and the bird produces 335 eggs in 72 weeks cycle

7.1.4 Crystal

Crystal has launched its bird in 2018-19 with 40000 DOC placement in select farms in Gopalganj and Siwan districts.

All the suppliers are providing 3-4% free chicks to the farmers on purchase. However, waiting list of 5-6 months for supply of DOC at farm level was observed in the State.

7.2 Feed

Feed is easily available to the farmers in the State at their respective farms. Feed is being supplied by companies such as M/s Godrej, Skylark, Venky's, Jafba, Hariom feeds, Deepak feeds, Ace feed, etc. Most of the units are taking advance for supply of feed but there are other units which are also providing feed on credit to push their sales. Some of the farmers are also getting tailor made feed manufactured from local feed units by providing them with raw material. There is no feed quality control mechanism in the state to assess the quality of the feeds being sold. Farmers have reported issues with the quality of feed which has resulted in drop of egg production.



7.3 Veterinary Service

Prolapse in birds is a major problem in the farms which is mainly due to underweight bird due to improper lighting and crowding of birds in the cages. Other diseases observed in the farms were CRD, Gumboro, IB, coccidiosis, etc. None of the farmers is approaching the local Govt. Veterinary officer for availing services for his poultry farm. The poultry units are availing services of Veterinary doctors attached to DOC or feed suppliers. However, their number is estimated to be around 15. This sometimes results in timely address of the disease issues.

8.0 Role of NABARD in promotion of the scheme in the State

In Sub Committee meeting of SLBC on Agriculture, Agriculture Production Commissioner had requested NABARD to associate with the implementation and financing of the scheme especially through their DDMs. Accordingly, Deptt. Of Agriculture had constituted a District level committee comprising DDM, NABARD as Chairman to oversee the implementation of the programme initially in the 8 pilot districts.

Regional Office on its part conducted a workshop cum meeting of all the bankers on 15 March 2016. Bank wise targets were fixed for financing of 1600 poultry units in 8 districts. The following action points were crystallised in the workshop

- Setting up of centralised cell for facilitation, processing and sanction of projects.

- Banks to nominate nodal officer for timely processing of applications
- District level screening committee of prospective entrepreneurs comprising DDM, LDM, banks, Sanjeev Srivastava, member SIC and Distt. Animal Husbandry Officer.
- Screened borrowers to be trained at RSETI, Rajendra Agriculture University (RAU), Patna, BVCIE and Bihar Skill Development Mission

In addition, capacity building of DCCBs and MBGB officials was also undertaken.

Role of DDMs

- ✓ Conduct of District level awareness programme with specific budgetary support for scheme as also special workshops synergised with JLG workshop.
- ✓ Member of District Level Implementation and Review committee
- ✓ Highlighting the progress in implementation through print and radio. Talk show on local radio Rim-Zim by DDM and LDM
- ✓ Preparation of Area Development Scheme (Gopalganj)
- ✓ Conducting review meets of prospective entrepreneurs with respective banks.

Release of Subsidy under PVCF-EDEG component

NABARD has released subsidy for 65 units in the last 3 years with subsidy amount of Rs. 590 lakh. The details are presented as under:

Year	No. of units	Total No. of birds (Lakh)	Subsidy Amt. (Rs. In lakh)
2016-17	-	-	-
2017-18	28	2.67	267.50
2018-19	37	3.23	322.50

9.0 Banks experience in financing the scheme

As per the farm placement data available with Venky's India there are about 517 layer farms in the state with a total placement of 48.97 lakh birds. The total no. of units grounded in the study districts is as under:

District	Total No. of Units	Unit through Bank finance	Financing banks	Remarks
Siwan	114	41*	27 units have been financed by PNB,	14 units have been financed

			DCCB, UBGB, Canara, Vijaya, CBI, BOI	by PACS (Mirjumla, Juaafar)
Gopalganj	250	23	CBI, PNB, SBI, OBC, UGB,	
Nawada	8	5	CBI, PNB	
Total	372	55**		

Source: RSETI/ LDM/ DDM ** excluding financed by PACS

As observed from the above table, 85% of the units in the study districts are self-financed. Similarly, around 35% of the units visited during study were self-financed. Based on the field level discussions, high level of self-financing in poultry farming is attributed to flow of remittances from Middle East, ban on liquor, ban on brick kilns and sand mining, real estate slump, etc. Majority of these investors have invested funds in Poultry enterprise since it is a cash business.

BVCIE has also tied up with several banks such as Madhya Bihar Gramin Bank (MBGB), Syndicate Bank, PNB, SBI, DCCB (Siwan & Gopalganj), etc. for facilitating poultry financing. As indicated earlier, BVCIE had sensitised the bankers at their regional office level and also facilitated the borrower in meeting the bank's documentation requirements. NABARD has also been actively involved in the scheme through conduct of sensitisation workshops for bankers and State Govt. officials, synergisation of the scheme with ADS, sanction of subsidy under National Livestock Mission, District level monitoring, etc.

Of the 14 farmers visited during the study, 11 had availed loan from different banks for project including 3 farmers for their project expansion. Their earlier project was funded from their own sources. The repayment period of the term loan in all the banks except PNB is five years with monthly instalments. PNB has a repayment period of 7 years.

Of the 11 farmers funded by banks, 7 had insurance cover and only 4 had availed subsidy under Poultry Venture Capital Fund. The major reasons for non availment of subsidy was sanctioned loan being less than 50%. Lower loan sanction was due to collateral shortage as also in some cases ignorance on the part of the bank manager w.r.t scheme guidelines.

The financing by banks under poultry has been very low and the major reasons attributed are as under:

- ✚ Lack of adequate and suitable collateral. Banks have indicated that most of the borrowers which approach them have agriculture land for mortgage as collateral wherein they are not comfortable. Further, the land is undivided among the family and the borrower has no clear title to the land which makes charge creation further cumbersome/ litigation problems.
- ✚ High conversion charges in respect of converting agricultural land into non agriculture purpose. Besides this, high cost towards land valuation and legal vetting, are other deterrents to the farmers to avail loan from banks. It is reported that banks are charging Rs. 20000- 30000/- towards legal opinion and Rs. 15000/- for property valuation.
- ✚ The quantum of bank loan in poultry unit of 5000 birds comes under sanctioning powers of the regional offices.
- ✚ Branch managers consider poultry risky and tend to avoid poultry portfolio concentration at branch level. Unresponsive behaviour of the bank officials is also one of the reasons for farmers not availing bank loan.
- ✚ Majority of the Insurance companies do not cover birds in their policy. PNB and DCCB, Gopalganj are insuring the poultry assets through M/s Bajaj Alliance Insurance Co.
- ✚ Network of DCCB branches is limited in the districts. The ratio of no. of blocks to no. of DCCB branches in the district is 19:13 for Siwan, 14:16 for Gopalganj and 14:18 in Nawada.
- ✚ DCCBs are mainly financing short term KCC and WC loan. Term loan portfolio is very less in DCCBs (less than 25% in DCCB Gopalganj). Majority of the DCCBs are saddled with high NPAs and some of them were BR act Section 11 non complaint as on 31 March 2017.
- ✚ As on 31 March 2018, DCCB, Gopalganj had loan & advances to the tune of Rs. 10212.75 lakh and Gross NPA level of 40.7%. Whereas DCCB Siwan had loans & advances portfolio of Rs. 6016.82 lakh and gross NPA level of 6.43%.
- ✚ DCCB, Siwan has focussed on quality lending and portfolio diversification. As a result it has financed a number poultry units in the district.

10.0 Viability of 5000 bird model

Egg Self Sufficiency model- BVCIE

Initially the total project outlay for 5000 birds model (1:1 system) was Rs. 42.00 lakh with projected bank loan of Rs. 33.60 lakh (80%). Brooder cum grower shed was part

of the project proposal. However, there was no provision of working capital in the project proposal. Thereafter in 2016, the model project (1:1) was revised with total financial outlay of Rs. 47.55 lakh which included working capital of Rs. 10.55 lakh. Brooder cum grower house was proposed to be constructed after one year by the promoter using his own resources. Hence, the total loan commitments worked out to Rs. 28.91 lakh (Rs. 21.00 lakh term loan and Rs. 7.91 lakh as WC). Accordingly, the repayment period of term loan was fixed at 60 monthly instalments excluding six months gestation period.



During the field visit, the team had discussions with farmers, bankers, input suppliers and gathered information pertaining to management practices in the field. The deviation in the standard norms of production from the actuals was also worked out to assess the viability of the model project (Annexure –I). The standard production parameters and the deviation observed during the field visit are presented as under:

Standard Management Conditions

Skylark:

Feed Consumption

- brooding & growing – 5.7 kg/ bird (18 weeks)
- Laying - Av. 109 g/day

Mortality

- brooding & growing – 3%
- Laying - 4%

Egg Production

Hen Housed eggs (18-76 weeks) – 347 eggs

Hen Housed eggs (77-100 weeks) –132 eggs

Venky's

Feed Consumption

- brooding & growing – 5.64 kg/ bird (18 weeks)
- Laying - Av. 112 g/day

Mortality

- brooding & growing – 3%
- Laying - 4%

Egg Production

Hen Housed eggs (18-80 weeks) – 378 eggs

Field level observations

- Farmers are rearing mainly Venky's and Skylark chicks. There is a waiting period of 5-6 months in supply of chicks
- Only 3 out of the 14 farmers visited had maintained flock performance register. Farm level data on feeding was not maintained by the farmers.
- The mortality observed during brooding & growing ranged from 6-10%. In some cases disease outbreak led to more than 35% mortality. In laying period ranged it from 7- 14% on an average.
- The actual hen housed egg production was 9-10% lower than the standard.
- Farmers were dependent on veterinary doctors from DOC and feed suppliers. None of the farmers had visited Dist. Veterinary officer.
- Brooding cum growing is proposed by the farmers to be done in the litter area below the cages after the litter is removed and area cleaned.

Accordingly, a 5000 birds model project has been prepared based on the field level data collected and standardised parameters. The model is presented in **Annexure**. The salient features of the model are presented as under:

Parameters	BVCIE Model	Revised Model
Civil structures		
Layer shed	1648938	1050000
Brooder/Grower Shed	1000000	858000
Office cum store		281250
Sub total	2648938	2189250
Farm Equipments	879900	658900
Pre-Operative Expenses	25000	50000
Working capital capitalised		
Purchase of chicks	190000	231000
Feed cost		
Brooder	135000	811981
Grower	635000	
Layer		184546
Medicine cost	20000	53000
Wages (3 no. for 5 months)	75000	45000
Interest during preproduction period (6 months)	147000	186000
Insurance		57948
Misc. expenses		5000
Sub total	1202000	1574475
Total capital cost	4755838	4472625

- i. The total cost of the model project works out to Rs. 44.72 lakh which includes capitalized working capital of Rs. 15.74 lakh. IRR works out to 36% with BCR of 1.31 and positive NPW. The repayment period works out to 7 years taking into consideration that 60% of the gross surplus will be utilised towards payment of interest and principal. The project has a DSCR of 1.75. The model is thus technically feasible and financially viable.
- ii. The model sustains a sensitivity analysis of 5% decrease in egg production, 5% decrease in egg price and 5% increase in raw material. All the financial parameters are within the acceptable norms. However, the repayment period stretches to 10 years.
- iii. A comparative pay-out to the farmer based on 60 (BVCIE model) & 84 monthly instalment for loan component of Rs. 33.54 lakh is presented as under:

Particulars	YEAR							
	I	II	III	IV	V	VI	VII	VIII
Gross surplus	913261	1144228	1336313	1862095	1144228	1144228	1144228	1556201
7 years Repayment Period								
Total Yearly repayments (incl. gestation of 6 months) (Rs.)	603072	798497	744857	692144	639431	587067	534005	247211
Bal. with farmer (Rs.)	310189	345731	591456	1169951	504797	557161	610223	1308990
Amt. avail. with farmer/ month (Rs.)	25849	28811	49288	97496	42066	46430	50852	109083
DSCR								2.11
5 years Repayment Period								
Total Yearly repayments (incl. gestation of 6 months) (Rs.)	696705	969895	895203	821405	747607	346180		
Bal. with farmer (Rs.)	216556	174333	441110	1040690	396621	798048		
Amt. avail. With farmer/ month (Rs.)	18046	14528	36759	86724	33052	66504		
DSCR								2.29

- iv. Based on these pay-out patterns for five year loan, the borrower will not have surplus funds for construction of brooder cum grower shed from his own resources in the 2nd year as envisaged in the project report.
- v. Further, at present almost all units which are in first batch of production have taken up brooding and growing operations in the area below the cages. None of the 14 farmers visited had brooder cum grower house. Majority of the farmers indicated that they would go for brooding and growing operation for 2nd batch again below the cages after cleaning the litter. This is a biosecurity issue and farmers need to refrain from such practice.

11.0 250 Layer birds model

Under the scheme, a 250 birds model is also being piloted for meeting the requirement of small and marginal farmers, landless, weaker sections, SHGs. The concept is much similar to backyard farming except that the bird is commercial and better management practices (cages, feed, medicines, etc.) have been introduced in the model.



The salient features of the project are as under:

- i. The total project outlay is Rs. 1.16 lakh with term loan component of Rs. 0.87 lakh. The civil structure (22 x 13 feet) comprises bamboo structure and tarpaulin roofing. Cages are mounted on GI stands and water is being provided through the tap.
- ii. Pullets (16-17 weeks) are being purchased @ Rs. 220-240 per bird for keeping in the cage. This obviates the mortality problems in the brooding and growing operations as also working capital requirements. The birds come into production within 3-7 days.
- iii. On an average, a farmer has to spend one hour daily for providing feed twice a day and cleaning.
- iv. Water and Power connection of the house can be used to meet the water and lighting requirements.

- v. A farmer can get 210-240 eggs per day during the laying cycle. The farmers are selling these eggs to the local retailers / egg carts sellers or market themselves locally. The per egg retail selling cost is Rs. 5.00- 5.25/. This would translate into an average sale of Rs. 1050 per day.
- vi. The feeding requirement is 28 kg of feed per day and @ Rs. 22.50 per kg works out to Rs. 630/- per day. Besides this, the borrower has to incur cost for egg box and egg trays which would be around Rs. 40/- per day.
- vii. Total cost of pullet spread over 52 week laying cycle works out to Rs. 130 per day after excluding the cull bird price.
- viii. The other miscellaneous costs for medicine, light, floor cleaner, etc. would work out to Rs. 10 per day.
- ix. Thus the total cost per day would be around Rs. 810/- giving the farmer a net daily margin of Rs. 240/-.
- x. Litter is being removed once in a week. This keeps the surrounding clean and free from obnoxious odour as well as flies.
- xi. Govt. of Bihar has adopted this model in cluster mode under NRLM for financing SHGs thereby facilitating members to setup their own micro-enterprises.
- xii. Banks are also taking active interest to finance the model since the loan amount is small and can be extended free of collaterals.

12.0 Marketing

Egg traders were available in almost all the blocks of the study districts. The traders were collecting eggs from the farmers at the farm itself. The price of egg at farm gate is being fixed by the local traders based on the NECC (Barwala) rates. Farmers are aware of this system of egg price fixation. The final egg price fixation works out different for different districts depending upon the availability of the eggs in the district. The price details collected from the field are given below.

Particulars	District				
	Patna	Nawada	Gopalganj	Siwan	Ara
Base rate	<i>NECC Barwala</i>				
Add. Price over NECC (Rs./egg)	0.40	0.55	0.35	0.35	0.45

The prevailing rates for NECC Barwala during the study period ranged from Rs. 4.10-4.15 per egg. The farmer has to incur additional cost of packing of eggs in the boxes. Typically packing includes corrugated box, nine corrugated paper egg trays and string

to tie the box. The total cost of new packing material works out to be in the range of 0.18-0.20 per egg. However, most of the packing material is reused a number of times and there are local suppliers who are collecting the empty boxes from the traders and supplying the same to the farmers. The cost of reused packing works out to Rs. 0.12-0.14 per egg. Trader has to incur an additional cost of Rs. 0.03 per egg towards collection from the local farms.

There is difference in prices between NECC Hyderabad and Barwala to the tune of Rs. 0.10 -0.15 per egg. There have been instances wherein eggs are landing at Patna from Namakkal (NECC + Rs. 0.50 – towards transport, packing etc.) at prices lower than egg price sold to trader farm gate. However, the trader has to lift certain quantity (1200 -1300 boxes) on cash payments, as also the transportation time of 3-4 days.

The trader supplies the egg to the retailer at additional price ranging from R. 0.14-0.19 per egg (cash) and Rs. 0.28-0.38 per egg {depending upon the season and for credit period 4-5 days) over the procured price. Some retailers are also picking eggs from poultry farms directly. Egg cart seller is sourcing his eggs from trader @ Rs. 1050 per box (210 eggs) i.e. Rs.5 per egg (Patna) and is charging Rs. 7/- per egg (loose) and Rs. 80 per dozen. The egg cart rates for Gopalganj were Rs. 6.00 per egg (loose) and Rs. 72 per dozen as against his procurement rates directly from the poultry farm are in the range of Rs. 4.75- 4.85.



The main marketing channel involved in marketing of eggs comprised Producer-Trader –Retailer – Consumer. The net share of the producers in the consumer’s rupee was ranging from 66% (Patna) to 75% (Gopalganj) indicating the largest portion of the consumer price.

Some of the farmers in Siwan district are also looking for alternate markets outside the state to maximise profits. Farmers have started supplying eggs to Asansol and Naxalbari districts of West Bengal to maximise their profits.

13.0 Insurance

Poultry insurance scheme has been conceived by IRDA but is not popular in many States because of selective risk coverage by insurance companies and high premium (see illustration). Under the scheme, some of the banks (PNB, SBI) have insurance cover for poultry but coverage excludes poultry birds.

The coverage of insurance for poultry stock and structure has been done only by National Insurance Company and that too through insurance broking company M/s Howden Insurance Brokers India Pvt. Ltd. The insurance broking company have done 35 policies of poultry farms in the State through one branch of National Insurance Co. (i.e., Kankerbagh, Patna). It is reported that Broking Company has resorted to single

branch keeping in view the ease in doing business as also easier claims settlement. All the policies are in respect of bank loan cases. Of the 35 loan cases, it is reported by the company that 6 claims have been fructified and settled with farmers.

In addition to natural disasters, the National insurance company policy covers almost all diseases related to layer farming if the birds are successfully inoculated against these diseases and the necessary veterinary certificate to that effect is supplied to the company. Maximum sum assured under the scheme is Rs. 200 per bird and premium is @ 5.5% which works out to Rs. 11/= per bird max.

Claim pay-out: There is a week wise valuation increase by 3% every week on purchase cost which is applied for calculating indemnity. The policy is characterised by excess and final indemnity is restricted to 80% (60% in case of Gumboro).

Claim Procedure

- Duly filled in claim form.
- Vet. P.M. Report for sample birds.
- Daily records of mortality, feeding etc.
- Purchase invoices for the birds.
- Any other point to substantiate the loss like photographs, medical bills, etc. as and when required

Role of the farmer

In case of any mortality even within the prescribed accepted limits the farmer has to intimate the insurance company / broker about the same along with a photograph of the bird(s). Only when there is bulk mortality, then the insurance company sends the local surveyor for assessment of claim, photographs of the dead birds, post mortem of birds, etc. The surveyor also verifies the flock register to assess the mortality pattern whether it is due to related incidence or due to farmer's mismanagement. If there is a delay in reporting for more than three days the claim would be treated as non-standard.

Requirements for entering into

Insurance coverage

- Requirement of delivery challan of DOC which will provide the cost of chicks
- Veterinary certificate of the DOC company indicating that the chicks are healthy (vaccination)
- Proposal form of the insurance company
- Maintenance of flock performance register and visits of the doctor.

Excess Clause /Accepted mortality under different stages beyond which claim fructifies is:

Brooding state (0-8 weeks)	-	5%
Growing stage (9-14 weeks)	-	3%
Laying stage (15-72 weeks)	-	1%

Illustration of Insurance amount for (5000 birds, civil structure, equipment)

A: Rate of premium for birds: 5.5% of Sum insured

Sum insured (max.)	: Rs. 200/- per bird
Total sum insured	: 5000 X 200 = Rs. 10 lakh
Premium for birds@ 5.5%	: Rs. 55000

B: Rate of premium for fire policy: 0.1% of sum insured

Cost of Shed	: Rs. 15.00 lakh
Cost of Equipment-	: Rs. 7.00 lakh
Cost of Stock	: Rs. 2.00 lakh
Total	: Rs. 24.00 lakh

Premium for fire policy	: 24 lakh x 0.1%
	: Rs. 2400
Total premium (A+B)	: Rs. 57400

GST @18%	: Rs. 10332
Total premium (per year)	: Rs.67732
Incl.of GST	

14.0 Biosecurity

Biosecurity measures are a set of preventive measures designed to reduce the risk of transmission of infectious diseases especially in organized poultry sector. Effective biosecurity measures to control diseases in commercial poultry include all-in-all-out system followed by disinfection of sheds, restricted movement of birds, workers and equipment's, lack of contact with migratory birds, use of feed pellets, chlorination of drinking water, proper litter management, etc.

Govt. of Bihar has laid down bio security measures to be followed by poultry units vide their circular in 2013. However, it was observed that none of the farmers were aware of bio-security measures to be adopted. This poses a grave threat to the poultry unit for spread of disease especially in Gopalganj and Siwan districts which have become

concentrated poultry belts. The salient observation on the biosecurity measures in the field are as under:

- ✚ None of the poultry units visited had footbath at the entrance to the poultry house. Only 3 poultry farmers, sprayed disinfectant on the shoes of persons entering the poultry house.
- ✚ Wherever the farmer has constructed two sheds, the distance between the two sheds is less than 30 feet (desired)
- ✚ Two units had constructed double story sheds and were rearing brooders & growers in the ground floor in Deep Litter and layer on the first floor in cages. Keeping different age groups in the same premises results in danger of cross contamination.
- ✚ Many poultry farms are very close to the residential areas posing disease outbreak danger.
- ✚ Majority of the farmers have not constructed any boundary wall to keep away unauthorised entrance of human as well as animals.
- ✚ In Gopalganj and Siwan, poultry houses are located at a distance of less than 200 feet, which is against the biosecurity norms.

15.0 SWOT analysis

The SWOT analysis of the scheme is presented as under:

Strength

- Strong leadership for promotion of the scheme at different levels.
- Ready availability of both suppliers of Day old Chick, poultry feeds, medications and market for eggs in the districts.
- Low egg availability and consumption level in the State
- Wider reach of wholesale egg trade, distribution network and retail sales
- Support system of BVCIE and pragmatic leadership.

Weakness

- Low involvement of District Animal Husbandry officers in Healthcare Management.
- Time lag in availability of DOC/ Pullets

Opportunities

- Promotes Self and wage employment
- Direct supply of eggs to households and through own retail counter
- Formation of Producer organisation for aggregation and marketing of eggs
- Marketing of branded eggs in consumer packs
- Egg supply under Mid-Day meal scheme

Threat

- Cheaper egg imports from TN and AP
- Rising feed prices and feed quality
- Bird Flu / Disease epidemic

16.0 Socio-economic impact of the scheme

The scheme has made considerable progress in addressing the nutritional requirements and unemployment issues of the State. A good domestic market has ensured that produce is sold at the farm gate and on cash basis. This has also resulted in reverse migration of people from Middle East to venture into poultry enterprise. The small scale commercial poultry unit piloted under the scheme has further deepened the outreach of poultry into rural areas. This model is complementing the income of the small and marginal farmers as also the weaker section of the society. Each poultry farm is providing self-employment to the promoter as also wage employment to 5-6 persons directly or indirectly through ancillary & input services.

17.0 Replicability of the Scheme

The scheme holds great potential for replication in different parts the country having shortage of eggs under income generation and poverty alleviation programmes such as NRLM, Deendayal Antyodaya Yojana-National Urban Livelihoods Mission (DAY-NULM), Prime Minister's Employment Generation Programme (PMEGP), etc. However, success of this scheme will depend upon creation of suitable support mechanism and leadership for handholding the farmers who are initially venturing into poultry. For this, Agribusiness Incubators of ICAR, State Agriculture Universities can play a proactive role. The small scale commercial model (250 birds) piloted under the scheme if adopted in a cluster mode can manifest into producer organisation/cooperatives which will help in collective bargaining and marketing. Gradually, depending upon the available resources and capacity, the farmers can be imparted higher skills of management through organisation of Poultry Farming training

programmes in RSETI/ Central Poultry Farms of the State. The experience gained through the enterprise and skill up-gradation through training would capacitate the entrepreneur for moving towards higher capacities.

18.0 Conclusion

Intensive poultry production system is limited due to the need for high inputs and resources. In rural and peri-urban areas access to poultry meat and eggs depends on backyard production system. In Bihar, backyard poultry farming provides valuable protein through a low input system. However, such backyard flock make a very minor contribution to rural livelihoods. The scheme holds potential both for meeting the nutritional requirements as also appear to be a promising strategy to achieve the poverty reduction and prevent migration. Keeping in view the immense demand for egg in the state, setting up of poultry enterprises with commercial birds and better management practices offers lot of scope for employment generation. Banks need to chip in this revolution to further augur growth in the sector.

Capital cost

(Amt. in Rs.)

Particulars	Specification	Unit cost	Total cost
Civil structures			
Layer shed (Cage)	3500 sft	300	1050000
Brooder & Growing shed (DL)	2860 sft	300	858000
Store cum office	625 sft	450	281250
Sub Total			2189250
Farm Equipments			
Plastic Feeder (Small with stand, 3Kg, 50 birds capacity)	100	110	11000
Plastic Drinker (Small with stand, 1 ltr, 50 birds capacity)	100	75	7500
Automatic Debeaker		12000	12000
Vaccinator (Tube enabled)	1	5400	5400
Needle for Vaccinator (20Kg X 1/4")	50	10	500
Needle for Vaccinator (22Kg X 1/4")	50	10	500
Spray Pump	1	5000	5000
Layer Cages with drinker and feeder (Semi automatic)	5200	100	520000
D.G.Set		35000	35000
Water Tank 2 K.Ltr.	1	15000	15000
Plastic Egg Tray	200	35	7000
Tarpaulin cover		LS	40000
Sub total			658900
Pre-operative expenses		50000	50000
Working capital capitalised			

Cost of DOC	5500	42	231000
Cost of feed			
Brooder & Growers @5.7 kg/ bird - (kg)	29155.5	27.85	811980.675
Layer - 2 weeks @ 0.77 g/bird/week -Kg	8202.04	22.5	184545.9
Vaccination & medicines (Rs./bird) upto 17 weeks	5300	10	53000
Labour @ Rs. 7500/ month - 6 months	1	7500	45000
Interest during constr. & preproduction period (9 months)			186000
Insurance			57948
Misc. expenses		LS	5000
Sub total			1574474.575
Total			4472624.575

2.0 Technoeconomic parameters and assumptions

S.No	Assumptions	Unit
1	Rearing period (weeks)	80
2	Laying period (weeks)	62
3	Resting period (weeks)	4
4	Space requirement (Sft)	0.65
	Brooder cum grower shed (DL)	0.5
	Layer shed	0.65
5	Total No. of DOC purchased	5500
6	No. of free chick @ 4% of total no. of DOC	220
7	Cost per DOC	42
8	Total No. of DOC in farm	5720
9	Total placement in Brooder shed (0-8 weeks)	5720
i	Mortality in Brooding @ 4% of total	229
ii	Feed requirement per bird/week during brooding@ av. 27/g/day	0.189
iii	Av. Feed price (Rs./kg)	31.5
10	Total placement in Growing (9-17 weeks)	5491
i	Mortality during growing@ 3%	165
ii	Feed requirement per bird/ week during brooding@ av. 60/g/day	0.42
iii	Av. Feed price (Rs./kg)	24.2
11	Total placement in Laying (18-80 weeks)	5326
i	Mortality during laying @ 7%	373
ii	No. of cull birds	4953
iii	Feed requirement per bird/week in Kg during laying@ av. 110/g/day	0.77
iv	Cost of feed	22.5
12	Cost of medicines & vaccination (Rs./ bird)	15
13	Egg Production (No.)	350
i	Av. Egg production per week per bird	5.65
ii	Egg Price (Rs.)	4.55
iii	Av. Body Wt. Of the cull birds (kg)	1.7
iv	Sale price of cull bird (Rs.)	50
13	Income from Manure (Rs./bird/year)	5
14	Av. Feed consumption per year (MT)	285
15	No. of gunny bags per MT	15
i	Price of Gunny Bags (Rs.)	8
ii	Av. Income from bags per year	34200
16	Misc. Costs (Rs./bird)	25
17	Wages @ 2 person (Rs./month)	15000
18	Power & Fuel (Rs./month)	1000
19	Insurance (per year)	57948

3.0 Flock Chart										
Year	Constr. period (weeks)	Batch No.	Resting/cleaning Period (Laying shed)	Brooding (weeks)	Growing (Weeks)	Layer house weeks	Brooder weeks	Grower weeks	Laying Weeks	No. batch culled
I	1-12	1		13-20	21-29	30-52	8	9	23	-
II		1				1-39			39	1
		2	40-43	27-34	35-43	44-52	8	9	9	
							8	9	48	1
III		2				1-52			52	
		3		41-48	49-52		8	4		
							8	4	52	
IV		2				1			1	1
		3	2-5		1-5	6-52		5	47	
						46	0	5	48	1
V		3				1-15			15	1
		4	16-19	3-10	11-19	20-52	8	9	33	
							8	9	48	1
VI		4	30-33			1-29			29	1
		5		17-24	25-33	34-52	8	9	19	
							8	9	48	1
VII		5				1-43			43	1
		6	44-47	31-38	39-47	48-52	8	9	5	
							8	9	48	1
VIII		6				1-52			52	
		7		45-52			8			
							8	0	52	
IX		6				1-5			5	1
		7	6-9		1-9	10-52		9	43	
							0	9	48	1
X		7				1-19			19	1
		8	20-23	7-14	15-23	24-52	8	7	29	
							8	7	48	1
XI		8				1-33			33	1
		9	34-37	21-28	29-37	38-52	8	9	15	
							8	9	48	1
XII		9				1-47			47	
		10	48-51	35-42	43-51	52	8	9	1	
							8	9	48	

(Amt. in Rs)

4.0	Cash Flow Analysis											
		I	II	III	IV	V	VI	VII	VIII	IX	X	XI
1	Capital Cost	4472624.58										
2	Recurring cost											
	Cost of chicks	0.00	231000.00	231000.00		231000.00	231000.00	231000.00	231000.00		231000.00	231000.00
	Cost of feed											
	Brooder	0.00	266978.75	266978.75	0.00	266978.75	266978.75	266978.75	266978.75	0.00	266978.75	266978.75
	Grower	0.00	494747.95	219887.98	274859.97	494747.95	494747.95	494747.95	0.00	494747.95	384803.96	494747.95
	Layer	1863416.36	427400.8.20	4630175.55	427400.8.20	4274008.20	427400.8.20	427400.8.20	4630175.55	427400.8.20	427400.8.20	427400.8.20
	Insurance		57948.00	57948.00	57948.00	57948.00	57948.00	57948.00	57948.00	57948.00	57948.00	57948.00
	Vaccination & medicine	82365.00	82365.00	82365.00	82365.00	82365.00	82365.00	82365.00	82365.00	82365.00	82365.00	82365.00
	Wages	180000.00	180000.00	180000.00	180000.00	180000.00	180000.00	180000.00	180000.00	180000.00	180000.00	180000.00
	Power & Fuel	12000.00	12000.00	12000.00	12000.00	12000.00	12000.00	12000.00	12000.00	12000.00	12000.00	12000.00

	Miscellaneous cost	132275.00	137275.00	137275.00	137275.00	137275.00	137275.00	137275.00	137275.00	137275.00	137275.00	137275.00
	Sub Total	6742680.94	5736322.90	5817630.28	5018456.17	5736322.90	573632.2.90	5736322.90	5597742.30	5238344.15	5626378.91	5736322.90
3	Income											
	Sale of eggs	3149117.34	6572070.96	7119743.54	6572070.96	6572070.96	657207.0.96	6572070.96	7119743.54	6572070.96	6572070.96	6572070.96
	Sale of cull birds		247650.00		247650.00	247650.00	247650.00	247650.00		247650.00	247650.00	247650.00
	Sale of Manure		26630.00		26630.00	26630.00	26630.00	26630.00		26630.00	26630.00	26630.00
	Sale of Gunny Bags	34200.00	34200.00	34200.00	34200.00	34200.00	34200.00	34200.00	34200.00	34200.00	34200.00	34200.00
	Sub Total	3183317.34	688055.0.96	7153943.54	688055.0.96	6880550.96	688055.0.96	688055.0.96	7153943.54	688055.0.96	688055.0.96	688055.0.96
	Gross Surplus	<u>913260.97</u>	<u>1144228.06</u>	<u>1336313.26</u>	<u>1862094.79</u>	<u>1144228.06</u>	<u>114422.8.06</u>	<u>1144228.06</u>	<u>1556201.24</u>	<u>1642206.81</u>	<u>1254172.05</u>	<u>1144228.06</u>
4	Net Benefit	- 3559363.60	1144228.06	1336313.26	1862094.79	1144228.06	114422.8.06	1144228.06	1556201.24	1642206.81	1254172.05	1144228.06

	DF @15%	0.870	0.756	0.658	0.572	0.497	0.432	0.376	0.327	0.284	0.247	0.215
	Discount ed cost	586320 0.82	4337484 .23	3825186 .34	2869318 .60	2851966. 29	247997 0.69	2156496 .25	1829911. 89	1489064 .34	1390754 .82	1232983 .73
	Discount ed benefits	2768102 .03	5202685 .04	4703834 .00	3933977 .34	3420849. 86	297465 2.06	2586653 .96	2338636 .83	1955882 .01	1700766 .97	1478927. 80
	NPW	2738629 .89										
	BCR	1.31										

5.0	Repayment						
	Bank Loan	3354468					
	Rate of Interest	11%					
Year	Loan O/s at		Gross Surplus	Repayments			Surplus with farmer
	Beginning of year	End of year		Principal	Interest	Total	
I	3354468	3175503	913261	178965	368992	547957	365304
II	3175503	2838272	1144228	337231	349305	686537	457691
III	2838272	2348694	1336313	489578	312210	801788	534525
IV	2348694	1489793	1862095	858901	258356	1117257	744838
V	1489793	967134	1144228	522660	163877	686537	457691
VI	967134	386982	1144228	580152	106385	686537	457691
VII	386982	0	1144228	386982	42568	429550	714678
			DSCR	1.75			