Poultry Broiler Farming

1. Introduction

Poultry meat is an important source of high quality proteins, minerals and vitamins to balance the human diet. Specially developed varieties of chicken (broilers) are now available with the traits of quick growth and high feed conversion efficiency. Depending on the farm size, broiler farming can be a main source of family income or can provide subsidiary income and gainful employment to farmers throughout the year. Poultry manure is of high fertilizer value which can be used for increasing yield of all crops.

The advantages of broiler farming are

a) Initial investment is lower than layer farming
b) Rearing period is 5-6 weeks only
c) More number of flocks can be taken in the same shed
d) Broilers have high feed conversion efficiency i.e. the amount of feed required for unit body weight gain is lower in comparison to other livestock
e) Faster return from the investment
f) Demand for poultry meat is more compared to sheep/goat meat

2. Scope for broiler farming and its national importance

India has made tremendous progress in broiler production during the last three decades and the broiler population in the country during 2011-12 stood at 2300 million. Today India is the fifth largest producer of broiler meat in the world with an annual production of 2.47 million MT. Despite this achievement, the per capita availability of poultry meat in India is only 2.96 kg which is way below the ICMR recommendation of 11 kg meat per capita per annum.

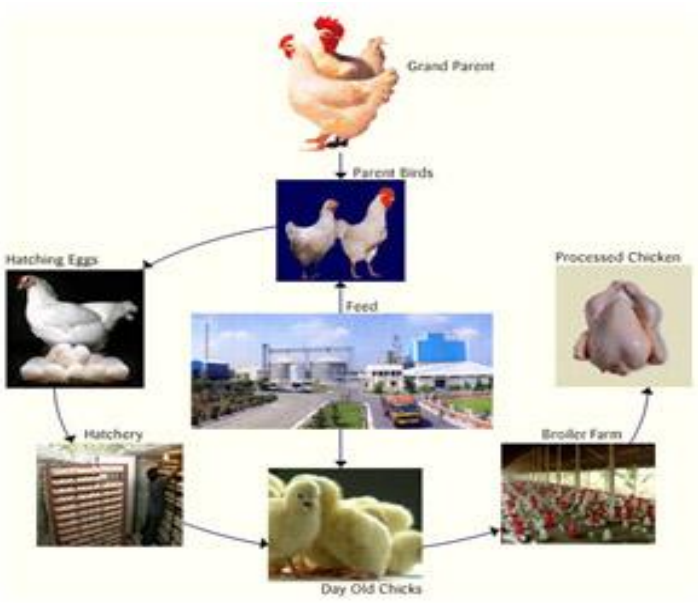
The growth of the poultry sector is mainly attributed to the interventions of the corporate sector with an enabling policy environment provided by the Government of India / State Governments from time to time. The activity provides huge employment opportunities for the rural poor either under Backyard poultry production system or under small scale commercial broiler farming units. Over 5 million people are engaged in the poultry sector either directly or indirectly.

Owing to the considerable growth in broiler industry, high quality chicks, equipment, vaccines and medicines, technically and professionally competent guidance are available to the farmers. The management practices have improved and disease and mortality incidences are reduced to a great extent. Many institutions are providing training to entrepreneurs. Increasing assistance from the

Central/ State governments and poultry corporations is being given to create infrastructure facilities so that new entrepreneurs are attracted to take up this business. Broiler farming has been given considerable importance in the national policy and has a good scope for further development in the years to come.

3. Integration in Broiler Farming

There is a growing trend of integration in broiler farming. In the early nineties, contract farming for broilers was introduced and in 1995 it spread all over Tamil Nadu. Between 1995 and 2000, it spread to Karnataka. It gathered momentum and spread its wings to Maharashtra, Andhra Pradesh in the years 2001 & 2002 and after that, it gained inroads into West Bengal and Gujarat. The spread is due



to in built strengths in integration system. Integrators takes care of all aspects of production, right from raising of grandparent and parent flocks, production of day old chicks for rearing, manufacturing and supply of concentrate feed, providing veterinary services and wholesale marketing of birds. Under integration all the previous profit centres of the broiler industry viz. chick selling, feed selling, hatching, medicine supply, transportation have become cost centres for the integrators who work as a single entity and distribute the benefits among the farmer, consumer and the integration company themselves. Under contract farming, poultry farmers invest only for poultry sheds / equipment on their existing land. The Integrator supplies chicks, feed, and medicines, provides technical guidance and also buy back / purchase the entire production after 5-6 weeks. The contract farmers are paid rearing charges usually on per kg Live Weight basis and also as per the set of criteria prescribed by the integrators viz., FCR, Mortality etc. Farmer is benefiting from the lesser investment and production cost and also higher productivity which are achieved as a result of integration. Moreover

he/she is insulated from the market price fluctuations. However, the farmer may be at a disadvantage if the number of batches supplied in the year by the integrator is less.

4. Financial assistance available from Banks for broiler farming

For poultry farming schemes with large outlays Detailed Project Reports (DPR) are required to be prepared. The items of investment / finance would include construction of broiler sheds and purchase of equipment, cost of day old chicks, feed, medicine and labour cost for the first cycle. Cost towards land development, fencing, water and electricity, essential servant's quarters, godowns, transport vehicles, broiler dressing, processing and cold storage facilities can also be considered for providing credit. For high value projects, the borrowers can utilise the services of NABARD Consultancy Services (NABCONS) who are having wide experience in preparation of Detailed Project Reports.

5. Project formulation for bank loan

5.1. A project can be prepared by the promoter after consulting local technical persons of State Veterinary / Animal Husbandry department, Poultry Corporation or private commercial broiler hatcheries. If possible, they should also visit the progressive broiler farmers in the area and discuss the profitability of farming. A good practical training and experience on a broiler farm will be highly desirable, before starting a broiler farm.

5.2. The project should include the following information on technical, financial and managerial aspects in detail based on type of unit and capacity.

Technical:

a. Land and land development (Location, area, suitability, proximity to road, site map etc.)
b. Proposed capacity / farm size
c. Civil structures (Sheds, feed mixing unit, dressing unit, godown, / store room, office quarters, staff room etc.)
d. Equipment and Plant and Machinery – (Feeder, waterer, feed grinder and mixer, deep freezer, dressing equipment etc.)
e. Housing (Capacity, Type- Deep Litter / Environment controlled, Area required, system of housing etc.)
f. Chicks (Strain, number of birds / batch strength, source of chicks, vaccination of chicks etc.)
g. Feeding (Feeding requirement, source of feed, type of feed – starter, finisher etc., price of feed etc.)
h. Availability of utilities – Water, power and fuel
i. Veterinary aid and transport arrangements
j. Production parameters (Average weight in kgs, Feed conversion ratio- FCR, Mortality ect.)

k. Flock Projection chart
l. Marketing (marketing of broiler/ meat and other products /by-products – place of marketing, basis of payment(kg or no.), price per unit etc.)
m. Scope of integration or contract farming

Financial:

a. Project Cost-capital (land, building, plant and machinery etc.) and recurring costs
b. Funding pattern (margin contribution, bank loan requirement etc.)
c. Techno-economic assumptions
d. Income-expenditure statement
e. Cash flow analysis showing financial indicators (IRR,NPW, BCR and DSCR)
f. Analysis of ratios (DER, ROCE, current ratio, ratio etc.)
g. Repayment schedule indicating repayment of principal and payment of interest
h. Break even analysis etc.

Managerial:

Borrower's profile

a. Individual/Partnership /Company / Corporation/ Co-operative Society /Others
b. Capability in managing the proposed business
c. Experience in proposed activity or others
d. Financial soundness
e. Technical and other special qualifications
f. Technical/ Mangerial staff and adequacy there of

Others:

a. Name of the financing bank
b. Training facilities
c. Assistance available from State/ Central Government
d. Regulatory clearances, if any etc.

6. Appraisal of the project

The project so formulated considering the above mentioned aspects should be submitted to the nearest branch of the bank for availing credit facility for establishment of the broiler farm. The bank will then examine the project for its technical feasibility, financial viability and bankability.

7. Sanction of Bank loan and its disbursement

After ensuring technical feasibility and financial viability, the project is sanctioned by the bank. The loan is disbursed mostly in 2 stages viz., construction of sheds / other civil structures, purchase of equipment and machinery, recurring cost on purchase of chicks, feeds, medicines, etc. The end use of the loan is verified and constant follow up / monitoring is done by the bank.

8. Lending terms - General

8.1 Outlay:

Outlay of the project depends on the local conditions, unit size and the investment components included in the project. Prevailing market prices / cost may be considered to arrive at the outlay.

8.2 Margin Money:

Margin depends on the category of the borrowers and may range from 10% to 25%.

8.3 Interest Rate:

Banks are free to decide the interest rates within overall RBI guidelines. However, for working out financial viability and bankability of model project, the rate of interest is assumed at 12.50% p.a.

8.4 Security:

Security will be as per RBI / NABARD guidelines issued from time to time.

8.5 Repayment of loan:

The loan repayment is determined, on the basis of gross surplus generated in the project. Usually the repayment period of loan for broiler farming is 6 to 8 years.

8.6 Insurance:

The birds and other assets (poultry shed, equipment) may be insured. Wherever necessary Risk/Mortality fund may be considered in lieu of poultry insurance.

9. Economics of Poultry Broiler Farming

A model economics for broiler farming with a unit size of 10000 birds is given below. This is indicative and the applicable input and output costs and the parameters observed at the field level may be incorporated.

A. Project Cost

Capital Cost	
Construction of shed (10000 SQ.FT @ Rs.150/sft) including electrification	1575000
Feed room - 1000 sft @ Rs.200/sft	200000
Cost of equipment	262500
Total	**2037500**
Recurring Expenditure	
Cost of day old chicks	231000
Cost of feed	673200
Medicines, labour, miscellaneous charges	102000
Insurance of birds	31500
Insurance of sheds and equipment	20375
Total	**1058075**
Grand Total (A+B)	3095575
Say	3177000
Margin (25%)	476550
Bank Loan	2700450

B. Techno Economic Parameters

Number of birds	10000
Batch strength	10000
Birds purchased per batch	10500
Birds considered for recurring expenditure	10200
Birds considered for selling	10000
Floor space per bird (s.ft)	1
Cost of construction of shed (Rs. per sft)	150
Cost of equipment (Rs. per bird)	25
Cost of day old chick (Rs. per bird)	22
Feed requirement per bird (Kg)	3.3
Cost of feed (average price Rs. per kg)	20
Medicines, vaccines, labour and misc. charges	10
Insurance per bird (Rs. per bird)	0.5
Insurance of sheds and equipment (Rs. per Rs.1,000/-)	10
Live weight of bird (Kg per bird)	1.7
Sale price (Rs. per kg)	70
Value of manure per bird sold (Rs. per bird)	0.5
Sale price of gunny bags (Rs. per bag)	10
Margin (%)	15
Interest on bank loan (% p.a)	12.50%
Rearing period	6 weeks
Cleaning period of shed	2 weeks

C. Flock Chart

Years	1	2 to 8
No. of batches	7	7
Rearing weeks	40	42
Batches sold	6	7

D. Income and Expenditure Statement

Years	1	2 to 8	8
Income			
Sale of birds	7140000	8330000	8330000
Sale of manure	30000	35000	35000
Sale of gunny bags	2992	3142	3142
Total	7172992	8368142	8368142
Expenditure			
Cost of chicks	1617000	1617000	1617000
Cost of feed	4488000	4712400	4712400
Cost of medicines & misc. charges	612000	714000	714000
Insurance of birds	31500	36750	36750
Insurance of sheds and equipment	20375	20375	20375
Total	6768875	7100525	7100525
Surplus	1462192	1267617	1267617

** The recurring expenses for one cycle capitalised in the project cost and the same has not been netted out while arriving at the total expenditure for the first year. Hence, the same is included in the surplus for the first year.*

E. Calculation of NPV, BCR & IRR

Years	**1**	**2 to 7**	**8**
Capital Cost	3177000		
Recurring Cost	5710800	7100525	7100525
Total Costs	8887800	7100525	7100525
Income	7172992	8368142	8368142
Residual value of shed			764079
Total Benefit	7172992	8368142	9132221
Net Benefit	-1714808	1267617	2031696
Disc cost at 15% DF	17766249		
Disc benefit at 15% DF	18569485		
NPW at 15% DF	**803236**		
BC Ratio	**1.05**		
IRR	**51.91%**		

E. Repayment Schedule

Year	Loan	Gross surplus	Interest	Principal	Total repayment	Surplus	Balance outstanding at the end of the year
1	2700450	1462192	337556	337556	675113	787080	2362894
2	2362894	1267617	19869	337556	357425	910191	2025338
3	2025338	1267617	17499	337556	355055	912561	1687781
4	1687781	1267617	14844	337556	352400	915216	1350225
5	1350225	1267617	11871	337556	349427	918189	1012669
6	1012669	1267617	8541	337556	346097	921519	675113
7	675113	1267617	4811	337556	342367	925249	337556
8	337556	1267617	4812	337556	342368	925248	0